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CHAPTER 1: INTRODUCTION

Background: Shoreline Management in Washington State

The Shoreline Management Act

In 1971, in response to a citizens' initiative, the Washington State Legislature passed the Shoreline Management Act (the "SMA" or "Act"). The SMA was adopted by the public in a 1972 referendum. Its purpose is to manage the shorelines of the state in order to protect the public interest in shoreline resources.

Some of the key provisions of the SMA are summarized in this chapter and in other parts of this SMP. You can view the entire SMA (RCW 90.58) on the Washington State Legislature's web site at http://apps.leg.wa.gov/RCW/default.aspx?cite=90.58. The sites listed below also offer information about the SMA and shoreline management in the State of Washington.

- Municipal Research and Services Center of Washington (MRSC): http://www.mrsc.org/Subjects/Environment/shorelin.aspx.
- Washington Department of Ecology: http://www.ecy.wa.gov/programs/sea/SMA/st_guide/SMP/index.html.

The SMA applies to cities and counties throughout Washington that have "Shorelines of the State" within their jurisdictional boundaries.

Shoreline Master Programs

Water is one of Twisp's most important natural resources. Whether it is for domestic consumption, municipal use, irrigation, recreation or habitat for myriad fish and wildlife species, water and the many beneficial uses it supports are the basis for life and the economy in the community.

The goal of shoreline management planning is "to prevent the inherent harm from uncoordinated and piecemeal development of the state's shorelines." One of the ways in which Twisp protects shoreline resources is through the preparation, adoption, implementation and updating of a Shoreline Master Program.

Under the SMA each city and county that includes "Shorelines of the State" must adopt a Shoreline Master Program (SMP) that is based on state laws and rules but may be tailored to the specific needs of the community. The SMP is essentially a shoreline comprehensive plan (that is, a planning document) and zoning ordinance (that is, a regulatory document) applicable to shoreline areas and customized to local circumstances.

SMPs are developed and administered by local jurisdictions in partnership with the Washington State Department of Ecology (Ecology). Local governments—in this case, Twisp—develops a SMP that reflects local conditions and meets local needs. Ecology reviews the programs prior to final adoption. In reviewing master programs, Ecology is limited to a decision on whether or not the proposed changes are consistent with the policy and provisions of the Act and the SMP guidelines (see below for a discussion of the SMP guidelines).

Local governments also administer SMPs—that is, review project proposals, issue permits, and enforce the SMP regulations. Ecology reviews Shoreline Conditional Use Permits and Variances and may review some of the local governments' other permit decisions.

Shorelines of the State

Shorelines of the State can be divided into two categories: "***Shorelines***" and "***Shorelines of Statewide Significance***." In Okanogan County,

Shorelines include:

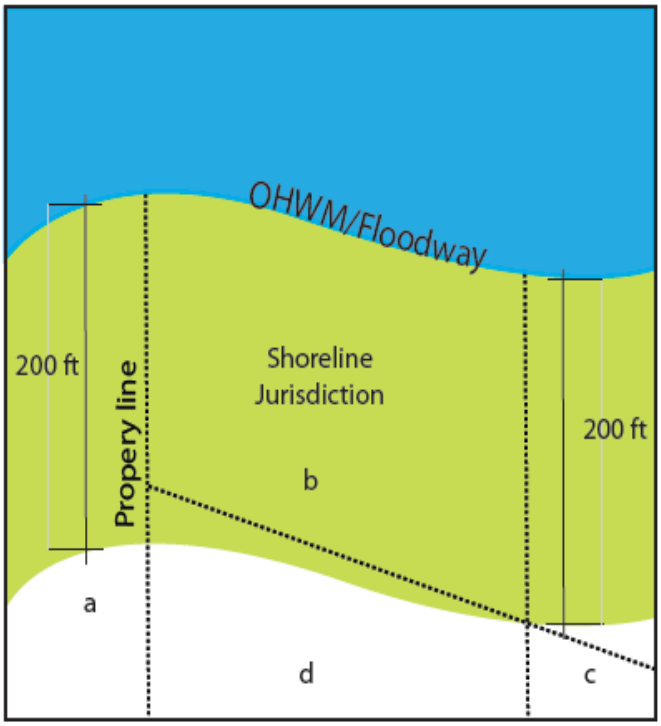
- All streams and associated shorelands, together with the lands underlying them, beginning at the point where mean annual flow is 20 cubic feet per second (cfs) or more
- All lakes over 20 acres in size
- Shorelands (also called Shoreline Jurisdiction see diagram), as follows:
    - Upland areas that extend 200 feet from the ordinary high water mark from the waters listed above measured on the horizontal; and
    - The following areas when they are associated with those waters:
        - Wetlands and river deltas; and
        - 100-year floodplains; or
    - In areas where the floodway has been mapped and delineated, the area is limited to 200 feet from the floodway.

Shorelines of Statewide Significance are those that have importance beyond the region; they are afforded special consideration. In Okanogan County (and throughout Eastern Washington), shorelines of statewide significance include:

- Lakes with a surface acreage of one thousand acres or more (measured at the ordinary high water mark);
- Streams downstream of a point where the annual flow is measured at two hundred cubic feet per second (200 cfs) or more, *or*, those portions of rivers downstream from the first three hundred square miles of drainage area, whichever is longer; and
- Shorelands associated with the lakes and rivers described in the two preceding bullets

Within this SMP, you can learn more about which lakes and streams are considered Shorelines of the State in the places listed below:

- Chapter 5, "Shorelines of Statewide Significance", discusses the additional considerations that apply to development on Shorelines of Statewide Significance. It also includes a list of those shorelines
- Chapter 5 contains a list of Shorelines of the State in Okanogan County.

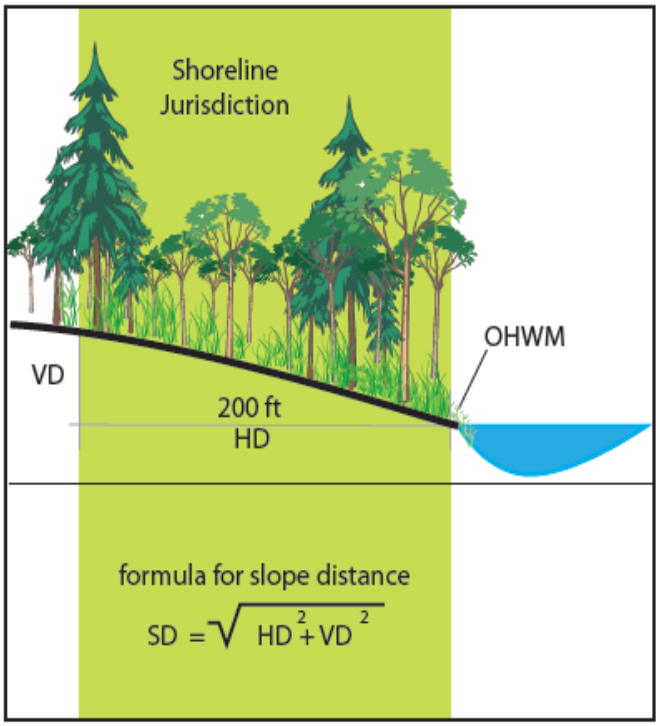


Shoreline Jurisdiction

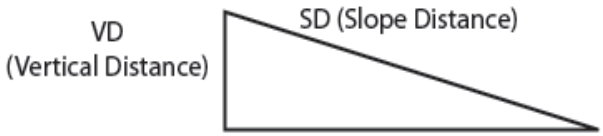
a & d. Parcels partially within Shoreline Jurisdiction

b. Parcel wholly within Shoreline Jurisdiction

c. Parcel outside Shoreline Jurisdiction



Shoreline jurisdiction as measured on the horizontal from the ordinary high watermark



HD (Horizontal Distance) = 200 ft

$$\% \text{ slope} = \frac{VD \times 100}{HD}$$

slope distance is the measurement on the ground where the shoreline jurisdiction, setback and buffer are established

Department of Ecology's Role

Since the SMA requires a cooperative effort between state and local governments in the protection of shoreline resources, the Department of Ecology has a significant role in the development and implementation of this Master Program. Most of Ecology's work involves providing technical assistance *prior* to a local decision and is focused in the following areas:

- Ecology shoreline specialists work with local planners on the phone, at pre-application meetings, and through site visits
- Ecology works with applicants to make sure the project does not harm shorelines—in many cases the project can be redesigned so that it meets the policies and regulations of the local master program
- Ecology often receives early notice of a project through SEPA, and works with applicants and local governments before the permit is issued.
- After a local government issues its permits, Ecology has 21 days to review Substantial Development Permits and 30 days to review Conditional Use and Variance permits.
- Ecology's role is to determine if the local action is consistent with the local Master Program and the policies of the Act
- If Ecology disagrees with a local decision on a Substantial Development Permit, Ecology must appeal the decision to the Shoreline Hearings Board
- Ecology must approve, approve with conditions or deny all Conditional Use or Variance permits
- Ecology's decisions on Conditional Use or Variance permits may be appealed to the Shorelines Hearings Board
- While the primary responsibility to enforce the SMA rests with local governments, there exists a cooperative program between the local governments and Ecology. The cooperative program is to fulfill the duty to "ensure compliance." Enforcement is done through a variety of means, including technical assistance visits, notices of correction, orders, and penalties and permit rescission.

SMP Guidelines

Department of Ecology issues Shoreline Master Program Guidelines in WAC 173.26. Information regarding Shoreline Master Program updates. Procedures and policies including new guidelines and updates can be found at the following URLs:

History and links. – Include link to history:
http://www.ecy.wa.gov/programs/sea/sma/guidelines/downloads/SMA_History.pdf.

Ecology site with link, background:
http://www.ecy.wa.gov/programs/sea/SMA/guidelines/index.html

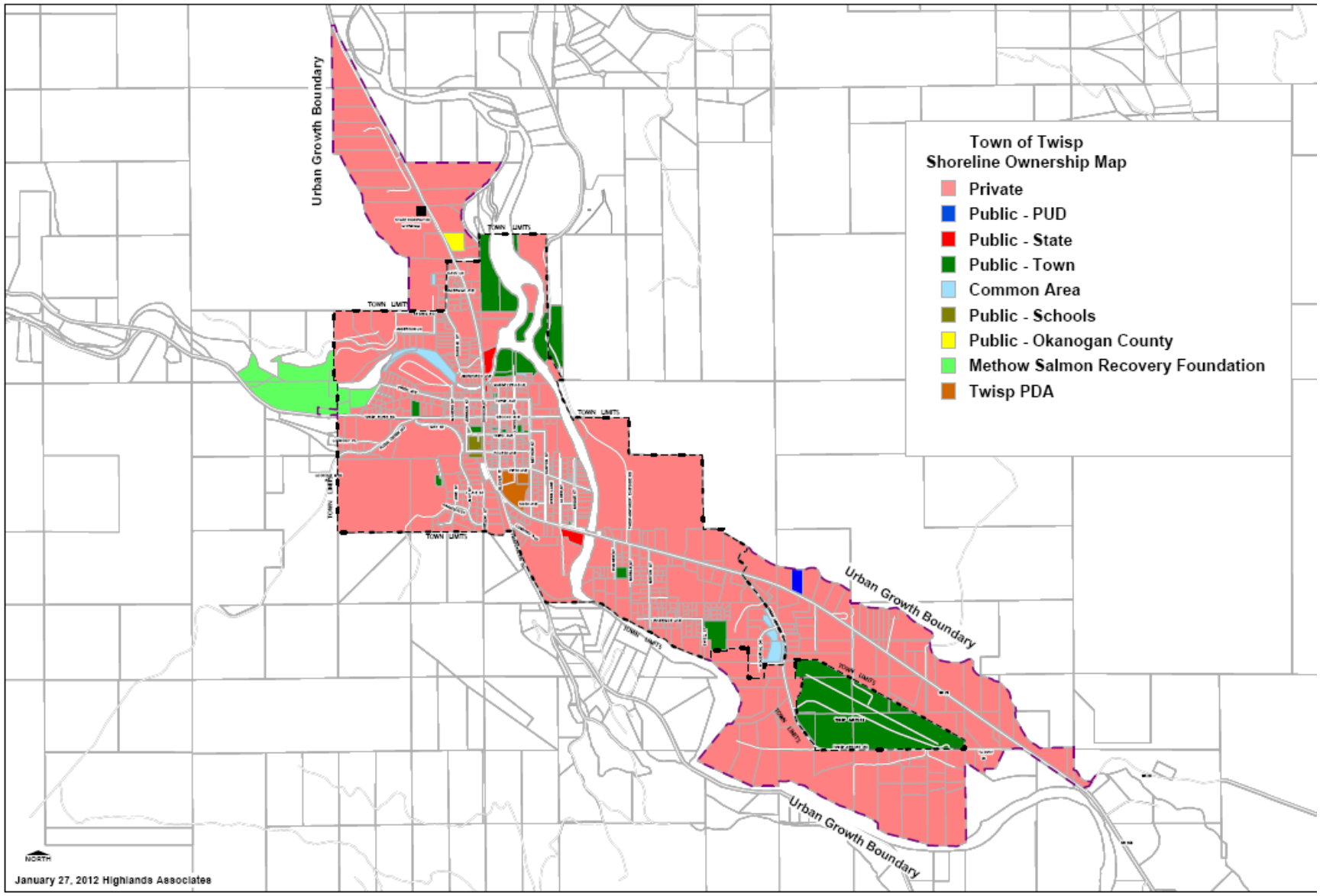
State master program approval/amendment procedures and master program guidelines (WAC

173-26): http://apps.leg.wa.gov/WAC/default.aspx?cite=173-26.

Land Ownership in Twisp

Public Lands

This SMP applies to all lands owned by public agencies including, but not limited to, Federal, State, County, and Municipal lands within the incorporated boundaries of the town of Twisp and is subject to administrative review for any development activities owned by public agencies within the town limits.


Urban Growth Boundary
TOWN LIMITS
Urban Growth Boundary
Urban Growth Boundary
Town of Twisp
Shoreline Ownership Map
Private
Public - PUD
Public - State
Public - Town
Common Area
Public - Schools
Public - Okanogan County
Methow Salmon Recovery Foundation
Twisp PDA
NORTH
January 27, 2012 Highlands Associates

The Okanogan County Cities and Towns Regional SMP

This SMP was originally developed for the incorporated cities within Okanogan County. Twisp has tailored individual Goals and Policies (Chapter 6), Shoreline Designations (Chapter 7) and development regulations (Chapter 8) to address local needs and public input.

Adoption of this SMP by the Town will repeal their existing SMP and bring the community into compliance with the requirements of SMA . The conditions of the grant awarded for the updated SMP require adoption by the end of June 2010.

Jurisdiction

This SMP will regulate shorelines within the incorporated limits of the town of Twisp. Shoreline Areas in adopted Urban Growth/Future Service Areas are "predesignated" with the shoreline designation that will apply upon annexation of the area. However, until such time, those areas will be designated and regulated under the Okanogan County SMP as it exists or is amended.

Relationships to other plans

The Okanogan County Cities and Towns Regional Shoreline Master program, as tailored by the the town of Twisp will be adopted by reference into the Town of Twisp Comprehensive Plan .

Twisp's critical area regulations will protect those critical areas that are located outside of the shoreline jurisdiction.

Technical information for the characterization of Twisp's shorelines was undertaken as part of the regional SMP update and included information from the following plans:

- The Okanogan Basin Watershed Plan Wira 49
- The Methow Basin Watershed Plan Wira 48
- The Spring Chinook Salmon and Steelhead Recovery Plan
- Methow and Okanogan Sub Basin Plans

General Policies and Concepts Used in this SMP

Basic policies

The SMA establishes three basic policies, described below.

1) Protect shoreline natural resources

…including "...the land and its vegetation and wildlife, and the water of the state and their aquatic life... ″

2) Encourage water-dependent uses

Accommodate reasonable and appropriate uses:

"uses shall be preferred which are consistent with control of pollution and prevention of damage to the natural environment, or are unique to or dependent upon use of the states' shorelines..."

3) Promote public access

"…the public's opportunity to enjoy the physical and aesthetic qualities of natural shorelines of the state shall be preserved to the greatest extent feasible consistent with the overall best interest of the state and the people generally."

Concepts

Property rights

RCW 90.58.020: "It is the policy of the state to provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses. This policy is designed to insure the development of these shorelines in a manner which, while allowing for limited reduction of rights of the public in the navigable waters, will promote and enhance the public interest. This policy contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto."

No net loss

"The point of the no net loss requirement is that local governments need to show that everything permitted under the new SMP, both on a project-by-project and cumulative basis, won't create a net loss of ecological functions. It's not that the SMP has to fix everything that happened before (including ongoing impacts), just that it can't create any NEW loss of ecological function."

On a project specific basis we will require mitigation measures to achieve the no net loss standards under the shoreline master program. The mitigation measures will be considered as outlined below in order of descending preference:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

6. Monitoring the impact and the compensation projects and taking appropriate measures.

Critical Areas

Local jurisdictions are required to designate critical areas as required by the Growth Management Act, RCW 36.70A. Critical Areas include the following areas and ecosystems, as designated by the Town:

- wetlands;
- areas with a critical recharging effect on aquifers used for potable water;
- aquatic, riparian, upland and wetland Fish and Wildlife habitat conservation areas;
- frequently flooded areas; Channel Migration Zones;
- Geologically hazardous areas.

Critical areas within shoreline jurisdiction will have critical area protections within the Shoreline Master Program. Those areas outside shoreline jurisdiction will be regulated under the Critical Area Ordinance for the town of Twisp. Critical Areas regulations for shoreline areas can be found in Chapter 8.

Channel Migration Zones

River channels can move, or migrate, laterally across their floodplains. Channel migration can occur gradually, as a river erodes one bank and deposits sediment along the other. Channel migration also can occur as an abrupt shift of the channel to a new location, called an avulsion, which may happen during a single flood event. The highest rates of channel migration occur in zones of rapid sediment deposition, e.g., where steep rivers flow out of foothills onto flatter floodplains. Channel migration represents a different type of flood hazard than inundation by overbank flow, and can endanger properties located outside of the regulatory floodplain. The channel migration zone (CMZ) refers to the geographic area where a stream or river has been and will be susceptible to channel erosion and/or channel occupation. See http://www.ecy.wa.gov/programs/sea/sma/st_guide/jurisdiction/CMZ.html for more information.

- Within incorporated municipalities and urban growth/future service areas, areas separated from the active river channel by legally existing artificial channel constraints that limit channel movement should not be considered within the channel migration zone.

- All areas separated from the active channel by existing artificial structure(s) that is likely to restrain channel migration, including transportation facilities, built above or constructed to remain intact through the one hundred-year flood, should not be considered to be in the channel migration zone.

- Appendix G contains technical information that may be used to establish the Channel Migration Zone. The appendix includes maps from the Bureau of Reclamation report entitled "

Geomorphology and Hydraulic modeling of the Middle Methow River from Winthrop to Twisp" which describes the geomorphic and hydraulic characteristics of the Middle Methow River channel between Twisp and Winthrop. The complete report can be accessed on the Bureau of Reclamation website link: http://www.usbr.gov/pn/programs/fcrps/thp/ucao/methow/m2geomorphology/m2finalreport.pdf. Appendix G also contains maps and text from the Channel Migration Study for the Methow study commissioned by Okanogan County.

Preferred uses

The SMA establishes the concept of *preferred uses* of shoreline areas. In order to balance the public's enjoyment of shorelines with "the overall best interest of the state and the people generally", the SMA gives preference to uses that:

- Are consistent with control of pollution;
- Are consistent with prevention of damage to the natural environment; or
- Are unique to or dependent upon use of the state's shoreline

The Act goes on to say that "'Preferred' uses include single family residences, ports, shoreline recreational uses, water dependent industrial and commercial developments and other developments that provide public access opportunities. To the maximum extent possible, the shorelines should be reserved in the order of preference as such, for 'water-oriented' uses, including 'water-dependent', 'water-related' and 'water-enjoyment' uses."

Water-oriented uses

Water oriented uses are water-dependent, water-related, or water-enjoyment, or a combination of such uses. Each of these types of water-oriented uses are described in detail below.

Water-dependent uses

Water-dependent uses are uses or a portion of a use that cannot exist in a location that is not adjacent to the water and which is dependent on the water by reason of the intrinsic nature of its operations, such as portions of a marina or a hydroelectric generation facility.

Water-related uses

Water-related uses are those that must be located in shoreline areas in order to be economically viable. "Water-related use" means a use or portion of a use which is not intrinsically dependent on a waterfront location but whose economic viability is dependent upon a waterfront location because:

(a) The use has a functional requirement for a waterfront location such as the arrival or shipment of materials by water or the need for large quantities of water; or

(b) The use provides a necessary service supportive of the water-dependent uses and the proximity of the use to its customers makes its services less expensive and/or more convenient.

Water-enjoyment uses

Water enjoyment uses such as a recreational use or other use that facilitates public access to the shoreline as a primary characteristic of the use; or a use that provides for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use and which through location, design, and operation ensures the public's ability to enjoy the physical and aesthetic qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment.

Non-water-oriented

"Nonwater-oriented uses" means those uses that are not water-dependent, water-related, or water-enjoyment.

Exempt uses

Exempt activities are located in 11.12 of the shoreline master program. An exemption from the substantial development permit process is not an exemption from compliance with the Act or the shoreline master program, or from any other regulatory requirements. Exempt uses may require the issuance of a Statement of Exemption also know as a Shoreline Exemption Permit from the SMP administrator.

Conforming and non-conforming uses, structures and lots

A nonconforming structure is a lawful structure existing at the effective date of the adoption of this SMP that could not be built under the terms of this code or any amendment thereto. Nonconforming uses are uses and developments that were legally established and are nonconforming with regard to the use regulations of the SMP may continue as legal nonconforming uses. A nonconforming lot is an undeveloped lot, tract, parcel, site, or division of land which was established in accordance with local and state subdivision requirements prior to the effective date of the Act or this SMP, but which does not conform to the present lot size standards, may be developed if permitted by other land use regulations of the responsible local government and so long as such development conforms to all other requirements of this SMP and the Act. Refer to 11.17, 11.18, and 11.19 for further explanation.

Ecological Function and Value

As one of the guiding policies of this SMP, basic policy # 1 requires the protection of shoreline

natural resources including the land and its vegetation and wildlife, and the water of the state and their aquatic life. Whenever the terms "shoreline functions and values" are used in this SMP, it shall refer to the ecological function and ecological value as described below. Similarly, this SMP is required to prevent no net loss in ecological function and value as established below:

Ecological Function

- Ecological Function encompasses the ecological processes and interactions that occur within an ecological community. Ecological function includes:
  - Provision of habitat for native biota;
  - Provision of food and other resources for native biota;
  - Maintenance of interactions between species (e.g., pollination, dispersal, mutualism, competition, predation)
  - Cycling, filtering and retention of nutrients;
  - Carbon storage or sequestration;
  - Maintenance of soil processes;
  - Maintenance of catchment scale hydrological and geochemical processes; and
  - Maintenance of landscape scale ecological processes.

Ecological Value

Ecological Value: attributes include productivity, the ability to provide habitats for dependent species and the diversity of species and organization they support.

Riparian areas or zones: Riparian means "*streamside*." Riparian areas include the land adjacent to lakes, rivers and streams, the vegetation above it, and the groundwater area beneath it. Riparian areas are three-dimensional ecotones of interaction that include terrestrial and aquatic ecosystems that extend into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the water course at a variable width**.** Riparian areas are particularly important to shoreline health because they are ecotones—transition areas between different ecosystems. Ecotones tend to display higher diversity than either of the adjacent ecosystems because they have characteristics of both of them. Riparian areas are no exception. Because they are low-lying and close to the water table, they offer damp, fertile soil that typically supports more vegetation than either the water or the land alongside it. That vegetation provides habitat elements such as food and cover for many species of animals. The zone as a whole provides important ecological function and values including streamside habitat that supports in stream function and values such as cool water via shade, organic matter, nutrient cycling, and habitat structure for terrestrial species.

In areas where no riparian vegetation exists due to shoreline modifications or development such as fill or levee-protected areas, riparian zones may not occur or may not exhibit the full sweat of ecological functions and values as intact systems. Treatment of these highly altered riparian areas should consider both the potential for restoration or enhancement along with the communities desire to utilize the shoreline for water-dependent and water-oriented uses.

Upland

The portion of the landscape above the valley floor and/or any area that does not qualify as a wetland because the associated hydrologic regime is not sufficiently wet to elicit development of vegetation, soils and/or hydrologic characteristics associated with wetlands. Such areas in floodplains are more appropriately termed non-wetlands. Uplands are also often used in relationship to streamside areas that do not have wetlands (see riparian definition above).

Upland Habitat

Upland Habitat: The dry habitat zones adjacent to and landward of bodies of water.

Ecological Value: attributes include productivity, the ability to provide habitats for dependent species and the diversity of species and organization they support.

SMP Contents

Definitions Chapter 2

This SMP provides definitions for terms and concepts intended to be used in the administration and interpretation of this SMP.

Public Participation Chapter 3

Development of the Okanogan County Regional SMP entailed a two-tier public participation process. The process included a Shoreline Advisory Group and a Technical Advisory Group. The groups met on a regular basis to review scientific findings, provide feedback and review document contents, including policies and regulations. Additionally the Department of Ecology provided comments and editorial oversight throughout the development of this SMP. The Draft Regional SMP was released for general public review in October 2009. The Draft Regional SMP was then distributed to each jurisdiction to tailor it to individual needs and develop their own public participation plan for the document. The public participation plan for the town of Twisp can be found in Chapter 3.

Inventory, analysis, and characterization Chapter 4

All of the shorelands potentially subject to regulation under the SMA have been inventoried to characterize the current shoreline function to develop a baseline that can be used to measure the no net loss standard against. The inventory captured opportunities for restoration, public access, and shoreline use patterns. All of this information helped inform the environment designations that have been applied to the shorelines under the SMA. More information on the characterization is located in Chapter 4 with associated appendices B and C.

Shorelines of Statewide Significance Chapter 5

Special consideration of shorelines of statewide significance can be found in Chapter 5. Chapter 5 assembles a set of guidelines intended to establish uses best suited for the long-term benefit of shorelines of statewide significance.

Policies and Regulations Chapters 6 & 8

The SMA requires each SMP to develop Policies and Regulations to meet the intent of the Act, guided by local environments and public participation. The SMP guidelines require particular uses and their associated impacts be addressed through policies that are enacted through regulations. Policies for specific uses are provided in Chapter 6 of this SMP.

Regulations are derived in support of specific policies as well as for the protection of the functions and values reflected in the Shoreline Designations (SD) and "no net loss" requirement of SMA. Shoreline Regulations are categorized by SD and by specific uses. Chapter 8 provides regulations in the form of use and shoreline designation (SD) specific regulations.

Shoreline Designations Chapter 7

Shoreline designations are analogous to zoning designations for shoreline areas and determine development regulations for different segments of shoreline. Shoreline designations reflect the existing and desired character of a shoreline and to be achieved through development regulations and standards set forth in Chapter 8. Shoreline character is based on a scientific inventory and analysis known as the Shoreline Characterization as well as land use planning factors described briefly above and in greater detail in Chapter 4). The following designations have been applied to shorelines in the town of Twisp:

Shoreline Designations

High Intensity

Shoreline Residential

Shoreline Recreation

Urban Conservancy

Natural

Aquatic

Permit and development requirements vary between Shoreline Designations. The different types of shoreline permits are explained briefly below, under the heading "Administration and Compliance", and in greater detail in Chapter 11. Shoreline Use Chart (Table 8.2) and development standards are used together to determine allowable uses and permit requirements.

Maps

Characterization maps and Designation Maps will be available from the Shoreline Administrator for the town of Twisp and online at http://www.townoftwisp.com. The characterization map book is organized by watershed. The Twisp Shoreline Designation Map is located in Chapter 7 and attached to this report as Exhibit A.

To find out whether a particular use is allowed on a given parcel of land, the Shoreline Designation needs to be established by finding the parcel on shoreline designation map in Appendix D.1. Once the Designation has been determined, the use chart in Table 8.2 lists what activities are allowed and what permits will be required for a proposed development. Similarly, the development standards in Table 8.1 contain requirements such as bulk height, setbacks, and buffer widths.

Restoration Plan Chapter 10

Chapter 10 includes the restoration plan. Restoration is encouraged to achieve a net gain in ecological function. Areas with a high potential for restoration were identified as part of the inventory and analysis located in appendix A. Analysis units that had high resource value scores and low condition scores are considered candidates for restoration. Similarly, the Bureau of Reclamation study of the Middle Methow (http://www.usbr.gov/pn/programs/fcrps/thp/ucao/methow/m2geomorphology/m2finalreport.pdf) identifies areas for restoration as it pertains to river function and endangered salmon. The Chapter 10 Restoration plan shall take into consideration local and regional efforts currently underway for Salmon Recovery activities.

Administration Chapter 11

The requirements for permitting shoreline uses and developments is presented in administrative guidelines described in Chapter 11.

Types of Shoreline Permits

There are four types of Shoreline Permits, issued either administratively (by the local jurisdiction) or requires Ecology approval. Each permit is filed with the Department of Ecology:

- Shoreline Statement of Exemption (Administrative Approval)
- Shoreline Substantial Development Permit (Administrative Approval)
- Conditional Use Permits (local hearing, Ecology Approval)
- Variance (local hearing, Ecology Approval)

Conditional use permits and variance permits must go through a public hearing at the local level prior to submittal to Ecology. Once the local determination is made the application and supporting materials are sent to the Department of Ecology for their review. They make the final decision as to whether the CUP or Variance is allowed or denied. More information on permit issuance can be found in Chapter 11.

Conditional Use Permits allow greater flexibility in applying use regulations of shoreline master program. A CUP is needed if a proposed use is listed as a conditional use in a local government's shoreline regulations, *or* if the SMP does not address the use.

Variance permits are used to allow a project to deviate from an SMP's dimensional standards (e.g., setback, height, or lot coverage requirements).

Applicability

What areas are regulated under this SMP?

This SMP applies to all shorelines of the state in the in the town of Twisp.

Shorelines of the state include "Shorelines" and "Shorelines of Statewide Significance", as defined above under the heading "Shorelines of the State."

Does this SMP apply to existing development?

This SMP applies to new uses, new activities, and changes in use. Existing uses are generally "grandfathered"—that is, allowed to continue as legal uses—as long as they were legal at the time they began. For each existing use, except residential, that was legal when it began but would not be allowed as a new use under the current SMP is considered a legal nonconforming use. Residential structures and their appurtenant structures that were legally established and are used for a conforming use, but do not meet standards for the following are to be considered a conforming structure: setbacks, buffers ,or yards; area; bulk; height; or density; and may include redevelopment, expansion, change with the class of occupancy, or replacement of the residential structure consistent with this SMP, including the requirements for no net loss of shoreline ecological functions. For the purposed of this section, "appurtenant structures" means garages, sheds and other legally established structures. "Appurtenant structures" does not include builkheads and other shoreline modifications or over-water structures. More information about changes in use, conforming and nonconforming uses, and how they are handled can be found in

Chapter 11.

Shorelines within Cities and Towns

This SMP recognizes that not only do different conditions exist within the cities and towns in Okanogan County, but that most of the cities and towns have developed comprehensive plans to guide development of their communities. As a regional program, this SMP is intended to provide the overall guidance and scientific foundation required for all shoreline areas of the County, while providing each city or town that includes shoreline areas with the ability to tailor the provisions and/or develop specific policies, regulations and environment designations compatible with local plans.

All of the general goals, policies and regulations herein are applicable to the all cities and towns in Okanogan County and are at least the minimum required for compliance with the Shoreline Management Act. Each city and town may add to or refine the use specific goals, policies and regulations as applicable to their jurisdiction, providing that the results comply with the SMA.

Permit exemptions

The SMA exempts certain developments from the need to obtain a Substantial Development Permit (SDP). Activities exempted from the requirement to acquire a SDP must comply with all substantive policies and regulations of the local master program and be issued a written Shoreline Exemption Permit by the administrator of this SMP. A complete list of all uses is provided in Section 11.12B of this SMP and WAC 173-27-040. In general a SDP, is not required for the following uses within the shorelines of (insert jurisdiction)

- Any project with a fair market value under $5718 or amount amended by WAC 173.
- Single family residences
- Normal protective bulkheads for single family residences
- Normal maintenance and repair of existing structures
- Docks worth less than $10,000 (fresh water)
- Normal farming activities including drainage structures such as irrigation structures including but not limited to head gates, pumping facilities, and irrigation channels.
- Operation and maintenance of any system of dikes, ditches, drains, or other facilities existing on September 8, 1975, which were created, developed, or utilized primarily as part of an agricultural drainage or diking system
- Emergency construction needed to protect property
- Scientific investigation as it relates to a development project
- Watershed restoration or fish and wildlife improvement projects

CHAPTER 2: DEFINITIONS

This chapter lists the official (legal) definitions of terms used in this SMP. As used in this SMP, unless the context requires otherwise, the following definitions and concepts apply:

2.01 "Act" means Shoreline Management Act of 1971, Chapter 90.58 RCW, as amended.

2.02 "Accessory Building or Use" means a subordinate building or use which is located on the same legal lot as the principal building or use.

2.03 "Accessory utility" means local transmission and collection lines, pipes, and conductors associated with water, sewer, gas, telephone, cable-TV, or similar utilities, or with irrigation systems, and other similar facilities intended to serve a development or an individual use, including access roads and appurtenant structures necessary to facilitate the utility use.

2.04 "Administrative Authority" shall, in the context of these regulations, mean the town clerk for the town of Twisp.

2.05 "Administrator" shall, in the context of this master program, mean the duly appointed representative of the County, city, town or Tribe with jurisdiction.

2.06 "Advertising Sign" Any device, structure, fixture or placard that is visible from a public right-of-way or surrounding properties and which uses graphics, symbols or written copy for the purpose of advertising or identifying any establishment, product, goods or service.

2.07 "Agriculture" and "Agricultural Activities" means agricultural uses and practices including, but not limited to: Producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facility is no closer to the shoreline than the original facility; and maintaining agricultural lands under production or cultivation;

2.08 "Agricultural Equipment" and "Agricultural Facilities" includes, but is not limited to: (i) The following used in agricultural operations: Equipment; machinery; constructed shelters, buildings, and ponds; fences; upland finfish rearing facilities; water diversion, withdrawal, conveyance, and use equipment and facilities including, but not limited to, pumps, pipes, tapes, canals, ditches, and drains; (ii)

Corridors and facilities for transporting personnel, livestock, and equipment to, from, and within agricultural lands; (iii) Farm residences and associated equipment, lands, and facilities; and (iv) Roadside stands and on-farm markets for marketing fruit or vegetables.

2.09 "Agricultural Land" means those specific land areas on which agriculture activities are conducted as of the date of adoption of a local master program pursuant to these guidelines as evidenced by aerial photography or other documentation.

2.10 "Agricultural Products" includes, but is not limited to, horticultural, viticultural, floricultural, vegetable, fruit, berry, grain, hops, hay, straw, turf, sod, seed, and apiary products; feed or forage for livestock; Christmas trees; hybrid cottonwood and similar hardwood trees grown as crops and harvested within twenty years of planting; and livestock including both the animals themselves and animal products including, but not limited to, meat, upland finfish, poultry and poultry products, and dairy products;

2.11 "Aquaculture" means the culture or farming of food fish, shellfish, or other aquatic plants or animals. Aquaculture is an activity of statewide interest. It is a water-dependent use and, when consistent with control of pollution and prevention of damage to the environment and undertaken in conformance with the provisions of this SMP, is a preferred use of the water area.

2.12 "Animal feeding operation" or "AFO" means a lot or facility (other than an aquatic animal production facility) where the following conditions are met:

Animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and Crops, vegetation forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

2.13 "Appurtenance" means development that is necessarily connected to the use and enjoyment of a single-family residence and is located landward of the OHWM and/or the perimeter of a wetland. Appurtenances include a garage, deck, driveway, utilities, fences, installation of a septic tank and drainfield and grading which does not exceed the threshold established in local SEPA or building regulations, whichever is less, and which does not involve placement of fill in any wetland, floodway, floodplain or waterward of the ordinary high water mark.

2.14 "Associated Wetlands" is synonymous with "wetlands" or "wetland areas Wetlands that are in proximity to, lakes, rivers or streams that are subject to the SMA and either influence or are influenced by such waters. Factors used to determine proximity and influence include, but are not limited to: location contiguous to a shoreline waterbody, formation by tidally influenced geo-hydraulic processes, presence of a surface connection including through a culvert or tide gate, location in part or whole within the floodplain of a shoreline, periodic inundation, and/or hydraulic continuity.

2.15 "Aquifer Recharge Area" Area with a critical recharging effect on aquifers used for potable water where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water.

2.16 "Aquaculture" is the farming of aquatic organisms including fish, mollusks, crustaceans and aquatic plants. Farming implies some sort of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators and so forth.

2.17 "Archaeological resource/site" means archaeological and historic resources that are either recorded at the state historic preservation office and/or by local jurisdictions or have been inadvertently uncovered, are located on Okanogan County shorelands and~~,~~ including, but not limited to, submerged and submersible lands and the bed of the rivers within the state's jurisdiction, that contains archaeological objects. Archaeological sites located both in and outside shoreline jurisdiction are subject to chapter 27.44 RCW (Indian graves and records) and chapter 27.53 RCW (Archaeological sites and records) and development or uses that may impact such sites shall comply with chapter 25-48 WAC as well as the provisions of this chapter. "Significant" is that quality in American history, architecture, archaeology, engineering, and culture that is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

a. That are associated with events that have made a significant contribution to the broad patterns of our history; or

b. That are associated with the lives of significant persons in our past; or

c. That embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d. That has yielded or may be likely to yield, information important in history or prehistory.

2.18 "Average Grade Level" means the average of the natural or existing topography of the portion of the lot, parcel, or tract of real property which will be directly under the proposed building or structure; provided that in the case of structures to be built over water, average grade level shall be the elevation of ordinary high water. Calculation of the average grade level shall be made by averaging the ground elevations at the center of all exterior walls of the proposed building or structure.

2.19 "Bed and Breakfast" An owner occupied single family dwelling in which not more than two bedrooms are rented to the traveling public (tourists). For the purposes of this title, this use is not considered a commercial use. This use shall have the outward appearance of a single family residence and food service in accordance with WAC 246.215.180.

2.20 "Best Available Science" The current scientific information used in the process to designate, protect, or restore critical areas, that is derived from a valid scientific process as defined by WAC 365-195-900 through 925, for when used within this SMP, the most current, accurate, and complete scientific and technical information available WAC 173-26-201(2)(a)

2.21 "Best management practices" means (BMP's) means conservation practices or systems of practices and management measures that:

a. Control soil loss and reduce water quality degradation caused by nutrients, animal waste, toxins, and sediment:

b. Minimize adverse impacts to surface water and ground water flow, circulation pattern, and to the chemical, physical, and biological characteristics of waters, wetlands, and other fish and wildlife habitats.

c. Control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw material.

2.22 "Boating facilities" Developments and uses that support access to shoreline waters for purposes of boating.

2.23 "Building" Any permanent structure built for the shelter or enclosure of persons, animals, chattels, or property of any kind and not including advertising signboards or fences.

2.24 "Buffer, Use" means an area that is contiguous to and protects a critical area that is required for the continued maintenance, functioning, and/or structural stability of a critical area.

2.25 "Buffer, Vegetation" means the vegetation area adjacent to a shoreline that separates and protects the shoreline aquatic area from adverse impacts associated with adjacent land uses.

2.26 "Buffer, Wetland" means the vegetation area adjacent to a wetland that separates and protects the wetland aquatic area from adverse impacts associated with adjacent land uses.

2.27 "Bulkhead" A structure erected generally parallel to and near the OHWM for the purpose of protecting adjacent uplands from waves or current action.

2.28 "Bulk storage" means non-portable storage of bulk products in fixed tanks.

2.29 "CAFO" Concentrated Agricultural Feeding Operation, as defined by the Code of Federal Regulations 122.23.

2.30 "Campgrounds" A development providing facilities for outdoor recreational activities, including structural improvements such as covered cooking areas, group facilities, self-contained travel trailer/motor home sites, tent sites, restroom and shower facilities, and laundry facilities for the convenience of temporary occupants. This definition includes camping clubs when developed in accordance

with applicable state laws.

2.31 "Channel migration zone (CMZ)"means the area along a river within which the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes when considered with the characteristics of the river and its surroundings.

2.32 "Clearing" The destruction or removal of vegetation ground cover, shrubs and trees including, but not limited to, root material removal and/or topsoil removal.

2.33 "Commercial use" Facilities used or established to provide goods, merchandise or services for compensation or exchange, excluding facilities for the growth, production, or storage of agricultural products.

2.34 "Community boating facilities" including docks, piers, ramps, marinas, etc…are typically designed and constructed to serve all or a significant component of the members of a residential development; which typically include waterfront property owners and often include non-water front property owners. A homeowner's association usually owns a shoreline tract(s) or easement (s) providing for the potential placement of the facilities; and is responsible for the ownership and maintenance of the facilities. Where the shoreline is owned by a public entity and the entity has authorized the facilities, then the multiple upland property owners of a residential development would also be considered community boating facilities.

2.35 "Community joint-use recreational dock" means a dock intended for the common use of the residents of adjoining parcels or subdivision, shore subdivision, or community located on adjacent uplands. A community joint-use recreational dock shall not be a commercial endeavor and shall not for the purpose of serving the public.

2.36 "Critical Areas" Critical Areas include the following areas and ecosystems, as designated by the County, city, town or Tribe with jurisdiction: Wetlands; Areas with a critical recharging effect on aquifers used for potable water; aquatic, riparian, upland and wetland Fish and Wildlife habitat conservation areas; Frequently flooded areas; Channel Migration Zones; and Geologically hazardous areas.

2.37 "Critical Areas Report" is a report prepared by a qualified professional required by the agency with jurisdiction that inventories and analyses the development impacts of a proposed action on a critical area. Critical Area report requirements are found in Chapter 11of this SMP.

2.38 "Cumulative Impacts" means the impact on the environment resulting from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of who undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

2.39 "Density" An expression of the intensity of use of property, usually indicated in the following manner: For residential uses: Minimum acreage or square footage required for each residential unit; for non-residential uses: Maximum amount of use and/or floor area expressed as a percentage or fraction of the size of the lot.

2.40 "Development" means a use consisting of the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel, or minerals; bulkheading; driving of piling; placing of obstructions; or any project of a permanent or temporary nature which interferes with the normal public use of the surface of the waters of the state subject to Chapter 90.58 RCW at any stage of water level. (RCW 90.58.030(3)(d).)

2.41 "Development regulations" means the controls placed on development or land uses by a local or tribal government in Okanogan County, including, but not limited to, zoning ordinances, critical areas ordinances, all portions of a shoreline master program other than goals and policies approved or adopted under chapter 90.58 RCW, planned unit development ordinances, subdivision ordinances, and binding site plan ordinances, together with any amendments thereto.

2.42 "Dike" means an artificial embankment or revetment normally set back from the bank or channel in the floodplain for the purpose of keeping floodwaters from inundating adjacent land.

2.43 "Dock" means all platform structures or anchored devices in or floating upon water bodies to provide moorage for pleasure craft or landing for water-dependent recreation including but not limited to floats, swim floats, float plane moorages, and water ski jumps. Excluded are launch ramps.

a. Private docks- over-water structures are constructed and utilized for private moorage by a single residential waterfront property owner; or an upland property owner adjacent to publicly owned shoreline where the public entity has authorized the placement of a private dock. Joint use docks - are constructed and utilized by two or more contiguous residential waterfront property owners. Joint use dock facilities may also serve one waterfront property owner and one or more contiguous upland property owners; or may consist of two or more upland property owners adjacent to publicly owned shoreline, where the public entity has authorized the placement of a joint use dock.

b. Community docks- are typically designed and constructed to serve all or a significant component of the members of a residential development; which typically include waterfront property owners and often include non-water front property owners. A homeowner's association usually owns a shoreline tract(s) or easement (s) providing for the potential placement of the dock facilities; and is responsible for the ownership and maintenance of the facilities. Where the shoreline is owned by a public entity and the entity has authorized dock facilities, the dock facilities for multiple upland property

owners of a residential development would also be considered community dock facilities.

c. Public docks- are constructed and utilized for use by the general public, typically owned and managed by a public agency and may include a boat ramp.

2.44 "Dredge material disposal" means the disposal of material excavated waterward of the ordinary high watermark according to the DNR disposal procedures manual.

2.45 "Dredging" means the removal, displacement, and disposal of unconsolidated earth material such as silt, sand, gravel, or other submerged material from the bottom of water bodies or from wetlands.

2.46 "Dwelling, Multi-Family" means a building containing two or more dwelling units.

2.47 "Dwelling, Single-Family" means a detached building containing one dwelling unit.

2.48 "Dwelling unit" means a building or portion thereof designed exclusively for residential purposes on a permanent basis; to be used, rented, leased, or hired out to be occupied for living purposes having independent living facilities, including permanent provisions for living, sleeping, eating, cooking, and sanitation. No motor home, travel trailer, tent trailer or other recreational vehicle shall be considered a dwelling unit.

2.49 "Ecological functions" or "shoreline functions" means the work performed or role played by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the shoreline's natural ecosystem. See WAC 173-26-201(2)(c).

2.50 "Ecological restoration and/or enhancement" is an "intentional activity that initiates, accelerates, or intended to recover ecosystem functions with respect to its health, integrity and sustainability. The practice of ecological restoration and/or enhancement includes a wide scope of projects including, but not limited to: erosion control, reforestation, removal of non-native species and weeds, revegetation of disturbed areas, daylighting streams (e.g. culvert/pipe removal, bring an artificially underground stream to the surface), reintroduction of native species, as well as habitat and range improvement for targeted species.

2.51 "Ecologically intact" shorelines, means those shoreline areas that retain the majority of their natural shoreline functions, as evidenced by the shoreline configuration and the presence of native vegetation. Generally, but not necessarily, ecologically intact shorelines are free of structural shoreline modifications, structures, and intensive human uses. In forested areas, they generally include native vegetation with diverse plant communities, multiple canopy layers, and the presence of large woody debris available for recruitment to

adjacent water bodies.

2.52 "Ecosystem-wide processes" means the suite of naturally occurring physical and geologic processes of erosion, transport, and deposition; and specific chemical processes that shape landforms within a specific shoreline ecosystem and determine both the types of habitat and the associated ecological functions.

2.53 "Emergency" is an unanticipated and imminent threat to public health, safety, or the environment which requires immediate action within a time too short to allow full compliance with this chapter. Emergency construction does not include development of new permanent protective structures where none previously existed. Where new protective structures are deemed by the administrator to be the appropriate means to address the emergency situation, upon abatement of the emergency situation the new structure shall be removed or any permit which would have been required, absent an emergency, pursuant to chapter 90.58 RCW, these regulations, or the local master program, obtained. All emergency construction shall be consistent with the policies of chapter 90.58 RCW and this master program. As a general matter, flooding or other seasonal events that can be anticipated and may occur but that are not imminent are not an emergency;

2.54 "Emergency construction" is construed narrowly as that which is necessary to protect property from the elements (RCW 90.58.030(3eiii).

2.55 "Exempt, substantial development" means any development of which the total cost or fair market value, whichever is higher, does not exceed five thousand seven hundred eighteen dollars ($5,718) or dollar value as amended by the State of Washington Office of Financial Management, if such development does not materially interfere with the normal public use of the water or shorelines of the state, and any development which does meet the definition of substantial development contained herein. Note – exemption does not preclude compliance with the regulations contained herein, or provide an exemption from any other permit processes except as provided herein.

2.56 "Experimental aquaculture" means an aquaculture project that uses methods or technologies that are unprecedented or unproven in the State of Washington.

2.57 "Fair Market Value" of a development is the expected price at which the development can be sold to a willing buyer. For developments which involve nonstructural operations such as dredging, dumping or filling, the fair market value is the expected cost of hiring a contractor to perform the operation or where no such a value can be calculated, the total of labor, equipment use, transportation, and other costs incurred for the duration of the permitting project.

2.58 "Feasible" means, for the purpose of this chapter, that an action, such as a development project, mitigation, or preservation requirement, meets all of the following conditions:

a. The action can be accomplished with technologies and methods that have been used in the past in similar circumstances, or studies or tests have

demonstrated in similar circumstances that such approaches are currently available and likely to achieve the intended results;

b. The action provides a reasonable likelihood of achieving its intended purpose; and

c. The action does not physically preclude achieving the project's primary intended legal use. In cases where this SMP requires certain actions unless they are infeasible, the burden of proving infeasibility is on the applicant. In determining an action's infeasibility, the local or tribal government reviewing the application may weigh the action's relative public costs and public benefits, considered in the short- and long-term time frames.

2.59 "Feedlot" means an enclosure or facility used or capable of being used for feeding livestock hay, grain, silage, or other livestock feed, a confined area or structure for feeding, breeding or holding livestock for eventual sale or slaughter and in which animal waste accumulates faster than it can naturally dissipate without creating a potential for a health hazard, particularly with regard to surface and groundwater; but not including barns, pens or other structures used in a dairy operation or structures on farms holding livestock primarily during winter periods.

2.60 "Fill" means the addition of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to an area waterward of the OHWM, in wetlands, or on shorelands in a manner that raises the elevation or creates dry land.

2.61 "Fish and Wildlife Habitat Conservation Areas" habitats of priority species, priority habitats, and habitats of local importance for fish and wildlife that include a seasonal range or habitat element with which a given species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long-term. These might include areas of high relative density or species richness, breeding habitat, winter range, movement corridors, and areas of limited availability or high vulnerability to alteration, such as cliffs, talis, and wetlands.

2.62 "Floats" means a detached, anchored structure that is free to rise and fall with water levels including any floating, anchored platform or similar structure, used for boat mooring, swimming or similar recreational activities that is not anchored or accessed directly from the shoreline.

2.63 "Floating homes" A structure designed and operated substantially as a permanently based over water residence. Floating homes are not vessels and typically lack adequate self-propulsion and steering equipment to operate as a vessel. They are typically served by permanent utilities and semi permanent anchorage/moorage facilities.

2.64 "Flood control works" means all development on rivers and streams designed to retard bank erosion, to reduce flooding of adjacent lands, to control or divert stream flow, or to create a reservoir, including but not limited to revetments,

dikes, levees, channelization, dams, vegetative stabilization, weirs, flood and tidal gates. Excluded are water pump apparatus.

2.65 "Floodplain" is synonymous with one hundred-year floodplain and means that land area susceptible to inundation with a one percent chance of being equaled or exceeded in any given year. The limit of this area shall be based upon the flood ordinance regulation maps of the local or tribal government with jurisdiction.

2.66 "Floodplain management" means a long-term program to reduce flood damages to life and property and to minimize public expenses due to floods through a comprehensive system of planning, development regulations, building standards, structural works, and monitoring and warning systems.

2.67 "Floodway" means that either (i) Has been established in federal emergency management agency flood insurance rate maps or floodway maps; or (ii) those portions of the area of a river valley lying streamward from the outer limits of a watercourse upon which flood waters are carried during periods of flooding that occur with reasonable regularity, although not necessarily annually, said floodway being identified, under normal condition, by changes in surface soil conditions or changes in types or quality of vegetative ground cover condition. Regardless of the method used to identify the floodway, the floodway shall not include those lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or maintained under license from the federal government, the state, or a political subdivision of the state.

2.68 "Forest Lands" means lands designated as forest lands, as required by the Growth Management Act, RCW 36.70A.170 and as regulated under RCW 76.09.

2.69 "Forest practices" means any activity conducted on or directly pertaining to forest land and relating to growing, harvesting, or processing timber, including but not limited to: road and trail construction, harvesting, final and intermediate, precommercial thinning, reforestation, fertilization, prevention and suppression of diseases and insects, salvage of trees, and brush control. "Forest practice" shall not include: Forest species seed orchard operations and intensive forest nursery operations; or preparatory work such as tree marking, surveying and road flagging; or removal or harvest of incidental vegetation from forest lands such as berries, ferns, greenery, mistletoe, herbs, mushrooms, and other products which cannot normally be expected to result in damage to forest soils, timber or public resources.

2.70 "Frequently Flooded Area" means the floodplain, the future-flow floodplain, and those lands that provide important flood storage, conveyance and attenuation functions.

2.71 "Frontage" is the distance measured along the ordinary high water mark.

2.72 "Future Flow Floodplain" means the channel of the stream and that portion of the adjoining flood plain that is necessary to contain and discharge the base flood flow at build out without any measurable increase in flood heights.

2.73 "Geologically Hazardous Areas" Area" means:

a. Any area designated as a Geologically Hazardous Area by the local government with jurisdiction; or

b. Any other area that is not suited to siting commercial, residential, or industrial development consistent with public health or safety concerns, because of the area's susceptibility to erosion, sliding, earthquake, or other geological events, including but not limited to:

1. Channel migration zones;

2. Erosion hazard areas: areas that contain soil types, according to Soil Conservation Service's Soil Classification System, that may experience severe to very severe erosion;

3. Landslide hazard areas: areas that have the potential of risk of mass movement resulting from a combination of geologic, topographic, and hydrologic factors;

4. Seismic hazard areas: areas that are subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction;

5. Mine hazard areas: areas that are directly underlain by, adjacent to, or affected by mine workings such as adits, tunnels, drifts, or air shafts;

6. Volcanic hazard areas: areas subject to pyroclastic flows, lava flows, and inundation by debris flows, mud flows, or related flooding resulting from volcanic activity.

2.74 "Geotechnical report" or "geotechnical analysis" means a scientific study or evaluation conducted by a qualified expert that includes a description of the ground and surface hydrology and geology, the affected land form and its susceptibility to mass wasting, erosion, and other geologic hazards or processes, conclusions and recommendations regarding the effect of the proposed development on geologic conditions, the adequacy of the site to be developed, the impacts of the proposed development, alternative approaches to the proposed development, and measures to mitigate potential site-specific and cumulative geological and hydrological impacts of the proposed development, including the potential adverse impacts to adjacent and down-current properties. Geotechnical reports shall conform to accepted technical standards and must be prepared by qualified professional engineers or geologists-who have professional expertise about the regional and local shoreline geology and processes.

2.75 "Grading" means the movement or redistribution of the soil, sand, rock, gravel, sediment, or other material on a site in a manner that alters the natural contour of the land.

2.76 "Gravel Pit" Land from which sand, gravel or quarried rock is extracted, but does

not include the extraction of metals, minerals or fossil fuels. (See Mining)

2.77 "Guest House" For the purposes of 17.14.115 (Okanogan County Code), small living unit accompanying the main residence permitted on a lot of minimum size or larger for the purpose of housing guests, friends, and relatives and having its own kitchen and toilet facilities. The total floor area of such a unit shall be a minimum of 500 square feet and not exceed 50% of the total area of the main residence. The main residence shall be occupied by the property owner.

2.78 "Guidelines" means the State of Washington's adopted Shoreline Master Program Guidelines (WAC 173-26, as amended).

2.79 "Habitat" means the specific area or environment in which a particular type of plant or animal lives.

2.80 "Hard shoreline stabilization" means shore erosion control practices using hardened structures that armor and stabilize the shoreline landward of the structure from further erosion including but not limited to, bulkheads, rip-rap, jetties, groins, breakwaters, and stone reinforcement.

2.81 "Height, building" is measured from average grade level to the highest point of a structure: Provided, That television antennas, chimneys, and similar appurtenances shall not be used in calculating height, except where such appurtenances obstruct the view of the shoreline of a substantial number of residences on areas adjoining such shorelines, or the applicable master program specifically requires that such appurtenances be included: Provided further, That temporary construction equipment is excluded in this calculation .

2.82 "Historic Site" means those sites that are eligible to be listed or are listed on the Washington Heritage Register, National Register of Historic Places, or any locally developed historic registry formally adopted by the responsible local government.

2.83 "Hotels and Motels" Establishments for housing the traveling public on an overnight or short term basis. Accessory restaurant and recreational facilities are usually available to non-guests as well as guests.

2.84 "Houseboat" A vessel, principally used as an over water residence. Houseboats are licensed and designed for use as a mobile structure with detachable utilities or facilities, anchoring and the presence of adequate self-propulsion and steering equipment to operate as a vessel. Principal use as an over-water residence means occupancy in a single location, for a period exceeding 30 days in any one calendar year. This definition includes liveaboard vessels.

2.85 "Industrial use" means a use including manufacturing, processing, warehousing, storage, distribution, shipping and other related uses.

2.84 "Inns, Lodges and Guest Ranches" Establishments for housing and providing either organized entertainment (both active and passive) or recreational opportunities for stays, generally, several nights in duration. This type of facility either provides all recreational opportunities on-site or as part of an organized or

duly licensed and/or permitted recreational activity on public or private lands in the vicinity of the inn, lodge or guest ranch.

2.85 "In-stream Structure" means a structure placed by humans within a stream or river waterward of the ordinary high-water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. In-stream structures may include those for hydroelectric generation, irrigation, water supply, flood control, transportation, utility service transmission, fish habitat enhancement, or other purpose.

2.86 "Landfill" means a disposal site or part of a site at which waste is placed in or on land and which is not a landspreading disposal facility, or as otherwise defined by Okanogan County, any of the cities and towns therein, or the Colville Confederated Tribes. The most stringent definition shall apply.

2.87 "Land Use, High Impact" "High Intensity Land Use" means land use that includes the following uses or activities: commercial, urban, industrial, institutional, retail sales, residential (more than 1 unit/acre), high intensity new agriculture (dairies, nurseries, greenhouses, raising and harvesting crops requiring annual tilling, raising and maintaining animals), high intensity recreation (golf courses, ball fields), and hobby farms.

2.88 "Land Use, Low Impact" means land use that includes the following uses or activities, forestry (cutting of trees only), low-intensity open space (hiking, bird-watching, preservation of natural resources, etc.), unpaved trails, utility corridor without a maintenance road and little or no vegetation management.

2.89 "Land Use Medium Impact" means land use that includes the following uses or activities, residential (1 unit/acre or less), moderate-intensity open space (parks with biking, jogging, etc.), conversion to moderate-intensity agriculture (orchards, hay fields, etc.), paved trails, building of logging roads, utility corridor or right-of-way shared by several utilities and including access/maintenance road.

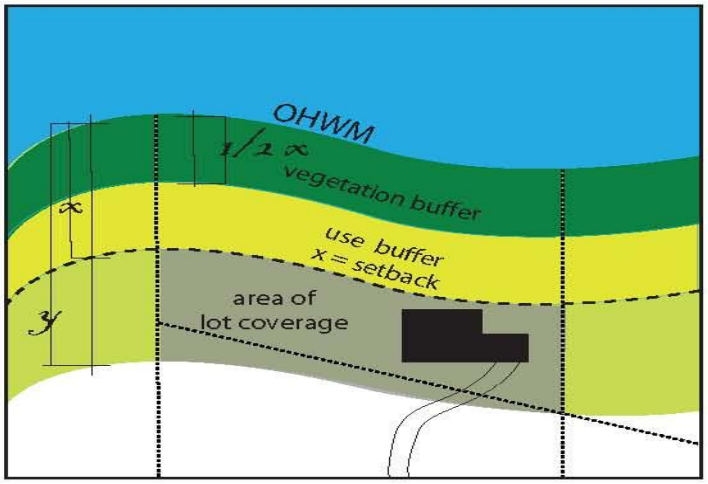
2.90 "Large Woody Debris" or "LWD" means all wood greater than four inches (4") in diameter naturally occurring or artificially placed in streams, including, branches, stumps, logs and logjams.

2.91 "Litter container" means a container provided on public or private property for temporary disposal of wastepaper, used beverage or food containers, and other small articles of rubbish, trash, or garbage by users of the site. Every litter container shall be closed with a well-fitting lid or designed to reasonably prevent its contents from becoming litter.

2.92 "Local Government" means the town of Twisp or any county, incorporated city or town or Tribal corporation which contains within its boundaries any lands or waters subject to the Shoreline Management Act.

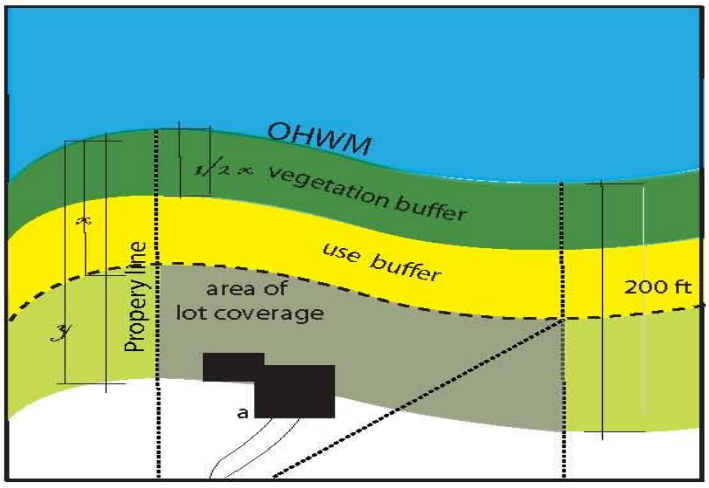
2.93 "Lot Coverage, shoreline" That portion of a lot which, when viewed directly from above, would be covered by building(s) and/or structure(s) and/or impervious

surfaces. The portion of the lot covered by the roof projection or eaves beyond the wall of the building(s) and/or structure(s), is not included as lot coverage.



Lot Coverage regulations apply to the area land-ward of the setback

Generic example of lot wholly within shoreline with setback, use buffer and vegetation buffer lines, and area where lot coverage standards apply



a. Example of lot partially within shoreline depict-ing: building setback, use buffer, vegetation buffer, and area where lot coverage standards apply

2.94 "Lot Width" The horizontal distance between the side lot lines measured at right angles to the line comprising the depth of the lot at a point midway between the front lot line and the rear lot line.

2.95 "Manure lagoon" means a waste treatment impoundment, in which manure is mixed with sufficient water to provide a high degree of dilution for the primary purpose of reducing pollution potential through biological activity.

2.96 "May" means an action is acceptable, provided it conforms to the provisions of this SMP.

2.97 "Must" means an action is required.

2.98 "Manufacturing, Heavy" Industrial enterprises and activities which possess

potential nuisance or hazard components or place exceptional demands upon public facilities and services. Such facilities generally involve the manufacturing, assembly, fabrication and processing, bulk handling, storage, warehousing, and heavy trucking activity and normally require sites of larger size to accommodate these uses.

2.99 "Manufacturing, Light" A manufacturing use, in which goods are produced without using heavy machinery such as, machine loaders, foundry machinery, metal, presses, etc., and without chemically processing materials. Light manufacturing activities include but are not limited to the following activities:

a. Manufacture, assembly, finishing, and/or packaging of small items from component parts. Examples include but are not limited to pottery, clothing, assembly of clocks, electrical appliances, or medical equipment.

b. Production of items made from materials derived from plants or animals, including but not limited to leather, pre-milled wood, paper, wool or cork; or from textiles, semi-precious or precious metals or stones, or plastics.

c. Production or bottling of beverages for human consumption, including but not limited to beer, wine and soft drinks.

2.100 "Marina" means a facility which provides boat launching, storage, supplies and services for small pleasure craft. There are two basic types of Marinas; open type construction (floating breakwater and/or open pile work) and solid type construction (bulkhead and/or landfill).

2.101 "Mineral extraction" means the removal of topsoil, gravel, rock, clay, sand or other earth material, including accessory activities such as washing, sorting, screening, crushing and stockpiling. Not included is the leveling, grading, filling, or removal of materials during the course of normal site preparation for an approved use (e.g., residential subdivision, commercial development, etc.) subject to the provisions of this Program.

2.102 "Mineral Resource Lands" means lands designated as mineral resource lands, as required by the Growth Management Act, RCW 36.70A.170.

2.103 "Mineral prospecting" means to excavate, process, or classify aggregate using hand-held mineral prospecting tools and mineral prospecting equipment.

2.104 "Mining" The act of extracting from the earth minerals and/or ores via open pit, shaft, leaching, hydraulic, sand and gravel removal, or other methods, except dredging. Note that mining activities are subject to zoning regulation and approval processes; however, prospecting and exploration activities that are conducted with minimal disturbance of the subject property are not considered mining and are not restricted by zoning. Surface mining operations are also regulated by Department of Natural Resources.

2.105 "Mitigation" means avoiding, minimizing, rectifying, reducing, compensating for, and/or monitoring an impact as defined in Washington State's SEPA rules, 197-

11-768 WAC.

2.106 "Mitigation plan" shall include a written report or authorization (by a state or federal agency) prepared by a qualified professional identifying environmental goals and objectives of the compensation proposed and including:

a. A description of the anticipated impacts to the critical areas and the mitigating actions proposed and the purposes of the mitigation measures, including the site selection criteria; identification of compensation goals; identification of resource functions; and dates for beginning and completion of site mitigation construction activities. The goals and objectives shall be related to the functions and values of the impacted critical area;

b. A review of the most current, accurate, and complete scientific and technical information supporting the proposed mitigation and a description of the report author's experience to date in restoring or creating the type of critical area proposed; and

c. An analysis of the likelihood of success of the compensation project.

d. The mitigation plan shall include measurable specific criteria for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained and whether or not the requirements of this Title have been met.

e. The mitigation plan shall include written specifications and descriptions of the mitigation proposed, such as: The proposed construction sequence, timing, and duration; Grading and excavation details; Erosion and sediment control features; A planting plan specifying plant species, quantities, locations, size, spacing, and density; and Measures to protect and maintain plants until established. These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, topographic maps showing slope percentage and final grade elevations, and any other drawings appropriate to show construction techniques or anticipated final outcome.

2.107 "Mixed use development" means a combination of uses within the same building or site as a part of an integrated development project with functional interrelationships and coherent physical design. Mixed use developments must include a water dependent use(s) and provide a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration, except as provided for in WAC 173-26-241(3)(d).

2.108 "Monitoring" means evaluating the impacts of development on the environment (which may include biology, geology, hydrology, hydraulics, and other factors related to safety and shoreline ecological function) and determining how well any required mitigation measures are functioning through the monitoring period. Monitoring may also include collection and analysis of data by various methods for the purpose of understanding and documenting changes in natural ecosystems

and features; and does also include gathering baseline data.

2.109 "Multi-family dwelling (residence)" means a single building, or portion thereof, designed for or occupied by three (3) or more families living independently of each other in separate dwelling units on one lot of record and, for the purpose of this code, includes triplexes, fourplexes, apartment buildings, and residential condominiums.

2.110 "Municipal uses" are those in support of local government functions and services. For the purposes of this SMP, recreational uses and utility facilities are excluded.

2.111 "Natural Resource Lands" means lands designated as agricultural lands, forest lands, or mineral resource lands, as required by the Growth Management Act, RCW 36.70A.170.

2.112 "Nonconforming Structure, shoreline" An existing structure built in conformance with SMP requirements in place at the time of construction or prior to the effective date of the adoption of this SMP that could not be built under the terms of this SMP or any amendment thereto.

2.113 "Nonconforming Use" A~~n~~ existing use allowed in conformance with SMP requirements in place at the time of initiation or prior to the effective date of the adoption of this SMP that could not be built under the terms of this SMP or any amendment thereto.

2.114 "Non-structural shoreline stabilization" includes building setbacks, ground water management, and planning and regulatory measures to avoid the need for structural stabilization, vegetation stabilization and bioengineered stabilization.

2.115 "Non-water-oriented use" means a use that is not a water-dependent, water-related, or water-enjoyment use.

2.116 "Office of Financial Management" means the Office of Financial Management of the State of Washington.

2.117 "Official Map of Shorelines" means all maps adopted as part of the Master Program delineating the geographic boundaries of all designated water bodies of Okanogan County, the incorporated municipalities, and the Indian Reservation therein, coming under the jurisdiction of the Shoreline Management Act of 1971.

2.118 "Open Space, Common" means land within or related to a development, not individually owned (undivided interest), which remains undeveloped (except for approved trails and accessory structures approved by the Dept. of Fish and Wildlife) and that is dedicated to one or more of the following purpose: Historical/architectural preservation and/or wildlife habitat and/or recreation.

2.119 "Open space, Individual Ownership" Land within or related to a development owned individually, which remains undeveloped (except for trails) and that is dedicated for use in the development and is retained or restored to its native state or used for agricultural or recreational purposes, e.g., part of an organized trail

system, structure approved by the Dept. of Fish and Wildlife, and structures of historical/ architectural preservation significance or used as designated wildlife open space.

2.120 "Open Space Public" means any land which has been acquired, set aside, dedicated, designated or reserved for general public use or enjoyment.

2.121 "Open Space, Conservation" means land retained in an open or unimproved condition, which has been set aside, dedicated, designated, or reserved for fish and wildlife preservation or enhancement purposes. Mechanisms for preservation of Conservation Open Space include but are not limited to: Subdivision, Planned Development (PD), or Planned Destination Resort (PDR) process. Lands within this type of an open space dedication may include portions and combinations of forest, agricultural and grazing lands, priority fish and wildlife habitats, on-site watersheds, 100 year floodplains, county shorelines or shorelines of state-wide significance and riparian areas and wetlands. Land so designated shall not include areas of human impact and shall contain no structures or impervious surfaces other than those which are approved by the Administrator e.g., part of an organized trail system, structure approved by the Dept. of Fish and Wildlife, and structures of historical/architectural preservation significance or used as designated Conservation open space.

2.122 "Ordinary high water mark" on all lakes, streams, and tidal water is that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or the department: PROVIDED, That in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining fresh water shall be the line of mean high water.

2.123 "Over-water structures" Any structure located waterward of the OHWM. Common examples include, but are not limited to, residential piers, marinas, and bridges.

2.124 "Permit" means any form of permission required under the act or this shoreline master program, or the Colville Tribes Shoreline Management Plan, prior to undertaking activity on shorelines of the state, including substantial development permits, variances, conditional use permits, permits for oil or natural gas exploration activities, permission which may be required for selective commercial timber harvesting, and shoreline exemptions.

2.125 "Person" means an individual, partnership, corporation, association, organization, cooperative, public or municipal corporation, or agency of the state or local governmental unit however designated.

2.126 "Placer mining" means the mining (by panning or dredging) of alluvial

(waterborne) or glacial deposits of precious metals or minerals, usually in stream beds or valleys adjacent to uplands rich in these minerals.

2.127 "Primary utilities" are transmission, collection, production, or treatment facilities that are generally regional or area wide in scope and provide the primary service to a large area and may or may not be connected directly to the uses along the shoreline. Utilities include primary transmission facilities related to a hydropower and communications, and distribution or collection systems for water, sewer mains, gas and oil pipelines, and wastewater and water treatment plants.

2.128 "Priority Habitat" means a habitat type with unique or significant value to one or more species and designated as Priority Habitat by the Washington Department of Fish and Wildlife.

2.129 "Priority Species" means a species requiring protective measures and/or management guidelines to ensure its persistence at genetically viable population levels and designated as a Priority Species by the Washington Department of Fish and Wildlife.

2.130 "Provisions" means policies, regulations, standards, guideline criteria or environment designations.

2.131 "Public Access" means the public's right to get to and use the State's public waters the water/land interface and associated shoreline area. It includes physical access that is either lateral (areas paralleling the shore) or perpendicular (an easement or public corridor to the shore), and/or visual access facilitated by means such as scenic roads and overlooks, viewing towers and other public sites or facilities.

2.132 "Public Trust Doctrine" means a legal principle derived from English Common Law. The essence of the doctrine is that the waters of the state are a public resource owned by and available to all citizens equally for the purposes of navigation, conducting commerce, fishing, recreation and similar uses and that this trust is not invalidated by private ownership of the underlying land. The doctrine limits public and private use of tidelands and other shorelands to protect the public's right to use the waters of the state.

2.133 "Qualified professional" means a person with experience and training in the pertinent scientific discipline, and who is a qualified scientific expert with expertise appropriate for the relevant critical area subject in accordance with WAC 365-195-905(4). A qualified professional will have obtained a B.S. or B.A. or equivalent degree in biology, engineering, environmental studies, fisheries, geomorphology or related field, and have at least two years of related work experience. A geologist must have a state license.

2.134 "Recreation, low-intensity" means recreation that does not require developed facilities other than unpaved trails and can be accommodated without change to the area or resource other than development of trails and placement of litter containers and directional and interpretive signs. Examples are hiking, shore

fishing, and bicycling.

2.135 "Recreational development" "Recreational Development" means the modification of the natural or existing environment to accommodate recreation. This includes clearing land, earth modifications, structures and other facilities such as parks, camps, camping clubs, launch ramps, golf courses, viewpoints, trails, public access facilities, public parks and athletic fields, hunting blinds, wildlife enhancement (wildlife ponds are considered excavation), and other low intensity use outdoor recreation areas.

2.136 "Recreational uses" Uses which offer activities, pastimes, and experiences that allow for the refreshment of mind and body. Examples include, but are not limited to, parks, camps, camping clubs, launch ramps, golf courses, viewpoints, trails, public access facilities, public parks and athletic fields, hunting blinds, and other low intensity use outdoor recreation areas. Recreational Uses that do not require a shoreline location, nor are related to the water, nor provide significant public access are considered nonwater-oriented. For example, a recreation uses solely offering indoor activities would be considered nonwater-oriented.

2.137 "Recreational Vehicle (RV) Park" A tract of land developed with individual sites for rent and containing roads and utilities to accommodate recreational vehicles or tent campers for vacation or other similar short stay purposes.

2.138 "Residential development" means one or more buildings, structures or portions thereof that are designed and used as a place for human habitation. Included are single, duplex or multi-family dwellings, apartment/condominium buildings, mobile homes, short and long divisions of land and other structures that serve to house people. **"Exempt Single Family Residential"-** Construction on shorelands by an owner, lessee, or contract purchaser of a single family residence for his own use or for the use of his or her family. **"Non-exempt Single Family"-** (e.g. seasonal or year round rentals), development of a residential single family unit not lived in by owner or his/her own family. **"Multi-family Residential"-** Can include duplex, 3 or more residential units, apartments, townhomes and condominiums.

2.139 "Responsible Official" shall mean the duly elected Mayor or Town Clerk/Treasurer or their designee.

2.140 "Restore", "restoration" or "ecological restoration" means the reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions.

2.141 "Riparian Area" means those transitional areas between terrestrial and aquatic ecosystems and are distinguished by gradients in biophysical conditions, ecological processes, and biota. They are areas through which surface and

subsurface hydrology connect waterbodies with their adjacent uplands. They include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., a zone of influence). Riparian areas are adjacent to perennial, intermittent, and ephemeral (with existing riparian vegetation) streams, lakes, and estuarine-marine shorelines.

2.142 "Riprap" means broken stone or other hardening material placed along the shoreline of a lake, river, or stream to prevent erosion or provide stability.

2.143 "Sanitary landfill" means a disposal facility or part of a facility at which solid waste is permanently placed in or on land and which is not a land spreading disposal facility.

2.144 "Seasonal" A temporary use the duration of which is related to an identifiable climatic, cultural, or recreational period. (i.e., summer, winter, fall, spring, Christmas, ski season).

2.145 "Setback" means the required minimum distance between the Ordinary High Water Mark and the outer-most vertical plane of any building, structure, device, fence, swimming pool, landscaped or graded area, or other improvement causing a disturbance to the natural landscape.

2.146 "Shoreline frontage" means the land measured in linear feet that lies adjacent to the lake, river, or stream subject to this program.

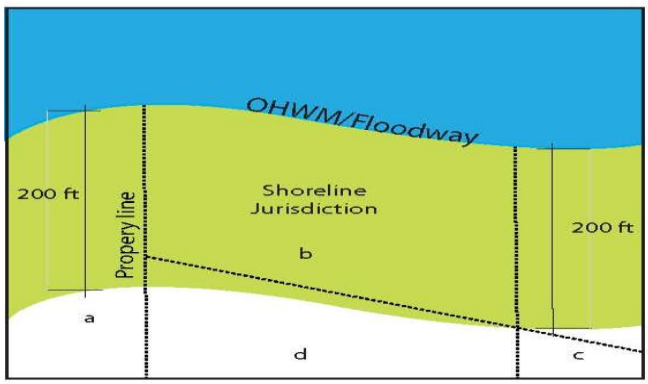
2.147 "Shoreline ecological function" see "Ecological function"

2.148 "Shoreline Jurisdiction" or "Shoreline Area" means:

a. Type I Water: "shoreline jurisdiction" or "shoreland areas" means those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways (meaning floodways includes, as a minimum, the floodway and the adjacent land extending landward two hundred feet therefrom); and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter.

b. All Other Waters within shoreline jurisdiction: shoreline jurisdiction or shoreline area shall be defined that those lands lying 200 feet as measured on a horizontal plane from the ordinary high water mark of all water bodies subject to this SMP or the one-hundred year floodplain and any wetlands associated therewith, whichever is greater. as Shoreline Area subject to the provisions of this

2.149 "Shoreline Master Program" or "SMP" means the comprehensive use plan for the shoreline area of a jurisdiction subject to this title, and the use regulations together with maps, diagrams, charts, or other descriptive material and text, a statement of desired goals, and standards developed in accordance with the policies enunciated in RCW 90.58.;

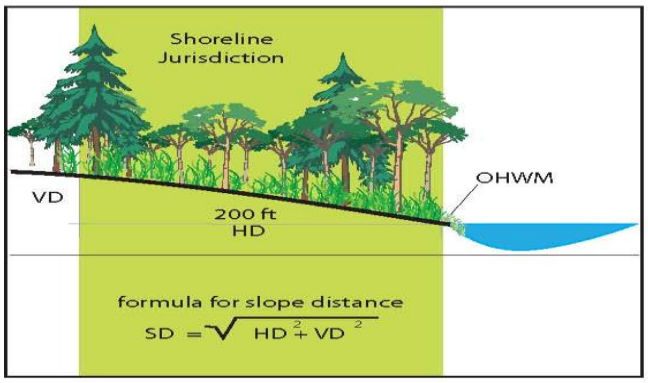


Shoreline Jurisdiction

a & d. Parcels partially within Shoreline Jurisdiction

b. Parcel wholly within Shoreline Jurisdiction

c. Parcel outside Shoreline Jurisdiction



Shoreline jurisdiction as measured on the horizontal from the ordinary high watermark

VD (Vertical Distance)

SD (Slope Distance)

HD (Horizontal Distance) = 200 ft

$$\% \text{ slope} = \frac{VD \times 100}{HD}$$

slope distance is the measurement on the ground where the shoreline jurisdiction, setback and buffer are established

2.150 "Shoreline Modifications" means those actions that modify the physical configuration or qualities of the shoreline area, usually through the construction of a physical element such as a dike, breakwater, pier, weir, dredged basin, fill, bulkhead, or other shoreline structure. They can include other actions, such as clearing, grading, or application of chemicals.

2.151 "Shoreline permit" means a shoreline substantial development permit, a shoreline conditional use, or a shoreline variance, or any combination thereof issued by the town of Twisp pursuant to RCW 90.58.

2.152 "Shorelines" means all of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them; except

a. Shorelines of statewide significance;

b. Shorelines on segments of streams upstream of a point where the mean annual flow is twenty cubic feet per second or less and the wetlands associated with

such upstream segments; and (iii) shorelines on lakes less than twenty acres in size and wetlands associated with such small lakes;

2.153 "Shorelines of the State" are the total of all "shorelines" and "shorelines of state-wide significance" within the state

2.154 "Shorelines of State-wide Significance" in Okanogan County means:

a. Those lakes, whether natural, artificial or a combination thereof with a surface acreage of one thousand acres or more measured from the ordinary high-water mark.

b. Those natural rivers or segments thereof that are downstream of a point where the mean annual flow is measured at two hundred cubic feet per second or more, or those portions of rivers downstream from the first three hundred square miles of drainage area, whichever is longer.

c. Those wetlands associated with such water bodies.

2.155 "Shoreline of Tribal Significance" means *any Shoreline Area within the Colville Indian Reservation*.

2.156 "Short subdivision" means the division or redivision of land into four or fewer lots, tracts, parcels, sites or divisions for the purpose of sale, lease or transfer of ownership, including any remaining portions of the parent parcel for any lot created through use of the applicable local subdivision code or ordinance.

2.157 "Significant vegetation removal" means the removal or alteration of trees, shrubs, and/or ground cover by clearing, grading, cutting, burning, chemical means, or other activity that causes significant ecological impacts to functions provided by such vegetation. The removal of invasive or noxious weeds does not constitute significant vegetation removal. Tree pruning, not including tree topping, where it does not affect ecological functions, does not constitute significant vegetation removal.

2.158 "Soft shoreline stabilization" means shore erosion control and restoration practices using only plantings or organic materials to restore, protect or enhance the natural shoreline environment.

2.159 "Solid Waste" means all putrescible and nonputrescible solid and semisolid wastes, including but not limited to garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, and discarded commodities. This includes all liquid, solid and semisolid, materials which are not the primary products of public, private, industrial, commercial, mining, and agricultural operations. Solid waste includes but is not limited to sludge from wastewater treatment plants and septage, from septic tanks, woodwaste, dangerous waste, and problem wastes.

2.160 "Special Event" Any event (excluding those events allowed through the festival permitting process) that happens for more than three (3) consecutive days per

event and no more than twice (2) a year.

2.161 "Special Event Camping" Any ten (10) or more recreational vehicles, tents, or temporary structures designed for temporary habitation, or any combination thereof, limited to the duration of the special event (whether related to a special event or not) and one (1) week before and one (1) week after.

2.162 "Structural shoreline stabilization" means shore erosion control practices using hardened structures that armor and stabilize the shoreline landward of the structure from further erosion, examples include, bulkheads, concrete walls, rip-rap, jetties, groins, breakwaters, stone reinforcement.

2.163 "Structure" Anything constructed in the ground, or anything erected which requires location on the ground or water, or is attached to something having location on or in the ground, but not including fences or standard roof mounted antennas.

2.164 "Subdivision, Long" is the division and redivision of land into five (5) or more lots, tracts, parcels, sites or divisions for the purpose of sale, lease, or transfer of ownership, as further defined by the municipal or tribal government with jurisdiction.

2.165 "Substantial accessory use facilities" Substantial accessory including but not limited to rest rooms, recreation halls and gymnasiums, commercial services, access roads, and parking areas associated with recreational development.

2.166 "Substantial development" shall mean any development of which the total cost or fair market value exceeds five thousand seven hundred eighteen dollars ($5,718) or dollar value as amended by the State of Washington Office of Financial Management, or any development which materially interferes with the normal public use of the water or shorelines of the state. The dollar threshold established in this subsection (3)(e) must be adjusted for inflation by the office of financial management every five years, beginning July 1, 2007, based upon changes in the consumer price index during that time period. "Consumer price index" means, for any calendar year, that year's annual average consumer price index, Seattle, Washington area, for urban wage earners and clerical workers, all items, compiled by the bureau of labor and statistics, United States department of labor. The office of financial management must calculate the new dollar threshold and transmit it to the office of the code reviser for publication in the Washington State Register at least one month before the new dollar threshold is to take effect. The uses and activities listed below shall not be considered substantial developments for the purpose of this chapter. All development, including the uses and activities listed below, is subject to Tribal Historic and Cultural Office regulations in accordance with the Tribal Cultural Artifacts Code.

a. Normal maintenance or repair of existing structures or developments, including damage by accident, fire, or elements;

b. Construction of the normal protective bulkhead common to single family

residences;

c. Emergency construction necessary to protect property from damage by the elements;

d. Construction and practices normal or necessary for farming, irrigation, and ranching activities, including agricultural service roads and utilities on shorelands, and the construction and maintenance of irrigation structures including but not limited to head gates, pumping facilities, and irrigation channels. A feedlot of any size, all processing plants, other activities of a commercial nature, alteration of the contour of the shorelands by leveling or filling other than that which results from normal cultivation, shall not be considered normal or necessary farming or ranching activities. A feedlot shall be an enclosure or facility used or capable of being used for feeding livestock hay, grain, silage, or other livestock feed, but shall not include land for growing crops or vegetation for livestock feeding and/or grazing, nor shall it include normal livestock wintering operations;

e. Construction or modification of navigational aids such as channel markers and anchor buoys;

f. Construction on shorelands by an owner, lessee, or contract purchaser of a single family residence for his own use or for the use of his or her family, which residence does not exceed a height of thirty-five feet above average grade level and which meets all requirements of the state agency or local government having jurisdiction thereof, other than requirements imposed pursuant to this chapter;

g. Construction of a dock, including a community dock, designed for pleasure craft only, for the private noncommercial use of the owner, lessee, or contract purchaser of single and multiple family residences. This exception applies if the fair market value of the dock does not exceed ten thousand dollars, but if subsequent construction having a fair market value exceeding two thousand five hundred dollars occurs within five years of completion of the prior construction, the subsequent construction shall be considered a substantial development for the purpose of this chapter;

h. Operation, maintenance, or construction of canals, waterways, drains, reservoirs, or other facilities that now exist or are hereafter created or developed as a part of an irrigation system for the primary purpose of making use of system waters, including return flow and artificially stored ground water for the irrigation of lands;

i. The marking of property lines or corners on state owned lands, when such marking does not significantly interfere with normal public use of the surface of the water;

j. Operation and maintenance of any system of dikes, ditches, drains, or other facilities existing on September 8, 1975, which were created, developed, or

utilized primarily as a part of an agricultural drainage or diking system;

k. Site exploration and investigation activities that are prerequisite to preparation of an application for development authorization under this chapter, if:

   1. The activity does not interfere with the normal public use of the surface waters;

   2. The activity will have no significant adverse impact on the environment including, but not limited to, fish, wildlife, fish or wildlife habitat, water quality, and aesthetic values;

   3. The activity does not involve the installation of a structure, and upon completion of the activity the vegetation and land configuration of the site are restored to conditions existing before the activity;

   4. A private entity seeking development authorization under this section first posts a performance bond or provides other evidence of financial responsibility to the local jurisdiction to ensure that the site is restored to preexisting conditions; and

   5. The activity is not subject to the permit requirements of RCW 90.58.550;

l. The process of removing or controlling an aquatic noxious weed, as defined in RCW 17.26.020, through the use of an herbicide or other treatment methods applicable to weed control that are recommended by a final environmental impact statement published by the department of agriculture or the department jointly with other state agencies under chapter 43.21C RCW.

2.167 "Substantially degrade" means cause significant ecological impact.

2.168 "Temporary" means having a specific, short-term duration. (See Seasonal).

2.169 "Temporary sign" means a sign not intended to be permanently installed.

2.170 "Temporary Use" means a use that is limited in scope, duration, and frequency.

2.171 "Upland", when used as an adjective, means outside of the shoreline area.

2.172 "Uplands" means those lands outside of the shoreline area and not under shoreline jurisdiction.

2.173 "Urban Growth Areas", "Future Service Area" or "City Expansion Area" means a regional boundary, set in an attempt to control urban sprawl by encouraging that the area inside the boundary be used for higher density urban development and the area outside is used for lower density development. "Use" means the purpose for which land or a structure is primarily designed, arranged or intended, or for which it is primarily occupied or maintained.

2.174 "Variance" An adjustment in the application of the bulk, height and setback regulations of the shoreline master program to a particular piece of property, in a situation where the property, because of special circumstances found to exist on the land, is deprived as a result of the imposition of the shoreline regulations of

privileges commonly enjoyed by other properties in the same vicinity and shoreline designation. A variance shall be limited to only that adjustment necessary to remedy the disparity in privilege. A variance shall not be used to convey special privileges not enjoyed by other properties in the same vicinity and zone and subject to the same restrictions. Economic hardship is not grounds for a variance.

2.175 "Vegetation conservation" includes activities to prevent the loss of plant communities that contribute to the ecological functioning of shoreline areas. Vegetation conservation deals with the protection of existing diverse plant communities along the shorelines, aquatic weed control, and the restoration of altered shorelines by reestablishing natural plant communities as a dynamic system that stabilizes the land from the effects of erosion.

2.176 "Visual public access" see public access.

2.177 "Wetlands" means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands.

2.178 "Water-dependent use" means a use or portion of a use which cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations. Examples of water-dependent uses may include marinas, water intake systems and sewer outfalls.

2.179 "Water-enjoyment use" means a recreational or similar use facilitating public access to the shoreline as a primary character of the use; or, a use that provides for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general character of use and which, through location, design and operation assures the public's ability to enjoy physical and aesthetic qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the public and the shoreline oriented space within the project must be devoted to the specific aspects of the use that foster enjoyment. Primary water-enjoyment uses may include, but are not limited to, parks, piers and other improvements facilitating public access to shorelines of the state; and general water-enjoyment uses may include but are not limited to restaurants, museums, aquariums, scientific/ecological reserves, resorts, and mixed use commercial; PROVIDED that such uses conform to the above water-enjoyment requirements and the

provisions of the Master Program.

2.180 “Water-oriented use” means any one or combination of water-dependent, water-related or water-enjoyment uses.

2.181 “Water quality” means the physical characteristics of water within shoreline jurisdiction, including water quantity, hydrological, physical, chemical, aesthetic, recreation-related, and biological characteristics. Where used in this chapter, the term "water quantity" refers only to development and uses regulated under this chapter and affecting water quantity, such as impermeable surfaces and storm water handling practices. Water quantity, for purposes of this chapter, does not mean the withdrawal of ground water or diversion of surface water pursuant to RCW 90.03.250 through 90.03.340.

2.182 “Water-related use” means a use or portion of a use which is not intrinsically dependent on a waterfront location but whose economic viability is dependent upon a waterfront location because: (a) The use has a functional requirement for a waterfront location such as the arrival or shipment of materials by water or the need for large quantities of water: or (b) The use provides a necessary service supportive of the water-dependent uses and the proximity of the use to its customers make its services less expensive and/or more convenient. Water-related uses may include fish hatcheries.

2.183 “Woody Debris” means all wood naturally occurring or artificially placed in streams, including, branches, stumps, logs and logjams.

Words used in the present tense shall include the future; the singular shall include the plural and the plural the singular; the word "shall" is mandatory and not permissive.

Definitions for terms requiring definitions not found herein shall be determined from the following sources, and if a conflict should arise between sources, such definition shall be established in the following priority:

1) RCW 90.58, WAC 173-26, WAC 173-27, WAC 173-22

2) Black's Law Dictionary by Henry Campbell Black, 3rd Edition, Publisher's Editorial Staff, St. Paul, West Publishing Company 1933, and subsequent amendments thereto.

3) Webster's New Collegiate Dictionary, G. & C. Merriam Company, Springfield, Massachusetts, U.S.A., and subsequent amendments thereto.

CHAPTER 3:

Public Participation

This Regional SMP update began in 2006 as a cooperative inter-governmental process between Okanogan County and incorporated municipalities therein. The process, funded with grants from the Department of Ecology, included the formation of a Shoreline Advisory Group (SAG)[1], a Technical Advisory Group (TAG)[2] and a team of consultants[3] who provided the facilitation, planning and scientific analysis required for preparation of a draft Regional SMP. The draft, including definitions, inventory and characterization, goals and policies, shoreline designations, regulations and cumulative impact analysis of the shorelands was done on a County wide scale.

Okanogan County released a preliminary draft SMP for the formal public review process in September 2009. The draft document contained comments from the Department of Ecology and was the subject of public hearings before the Okanogan County Planning Commission during the Fall of 2009. Through the public review process the County received written comments from the WDNR, WDFW, Colville Tribes, a land use attorney and several private citizens in addition to the hours of testimony before the Planning Commission.

The SMP is only part of an entire package of land use plans and regulations the County is updating with no formal timeline for releasing a revised draft that addresses comments received during the public review process. Because of this and the June 2010 deadline for adoption, eight cities and towns joined together to develop this Okanogan County Cities and Towns Regional Shoreline Master Program.

A process to tailor and adopt the SMP is to be done by each respective jurisdiction and incorporated as part of their comprehensive plan.

3.01 Statutory Requirements

The Shoreline Management Act, RCW 90.58.130 requires that local governments make reasonable efforts to inform the people of the state about the shoreline management program and actively encourage participation by all persons and private groups and entities showing an interest in shoreline management programs. The act also requires that the local government encourage participation by all agencies of federal, state, and local government, including municipal and public corporations, having interest or responsibilities relating to the shorelines of the state. The WAC 173-26-090, 173-26-100, and 173-26-201(3)(b), offers additional guidance that local governments consult with and solicit comments from all persons, groups, agencies, and tribes

[1] The SAG consisted of representatives from the County, each city or town, Colville Tribes, resource agencies (state and federal), and six stakeholder groups: agricultural, resources, business, recreation, homeowners, conservation and environment.
[2] The TAG consisted of planning or building staff from the County, each city or town, Colville Tribes, Douglas PUD, U.S. Forest Service, WDNR, WDFW and Ecology.
[3] The consultant team consisted of Highlands Associates, responsible for the planning portion of the project, and ENTRIX, responsible for facilitation and the science portion of the project.

interested or with jurisdiction or expertise in shorelines. Conduct at least one public hearing to consider draft proposal and publish the notice of the hearing in the official county newspaper and comply with the State Environmental Policy Act.

3.02 Shoreline Advisory Group (SAG)

The development of the Stakeholders Advisory Group consisted of a representative of Okanogan County, and of each city and town, a representative from the Colville Confederated Tribe, a representative from each of the watershed planning units in the County, a representative of each of the following interest groups: agriculture, natural resources, business and recreation, conservation and the environment. The role of the SAG members is to review draft documents and guide staff and consultants in developing an SMP that will be acceptable to stakeholders as well as meeting the statutory requirements of the County, cities, and towns.

3.03 Technical Advisory Group (TAG)

Agencies including the Department of Fish and Wildlife, Department of Natural Resources, the Methow Conservancy, and the Okanogan Conservancy, Bureau of Reclamation, and the Department of Ecology attended meetings to help in the development of environment designations, and regulations. The TAG along with the Methow Restoration Council and the Okanogan Restoration Council provided valuable input on the results of the inventory and analysis. All of the agencies and area organizations were invited to the TAG meetings throughout the process.

3.04 Outreach

Okanogan County has a website dedicated to the news and information for the Shoreline Master Program Update. As the draft documents were updated they were not only emailed to the SAG and TAG but were also updated on the website. Meeting notes from the SAG were also placed on the website. All of the project maps could be found on the website. A newsletter was periodically distributed to the SAG and TAG and posted on the website. Briefings were held with the city and town councils and the Okanogan County Planning Commission.

3.05 City and Town Public Process

Work on the updated Shoreline Master Program (SMP) began in 2006 as a regional effort coordinated by Okanogan County. From 2006 through early 2010, the Twisp Planning Commission received briefings on the process and had opportunities to discuss the efforts at nearly every monthly meeting.

In early 2010, monthly meetings were hosted by Highlands Associates for local planners, planning commission members, and/or Town Council members at Omak City Hall to begin a chapter by chapter review of the Okanogan regional draft SMP. The purpose of these meetings

were to twofold; 1) to respond the Department of Ecology's comments that were provided to the regional draft, and 2) amend the regional to reflect changes to suite needs of local towns and cities rather than the rural emphasis the County draft embodied. Upon the completion of the Town's and Cities draft, the draft was handed over to each jurisdiction to adapt once more to their own local environment and development needs for each community.

Upon receipt of the Town's and Cities draft, the Twisp Planning Commission met numerous times throughout March and April to amend the plan. The Planning Commission opted to host public information sessions to elicit comment and participation from shoreline residents and property owners.

In May 2010, mailings were sent to all shoreline parcel owners to notify them of the local SMP update process and information sessions. The Planning Commission hosted two public information sessions on May 12th and 19th 2010 which resulted in modifications to the original draft presented to the public. The information session input concluded with a recommendation to Council for an intent to adopt at May 26, 2010 Planning Commission Meeting with approved changes. A public hearing at a regular Town Council meeting took place on Aug. 24th.

State Environmental Policy Act compliance was undertaken in June with the submission of the SEPA checklist. SEPA notice was placed in the Methow Valley News, online, and mailed to agencies with jurisdiction and/or interest in the SMP. Comments on the SEPA checklist were provided to Town Hall and changes to the draft SMP were incorporated as appropriate and presented to Town Council at the Aug. 24th hearing. The Town Council made a motion to send the draft back to the Planning Commission at the Aug. 24th hearing in order to fine tune changes and edits necessary to comply with DOE requirements and recommendations.

Chapter 4
Shoreline Characterization

Overview

This chapter describes the character and baseline conditions of the shoreline areas within the incorporated limits of the town of Twisp and its adopted Urban Growth Area (also known as Future Service Area or Area of Interest) within Okanogan County, Washington. The characterization provides information from which shoreline designations and regulations were established. The regulations in this SMP are intended to protect shoreline ecological function to the extent of no net loss as mandated by the SMA. This chapter provides a brief summary of how current baseline levels of ecological function in Twisp were established. The complete inventory and analysis for Okanogan County is contained in Appendix A.

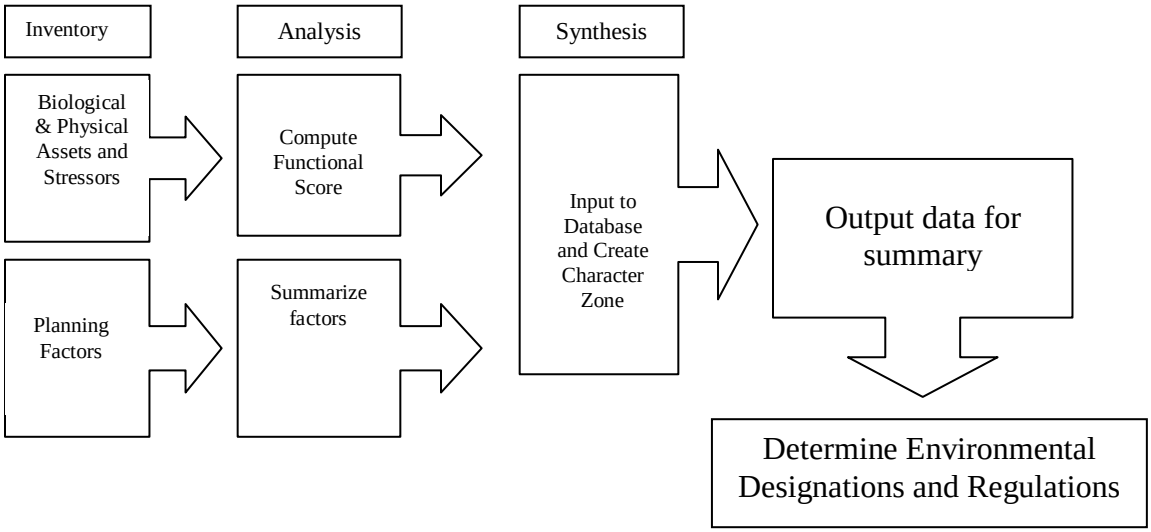
The first step in designating and protecting shorelines in Twisp required a comprehensive inventory of the biological and physical features found within the maximum limits of shoreline jurisdiction. Preparation of the inventory and subsequent analysis that resulted in this characterization was completed by two consultant teams. ENTRIX led the science and analysis side, while Highlands Associates provided current use and planning data. The inventory completed by the consultants was conducted on a county-wide basis and included scientific information gathered from data sets provided by state, federal, and local agencies.

In order to provide a manageable and meaningful scale for the analysis of the inventory data, ENTRIX, using geomorphologic features, divided all shoreline areas into Analysis Units (AUs)[1]. Each AU was analyzed based on biological, physical and land use data[2] and given a Biological Function Score. When synthesized together and run though a computer model, the biological, physical and planning factors provided a baseline reading of existing biological.

For the purpose of providing a characterization of specific shoreline areas, the AUs were grouped into Character Zones. Character Zones were created based on logical natural landscape features such as prominent changes in the geomorphology, jurisdictional boundaries, Urban Growth Area Boundaries, or in some cases on the Analysis Unit boundaries. Each Character Zone serves as unit of description by which the scientific inventory and analysis and planning factors are summarized and presented for the town of Twisp in this chapter.

[1] See the *Okanogan County Shoreline Characterization Report in A*ppendix A
[2] See Appendix B, *Analyzing Planning Factors*

Shoreline Characterization Process



Inventory of biological and physical factors

ENTRIX, Inc. conducted the inventory of biological and physical factors at a county-wide scale primarily using existing data sets from local, state, and federal agencies. ENTRIX staff reviewed available data sets and selected data that provided consistent coverage of all of the water bodies in the County. Partial data sets that were not available for the whole county were not used in the ENTRIX analysis, however individual jurisdictions may opt include these data (e.g., the Methow Subbasin Plan and Methow River Channel Migration Zone Study). ENTRIX staff then identified potential stressors to shoreline function and ecological assets from the selected data sets. The inventory methodology is explained in detail in Appendix A. Stressors and assets included in the inventory and analysis are listed below.

Stressors	Assets
▪ Water quality class ▪ Facilities based on permitting ▪ Bridges ▪ Overwater Structures ▪ Mines ▪ Culverts ▪ Boat launches ▪ Rail ▪ Roads ▪ Levees ▪ Riprap ▪ Geologically hazardous areas ▪ Intensive Agriculture ▪ Disperse Agriculture ▪ Residential Development ▪ Light Industrial Development ▪ Heavy Industrial Development	▪ Aquatic species ▪ Riparian species ▪ Upland Species ▪ Salmon spawning/rearing habitat ▪ NOAA critical habitat ▪ Wetlands ▪ Potential Migration Zones ▪ % Riparian vegetation

Inventory of planning factors

Highlands Associates conducted an inventory of planning factors, using existing data layers from Okanogan County and additional data layers created by Highlands' staff. Planning factors were selected that would be useful for making planning decisions related to designation and protection of shoreline ecological functions, public access, and navigation while also allowing for development consistent with local plans and protection of property rights. The inventory methodology is explained in detail in Appendix B. The planning factors included in the inventory are listed below.

- Parcel size and density of subdivision
- Current land uses

- Building Set backs
- Number of Structures in shoreline environment
- Public Access and Recreation Sites
- Current Comprehensive Plans and Zoning (1965 Comprehensive Plan)
- Ownership Patterns
- Over-water Structures

Analysis Units

The purpose of the analysis unit was to create a unit of measure that could appropriately capture and synthesize county-wide scientific data while providing meaningful interpretation of results. Analysis units were based on geomorphological and physiographic breaks calculated from Digital Elevation Models (DEMs), and, to some degree, jurisdictional boundaries. The inventory and analysis of biological and physical factors completed by ENTRIX resulted in the shoreline areas of Okanogan County being divided into a total of 233 analysis units, 3 of which comprise the Twisp Character Zone (S MET 24, S MET 23, S TWI 01); These analysis units (AUs) serve as the unit of assessment for the baseline shoreline function analysis. Each analysis unit was plotted based on its combined ecological resources (assets) and stressor to arrive at a location in a given quadrant along the plot. The analysis unit was then given a final composite quadrant score ranging from 1-4:

1 = low condition, low assets

2 = high condition, low asset

3 = low condition, high asset

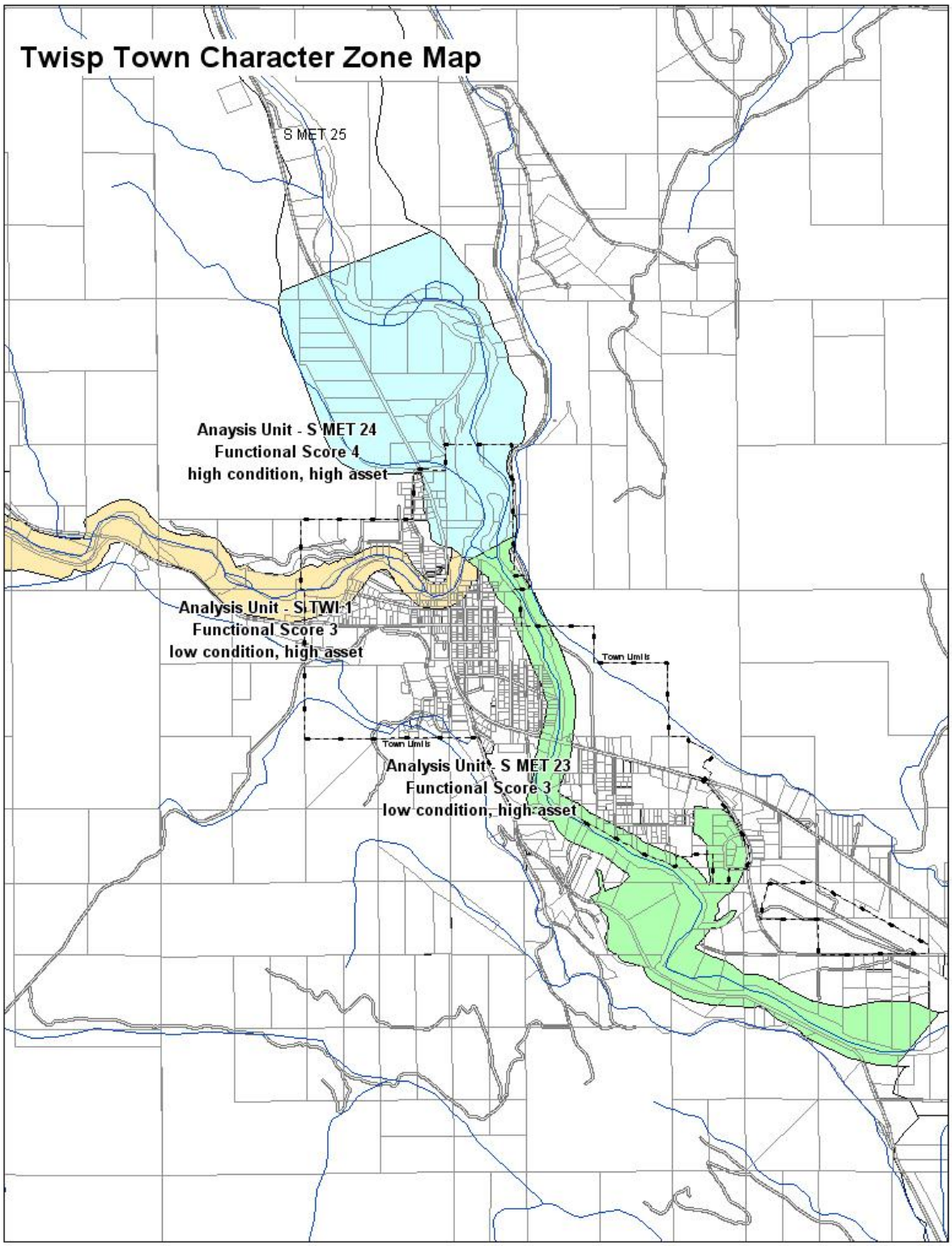
4= high condition, high asset

The results of this analysis can be found in Appendix A.2. The analysis units were then used to compile the planning factor data listed above.

Shoreline Character Zones

While the AU scale served as the unit of measure for both the scientific and planning factors, the character zone provides a manageable scale to summarize and describe the bio-physical and land use patterns. The character zone may have multiple shoreline designations but it will likely have similar land use patterns and be administered under the same jurisdiction. The character zone summary page for Twisp found in this chapter is summary of all the components entered in a central database to create the characterization and can be used as reference to gain meaningful information regarding shoreline's ecological condition and land use patterns. A database of the characterization was created and is stored at Okanogan County Office of Planning.

A map of the Twisp Town Character Zone and applicable Analysis Units is included on the following page.


Twisp Town Character Zone Map
S MET 25
Anaysis Unit - S MET 24
Functional Score 4
high condition, high asset
Analysis Unit - S TWI 1
Functional Score 3
low condition, high asset
Town Limits
Town Limits
Analysis Unit - S MET 23
Functional Score 3
low condition, high asset

Twisp Shoreline Characterization

The Town of Twisp is located at the confluence of the Twisp and Methow Rivers, both Shorelines of Statewide Significance (see Chapter 5 for more information on Shorelines of Statewide Significance). The Twisp Character Zone contains 3 AUs with relatively high functional scores of 3 (METHOW 23 and TWISP 01) and 4 (METHOW 24). Twisp Character Zone is situated within two HUC 10 Watersheds, the Middle Methow and Twisp River.

The shorelines in Twisp Town include those portions of the Twisp and Methow Rivers within and adjoining the UGA of Twisp. The Twisp River portion of this zone begins about 2 miles upstream from the Town and is generally unconstrained. As the Twisp River reaches Town, it is stabilized by a flood levee on the southern bank. Where the Methow and Twisp rivers meet, a dynamic alluvial fan from the Twisp River inputs large gravels, boulders and cobbles, creating large bars during low water. This area is heavily used by town residents and visitors for fishing, swimming, and beach combing. Surrounding land uses are primarily residential, open space and parks, and a large amount of former industrial and agricultural land. The main stem of the Methow River is channelized through the central portion of Town and reinforced for bridge abutments at Highway 20. Similarly, the Twisp River is constrained by flood control levees and reinforcements for Highway 20. A narrow riparian forest of cottonwoods lines the otherwise steep banks of the Methow. Public access on the Methow is provided as Twisp park, at the end of E. 2nd Avenue and informal access for foot traffic is found at the Highway 20 bridge. Access on the Twisp is found at the Methow Salmon Recovery Foundation property and at the county road bridge just west of the Town limits.

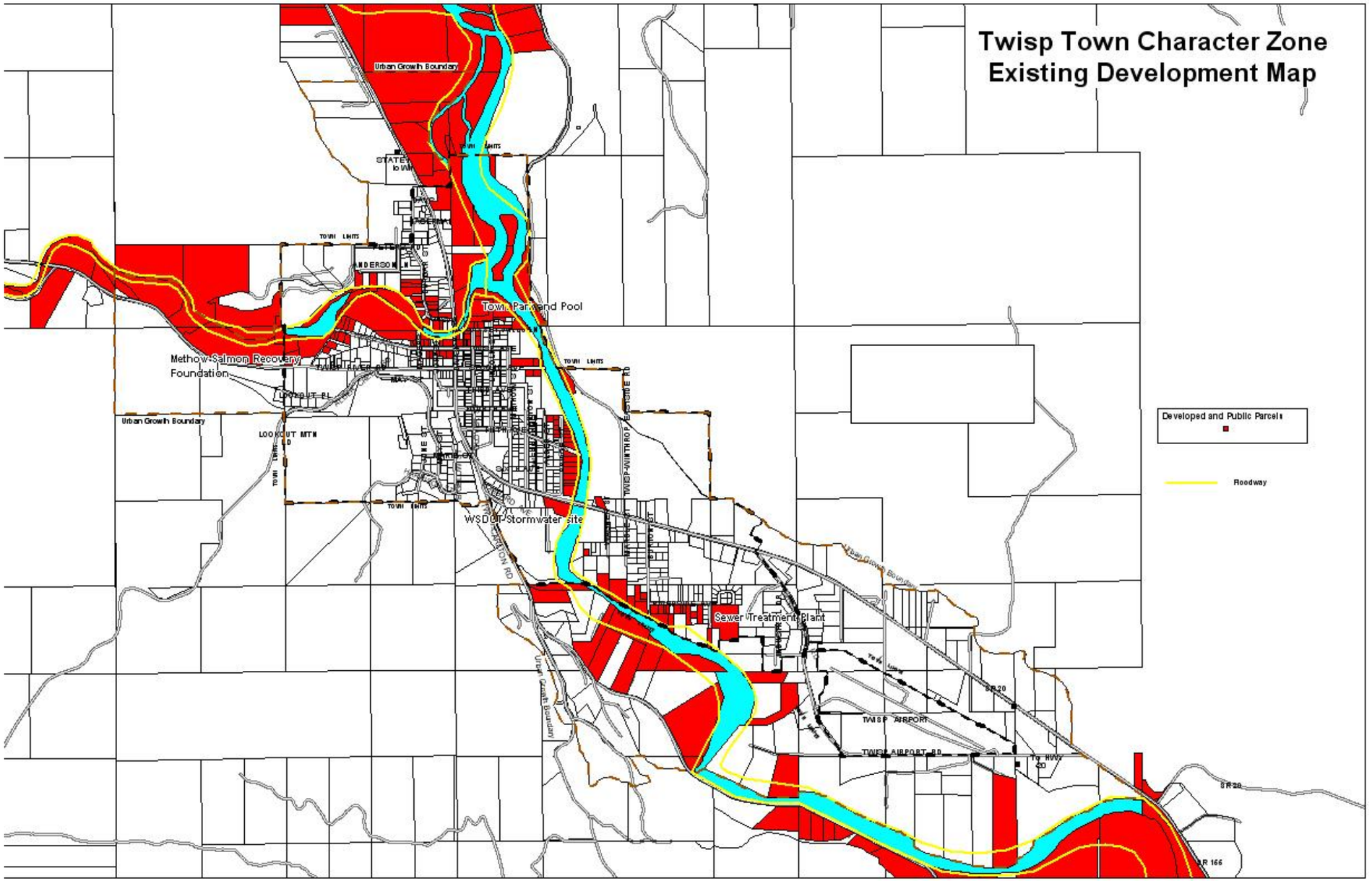
Population and Demographics

Poised as the central service center for the Methow Valley, Twisp maintains a low density, small town character. Okanogan County's population estimate for 2006 was 40,040. Twisp's share of the County's population is roughly 2.4% with a population of 952 (2000 Census).

Land Uses and Development Patterns

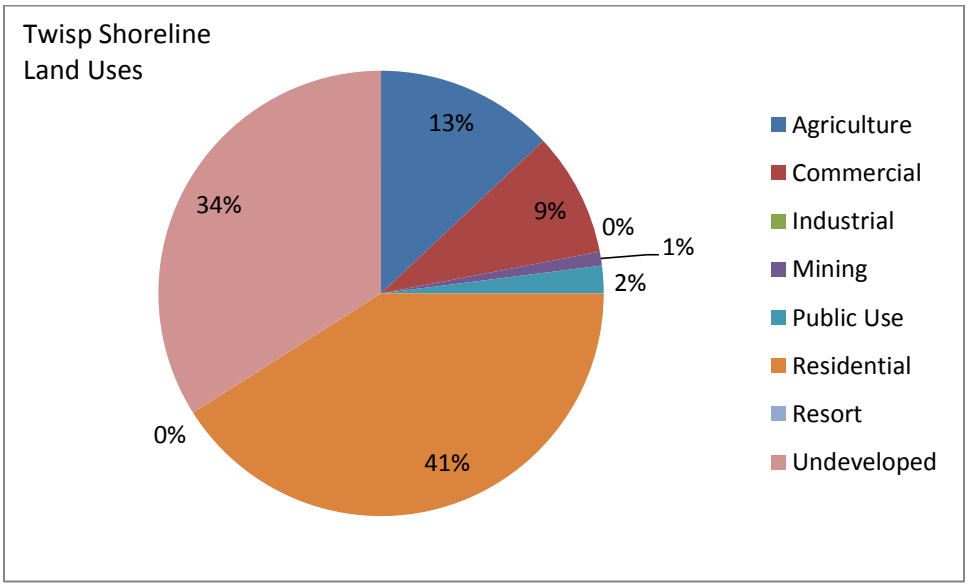
Twisp is the largest incorporated municipality in the Methow Valley comprising approximately 1.16 square miles. Commercial development in Twisp is located on corridors following Highway 20 and the Central Business District along Glover Street. Residential neighborhoods span out from the central core along the Highway along direction of the Methow and Twisp Rivers. A small industrial zone is situated at the southern end of Town while the majority of land use is dedicated to single-family homes.

Generally, the shorelines in and surrounding the Town are presently in agricultural and residential land uses as seen in the table below. Over ¼ of the shoreline is categorized as undeveloped land. Buildings in the shoreline are primarily residential. Aerial photo interpretation was used to approximate a total of 327 structures within the maximum jurisdiction (200 ft + 100 yr floodplain). The map on the following page shows developed parcels in Twisp.


Twisp Town Character Zone
Existing Development Map
Urban Growth Boundary
Town Park and Pool
Methow Salmon Recovery Foundation
Urban Growth Boundary
WSDOT Stormwater site
Sewer Treatment Plant
TWISP AIRPORT
TWISP AIRPORT RD
SR 20
SR 166
Developed and Public Parcels
Roadway

The former site of Wagner Mill is situated along the east bank of the Methow River directly in heart of Twisp. This undeveloped land of nearly 7 acres poses a great opportunity for the Town to develop a vibrant waterfront district. The current comprehensive plan and zoning code is aimed at encouraging mixed-use commercial development along this shoreline with requiring public access and trail development as development occurs.

Shoreline Land Uses in Twisp



Future land uses for shoreline areas in Twisp rely heavily on undeveloped tracts located on both north and south shores of the Methow River. These areas are zoned for multi-family and mixed use development, respectively. A recreational trail system to parallel the Methow River is widely supported through the comprehensive plan and parks and recreation plan. The potential impact of developing the shorelines in these areas is discussed in Chapter 9.

Shoreline Characterization Summary Page

The following data sheet is an output of the characterization data collected and stored in a database at the County. The following tables and figures represent a summary of data from the inventory and analysis as part of the characterization process.

Chapter 4 Characterization Summary Pages

Shoreline Character Zones – Summary Pages

WATERSHED	CHARACTER ZONE	ANALYSIS UNITS
MIDDLE METHOW	TWISP TOWN	S MET 23
		S MET 24
		S TWI 01

Landuse Percentage (by Parcel) within Shorelines of Okanogan County

Column Key			
(a) Number of Parcels	(g) Industrial		
(b) Parcels Analyzed	(h) Mining		
(c) Unknown Use	(i) Public Use		
(d) Number of Water Parcels	(j) Residential		
(e) Agriculture	(k) Resort/Camp		
(f) Commercial	(l) Undeveloped		

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
S MET 23	152	137	12	3	6%	17%	0%	0%	3%	45%	0%	30%
S MET 24	80	74	2	4	16%	7%	0%	3%	3%	32%	0%	39%
S TWI 01	178	162	10	6	16%	2%	1%	0%	2%	45%	0%	33%
Totals/Avgs:	410	373	24	13	13%	9%	0%	1%	2%	41%	0%	34%

Comprehensive Plan Designations

Sub-Unit C
WATER

PublicAccess Points

DEVELOPED:	2
UNDEVELOPED:	7
INFORMAL:	
UNKNOWN:	7

Zoning

C-1
C-2
IND
MRD1
PU
RM
RSF
Valley Floor
WATER

Structures

S MET 23	111
S MET 24	60
S TWI 01	156
Total	327

Current Shoreline Designations

S MET 23	CONS
	RUR
	SUB
	URB
	WATER
S MET 24	RUR
	SUB
	URB
	WATER
S TWI 01	CONS
	RUR
	SUB
	Undesignated
	URB
	WATER

Overwater Structures

S MET 23	1
S MET 24	none
S TWI 01	2

QuadScore

	Score 1	Score 2	Quad Score
S MET 23	0.79	0.69	3
S MET 24	0.89	0.76	4
S TWI 01	0.78	0.81	3
Averages:	0.82	0.75	3

Setbacks

	Avg	Max	Min	Std Dev
S MET 23	294.90	1140.00	9.60	275.18
S MET 24	631.25	1730.00	60.00	366.30
S TWI 01	253.38	990.00	20.00	219.28
Averages:	393.18	1286.67	29.87	286.92

Subdivision Density

S MET 23	0.60
S MET 24	0.21
S TWI 01	0.42
Average:	0.41

Narrative

The shorelines in Twisp Town include those portions of the Twisp and Methow Rivers within and adjoning the UGA of Twisp. The Twisp River portion of this zone begins about 2 miles upstream from the Town and is generally unconstrained. As the Twisp River reaches Town, it is stabilized by a flood levee on the southern bank. Where the Methow and Twisp rivers meet, a dynamic alluvial fan from the Twisp inputs large gravels, boulders and cobbles, creating large bars during low water. This area is heavily used by town residents and visitors for fishing, swimming, and beach combing. Surrounding land uses are primarily residential, open space and parks, and a large amount of former industrial and agricultural land. The mainstem of the Methow River is channelized through town and reinforced for bridge abutments at Highway 20. A narrow riparian forest of cottonwoods lines the otherwise steep banks. Public access on the Methow is provided as Twisp park, at the end of E. 2nd Avenue and informal access for foot traffic is found at the Highway 20 bridge. Access on the Twisp is found at the Methow Salmon Recovery Foundation property and at the county road bridge just west of the Town limits.

Recommendations

Recommendations

Land use and Restoration Goals for Twisp Town Character Zone

CHAPTER 5:
SHORELINES OF STATEWIDE SIGNIFICANCE

Introduction

The Shoreline Management Act of 1971 (as amended) designated certain shoreline areas as shorelines of state-wide significance. Such shorelines are considered major resources that benefit all people in the state. Within Okanogan County, shorelines meeting the following definition are considered shorelines of state-wide significance.[1]

- Lakes, whether natural, artificial, or a combination thereof, with a surface acreage of one thousand acres or more measured at the ordinary high water mark;
- Those natural rivers or segments thereof as follows: any east of the crest of the Cascade range downstream of a point where the annual flow is measured at two hundred cubic feet per second or more, or those portions of rivers east of the crest of the Cascade range downstream from the first three hundred square miles of drainage area, whichever is longer;

Shorelands associated with those rivers and lakes are also considered shorelines of statewide significance.

5.01 Lakes

There are no lakes of statewide significance in Twisp.

5.02 Rivers

There are two rivers of statewide significance affecting the town of Twisp. The rivers of statewide significance subject to the provisions of this regional SMP are:

A. Methow—from the point where the mean annual flow reaches 200cfs downstream to the Methow River's confluence with the Columbia River (Lake Pateros);

B. Twisp—from the point where the mean annual flow reaches 200cfs downstream to the Twisp River's confluence with the Methow River.

(Refer to Appendix A and B and Chapter 4 for inventory information surface areas, data sources, and other details about the rivers).

[1] **"**Shoreline management act of 1971." 90.58 RCW. Part 030.2.e. <http://apps.leg.wa.gov/RCW/default.aspx?cite=90.58&full=true>. Accessed September 15, 2008.

5.03 Order of Preference

Because shorelines of state-wide significance are major resources that benefit all people in the state, the SMA mandates that the towns of Twisp give preference to uses that favor long-range goals and support the overall public interest. Twisp adopts the following guidelines for shorelines of state-wide significance, listed in the order of preference specified by the SMA:

A. Recognize and protect the state-wide interest over local interest.

   1. Solicit comments and opinions from groups and individuals representing state-wide interests by circulating the regional master program and any amendments to state agencies, adjacent jurisdictions, citizen's advisory committees, local officials, and state-wide interest groups.
   2. Recognize and take into account state agencies' policies, programs, and recommendations in developing and administering use regulations and in approving shoreline permits.
   3. Solicit comments, opinions, and advice from individuals with expertise in ecology, geology, limnology, aquaculture, and other scientific fields relevant to shoreline management.

B. Preserve the natural character of the shoreline.

   1. Designate and administer shoreline environments and use regulations so as to minimize damage to the ecology of the shoreline as a result of man-made intrusions on the shoreline.
   2. Upgrade and redevelop those areas where intensive development already exists in order to reduce adverse impacts on the environment and to accommodate future growth rather than allowing high-intensity uses to extend into low-intensity or undeveloped areas.
   3. Protect, preserve, and enhance the existing diversity of vegetation, habitat values, and wetlands associated with shoreline areas.

C. Result in long-term over short-term benefits.

   1. Evaluate the short-term economic gain or convenience of developments relative to the long-term and potentially costly impairments to the natural shoreline.
   2. In general, preserve resources and values of shorelines for future generations and restrict or prohibit development that would irretrievably damage shoreline resources.
   3. Actively promote aesthetic considerations when contemplating new development, redevelopment of existing facilities, or general enhancement of shoreline areas.

D. Protect the resources and ecology of the shoreline.

   1. Minimize development activity that would interfere with the natural functioning of the shoreline ecosystem, including but not limited to stability, drainage, aesthetic values, and water quality.
   2. All shoreline development should be located, designed, constructed, and managed to avoid disturbance of and minimize adverse impacts to wildlife resources, including migratory routes and areas used for spawning, nesting, rearing, and habitat.

3. Public access to natural areas should be based on the ability of the area to support the use.
4. Preserve especially valuable or environmentally-sensitive wetlands for use as open space, and encourage restoration of presently degraded wetland areas.

E. Increase public access to publicly owned areas of the shoreline.

1. Where possible, develop paths and trails to shoreline areas and linear access along the shorelines. Associated parking should be upland of the permitted use.
2. Locate development landward of the ordinary high water mark so that access is enhanced.

F. Increase recreational opportunities for the public on the shoreline.

1. Plan for and encourage development of facilities for recreational use of the shoreline.

G. Reserve areas for lodging and related facilities on uplands with provisions for non-motorized access to the shoreline.

CHAPTER 6:

REGIONAL MASTER PROGRAM GOALS AND POLICIES

Introduction

As required by the Shoreline Management Act (as amended), the following goals and policies have been developed to provide the basis for implementation of the Act in Okanogan County and the incorporated communities therein.

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6.01 General Goals and Policies

6.01 A. The following goals apply to all shoreline areas, uses and activities:

6.01 A. 1. Provide for the use, development, protection and enhancement of shoreline areas in compliance with the requirements of the Shoreline Management Act.

6.01 A. 2. Shoreline management planning and regulation take place in a context that includes comprehensive land use, economic development, flood hazard management, salmon recovery, outdoor recreation, public utilities and watershed planning. The intent is to enhance the efficiency and effectiveness of natural resource planning processes through coordination.

6.01 A. 3. Provide for reasonable and appropriate use of shoreline and adjacent land areas while:

6.01 A. 3. a. Protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life;

6.01 A. 3. b. Minimizing damage to the ecology, environment, and other resources of the shoreline area;

6.01 A. 3. c. Minimizing interference with the public's use of the water; and

6.01 A. 3. d. Balancing public interest with protection of private property rights.

6.01 A. 4. Encourage a diversity of shoreline uses, consistent with Okanogan County's and the cities and towns therein evolving economy and patterns of land use.

6.01 A. 5. Minimize flood damage, including damage resulting from actions outside shoreline areas.

6.01 B. The following policies apply to all shoreline areas, uses and activities:

6.01 B. 1. This SMP should not deny all economic use of any property, except as the public trust doctrine would limit the use of the property. This policy should be implemented through the appropriate application of methods including but not limited to project design standards, site specific evaluation, mitigation, and variances.

6.01 B. 2. In each local jurisdiction in which this City and Town Regional SMP applies, that jurisdiction's Comprehensive Plan and implementing regulations should be consistent with these shoreline regulations.

6.01 B. 3. Where practical, shoreline management planning and regulation should be coordinated with other natural resource planning efforts (local, state, federal and tribal) affecting Okanogan County and the incorporated municipalities therein; a comprehensive system of consistent policies and regulations is the desired outcome.

6.01 B. 4. Okanogan County and the cities of Omak and Okanogan recognize and honor the sovereignty of the Confederated Tribes of the Colville Reservation (CCT) and

the tribal government's authority over lands within the exterior boundary of the Colville Indian Reservation.

6.01 B. 5. In administering this SMP, Okanogan County and the cities of Omak and Okanogan should defer to its Intergovernmental Land Use Planning Agreement with the Colville Tribes when addressing shoreline management issues on tribal trust lands outside the boundaries of the Colville Indian Reservation.

6.01 B. 6. In designating shoreline areas on state and federally-owned land, Okanogan County and the cities and towns therein should consider the uses planned, local and specific agency plans and potential leases for private uses and activities by the agency with management authority.

6.01 B. 7. Development and uses within shoreline areas should be conditioned to ensure that the proposed use or activity does not result in unanticipated or undesired impacts to other property owners (such as increased flood or geohazards to other property(ies), either upstream, downstream and across the stream), or result in loss of shoreline ecological functions.

6.01 B. 8. Shoreline uses and activities should be compatible with existing and planned uses on surrounding sites and in adjacent environments.

6.01 B. 9. Permitted uses and activities should be located, sited, designed, managed, and maintained to be compatible with the shoreline environment designation where they are located and be protective of shoreline ecological resources, including the following:

6.01 B. 9. a. Water quality;

6.01 B. 9. b. Visual, cultural and historic characteristics;

6.01 B. 9. c. Physical resources (including soils);

6.01 B. 9. d. Biological resources (including vegetative cover, wildlife, and aquatic life);

6.01 B. 9. e. Ecological processes and functions; and

6.01 B. 9. f. The natural character of the shoreline area.

6.01 B. 10. Any use or activity that cannot be designed, mitigated and/or managed to prevent a net loss of shoreline ecological functions, values and resources and that are not designed to protect the integrity of the shoreline environment should be prohibited.

6.01 B. 11. Shoreline regulations, including shoreline designations, should favor preservation of resources and values of shorelines for future generations over development that would irrevocably damage shoreline resources.

6.01 B. 12. Development standards, including setbacks, densities, height and bulk limits and/or minimum frontage standards, should be established to ensure that new development results in no net loss of shoreline ecological functions. Criteria considered in establishing those standards should include, but not be limited to, the following:

6.01 B. 12. a. Biophysical limitations and ecological functions and values of the shoreline area;

6.01 B. 12. b. Surrounding development characteristics and land division pattern;

6.01 B. 12. c. Level of infrastructure and services available or planned; and

6.01 B. 12. d. Other comprehensive planning considerations.

6.01 B. 13. New uses and activities should be restricted to those that will not require extensive alteration of the land-water interface. Construction of shoreline stabilization works should be avoided. New uses and activities should be designed to preclude the need for such works. In those limited instances in which such works are found to be in the public interest and are allowed, impacts should be mitigated.

6.01 B. 14. The scenic and aesthetic quality of shorelines and vistas should be preserved to the greatest extent feasible.

6.01 B. 15. Natural plant communities within and bordering shorelines should be protected and maintained to ensure no net loss of shoreline ecological functions.

6.01 B. 16. Natural shoreline vegetation should be maintained and enhanced to reduce the hazard of bank failures and accelerated erosion. Vegetation removal that is likely to result in soil erosion severe enough to create the need for structural shoreline stabilization measures should be prohibited.

6.01 B. 17. Restoration of degraded shoreline vegetation, whether by natural or manmade causes, should be encouraged wherever feasible.

6.01 B. 18. Non-structural and "soft" methods of shoreline stabilization, such as vegetation enhancement and bioengineering, are preferred to hardened structures to control the processes of erosion, sedimentation, and flooding. Along the shoreline, these methods can only be done to protect legally established, existing structures, development, utilities and other infrastructure (e.g. roads). The need for bank stabilization should show that the erosion/migration processes are beyond natural rates through geotechnical evaluation. Allowed shoreline stabilization structures should be designed as to not interfere with natural hydrologic and geomorphic processes.

6.01 B. 19. Removal of vegetation should be limited to the minimum necessary to reasonably accommodate the permitted use or activity.

6.01 B. 20. The physical and aesthetic qualities of the natural shoreline should be maintained and enhanced.

6.01 B. 21. Preference should be given to preserving and enhancing natural vegetation closest to the ordinary high water mark.

6.01 B. 22. Aquatic weed management should emphasize prevention as a first step in control and utilize science-based monitoring to determine eradication methods.

6.01 B. 23. Standards to ensure that new development does not result in a net loss of shoreline ecological functions or further degradation of shoreline values should be

established for shoreline stabilization measures, vegetation conservation, and shoreline modifications (See Section 6.14).

6.02 Economic Development Goals and Policies

6.02 A. The following goal applies to Economic Development within shoreline areas:

6.02 A. 1. Ensure healthy, orderly economic growth by providing for economically productive industrial, commercial and mixed uses that are particularly dependent on or related to a shoreline location.

6.02 B. The following policies apply to Economic Development within shoreline areas:

6.02 B. 1. Activities and uses in shoreline areas should result in long-term over short-term benefits to the local economy.

6.02 B. 2. Projects of statewide economic interest such as hydroelectric development, water storage, port facilities, (including sites intended to accommodate recreation) and other developments that are particularly dependent on or related to a shoreline location or use of the shorelines of the state should be accommodated where such uses and the associated activities can be accomplished without irrevocable damage to unique shoreline character, its resources and ecological functions.

6.02 B. 3. Proposed hydroelectric projects should be evaluated in the context of shoreline ecological functions, public access, and navigation, and should be accommodated where said projects are consistent with the public interest and intent of the policies of the SMA.

6.02 B. 4. Water-Oriented Commercial and mixed used developments that provide for public access and protect/restore or enhance shoreline resources should be encouraged on shorelines.

6.02 B. 5. Non-water-oriented commercial uses shall be prohibited unless the use is part of a project that provides significant public benefit with respect SMA objectives or is physically separated from the shoreline by a public right of way or another property. Such projects should not unnecessarily impair or detract from the public's physical or visual access to the water. Conditional Use Permits may also provide for flexibility in regulation of shoreline development and redevelopment within the urban centers of the cities and towns in Okanogan County.

6.03 Public Access, Circulation and Recreation Goals and Policies

Shoreline public access includes the ability of the general public to reach, touch and enjoy the water's edge, to travel on the waters of the state and the ability to have a view of the water and the shoreline from adjacent locations. Public access can include (but is not limited to) picnic areas, pathways and trails, floats and docks, viewing towers, bridges, boat launches, street ends, ingress and egress, and parking. Visual access can also include (but is not limited to) view corridors between buildings.

6.03 A. The following goals apply to public access, circulation and recreation within shoreline areas:

6.03 A. 1. Provide, protect, and enhance physical and visual public access to shoreline areas, consistent with the natural character, features, and resources of the shoreline, private property rights, and public safety.

6.03 A. 2. Provide for public and private active and passive recreational use of shoreline areas.

6.03 A. 3. A safe, reasonable, and adequate vehicular and pedestrian circulation and access system, designed to minimize adverse effects on shoreline resources and ecological function wherever practical.

6.03 A. 4. A multi-modal circulation and access system that, where practical, contributes to the functional and visual enhancement of shoreline resources.

6.03 A. 5. Preserve, create, or enhance open space and natural amenities associated with shorelines for the benefit of the public health and wellbeing which are often lost to waterfront development.

6.03 A. 6. Protect the rights of navigation.

6.03 B. The following policies apply to public access and recreation within shoreline areas:

6.03 B. 1. For the purpose of this Regional SMP, locally adopted comprehensive plans and any stand alone elements thereof (e.g. Okanogan County Outdoor Recreation Plan, Douglas PUD Recreation Management Plan, City of Omak Park and Recreation Plan) should be considered the official public access plans.

6.03 B. 2. Okanogan County's shoreline area public access systems (including those of the incorporated municipalities within the county) should include provisions for people with disabilities. While it may not be practical to provide specialized facilities at all access points, physical and visual access for people with disabilities should be distributed throughout the system and should provide a variety of opportunities representative of the opportunities available to able-bodied users.

6.03 B. 3. All developments, uses, and activities on or near the shoreline should, to the extent practical, not impair or detract from the public's physical or visual access to the water.

6.03 B. 4. Provision of public access should result in no net loss of shoreline ecological functions.

6.03 B. 5. Public access to the shorelines afforded by street ends, public utilities, and rights-of-way should be inventoried, preserved, maintained, and, where consistent with locally adopted access plans, enhanced.

6.03 B. 6. Public access facilities should be located and designed to provide for public safety and minimize potential impacts to private property and individual privacy. Where appropriate, there should be a physical separation or other means of clearly delineating public and private space to avoid unnecessary user conflict.

6.03 B. 7. Where public access facilities are provided, they should be located and designed to minimize potential impacts to existing and potential uses and activities.

6.03 B. 8. Where providing public access on site that would likely cause impacts difficult or impossible to mitigate—for instance, at sites with unique or fragile geological or biological characteristics—the Regional SMP should encourage off-site public access based on opportunities identified in the *Shoreline Characterization Report* and other adopted documents.

6.03 B. 9. Public views of the shoreline from upland areas should be protected from new development where not in conflict with permitted uses and activities. Enhancement of views should not be interpreted as authorizing excessive removal of vegetation that impairs views.

6.03 B. 10. When large subdivisions (five or more lots) or planned developments or binding site plans containing 5 or more units, are proposed in shoreline areas, public open space and shoreline access should be required, encouraged and commensurate to the impacts of the proposed development as well as, where consistent with locally adopted comprehensive plans, meet new needs that will be generated by the proposed development. Where possible the public open space requirements of this regional SMP should be integrated with any open space requirements in local land use regulations. Innovative public access proposals are encouraged.

6.04 Fish and Wildlife Conservation and Critical Areas Goals and Policies

Critical Areas Regulations are found in Appendix C of this SMP.

6.04 A. The following goals apply to Fish and Wildlife Conservation Areas within shoreline areas:

6.04 A. 1. Preserve and restore shoreline natural resources, and protect those resources against adverse impacts, including loss of ecological functions necessary to sustain the natural resources.

6.04 A. 2. Develop and implement management practices that will guarantee sustainability of natural shoreline systems and preserve, protect and restore unique and non-renewable resources or features including forested areas, wetlands and wildlife habitat.

6.04 A. 3. Sustained yield of shoreline natural resources—such as fish, timber, groundwater, mineral resources, and agricultural products—consistent with preservation of ecological functions and protection of the public interest in shorelines of the state should be protected.

6.04 B. The following policies apply to Critical Areas within shoreline areas:

6.04 B. 1. Critical areas in the shoreline shall include wetlands; fish and wildlife conservation areas including critical fresh water habitats; geologically hazardous areas including seismic zones, channel migration zones, steep slopes prone to erosion, sloughing, landslide and the like; frequently flooded areas including flood hazard areas and the 100-year flood plain.

6.04 B. 2. Critical areas should be managed to protect against adverse effects to public health and safety and against any loss of shoreline ecological function, including adverse effects on the land, its vegetation and wildlife; and the water and its aquatic life.

6.04 B. 3. The most current scientific and technical information shall be used in the determination and protection of critical areas in shoreline areas. Twisp may use all relevant documents and studies, including and in addition to supporting materials for local critical areas regulations as well as consultation with agencies such as Dept. of Fish and Wildlife and Dept. of Ecology to support decisions and condition permits.

6.04 B. 4. Unique, rare, fragile, and scenic natural and man-made features or landscapes should be preserved and protected from shoreline development activities.

6.04 B. 5. Where shoreline impacts are mitigated, the type of mitigation that will have the least impact on shoreline ecological functions shall be preferred. Mitigation measures are listed below in order of descending preference, and shall be considered in the following sequence:

6.04 B. 5. a. Avoiding the impact altogether by not taking a certain action or parts of an action;

6.04 B. 5. b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;

6.04 B. 5. c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

6.04 B. 5. d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

6.04 B. 5. e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

6.04 B. 5. f. Monitoring the impact and taking appropriate corrective measures.

6.04 B. 6. The ecosystem-wide impacts of a large development, including the cumulative impacts of exempt uses and activities within the development over time, should be considered in approving, conditionally approving, or denying shoreline permits for multi-lot subdivisions and other large developments.

6.04 B. 7. The adverse impacts of shoreline uses and activities on ecological processes and functions should be mitigated during all phases of development—including but not limited to design, construction, management, and use.

6.04 B. 8. The local government with jurisdiction should require reasonable setbacks, buffers, and stormwater management systems for all shoreline development

6.04 B. 9. All runoff treatment measures for the purpose of maintaining and/or enhancing water quality should be conducted on-site and before shoreline development affects waters or shoreline ecological functions off-site.

6.04 B. 10. Development should comply with local stormwater management regulations or the Stormwater Management Manual for Eastern Washington (Washington Department of Ecology Publication 04-10-076, as amended), whichever will provide the greatest protection of shoreline functions.

6.04 B. 11. All development, including subdivision, shall create no net loss in ecological functions and values of shoreline resources or further degrade, impair, or damage critical areas therein.

6.04 C. Geologically Hazardous Areas

6.04 C. 1. Developments and uses that would substantially degrade or permanently deplete habitat or the physical or biological resources of the area or inhibit stre***a***m movement in channel migration zones should not be allowed. (Refer to the Channel Migration Zone Map, Appendix G). WAC 173-26-231(3)(b)(4th principle)

6.04 C. 2. New development or the creation of new lots that would cause foreseeable risk from geological conditions (e.g. slope, channel migration, erosion) to people or

improvements during the life of the development should not be allowed. (WAC 173-26-221(2)(c)(ii)(B))

6.04 C. 3. Development on slopes greater than 30% shall be required to prepare a geo-technical report to ensure no increase in erosion potential from the development.
6.04 C. 4. Development near steep river banks (>15%) may be subject to wider buffer widths, vegetation standards, or greater setbacks to ensure no increase to erosion or landslide potential.
6.04 C.4. Development near steep river banks (>15%) may be subject to wider buffer widths, vegetation standards or greater setbacks to ensure no increase to erosion or landslide potential.

6.04 D. Critical Fresh Water Habitat Protections

6.04 D. 1. Effective river and stream management shall depend on 1) Planning for protection, and restoration where appropriate, along the entire length of the corridor from river headwaters to the mouth; and (2) Regulating uses and development within the stream channel, associated channel migration zone, wetlands, and the flood plain, to the extent such areas are in the shoreline jurisdictional area, as necessary to assure no net loss of ecological functions associated with the river or stream corridors, including the associated hyporheic zone, results from new development.

6.04 D. 2. No activities, uses or developments shall impair the ecological functions associated with critical freshwater habitats of the Twisp and Methow Rivers and associated wetlands.

6.04 D. 3. Buffer requirements and vegetation conservation standards shall be established to protect water quality, floodplain processes, and riparian habitats.

6.04 D. 4. Where appropriate, integrate protection of critical freshwater habitat, protection with flood hazard reduction and other river and stream management provisions.

6.04 D. 5. Restoration projects that support freshwater and aquatic species recovery plans that require shoreline modifications shall be allowed through a statement of exemption so long as appropriate permitting through other state and federal agencies are followed. Flexibility for innovate restoration projects shall be encouraged. Incentives shall be considered through coordination with other state and federal agencies for shoreline developments that encourage restoration.

6.04 E Flood Hazard Reduction (WAC 173-26-221(3)(a-c))

6.04 E. 1. Non structural flood control measures shall be preferred over structural measures for flood control and include setbacks, land use controls, wetland restoration,

dike removal, use relocation, biotechnical measures, and storm water management programs.

6.04 E. 2. New structural flood hazard reduction measures, such as dikes, levees, revetments, floodwalls, channel realignment shall be avoided whenever possible and only be allowed through a Conditional Use Permit as well as be subject to review by the Upper Columbia Regional Salmon Recovery Board Technical Team.

6.04 E. 3. The elevation of structures consistent with the National Flood Insurance Program shall be allowed if it shown that the placement of the structure shall not interfere with normal flood water inundation and flows or result in no net loss of ecosystem function or ecosystem-wide processes.

6.04 E. 4. All floodplain development shall be consistent with the Town of Twisp Flood Damage Prevention Plan TMC 16.10., comprehensive plans and zoning ordinance.

6.04 E. 5. Flood hazard protection measures should assure that they do not result in a net loss of ecological functions associated with the rivers and streams and ecosystem-wide processes.

6.04 E. 6. Flood hazard reduction planning should be considered when implementing other plans such as storm water management, floodplain regulations, critical area ordinances and comprehensive plans.

6.04 E. 7. Floodplain projects should facilitate returning the river corridors to a more natural hydrological condition and recognize that flooding a natural, seasonal process.

6.04 E. 8. Decreasing flood hazards through removal of artificial restrictions to facilitate natural channel migration, restoration, and establishing off channel habitat and hydrologic connections shall be in coordination with the appropriate state and federal agencies.

6.04 F Wetlands

The following policies apply to wetlands within shoreline areas:

6.04 F. 1. All wetlands must be categorized based on rarity, irreplacibility, or sensitivity to disturbance of a wetland and its function by a qualified professional using the Washington State Wetland Rating System for Eastern Washington prior to development occurring. When appropriate a wetland functional assessment may be required by the administrator.

6.04 F. 2. No activities, including but not limited to: removal of vegetation, excavation, grading, dredging of soil, sand, gravel, minerals, organic matter or material; dumping, discharging, or filling with any material; discharging of domestic, commercial, or industrial stormwater; draining flooding, or disturbing water levels, duration of inundation or water table; driving of pilings, placement of obstructions; construction, deconstruction or remodel of an existing structure; any alteration to physical, chemical, or biological characteristics of wetlands; or activities reducing the function required buffers

shall take place within 300 ft of a verified wetland without proper approval by the administrator of this SMP.

6.04 F. 3. Unless authorized by the Department of Ecology, the shoreline administrator shall require buffers that meet or exceed buffer widths based on the Department of Ecology recommendations for Buffer Alternative 3 in *Wetlands in Washington State, Volume 2: Managing and Protecting Wetlands* (Publication No. 05-06008) (or amendments thereto).

6.04 F. 4. Wetland mitigation requirements shall be consistent with WAC 173-26-201 2.e.

6.04 F. 5. Compensatory mitigation shall be allowed only after mitigation sequencing is applied and higher priority means of mitigation are determined infeasible.

6.05 Historic, Cultural, Scientific, and Educational Goals and Policies

6.05 A. The following goal applies to all uses and activities within shoreline areas:

6.05 A. 1. Recognize and protect important archaeological, historic, and cultural structures, sites, and areas and other resources having historic, cultural, or educational values that are located in the shoreline area for educational, scientific, and enjoyment uses of the general public. (This goal recognizes that identification of some culturally sensitive sites may not be feasible. It is the cities and towns within Okanogan County's intention to exercise due diligence in protecting cultural and archaeological resources.)

6.05 A. 2. Due to the limited and irreplaceable nature of the resource(s), prevent the destruction of or damage to any site having historic, cultural, scientific, or educational value as identified by the appropriate authorities, including affected Indian tribes, and the Washington State Department of Archaeology and Historic Preservation (DAHP).

6.05 B. The following policies apply to all uses and activities within shoreline areas:

6.05 B. 1. All uses and activities (public and private) should comply with local, state, federal, and tribal requirements for protection of any resources that have significant archeological, historic, cultural, scientific, or educational value as identified by the relevant authorities, including the Confederated Tribes of the Colville Reservation (CCT) and the Washington State Department of Archaeology and Historic Preservation (DAHP).

6.05 B. 2. Where permitted by law, sites containing archaeological, cultural, and historic resources should be identified to avoid damage to the resources and the delay and expense associated with discovery of resources during development. Where disclosure of the location of such sites is restricted, relevant authorities, including the CCT and the

DAHP should be notified of permit applications within 500' (five hundred feet) of known archaeological and historic resources.

6.05 B. 3. Development within 500' (five hundred feet) of an identified historic, cultural, or archaeological site should be inspected or evaluated by a profession archaeologist, in coordination with affected Indian tribes, and designed and operated to be compatible with continued protection of the historic, cultural, or archaeological resources.

6.05 B. 4. Archaeological sites located both inside and outside shorelines jurisdiction are subject to chapter 27.44 RCW (Indian graves and records) and chapter 27.53 RCW (Archaeological sites and records) and development or uses that may impact such sites shall comply with chapter 25-48 WAC as well as the provisions of this SMP. The provisions of this section apply to archaeological and historic resources that are either recorded at the state historic preservation office and/or by local jurisdictions or have been inadvertently uncovered. Additionally, these policies apply on any other sites identified by the DAHP or the CCT as having a high probability of containing significant archaeological and historic resources, consultation with the DAHP and the CCT should be required before issuance of any permits or exemptions. This policy applies to all uses and activities, including individual single-family residences.

6.05 B. 5. Where feasible, sites containing archaeological, cultural, or historic resources should be permanently protected and preserved for study, education, and public observation. Feasibility should be assessed in consultation with the CCT and the DAHP and in the context of the proposed development or activity, the location and planned use of the site, and the nature and quality of the shoreline resources present. The CCT and the DAHP should be consulted regarding possible impacts of public access and/or interpretation. In those places where access is deemed feasible and appropriate, such access should be designed and managed to protect the resources.

6.05 B. 6. Access to educational, cultural, or historic sites should not reduce their resource value or degrade the quality of the environment.

6.05 B. 7. Historic, cultural, and archaeological site development should be planned and carried out so as to prevent impacts to the resource. Impacts to neighboring properties and other shoreline uses should be limited to temporary and reasonable levels.

6.05 B. 8. Sites deemed to have educational, cultural, or historic value should be prioritized for purchase or acquisition by gift to ensure their protection and preservation.

6.05 B. 9. Significant educational or cultural features or historic sites should be prioritized for restoration to further enhance the value of the shorelands.

SPECIFIC USE AND ACTIVITY POLICIES

6.06 Agriculture

6.06 A. New agricultural uses should be allowed where they are consistent with the applicable comprehensive plan and be subject to all applicable provisions of this SMP.

6.06 B. A vegetative buffer of native plants should be maintained, or established and maintained between agricultural lands and water bodies or wetlands in order to protect water quality, to promote native vegetation conservation and maintain habitat for fish and wildlife.

6.06 C. Animal feeding operations, retention and storage ponds for agricultural run-off, feed lots, feed lot waste, and manure storage should be located outside of shoreline areas and constructed to prevent contamination of water bodies and degradation of the shoreline environment.

6.06 D. Appropriate farm and soil management techniques should be employed to prevent fertilizers, herbicides, and pesticides from contaminating water bodies and wetlands and from having a harmful effect on other shoreline resources such as vegetation and soil.

6.06 E. Provisions for public access to shorelines should not restrict current agricultural uses. In the event new public access poses a threat to on-going agricultural uses, the jurisdiction shall facilitate the coordination of activities between conflicting users of the shorelines.

6.06 F. Development on agricultural lands not meeting the definition of agricultural activities or the conversion of agricultural land to nonagricultural uses, should be consistent with the environment designation and the general and specific use regulations of this SMP and should not result in a net loss of ecological functions.

6.07 Aquaculture

6.07 A. Aquaculture is a water-dependent use and should be considered a preferred use of water areas when consistent with control of pollution, avoidance of adverse impact to the environment, navigation, established water-dependent uses, or aesthetic qualities of the shoreline, and preservation of habitat for resident native species.

6.07 B. Since areas suitable for aquaculture are limited by specific biophysical requirements, areas with high potential for aquaculture uses should be identified and protected from degradation by other types of land and water uses.

6.07 C. All permitted aquaculture projects should be protected from new development that would be likely to damage or destroy them. New shoreline proposals in the vicinity of an experimental aquaculture project should be restricted or denied if they might compromise the monitoring and data collection required under the permit for the experimental project.

6.07 D. Aquaculture methods and structures should be chosen to create the least impact on the visual and environmental qualities of the shorelines. In instances in which a choice of aquaculture methods is available, or where two or more incompatible aquaculture projects

are proposed in the same area, preference should be given to those forms of aquaculture that involve lesser environmental and visual impacts. In general:

6.07 D. 1. Projects that require submerged structures or no structures should be preferred over those that involve substantial floating structures.

6.07 D. 2. Projects that require few land-based facilities should be preferred over those that require extensive facilities.

6.07 D. 3. Projects that involve little or no substrate modification should be preferred over those that involve substantial modification.

6.07 D. 4. Projects that involve little or no supplemental food sources, pesticides, herbicides, or antibiotic application are preferred over those that involve such practices.

6.07 E. Aquaculture should not be allowed in the following areas:

6.07 E. 1. Areas that have little natural potential for the type(s) of aquaculture under consideration.

6.07 E. 2. Areas that have water quality problems that make the areas unsuitable for the type(s) of aquaculture under consideration.

6.07 E. 3. Areas devoted to established uses of the aquatic environment with which the proposed aquaculture method(s) would substantially and materially conflict. Such uses include but are not limited to navigation, moorage, fishing, underwater utilities, and active scientific research.

6.07 E. 4. Areas where the design or placement of the facilities would substantially degrade the aesthetic qualities of the shoreline.

6.07 E. 5. Areas where an aquaculture proposal would result in any significant adverse environmental impacts that cannot be eliminated or adequately mitigated through enforceable conditions of approval.

6.07 E. 6. Areas where the proposed activity would adversely affect critical habitat use or value.

6.07 F. Because the technology associated with some forms of aquaculture is still experimental, aquaculture should be given flexibility to experiment with new techniques. However, experimental aquaculture projects should be limited in scale, should be approved for a limited and specified period of time, and should be required to develop and implement a monitoring plan to assess the outcomes of the experiment.

6.07 G. Aquaculture that involves significant risk to the environment, including risk of cumulative adverse effects on water quality, sediment, quality, benthic organisms, and/or wild fish populations through potential contribution of antibiotic-resistant bacteria, escapement of non-native species, or other adverse effects on native species should not be permitted.

6.08 Boating Facilities

6.08 A. Boating facilities (docks, piers, ramps, marinas, etc…) should be located, designed, and operated to provide maximum feasible protection and enhancement of aquatic and terrestrial life including animals, fish, birds, plants, and their habitats and migratory routes. When plastics and other non-biodegradable materials are used, precautions should be taken to ensure their containment.

6.08 B. Boating facilities, including minor accessory buildings and haul-out facilities, shall be in character and scale with the surrounding shoreline and shall be designed so their structures and operations will be aesthetically compatible with or will enhance existing shoreline features and uses.

6.08 C. Boating facilities should be located and designed so their structures and operations will be aesthetically compatible with the area visually affected and will not unreasonably impair shoreline views. Use of natural non-reflective materials should be encouraged.

6.08 D. Public and community boating facilities are preferred over individual private or commercial facilities. Private boat launches should be prohibited.

6.08 E. Community or group facilities shall be required of developments that serve at least four dwelling units if such developments intend to provide moorage.

6.08 F. Private and/or commercial boating facilities shall be sited in the appropriate environmental designation.

6.08 G. Regional as well as local needs should be considered when determining the location of marinas, boat launches and community docks. Potential sites should be identified near high-use or potentially high-use areas.

6.08 H. Dry boat storage should not be considered a water-oriented use. Boat hoists, boat launch ramps, and access routes associated with a dry boat storage facility should, however, be considered to constitute a water-oriented use.

6.08 I. Floating homes should be prohibited. Liveaboards are only allowed per the time and regulatory standards established by Department of Natural Resources. For those marinas not located on DNR jurisdictional bed lands, liveaboards are limited to 10% of total moorage and marina should seek to be certified as a clean marina.

6.08 J. Because docks can have a significant impact on shoreline habitat and functions the impacts of all docks should be reviewed to ensure that the proposed structure is suitably located and designed and that all potential impacts have been recognized and mitigated.

6.08 K. Multiple use and expansions of existing docks should be encouraged over the addition and/or proliferation of new facilities. Joint-use facilities are preferred over new single-use docks. Dock projects should be encouraged to provide for public docking, launching, and recreational access.

6.08 L. New commercial docks and marinas should be designed to accommodate public access and enjoyment of the shoreline location.

6.08 M. Docks should be designed to cause minimum interference with navigable waters and the public's use of the shoreline.

6.08 N. The proposed site of the structure and intensity of use or uses of any dock should be compatible with the surrounding environment and land and water use.

6.08 O. Docks not attached to the shoreline should not extend into navigable waters where they pose a hazard to navigation. Such docks may be allowed by conditional use permit in special situations where the use for such a dock serves a water-dependent or orient use and measures have been taken to reduce the hazard to navigation.

6.08 P. Buoys associated with boating facilities should not impede existing navigational routes, infringe on swimming beaches or other public access areas. Buoys should be limited to the minimum number needed to provide moorage to the development.

6.09 Commercial Uses

6.09 A. New commercial development in shoreline areas should be consistent with the applicable local Comprehensive Plan and should be located to minimize sprawl and inefficient use of shoreline areas and, where applicable, to promote trip reduction.

6.09 B. No commercial development should be allowed in wetlands or shoreline areas designated Natural.

6.09 C. Because shorelines are a limited resource, preference should be given to water-dependent and oriented uses, especially those uses particularly dependent on a shoreline location or those that will provide the opportunity for substantial numbers of people to enjoy the shoreline.

6.09 D. Over-water construction for non-water-dependent commercial developments shall be prohibited.

6.09 E. Commercial development should be designed to provide physical or visual shoreline access or other opportunities for the public to enjoy the shoreline location. Public access should include amenities appropriate to the type and scale of the development and the qualities and character of the site, which may include walkways, viewpoints, restrooms, and other recreational facilities. Where possible, commercial facilities should be designed to permit pedestrian waterfront activities.

6.09 F. Site plans for commercial developments should incorporate multiple-use concepts that include open space and recreation where appropriate to the scope and scale of the project.

6.09 G. Commercial developments should be aesthetically compatible with the surrounding area. Aesthetic considerations should be actively promoted by means such as sign control regulations, appropriate development siting, screening and architectural standards, planned unit developments, and landscaping with native plants, including, where appropriate, enhancement of natural vegetative buffers.

6.09 H. Commercial developments should be designed, constructed, operated, and maintained to ensure no net loss of shoreline ecological functions and to protect areas of cultural significance.

6.09 I. Commercial developments should include landscaping that will visually enhance the shoreline area and contribute to shoreline functions and values.

6.09 J. No development should be allowed in wetlands, shoreline riparian vegetation conservation areas or their buffers without following mitigation sequencing. Commercial Uses in shoreline areas designated Natural should be prohibited.

6.10 Industrial Uses

6.10 A. No new non-water-dependent industrial development should be allowed to locate within shoreline areas except when:

(i) The use is part of a mixed-use project that includes water-dependent uses and provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration; or

(ii) Navigability is severely limited at the proposed site; and the industrial use provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration.

(iii) In areas designated for industrial use, nonwater-oriented industrial uses could be allowed if the site is physically separated from the shoreline by another property or public right of way.

6.10 B. New industrial development in shoreline areas should be consistent with the applicable local Comprehensive Plan and should be located to minimize sprawl and inefficient use of shoreline areas and, where applicable, to promote trip reduction.

6.10 C. No industrial development should be allowed in wetlands or their buffers without following mitigation sequencing.

6.10 D. New over-water construction for industrial uses should be prohibited unless it can be shown to be essential to a water-dependent industrial use.

6.10 E. Industrial development should be designed to provide physical or visual shoreline access or other opportunities for the public to enjoy the shoreline location unless such access would be incompatible for reasons of safety, security, or impact to the shoreline environment. Where public access is incompatible with the proposed use, any loss of public access opportunity should be mitigated. Where public access is provided, it should include amenities appropriate to the type and scale of the development and the qualities and character of the site, which may include walkways, viewpoints, restrooms, and other recreational facilities. Where possible, industrial developments should be designed to permit pedestrian waterfront activities.

6.10 F. Site plans for industrial developments should incorporate multiple-use concepts that include open space and recreation where appropriate to the scope and scale of the project.

6.10 G. To the extent feasible, industrial developments should be aesthetically compatible with the surrounding area. Aesthetic considerations should be actively promoted by means such as sign control regulations, appropriate development siting, screening and architectural standards, planned unit developments, and landscaping with native plants, including, where appropriate, enhancement of natural vegetative buffers.

6.10 H. Industrial developments should be designed, constructed, operated, and maintained to ensure no net loss of shoreline ecological functions and to protect areas and systems of cultural significance.

6.10 I. Industrial developments should include landscaping that will visually enhance the shoreline area and contribute to shoreline functions and values.

6.11 In-stream Uses or Structures

"In-stream structure" means a structure placed by humans within a stream or river waterward of the ordinary high-water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. In-stream structures may include those for hydroelectric generation, irrigation, water supply, flood control, transportation, utility service transmission, fish habitat enhancement, or other purpose.

6.11 A. In-stream structures for the benefit of public shall be permitted and subject to all state and federal regulations for in-stream uses,

6.11 B. Any permitted in-stream structure shall provide for the protection and preservation of ecological and ecosystem-wide services including, but not limited to, fish and fish passage, wildlife and water resources, shoreline critical areas, hydrogeological processes, and natural scenic vistas.

6.11 C. In-stream structures for the benefit of fish enhancement and recovery adjacent to or visible from publically-owned shorelines, including bridges and overlooks, shall incorporate a public education element.

6.11 D. The location and planning of in-stream structures shall give due consideration to the full range of public interests, watershed functions and processes and environmental concerns, with special emphasis on protecting and restoring priority habitats and species.

6.12 Mining

6.12 A. Commercial mining should be allowed only where the use is dependent on a shoreline location. Mineral prospecting and placer mining should be allowed subject to the *Gold and Fish Rules and Regulations* as they now exist or hereinafter amended.

6.12 B. Mining and associated activities should result in no net loss of shoreline ecological functions, including impacts to unique or fragile areas and impacts to priority habitats or species and provisions of applicable critical area regulations and shoreline setback.

6.12 C. All feasible measures should be taken to protect shoreline areas and water bodies from all sources of pollution, including but not limited to sedimentation and siltation, chemicals and petrochemicals (including both use and spillage), and mining wastes and spoils (including both storage and disposal).

6.12 D. All feasible measures should be taken to prevent disruption of ecological processes and functions in shoreline areas and water bodies.

6.12 E. Mining uses should allow the natural shoreline systems to function with a minimum of disruption during their operations and should return the site to as near a natural condition as possible upon completion.

6.12 F. Adverse impacts of mining operations on surrounding shoreline areas, including visual and noise impacts, should be minimized, and shoreline enhancement should be encouraged.

6.12 G. Mining proposals occurring in shoreline jurisdiction should include applicable sections of this SMP's Restoration Plan into any of the development's Dept. of Natural Resources required Reclamation Plans.

6.13 Municipal Uses

6.13 A. New municipal uses in shoreline areas should be consistent with the comprehensive and recreation plans of the local government with jurisdiction and should be located to minimize sprawl and inefficient use of shoreline areas and, where applicable, to promote trip reduction.

6.13 B. No municipal uses should be allowed in wetlands, shoreline riparian vegetation conservation areas or their buffers without following mitigation sequencing.

6.13 C. Because shorelines are a limited resource, preference should be given to water-dependent and oriented uses, especially those uses particularly dependent on a shoreline location or those that will provide the opportunity for substantial numbers of people to enjoy the shoreline.

6.13 D. Over-water construction for non-water-dependent municipal uses shall be prohibited.

6.13 E. Where appropriate, municipal uses should be designed to provide physical or visual shoreline access or other opportunities for the public to enjoy the shoreline location. Public access should include amenities appropriate to the type and scale of the development and the qualities and character of the site, which may include walkways, viewpoints, restrooms, and other recreational facilities.

6.13 F. Municipal uses should be aesthetically compatible with the surrounding area.

6.13 G. Municipal uses should include shoreline enhancement and restoration activities that will visually enhance the shoreline area and contribute to shoreline functions and values.

6.13 H. Municipal uses should be located, designed, operated, and maintained to cause no net loss of shoreline ecological functions and to be compatible with, and minimize adverse

impacts on, valuable cultural and natural features and on nearby land and water uses. Favorable consideration should be given to proposals that complement their environment and surrounding land and water uses, and that protect natural areas.

6.14 Recreational Uses

6.14 A. The location and design of shoreline recreational developments should be consistent with the comprehensive plan and recreation plan of the local government with jurisdiction.

6.14 B. Local, regional, state, and federal recreation planning should be coordinated. Shoreline recreational developments should be consistent with applicable park, recreation, and open space plans of other jurisdictions.

6.14 C. A variety of compatible recreational experiences and activities should be encouraged to satisfy diverse recreational needs. However, facilities for recreational activities that do not benefit from a shoreline location should not locate in shoreline areas.

6.14 D. Recreational developments should be located, designed, operated, and maintained to cause no net loss of shoreline ecological functions and to be compatible with, and minimize adverse impacts on, valuable cultural and natural features and on nearby land and water uses. Favorable consideration should be given to proposals that complement their environment and surrounding land and water uses, and that protect natural areas.

6.14 E. Priority should be given to developments that provide water-oriented recreational uses and other improvements facilitating public access to shoreline areas.

6.14 F. Recreational developments should be located and designed to preserve, enhance, or create scenic views and vistas. Removal of healthy native vegetation to enhance views should be discouraged.

6.14 G. All recreational developments should make adequate provisions for:

6.14 G. 1. Vehicular and pedestrian access, both on and off site, including, where appropriate, access for people with disabilities.

6.14 G. 2. Proper water supply and solid and sanitary waste disposal.

6.14 G. 3. Security and fire protection for the use and for any use-related impacts to adjacent property.

6.14 G. 4. The prevention of overflow and trespass onto adjacent properties, by methods including but not limited to landscaping, fencing, and posting of the property.

6.14 G. 5. Buffering from adjacent private property or natural areas.

6.14 G. 6. Trails and paths on steep slopes should be located, designed, and maintained to protect bank stability and comply with applicable Critical Areas regulations as found in Appendix C.

6.14 G. 7. No Recreational uses should be allowed in wetlands, shoreline riparian vegetation conservation areas or their buffers without following mitigation sequencing.

6.15 Overwater Structures (Docks and Piers)

6.15 A. Overwater structures shall only be permitted for water-dependent and recreational uses only. As used here, a dock associated with a single-family residence is a water-dependent use provided that it is designed and intended as a facility for access to watercraft and otherwise complies with the provisions of this section. Dock construction should be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use.

6.15 B. Structures for the purpose of public access shall be permitted in areas that do not alter the natural character of the shoreline and be associated with appropriate environmental designation and underlying land uses.

6.15 C. Overwater structures shall only be placed on portions of the shorelines where the natural flows and velocities shall not be impeded by the structure and where the placement of the structure will not restrict the natural scour and depositional actions of the shoreline.

6.15 D. Overwater and in-water structures are subject to all state regulations and permits, this SMP and those requirements set forth by the WA State Department of Natural Resources and Fish and Wildlife, as well as US Army Corps of Engineers, possibly PUD and Port District rules, docks should be designed with these rules in mind and should be constructed of materials approved by those agencies.

6.15 E. Group and community docks and piers shall be encouraged during the planning of platting land through short and long subdivisions and through planned developments where more than two dwelling units are proposed.

6.15 F. Water-related and water-enjoyment uses should not be allowed, but in limited circumstances may be allowed as part of mixed-use development in existing over-water structures where they are necessary to and auxiliary to the support of water-dependent uses, provided the minimum size requirement needed to meet the water-dependent use is not violated.

6.15 G. New pier or dock construction, excluding docks accessory to single-family residences, should be permitted only when the applicant has demonstrated that a specific need exists to support the intended water-dependent uses. If a port district or other public or commercial entity involving water-dependent uses has performed a needs analysis or comprehensive master plan projecting the future needs for pier or dock space, and if the plan or analysis is approved by the local government and consistent with these guidelines, it may serve as the necessary justification for pier design, size, and construction. The intent of this provision is to allow ports and other entities the flexibility necessary to provide for existing and future water-dependent uses.

6.15 H. Overwater structures built for the benefit of public access on publically owned shorelines such fishing docks and platforms must be designed in a manner to provide universal access to people of varying physical faculties.

6.16 Parking and Transportation

Parking is the temporary storage of automobiles or other motorized vehicles. The policies that follow apply to all areas where vehicles are parked, including parking incidental to another permitted use.

6.16 A. Parking facilities in shorelines are not a preferred use and should be allowed only as necessary to support an authorized use. Parking in shoreline areas should be located upland of the permitted use.

6.16 B. Parking facilities should be located, designed and landscaped to minimize adverse impacts, including those related to stormwater runoff, water quality, aesthetics, public access, and vegetation and habitat maintenance.

6.16 C. Parking should be planned to achieve optimum use of land within the area under shoreline jurisdiction. Where practical, parking should serve more than one use, such as recreational use on weekends and commercial use on weekdays.

6.16 D. Transportation and parking plans and projects shall be consistent with this master program's public access policies, public access plan and environmental protection provisions.

6.16 E. Circulation system planning should include systems for pedestrians, bicycle and public transportation where appropriate. Circulation planning and projects should support existing and proposed shoreline uses that are consistent with this mater program.

6.16 F. Plan, locate and design proposed transportation and parking facilities where routes will have the least possible adverse effect on unique or fragile shoreline features, will not result in a net loss of shoreline ecological functions or adversely impact existing or planned water-dependent uses. Where other options are available and feasible, new roads or road expansions should not be built within shoreline jurisdiction.

6.17 Subdivision and Land Segregation

Subdivisions and land segregations are legal divisions of land for the purpose of sale, lease, or transfer of ownership.

6.17 A. All proposed plats and lots, including assessor assigned subdivisions, whether for agricultural, residential, commercial or industrial uses or activities, should be of sufficient size that development will not cause the need for structural shoreline stabilization.

6.17 B. All proposed plats and lots, including assessor assigned subdivisions, should be designed with enough area to provide a building site with appurtenant uses (parking, outbuildings etc…), accessory utility needs and fire defensible space to meet the minimum bulk dimensional standards established in Chapter 8 for the shoreline designation within which the lot is located, without requiring shoreline variances.

6.17 C. Plats and subdivisions, including assessor assigned subdivisions, should be designed, configured and developed in a manner that assures that no net loss of ecological functions results from the plat or subdivision at full build-out of all lots.

6.17 D. Plats and subdivisions, including assessor assigned subdivisions, should prevent the need for new flood hazard reduction measures within the channel migration zone or floodway that would cause significant impacts to the other properties or public improvements or a net loss of shoreline ecological functions.

6.18 Signs

6.18 A. Signs to be placed or erected in shoreline jurisdiction should be designed and placed so that they are compatible with the aesthetic quality of the existing shoreline and adjacent land and water uses and in compliance with applicable local sign regulations.

6.18 B. Signs should not block or otherwise interfere with visual access to the water or shoreline areas.

6.18 C. Generally, signs should be of a permanent nature and be linked to the operation of existing or permitted uses. Temporary signs and interpretive signs related to shoreline functions should be allowed where they comply with the other policies of this SMP and, in the case of temporary signs, where adequate provisions are made for timely removal.

6.18 D. Signs attached to buildings are preferred over free-standing signs.

6.18 E. Lighting associated with signs should be stationary, non-blinking and non-revolving. Artificial lighting of signs should be directed away from adjacent properties and the water. Signs illuminated by up-lighting shall be shielded by a roof overhang or similar structure to protect the night sky.

6.18 F. Signs shall not be erected nor maintained upon trees, or drawn or painted upon rocks or other natural features.

6.19 Utilities and Accessory Utilities

These provisions apply to services and facilities that produce, convey, store, or process power, gas, sewage, communications, oil, waste, and the like. On-site utility features serving a primary use, such as water, sewer or gas lines to a residence, are "accessory utilities" and shall be considered a part of the primary use.

6.19 A. All utilities should be designed and located to assure no net loss of shoreline ecological functions, preserve the shoreline character, protect water quality and habitats, and minimize conflicts with present and planned land and shoreline uses while meeting the needs of future populations in areas planned to accommodate growth.

6.19 B. Utilities that are nonwater-oriented including transmission facilities for communications, sewage treatment plants and power plants, or parts of those facilities, should not be allowed in shoreline areas unless it can be demonstrated that no other feasible option is available.

6.19 C. Transmission facilities for the conveyance of services, such as power lines, cables and pipelines shall be located outside of the shoreline area where feasible and when necessarily located within the shoreline area shall assure no net loss of shoreline ecological functions.

6.19 D. Existing rights of way and corridors should be used whenever possible to accommodate the location of utilities.

6.19 E. Whenever possible, utilities shall be located to minimize obstructions of views and vistas. This includes, but is not limited to, views of the shoreline environment from the water, views of the water from shorelines, and views extending beyond the shoreline of other scenic features of local importance such as rock walls, talis slopes, cliffs and perches from the shoreline or water. To preserve views and vistas and shoreline character, placement of utilities underground shall be preferred and mitigated as appropriate with vegetation measures.

6.19 F. Accessory utilities necessary to serve shoreline use**s** should be properly installed so as to protect the shoreline and water from contamination and degradation.

6.19 G. Accessory utilities and associated rights-of-way should be located outside the shoreline area to the maximum extent feasible, complying with shoreline setbacks and/or buffers whichever are more protective. When utility lines require a shoreline location, they should be placed underground.

6.19 H. Accessory utilities should be designed and located in a manner that preserves the natural landscape and shoreline ecology and minimizes conflicts with present and planned land uses.

6.19 I. Accessory utilities should be designed and located to eliminate the need for topping or pruning trees.

6.19 J. Wherever possible, existing utility systems should be improved to enhance shoreline appearance and use.

6.20 Residential Development

6.20 A. Residential development on overwater structures is prohibited

6.20 B. Development of four or more residential units, whether single-family or multi-family, must provide for public access in the form of physical access and visual access unless it can be shown that public access is adequately provided for on public property within ¼

mile walking distance of the proposed development. Public access is considered adequately provided for if all the following criteria are met:

6.20 B. 1. The access is it part of a locally adopted parks, recreation and or public access plan.

6.20 B. 2. The general public has physical and visual access to access to the water

6.20 B. 3. Additional use of the access does not pose additional public safety hazard.

6.20 B. 4. The public access can accommodate anticipated additional uses and impacts as a result of the proposed residential development.

6.20 B. 5. An existing public access area is provided for an applicant's deed or parcel declaration(s) legally recorded at the County records.

6.20 C. Residential development, including appurtenant structures and uses, should be sufficiently set back from steep slopes and shorelines vulnerable to erosion (e.g., severe channel migration areas as found in Appendix G) so that shoreline stabilization structural improvements, including bluff walls and other stabilization structures, are not required to protect such structures and uses.

6.20 D. Residential development or mixed use developments shall be sited so as to prevent the need for new shoreline stabilization or flood hazard reduction measures that would cause significant impacts to other properties or public improvements or a net loss of shoreline ecological functions.

Regulations should be developed that should include standards for the creation of new residential lots through land division that accomplish the following:

6.20 D. 1. Plats and subdivisions must be designed, configured and developed in a manner that assures that no net loss of ecological functions results from the plat or subdivision at full build-out of all lots.

6.20 D. 2. Prevent the need for new shoreline stabilization or flood hazard reduction measures that would cause significant impacts to other properties or public improvements or a net loss of shoreline ecological functions.

6.20 D. 3. Implement the provisions of WAC 173-26-211 and 173-26-221.

6.21 Shoreline Modifications

Shoreline modifications are generally related to construction of a physical element such as a dike, breakwater, dredged basin, or fill, but they can include other actions such as clearing, grading, application of chemicals, or significant vegetation removal. Shoreline modifications are usually undertaken in support of or in preparation for a shoreline use; for example, dredging (shoreline modification) to allow for a marina (boating facility use). All shoreline uses and activities, even those that are exempt from the requirement to obtain a shoreline substantial development permit, and regardless of the Shoreline Designation in which they are undertaken, must conform to all of the applicable policies and regulations listed in this SMP. For example, a residential development project that included docks and roads would need to comply with the

policies and regulations related to docks and roads as well as those related to residential development.

Shoreline Modification Policies cover the following areas (see Chapter 8, Section 8.03 for specific regulations):

6.21 A. General

6.21 B. Clearing and Grading

6.21 C. Dredging and Dredge Material Disposal

6.21 D. Fill

6.21 E. Shoreline Stabilization

6.21 F. Shoreline Stabilization-Bulkheads

6.21 G. Breakwaters, Jetties, Groins and Weirs

6.21 H. Vegetation Conservation

6.21 I. Flood Hazard Reduction

6.21 A. General

6.21 A. 1. The provisions of this section apply to all developments, uses and shoreline modifications within all shoreline areas.

6.21 A. 2. All shoreline modifications should be in support of an allowed shoreline use that is in conformance with the provisions of this master program.

6.21 A. 3. Shoreline modifications should cause as few environmental impacts as possible and should be limited in size and number.

6.21 A. 4. The type of shoreline and the surrounding environmental conditions should be considered in determining whether a proposed shoreline modification is appropriate.

6.21 A. 5. Projects that include shoreline modifications should contribute to enhancement of shoreline ecological functions, when possible.

6.21 A. 6. As shoreline modifications are allowed to occur, measures to protect and restore ecological functions should be implemented.

6.21 A. 7. Development, uses and modifications should plan for the enhancement of impaired ecological functions where feasible and appropriate while accommodating permitted uses. As shoreline modifications occur, incorporate all feasible measures to protect ecological shoreline functions and ecosystem-wide processes.

6.21 A. 8. Shoreline developments, uses and modifications should avoid and reduce significant ecological impacts according to the mitigation sequence in WAC 173-26-201 (2)(e).

6.21 A. 9. Assure that shoreline modifications individually and cumulatively do not result in a net loss of ecological functions. This is to be achieved by giving preference to those types of shoreline modifications that have a lesser impact on ecological functions and requiring mitigation of identified impacts resulting from shoreline modifications.

6.21 B. Clearing and Grading

Clearing and grading are activities associated with developing property for a particular use. Specifically, "clearing" means the destruction, uprooting, scraping, or removal of vegetative ground cover, shrubs, and trees. "Grading" means the physical manipulation of the earth's surface and/or surface drainage pattern without significantly adding or removing on-site materials. "Fill" means placement of dry fill on existing dry or wet areas and is addressed later in this chapter.

Clearing and grading are regulated because they may increase erosion, siltation, runoff, and flooding, change drainage patterns; reduce flood storage capacity; and damage habitat. All clearing and grading within areas under shoreline jurisdiction, even that which does not require a permit, must be consistent with the Shoreline Management Act, the Department of Ecology rules implementing the Act, and the goals, policies, and regulations of this Master Program.

6.21 B. 1. Clearing and grading activities should only be allowed in association with an allowed shoreline use.

6.21 B. 2. Clearing and grading in shoreline areas should be limited to the minimum necessary to accommodate permitted shoreline development.

6.21 B. 3. Clearing and grading should be discouraged in required shoreline setbacks.

6.21 B. 4. All clearing and grading activities should be designed and conducted to minimize sedimentation and impacts to shoreline ecological functions, including wildlife habitat functions and water quality. Negative environmental and shoreline impacts of clearing and grading should be avoided or minimized through proper site planning, construction timing and practices, vegetative stabilization or (where required) soft structural stabilization, use of erosion and drainage control methods, and by adequate maintenance.

6.21 B. 5. For clearing and grading proposals, a plan addressing species removal, re-vegetation, irrigation, erosion and sedimentation control, and other plans for protecting shoreline resources from harm should be required.

6.21 B. 6. After completion of construction, those cleared and disturbed sites should be promptly re-stabilized, and should be replanted as required by a mitigation management plan. Vegetation from the recommended list is preferred.

6.21 C. Dredging and Dredge Material Disposal

Dredging is the removal or displacement of earth or sediments such as gravel, sand, mud, silt, and/or other materials or debris from any water body or associated shoreline or wetland. Dredging is normally done for specific purposes such as constructing or maintaining canals,

navigation channels, or marinas, for installing pipelines or cable crossings, or for dike or drainage system repair and maintenance. Dredge material disposal is the depositing of dredge materials on land or into water bodies for the purposes of either creating new lands or disposing of the by-products of dredging. Dredge material disposal within shoreline jurisdiction is also subject to the filling policies later in this section.

6.21 C. 1. New development should be sited and designed to avoid or, if that is not possible, to minimize the need for new and maintenance dredging.

6.21 C. 2. Dredging and dredge material disposal should be located and conducted in a manner that minimizes damage to existing ecological functions and processes, including those in the area to be dredged, at the dredge material disposal site, and in other parts of the watershed. Impacts that cannot be avoided should be mitigated in a manner that assures no net loss of shoreline ecological functions.

6.21 C. 3. Dredging of bottom materials for the primary purpose of obtaining material for fill or other purposes should be prohibited, except when the material is necessary for the restoration of ecological functions.

6.21 C. 4. Dredging operations should be planned and conducted to minimize interference with water and shoreline uses, properties, and values.

6.21 C. 5. Dredging for the purpose of establishing, expanding, or relocating or reconfiguring navigation channels and basins should be allowed where necessary for assuring safe and efficient accommodation of existing navigational uses, and then only when significant ecological impacts are minimized and when mitigation is provided.

6.21 C. 6. Maintenance dredging of established navigation channels and basins should be restricted to maintaining previously dredged and/or existing authorized location, depth, and width.

6.21 C. 7. Dredge material disposal in water bodies should be discouraged, except for habitat improvement or where depositing dredge material on land would be more detrimental to shoreline resources than deposition in water areas.

6.21 C. 8. Where dredge material has suitable organic and physical properties, dredging operations should be encouraged to recycle dredged material for beneficial use in enhancement of beaches that provide public access, habitat creation or restoration, aggregate, or clean cover material at a landfill.

6.21 D. Fill

Fill is the addition of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to an area waterward of the ordinary high water mark, in wetlands, or on shorelands, including channel migration areas, in a manner that raises the elevation or creates dry land. Fill does not include sanitary landfills for the disposal of solid waste.

6.21 D. 1. Fills waterward of the ordinary high water mark should be allowed only when necessary to facilitate water-dependent use, public access, or cleanup and disposal of contaminated sediments as part of an interagency environmental clean-up plan,

disposal of dredged material considered suitable under, and conducted in accordance with the dredged material management program of the department of natural resources, expansion or alteration of transportation facilities of statewide significance currently located on the shoreline and then only upon a demonstration that alternatives to fill are not feasible, mitigation action, environmental restoration, beach nourishment or enhancement projects and uses that are consistent with this master program.

6.21 D. 2. Shoreline fills should be designed and located so that there will be no significant damage to existing ecological systems or natural resources, and no alteration of local currents, surface water drainage, or flood waters that would result in a hazard to adjacent life, property, or natural resource systems.

6.21 D. 3. In evaluating fill projects, such factors as potential and current public use of the shoreline and water surface area, navigation, water flow and drainage, water quality, and habitat should be considered and protected to the maximum extent feasible.

6.21 D. 4. The perimeter of any fill should be designed to avoid or eliminate erosion and sedimentation impacts, both during initial fill activities and over time. Natural-appearing and self-sustaining control methods are preferred over structural methods.

6.21 D. 5. Where permitted, fills should be the minimum necessary to provide for the proposed use and should be permitted only when they are part of a specific development proposal that is permitted by this master program. Placing fill in water bodies or wetlands to create usable land should be prohibited.

6.21 E. Shoreline Stabilization

Shoreline stabilization includes actions taken primarily to address erosion impacts to upland property and improvements caused by current, wake, or wave action. Those actions include structural, nonstructural, and vegetative methods.

Structural stabilization may be "hard" or "soft." "Hard" structural stabilization measures refer to those with solid, hard surfaces, such as concrete bulkheads, while "soft" stabilization, such as biotechnical vegetation measures, rely on softer materials. There is a range of measures from soft to hard that includes: upland drainage control, biotechnical measures, anchor trees, gravel placement, riprap, retaining walls, and bulkheads. Generally, the harder the stabilization measure, the greater the impact on shoreline processes.

Non-structural methods include placing the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, established building setbacks, ground water management, and planning and regulatory measures to avoid the need for structural stabilization as established in this SMP.

Vegetative methods include re-vegetation and vegetation enhancement. In addition, vegetation is often used as part of structural stabilization methods; it is always part of biotechnical stabilization. For the purposes of this section, vegetative methods are considered to include only re-vegetation and vegetation enhancement.

6.21 E. 1. Stabilization measures should be designed, located, and constructed primarily to prevent damage to existing development.

6.21 E. 2. No structural stabilization measures should be allowed for a vacant lot.

6.21 E. 3. New development should be located and designed to eliminate the need for future shoreline stabilization.

6.21 E. 4. Shoreline vegetation, both on the bank and in the water, is very effective at stabilizing shorelines. For this reason, property owners are strongly encouraged to protect existing shoreline vegetation and restore it where it has been removed. Preserving and restoring shoreline vegetation should be the preferred method of shoreline stabilization.

6.21 E. 5. Structural solutions to shoreline erosion should be allowed only if non-structural and vegetative methods would not be able to reduce existing or ongoing damage.

6.21 E. 6. Public projects should be models of good shoreline stabilization design and implementation.

6.21 F. Shoreline Stabilization- Bulkheads

A bulkhead is a type of hard structural shoreline stabilization measure. Bulkheads are walls, constructed parallel to the shoreline and usually in contact with the water, whose primary purpose is to contain and prevent the loss of soil caused by erosion or wave action. A bulkhead-like structure used as part of the structure of a cantilevered dock is not regulated as a bulkhead as long as the width is no more than what is required to stabilize the dock.

Exemption: Certain bulkheads are exempt from the requirement to obtain a shoreline substantial development permit. However, all bulkheads must comply with the Shoreline Management Act, the rules implementing the Act, and this Master Program.

6.21 F. 1. A bulkhead is not a preferred method of stabilizing the shoreline, because bulkheads tend to significantly degrade fish and wildlife habitat by the removal of shoreline vegetation, increase erosion on neighboring properties, and change the natural sedimentation process.

6.21 F. 2. Cumulative impacts of bulkheads should be considered, since over time and as more shoreline is lost to bulkheading, the resulting loss of habitat may have long-term impacts on fish populations as well as to the overall ecological value of the shoreline.

6.21 F. 3. Most areas along the shorelines in Okanogan County can be adequately stabilized using softer, more natural means, such as vegetation enhancement, rather than a bulkhead.

6.21 F. 4. If the purpose is not stabilization, a retaining wall, set back from shoreline vegetation, should be used rather than a bulkhead at the water's edge. (Retaining walls for purposes other than shoreline stabilization must comply with the setback and buffering requirements under the heading “Environmental Impacts and Water Quality” in Chapter 6 & 8 of this SMP.)

6.21 F. 5. Because a bulkhead on one property can accelerate erosion on adjacent properties, the impacts of a proposed bulkhead on adjacent properties should be analyzed and considered before the bulkhead is approved.

6.21 F. 6. A bulkhead should be allowed only for existing development for shoreline stabilization, and only if all more ecologically-sound measures are proven infeasible.

6.21 F. 7. Property owners are encouraged to remove existing bulkheads and restore the shoreline to a more natural state. As an incentive, such projects should be processed without a fee charged for the shoreline permit.

6.21. G. Breakwaters, Jetties, Groins & Weirs

6.21 G. 1. Breakwaters, jetties, groins, and weirs located waterward of the ordinary high-water mark should be allowed only where necessary to support water-dependent uses, public access, shoreline stabilization, or other specific public purpose. Breakwaters, jetties, groins, weirs, and similar structures should require a conditional use permit, except for those structures installed to protect or restore ecological functions, such as woody debris installed in streams. Breakwaters, jetties, groins, and weirs should be designed to protect critical areas and shall provide for mitigation according to the sequence defined in WAC 173-26-201 (2)(e).

6.21 H. Vegetation Conservation

Vegetation conservation includes activities to prevent the loss of plant communities that contribute to the ecological functioning of shoreline areas. The intent of vegetation conservation is to provide habitat, improve water quality, reduce destructive erosion, sedimentation, and flooding; and accomplish other functions performed by plant communities along shorelines. Vegetation conservation deals with the protection of existing diverse plant communities along the shorelines, aquatic weed control, and the restoration of altered shorelines by reestablishing natural plant communities as a dynamic system that stabilizes the land from the effects of erosion.

Vegetation conservation provisions are important for several reasons, including water quality, habitat, and shoreline stabilization. Shoreline vegetation improves water quality by removing excess nutrients and toxic compounds, and removing or stabilizing sediments. Habitat functions of shoreline vegetation include shade, recruitment of vegetative debris (fine and woody), refuge, and food production. Shoreline vegetation, especially plants with large root systems, can be very effective at stabilizing the shoreline.

Vegetation conservation regulations apply even to those uses that are exempt from the requirement to obtain any sort of shoreline permit.

6.21 H. 1. Natural plant communities within and bordering shorelines should be protected and maintained to ensure no net loss of shoreline ecological functions.

6.21 H. 2. Natural shoreline vegetation should be maintained and enhanced to reduce the hazard of bank failures and accelerated erosion. Vegetation removal that is likely to result in soil erosion severe enough to create the need for structural shoreline stabilization measures should be prohibited.

6.21 H. 3. Shoreline vegetation degraded by natural or manmade causes should be restored wherever feasible.

6.21 H. 4. Non-structural and "soft" methods of shoreline stabilization, such as vegetation enhancement and soil bioengineering, are preferred to hard structures to diminish the processes of erosion, sedimentation, and flooding.

6.21 H. 5. Removal of vegetation should be limited to the minimum necessary to reasonably accommodate the permitted use or activity.

6.21 H. 6. The physical and aesthetic qualities of the natural shoreline should be maintained and enhanced.

6.21 H. 7. Preference should be given to preserving and enhancing natural vegetation closest to the ordinary high water mark and within shoreline setback and buffer areas.

6.21 H. 8. Aquatic weed management should stress prevention first.

6.21 I. Flood Hazard Reduction

Flood hazard management projects are those actions taken with the primary purpose of preventing or minimizing damage caused by flooding.

6.21 I. 1. Flood control works in shoreline areas shall be subject to the policies of this section and regulations in Chapter 8.

6.21 I. 2. Assure that flood protection measures result in no net loss of ecological functions and ecosystem-wide processes associated with rivers, streams and lakes.

6.21 I. 3. New or expanding development or uses in the shoreline, including subdivisions of land, that would likely require structural flood control works within a river, channel migration zone, floodway or lakes should not be allowed.

6.21 I. 4. Flood control works should only be allowed in the shoreline if they are necessary to protect existing development and where non-structural flood hazard reduction measures are infeasible.

6.21 I. 5. Where feasible, flood control works should be bioengineered to enhance ecological functions, create a more natural appearance, improve ecological processes, and provide more flexibility for long-term shoreline management. Such features may include but not be limited to vegetated berms and vegetative stabilization, including brush matting and buffer strips and retention of existing trees, shrubs and grasses on banks.

6.21 I. 6. Flood control works should be located, designed, constructed and maintained so their resultant effects on geo-hydraulic shoreline processes will not cause significant damage to other properties or shoreline resources, and so that the physical integrity of the shoreline corridor is maintained.

6.21 I. 7. Recognizing the large number of physical variables to be considered in properly locating and designing flood control works and the high probability that poorly located and inadequately designed works will fail and/or adversely affect properties and shoreline features, such works should be sited and designed consistent with appropriate

engineering principles, including guidelines of the Natural Resource Conservation Service, the U.S. Army Corps of Engineers, the Town of Twisp Comprehensive Flood hazard Management Plan and Appendix C Critical Areas.

6.21 I. 8. Non-structural and non-regulatory methods to protect, enhance and restore shoreline ecological functions and processes and other shoreline resources should be encouraged as an alternative to structural flood control works and structures. Non-regulatory and non-structural methods may include public facility and resource planning, land or easement acquisition, education, voluntary protection and enhancement projects, or incentive programs.

6.21 I. 9. In cooperation with other applicable agencies and persons, the jurisdictions should continue to develop and/or update long-term, comprehensive flood hazard management plans to prevent flood damage, maintain the natural hydraulic capacity of floodways and conserve limited resources such as fish habitat, water, soil and recreation and scenic areas.

6.21 I. 10. Planning and design of flood control works should be consistent with and incorporate elements from applicable watershed management, restoration plans and/or surface water management plans.

6.21 I. 11. Development and uses should comply with this SMP, local flood hazard reduction and/or flood damage prevention ordinances as found in Appendix C, whichever is more environmentally protective.

CHAPTER 7: SHORELINE DESIGNATIONS

Introduction

Shoreline Designations are intended to encourage uses and activities that will protect or enhance the present or desired character of a shoreline and allow appropriate uses consistent with local land use patterns. The town of Twisp Shoreline Master Program (SMP) was adopted in 1991. It uses a classification system composed of Shoreline Designations intended to accommodate different levels and types of development: “Natural", "Conservancy", "Rural", “Suburban”, and "Urban."

The State’s 2004 SMP guidelines recommend a new classification system to better reflect the most current scientific and technical information, planning concepts and to support requirements of the Growth Management Act (GMA). The Okanogan County City and Town Regional Master Program used the State’s new classification system as a starting point and tailored it to suit local conditions, interests, and land use planning. The result is a system that includes six Shoreline Designations intended for application to all shoreline areas within the town of Twisp and its adopted Urban Growth Area.

The Shoreline Designation system in this SMP is based on a combination of factors including ecological function and value, development and planning factors, and local interests. The designations reflect the combined results from the inventory, analysis and characterization described in Chapter 4 along with input gathered through the public participation process.

The assessment of ecological function and value was derived from the Shoreline Characterization prepared by ENTRIX, Inc., described in Chapter 4 of this SMP and incorporated as Appendix A.

Development and Planning factors are a function of:

a. Development Patterns (parcel size and level of subdivision)
b. Current land use
c. Existing Building Setbacks and Number of Structures
d. Public Access and Recreation
e. Transportation/Circulation systems/facilities
f. Current Comprehensive Plans and Zoning maps
g. Local Knowledge (input from SAG and TAG + staff and consultants)
h. Ownership Patterns
i. Other built elements (Over-water Structures, levees, dikes)

This chapter describes the criteria used to assign Shoreline Designations to water bodies (the classification criteria), lists specific policies and regulations that apply to each designation, and explains the rationale for each designation. Finally, the text describes the process used to assign designations to the shorelines in Okanogan County and the incorporated municipalities therein. Allowed uses and development standards for each designation follow in tabular form. The policies specific to each designation, along with relevant policies from Chapter 6 provide the basis for the uses and activities allowed in each shoreline designation. The development

standards and criteria specify how and where permitted development can take place within each shoreline designation.

It is important to note that all lands within shoreline jurisdiction, regardless of designation, have inherent resource, ecological and economic value. Therefore, a natural tension exists between opportunities for protection and development. The SMA requires ecological functions and processes to be retained in all shoreline designations. Where changes in land use or development result in a loss of function and values, those losses must be mitigated.

Shoreline Designations

This Shoreline Master Program establishes a system of six shoreline designations for all shoreline areas within the incorporated areas and adopted Urban Growth or Future Service areas within and adjoining the town of Twisp. The system was derived from the State's recommended classification system, tailored to reflect local conditions and serve local interests.

Table 7-1

DESIGNATION	Aquatic	Natural
ABBREVIATION	A	N
PURPOSE	Protect, restore, and manage the unique characteristics and resources of areas waterward of the Ordinary High Water Mark (OHWM).	Provide the highest level of protection to shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions intolerant of human use.
DESIGNATION CRITERIA	All shorelines areas waterward of the OHWM of rivers, lakes and streams and associated wetlands shall be designated "Aquatic."	• The shoreline is ***ecologically intact*** and therefore currently performing an important, irreplaceable function or ecosystem-wide process that could be damaged by development over time; • The shoreline is considered to represent ecosystems and geologic types that are of particular scientific and educational interest or are rare or fragile (for instance, an outcropping that contains fragile plant communities); or • The shoreline is unable to support new development or uses without significant adverse impacts to ecological functions or risk to human safety. Such shorelines include largely areas such as wetlands, unstable bluffs, islands, and ecologically intact shoreline habitats. Shorelines inside or outside incorporated municipalities and Urban Growth/Future Service Areas may be designated as "Natural."

Table 7-1, continued

DESIGNATION	Urban Conservancy	Shoreline Recreation
ABBREVIATION	UC	SREC
PURPOSE	Protect and restore ecological functions of open space, floodplains, and other sensitive lands within incorporated municipalities or Urban Growth/Future Service Areas, while allowing a variety of compatible uses.	To accommodate mixed-use recreation-oriented development that is consistent with the goals and purpose of the Shoreline Management Act; and to provide appropriate public access and recreational uses, especially where those uses are part of a master-planned system and support healthy physical activity.
DESIGNATION CRITERIA	Areas within Urban Growth/Future Service Areas that are suitable and planned primarily for public development that is compatible with maintaining or restoring the ecological functions of the area, and are not generally suitable for water-dependent uses, if any of the following characteristics apply: • They are suitable for water-related or water-enjoyment uses; • They are publically-owned open space, flood plain or other critical areas that may be suited for low levels of development associated with water-related or water-enjoyment uses but are unsuitable for high intensity development; • They have potential for ecological restoration; or • They retain important ecological functions (such as riparian or wetland habitat, buffers, stormwater and wastewater abatement, and open space) even though partially developed.	Assigned to shoreline areas that support or are planned for mixed-use recreation oriented development. The designation is intended to provide flexibility for water oriented mixed-use planned or clustered development with varying densities.

Table 7-1, continued

DESIGNATION	Shoreline Residential	High Intensity
ABBREVIATION	SRES (30, 50)	HI (TOB 30, 50)
PURPOSE	To accommodate residential development and appurtenant structures that are consistent with the goals and purpose of the Shoreline Management Act; and to provide appropriate public access and recreational uses.	Provide for high-intensity water-oriented commercial, transportation, and industrial uses while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded and are planned for such uses.
DESIGNATION CRITERIA	Assigned to shoreline areas within incorporated municipalities or Urban Growth/Future Service Areas that support a predominance of single-family residential development with some duplex and multi-family, are platted for residential development, or are planned for residential development exceeding 1 dwelling unit per acre. Areas designated **Shoreline 30** depicts shorelines with steep topographic relief at the water's edge and do not present a hazard for flooding, nor support robust riparian vegetation. Often these areas are already hardened by shoreline stabilization such as rip-wrap. Shoreline 30 areas are subject to a 30' building setback from the OHWM or Floodway (where mapped). **Shoreline 50** areas depict shorelines with low gradient slopes where the potential for flooding and the support of riparian vegetation exist during high water events. Shoreline 50 areas are subject to a 50' setback from the OHWM or Floodway (where mapped).	Shoreline areas within incorporated municipalities and Urban Growth/Future Service Areas shall be designated "High Intensity" if they currently support high-intensity uses related to commerce, transportation, or navigation; or are suitable or planned for high-intensity water-oriented uses, including multi-family residential development. There are two High Intensity zones within this designation. **HI 50** reflect shorelines with either pre-existing development or areas with low banks subject to flooding or fluvial processes. HI 50 areas are subject to 50' setbacks and are located within the Central Business District (C-1 Zone). **HI 30 TOB** reflects areas with hardened, steep banks where the potential for flooding or the support of riparian vegetation is minimal. HI 30 TOB are areas where the setbacks shall be measured from the Top of the Bank rather than the OHWM.

Parallel environments may be used where appropriate—for example, to accommodate resource protection close to the ordinary-high-water-mark (OHWM) and development farther from the OHWM. Where parallel environments exist, developments and uses allowed in one of the environments should not be inconsistent with achieving the purposes of the other. The width of each environment may vary depending on the type, extent, and value of the resource to be protected; in all cases the environment closest to the shore shall extend at least to the closest boundary line, easement line and/or 15 feet inland from the OHWM. For future shoreline amendments in all cases the designation closest to the shore shall maintain a structural setback/vegetation conservation area at least as wide as the minimum width allowed by the

current Ecology approved shoreline designation. Any applicant proposing widths less than this shall provide the local government an analysis in compliance with WAC 173-26-201.

Policies for Designations

Aquatic (A) Designation

1. Developments within the Aquatic Designation should be compatible with the adjoining upland designation.
2. Diverse opportunities for public access to the water should be encouraged and developed where such access is compatible with the existing shoreline and water uses and environment.
3. Over-water structures should be allowed only for water-dependent uses, public access, or ecological restoration. The size of such structures should be limited to the minimum necessary to support the structure's intended use. Structures that are not water-dependent should be prohibited.
4. Multiple-use of over-water facilities should be encouraged.
5. Under-water uses should be designed, developed, operated and mitigated with the least possible impact to the aquatic environment and should show that there is no feasible above water alternatives.
6. Aquaculture should be allowed where the use can be undertaken without interfering with surface navigation, public access, or shoreline ecological functions.
7. Hydroelectric projects of regional or statewide significance (including development of new hydroelectric projects, renovation of existing hydroelectric facilities, and operation of existing hydroelectric projects) should be allowed where impacts to surface navigation, public access, shoreline ecological functions, and the visual quality of the shoreline area can be adequately mitigated.
8. Fishing and other recreational uses of the water should be protected against competing uses that would interfere with recreation.
9. All developments and activities using navigable water bodies under the jurisdiction of this SMP should be located and designed to minimize interference with surface navigation. Hydroelectric projects licensed by the Federal Energy Regulatory Commission should provide for portage consistent with project operations, safety, and security of the project facilities.
10. All developments and activities using water bodies under the jurisdiction of this SMP should be located and designed to minimize adverse visual impacts and to allow for the safe passage of fish and animals (consistent with federal and state agency approved recovery plans), particularly those whose life cycles are dependent on such migration. Hydroelectric projects licensed by the Federal Energy Regulatory Commission should address visual impacts and fish and wildlife passage while at the same time providing for project operations, safety, and security of the project facilities.

11. Uses and modifications should be designed and managed to prevent degradation of water quality and alteration of natural hydrographic conditions.
12. Abandoned and neglected structures that cause adverse visual impacts or are a hazard to public health, safety, or welfare should be removed or restored to a usable condition consistent with the provisions of this master program.
13. Activities that substantially degrade priority habitats should not be allowed. Where such activities are necessary to achieve the objectives of the Shoreline Management Act, RCW 90.58.020, their impacts should be mitigated to provide a net gain of critical ecological functions.
14. Shoreline modifications should be considered only when they serve to protect or enhance a significant, unique, or highly valued feature that might otherwise be degraded or destroyed. Exceptions may be made for hydroelectric projects licensed by the Federal Energy Regulatory Commission. Such projects should be located and designed to minimize impacts to shoreline functions and values.
15. Shoreline jurisdictional areas within the Aquatic Designation shall not be used for calculating land area for the purposes of subdivision and short subdivision.

Natural (N) Designation

1. Physical alterations, including shoreline modifications, should only be considered when they serve to protect or enhance a significant, unique, or highly-valued feature that might otherwise be degraded or destroyed.
2. Limited access should be permitted for scientific, historical, cultural, educational, and low-intensity water-oriented recreational purposes, provided that no significant adverse impact on the area will result.
3. A conditional use permit should be required for any non-exempt use or activity.
4. Any use that would substantially degrade the ecological functions or natural character of the shoreline, including new development or vegetation removal that would reduce the capability of vegetation to perform normal ecological functions, should be prohibited.
5. The following uses should not be allowed in areas designated "Natural": residential uses; commercial uses; industrial uses; mining; agriculture; non-water-oriented recreation; golf courses; and roads, utility corridors, and parking areas that can be located elsewhere.
6. Restoration of degraded shorelines should be encouraged.

Shoreline Recreation (SRec) Designation

1. The following uses should be allowed in shoreline areas designated as "Shoreline Recreation", where consistent with local comprehensive plans and development regulations, provided that the use is consistent with maintaining or restoring the ecological functions of the area: residential development; public access and recreational uses; water-oriented mixed-use development; master-planned resorts, and other development consistent with preservation of low-density recreation-oriented character.

2. Dedication and improvement of public access to shorelines should be required for all new uses, with the exception of residential developments of four lots or fewer, including development by public entities (including local governments, state agencies, and public utility districts). Where a master-planned public access system, such as a lakeshore trail system, exists or is planned, participation in the system and provision of facilities that promote physical activity should be encouraged.
3. All multi-family and multi-lot residential developments should provide joint-use community recreational facilities.
4. Docks, boat ramps, boat lifts, and other boating facilities serving individual single-family residences should be prohibited. Where boating facilities are allowed, community facilities should be required.
5. The number of boating facilities allowed within the SRec designation on each water body should be limited to protect shoreline ecological resources and preserve the character of the shoreline area.
6. Mixed-use water-oriented recreational/residential developments should be encouraged in the SRec designation where such developments are consistent with zoning and comprehensive plan designations and can be accommodated without damage to shoreline ecological resources.
7. Standards for density or minimum frontage width, setbacks, lot coverage limitations, buffers, shoreline stabilization, vegetation conservation, critical areas protection, and water quality should be set to ensure that new development does not result in a net loss of shoreline ecological functions. Such standards should take into account the environmental limitations and sensitivity of the shoreline area, the level of infrastructure and other services available, and other comprehensive planning considerations.
8. Adequate public facilities and services should be required in conjunction with development in the SRec designation. Within Urban Growth/Future Service Areas, such development should be required to connect to municipal water and sewer utilities. Outside of Urban Growth/Future Service Areas, private community utility systems may be allowed. Concurrent development of transportation facilities, including facilities to promote physical activity, should be required.
9. Subdivision should be allowed in shoreline areas designated as "Shoreline Recreation."

Urban Conservancy (UC) Designation

1. Uses that preserve the natural character of the area or promote preservation of open space, floodplain, or sensitive lands, either directly or over the long term, should be the primary allowed uses. Uses that result in restoration of ecological functions should be allowed if the use is otherwise compatible with the purpose of the environment, the setting, and the local comprehensive plan and development regulations.
2. The following uses should be allowed in shoreline areas designated as "Urban Conservancy", where consistent with local comprehensive plans and development

regulations, provided that the use is consistent with maintaining or restoring the ecological functions of the area: aquaculture; low-intensity water-oriented commercial and industrial uses, where those uses already exist; water-dependent and water-enjoyment recreational facilities; residential development.

3. Mining and associated uses should be allowed on lands that are designated as "mineral resource lands" pursuant to RCW 36.70A.170 and WAC 365-190-070. Otherwise resource extraction should not be allowed.
4. Water-oriented uses should be given priority over non-water oriented uses.
5. Adjacent to navigable waters, water-dependent uses should be given the highest priority.
6. Opportunities for public access, including developed trails, overlooks and viewing platforms, etc…, to shorelines and water bodies should be encouraged for all developments, including subdivisions, short subdivisions, planned unit developments, commercial uses, public services, and recreational uses.
7. Public or community access to shorelines and water bodies should be required for new subdivisions of more than four lots and for recreational uses, provided any adverse impacts can be mitigated.
8. Public access to shorelines and water bodies should be required for new commercial uses and public services where it can be accommodated without risk to public safety, provided any adverse impacts can be mitigated.
9. Public and private recreational facilities and uses that are compatible with residential uses should be encouraged, provided that no net loss of shoreline ecological resources will result.
10. Standards to ensure that new development does not result in a net loss of shoreline ecological functions or further degradation of shoreline values should be established for shoreline stabilization measures, vegetation conservation, and shoreline modifications.
11. Subdivision should be allowed in shoreline areas designated as "Urban Conservancy."

Shoreline Residential (SRes) Designation

1. The following uses should be allowed in shoreline areas designated as "Shoreline Residential", where consistent with local comprehensive plans and development regulations, provided that the use is consistent with maintaining or restoring the ecological functions of the area: residential development (including both single and multi-family development); water-oriented commercial uses. .
2. Residential developments of more than four lots and all recreational developments should provide public access to shorelines and water bodies. Opportunities for public access to shorelines and water bodies should be encouraged for all other developments, including subdivisions, planned developments, commercial uses, and public services.
3. All multi-family and multi-lot residential developments should provide joint-use community recreational facilities.

4. Docks, boat ramps, boat lifts, and other boating facilities serving individual single-family residences should be prohibited. Where boating facilities are allowed, community facilities should be required.
5. Public and private recreational facilities and uses that are compatible with residential uses and with the applicable comprehensive plan and development regulations should be allowed.
6. Access (including transportation facilities and rights of way or easements), utilities, and public services should be available and adequate to serve any existing needs and planned future development.
7. Standards for density or minimum frontage width, setbacks, lot coverage limitations, buffers, shoreline stabilization, vegetation conservation, critical areas protection, and water quality should be set to ensure that new development does not result in a net loss of shoreline ecological functions. Such standards should take into account the environmental limitations, steepness and condition of bank, and sensitivity of the shoreline area, the level of infrastructure and other services available, and other comprehensive planning considerations.
8. Subdivision should be allowed in shoreline areas designated as "Shoreline Residential."

High Intensity (HI) Designation

1. Although they are among the most heavily developed shoreline lands in Okanogan County, High Intensity lands retain resource value and present opportunities for protection and restoration.
2. Because shorelines are a finite resource and because high-intensity uses tend to preclude other shoreline uses, emphasis should be given to directing new development into areas that are already developed or where high-intensity uses can be developed consistent with this master program and the applicable Comprehensive Plan, and to uses requiring a shoreline location. Full utilization of existing high-intensity areas should be encouraged before further areas are designated as High Intensity.
3. Priority should be given to water-dependent, water-related, and water-enjoyment uses over other uses, with highest priority given to water-dependent uses. Uses that derive no benefit from a water location should require a shoreline conditional use permit.
4. Where consistent with other policies and with local comprehensive plans and development regulations, the following uses should be allowed in shoreline areas designated as "High Intensity", provided that the use is consistent with maintaining or restoring the ecological functions of the area: water-oriented commercial uses, transportation, navigation, and other high-intensity water-oriented uses, including multi-family residential development.
5. Visual public access should be required, where feasible.
6. Physical public access should be encouraged where it can be accommodated without risk to public safety.

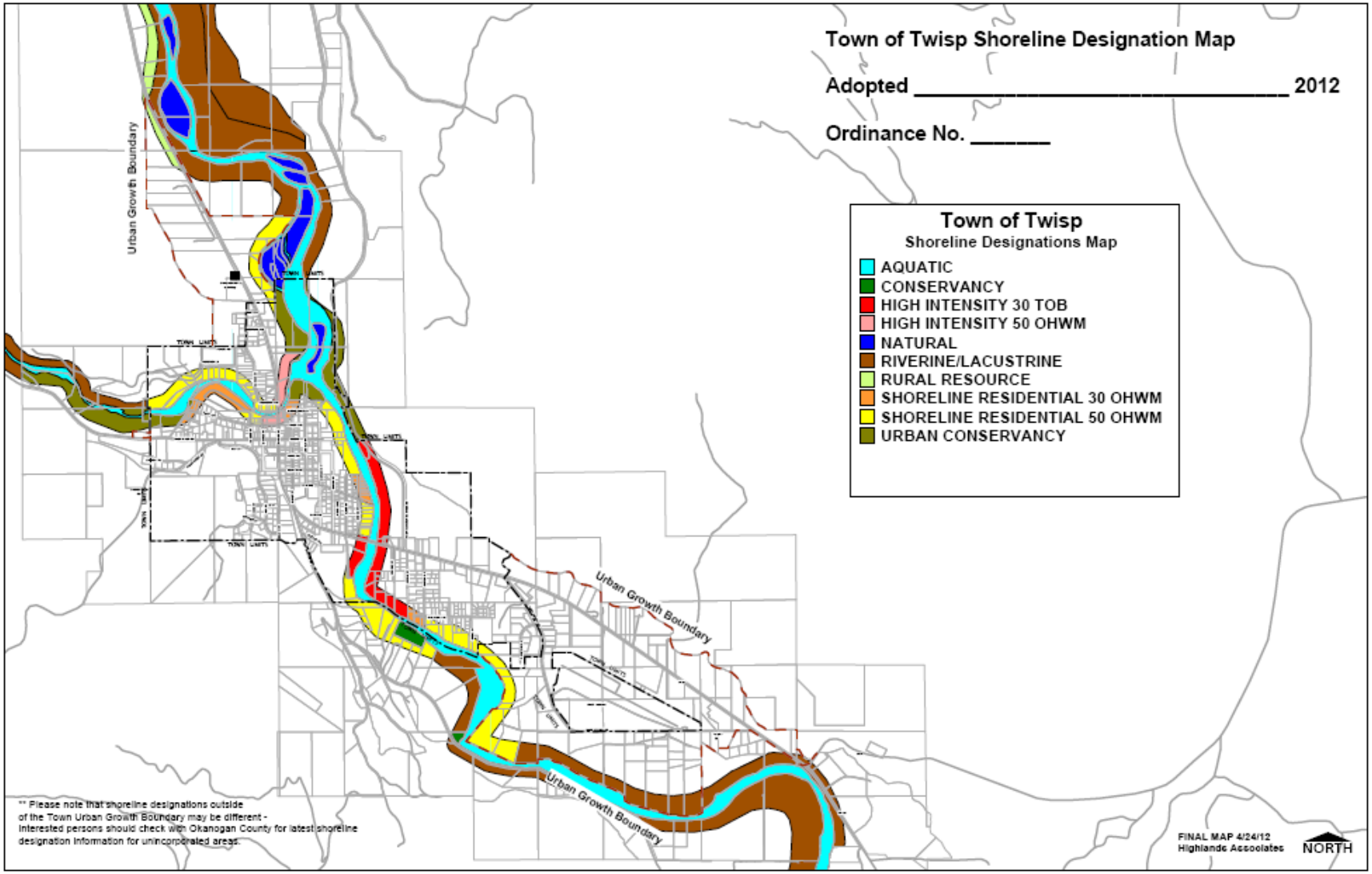
7. Aesthetic objectives should be implemented by means such as sign control regulations; appropriate development siting, screening and architectural standards; and maintenance of natural vegetative buffers.
8. Implementation of local plans for acquisition or use through easements of land for permanent public access to the water in the High Intensity Environment should be encouraged.
9. In order to make maximum use of the available shoreline resources and to accommodate future water-oriented uses, the redevelopment and renewal of substandard, degraded, under-used, or obsolete urban shoreline areas should be encouraged.
10. Subdivision should be allowed in shoreline areas designated as "High Intensity."
11. Standards for density or minimum frontage width, setbacks, lot coverage limitations, buffers, shoreline stabilization, vegetation conservation, critical areas protection, and water quality should be set to ensure that new development does not result in a net loss of shoreline ecological functions. Such standards should take into account the environmental limitations, steepness and condition of bank, and sensitivity of the shoreline area, the level of infrastructure and other services available, and other comprehensive planning considerations.

Shoreline Designations Map

The *Shoreline Designation* map for the town of Twisp shows the areas under the jurisdiction of this Shoreline Master Program and the boundaries of the five shoreline designations. Shoreline areas within the Urban Growth Area have been pre-designated—that is, the shoreline designations shown in Urban Growth Area are those that have been assigned by the Town.

The *Shoreline Designations* map shall be the official map of Shoreline Designations and is maintained by the Town and by the Department of Ecology. Any other copies, including copies that may be distributed either as part of this Shoreline Master Program or separately, shall be unofficial.

The Shoreline Designation for the Town is found on the following page:


Town of Twisp Shoreline Designation Map
Adopted _____ 2012
Ordinance No. _____
Town of Twisp
Shoreline Designations Map
AQUATIC
CONSERVANCY
HIGH INTENSITY 30 TOB
HIGH INTENSITY 50 OHWM
NATURAL
RIVERINE/LACUSTRINE
RURAL RESOURCE
SHORELINE RESIDENTIAL 30 OHWM
SHORELINE RESIDENTIAL 50 OHWM
URBAN CONSERVANCY
Urban Growth Boundary
Urban Growth Boundary
Urban Growth Boundary
** Please note that shoreline designations outside of the Town Urban Growth Boundary may be different - interested persons should check with Okanogan County for latest shoreline designation information for unincorporated areas.
FINAL MAP 4/24/12
Highlands Associates
NORTH

Designation process

This section describes the process by which shoreline areas were designated during the development of this SMP. All shoreline areas, both within and outside of the incorporated municipalities, were designated following this process. In the future, new shorelines may be created, or existing shorelines may come under SMP jurisdiction. The SMP guidelines provide for automatic designation of shorelines that are not designated when the SMP is developed. The guidelines (WAC 173-26-211(2)(e)) state:

> "The map and the master program should note that all areas within shoreline jurisdiction that are not mapped and/or designated are automatically assigned a "urban conservancy" designation if within a municipality or urban growth or future service area…until the shoreline can be re-designated through a master program amendment."

Shorelines newly under the jurisdiction of this SMP will be designated "Urban Conservancy" as soon as they are created. They will then be mapped, and, once mapped, assessed using the designation criteria above. The assessment will determine whether the "Urban Conservancy" designation is appropriate or should be changed. Once the correct designation has been determined, the SMP will be amended to include the new shoreline areas.

The purpose of the designation process is to assign each shoreline designation an appropriate set of development standards and uses to prevent loss of shoreline function and protect navigation and public access while allowing for reasonable use of the city's or town's shorelines. The characterization process in Chapter 4 recognizes the range of habitats, physical formations, varying land uses, and development patterns throughout the shoreline area, and the designations are intended to reflect the existing diversity.

Shorelines in the cities and towns were designated using a five-step process. Each step can be a considered a sieve that narrows down options for designation based on the shoreline characterization (specifically, the scores derived from the ecosystem function analysis and the planning and development factors) described in Chapter 4.

Step 1: Assign Preliminary Designation based on Ecological Characterization Score

The first step of the designation process relied on assigning a preliminary designation based exclusively on the ecosystem function score from the characterization. The ecosystem function analysis produced a suite of scores that depicted shorelines ranging from high resources/high condition to low resources/low condition. The first step led to a preliminary designation of "Natural" for all reaches that exhibited high/high scores, and a "Conservancy" designation for all other combinations of resources and conditions scores. The purpose of this step was to identify and protect ecologically intact shorelines.

Ecologically intact shorelines, as used here, means those shoreline areas that retain the majority of their natural shoreline functions and values, as evidenced by the physical condition of the shoreline and presence of native flora and fauna. Such shorelines will generally have scored high along both the condition *and* resources axes in the AU characterization quadrant analysis.

Generally, but not necessarily, ecologically intact shorelines are relatively free of structural shoreline modifications, structures, and intensive human uses. In riparian and lacustrine zones, they generally support native vegetation. The active channel and floodplains of ecologically intact shorelines of rivers should be able to support complex river dynamics such as channel migration, riparian recruitment, flooding, sediment transport and delivery, large woody debris deposition and recruitment, and aquatic and terrestrial habitat. Recognizing that there is a continuum of ecological conditions ranging from near-natural conditions to totally degraded and contaminated sites, the term "ecologically intact" is intended to describe those shoreline areas that provide valuable functions for the larger aquatic and terrestrial environments which could be lost or significantly reduced by human development. Shorelines that scored in the ecological function analysis were initially considered to be ecologically intact. Such shorelines were designated "Natural." Other combinations of resource and condition scores were assigned to a preliminary "Conservancy" category as they represented environments that were not as robust as ecologically intact shorelines (although still be providing some level of function and value).

Step 2: Assign National Forest Preliminary Designations

This SMP is required to designate all shoreline areas within the unincorporated portions of the county, including publicly owned lands. (It is important to note that privately-owned lands within the Forest boundary, as well as Forest Service lands leased for private use, are subject to the provisions of this SMP.

The characterization analysis in Chapter 4 did not include water bodies wholly within the National Forest Boundaries. Therefore, shorelands owned and administered by the U.S. Forest Service were assigned a "Natural" designation when the shoreline area did not include any campgrounds or roads. Those portions of shorelines where roads or campgrounds do exist received a "Conservancy" designation. Shorelines owned and administered by the U.S. Forest Service were not further designated.

Step 3: Evaluate Preliminary Designation against Current (1987) Designation

The preliminary designations derived in Step 1 were further narrowed based on consistency with the existing shoreline designations (most municipalities adopted their own SMP's in 1990 and 1991). The designations that were in place when this SMP was adopted reflect a pattern of development along the shoreline that has developed based on regulations that have been in place for over 20 years. Therefore, areas that maintained a "Natural" or "Conservancy" designation over time were assumed to be consistent with 1991 designations. When this consistency was identified a match between current and preliminary designations occurred and the "Natural" or "Urban Conservancy" designation was applied.

To determine where a "match" occurred, a GIS layer of the current (1991) designations was overlaid with the preliminary designation derived in Step 1 to establish areas where the designation was consistent. The purpose of this step was to identify areas that, based on the quadrant score, would retain the same designation. Only one "Natural" designation resulted in a match. However, a number of "Conservancy" (now Urban Conservancy) designations were maintained.

Step 4: Tabulate Possible Draft Designations based on Existing and Preliminary Designations

The overlay process in Step 3 led to an array of possible combinations between the current and preliminary designations. To evaluate what designations were available for assignment, a table was created to narrow the decision process. That table shows an array of designation options based on ecological function score and the shoreline designation in place at the time this SMP was developed. The next step uses the designation criteria and planning factors to assign final draft designations.

Step 5: Assign Draft Designation Based on Planning Factors and Criteria

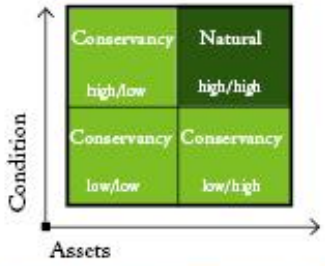
The final step in process for assigning draft shoreline designations required a review of the results of the initial four steps balanced against the functional score and various planning and land use issues. Each shoreline designation has a list of criteria required for assignment including factors such as ecological condition, existing and future land use, subdivision patterns, ownership, existing shoreline designation, etc… To arrive at final designations, the criteria were evaluated alongside the planning factors for consistency. Where conflicts existed between the selected designation and ecological function score, such conflicts were noted and considered in development of regulations for that designation.

Okanogan County SMP Environmental Designation Process

developed by Highlands Associates

STEP 1: ASSIGN PRELIMINARY DESIGNATION

Assign each Analysis Unit (AU) a preliminary designation of *Natural* or *Conservancy* based on ecological condition and asset score derived from the Characterization

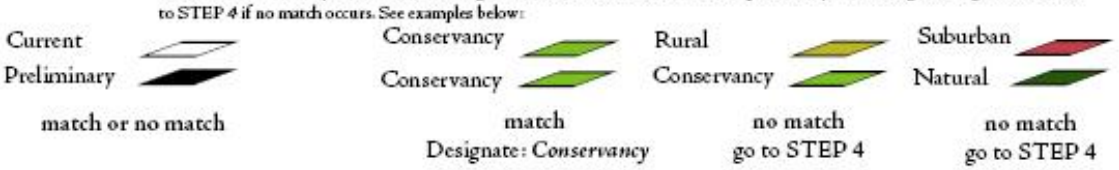


STEP 2: ASSIGN NATIONAL FOREST PRELIMINARY DESIGNATIONS

Assign AUs in National Forest a *Natural Designation* if inaccessable by roads,
Assign AUs in National Forest *Conservancy Designation* if roaded or partially developed

STEP 3: EVALUATE PRELIMINARY DESIGNATIONS AGAINST CURRENT SMP

Overlay current SMP designations (1975) with new preliminary designations (step 1) and look for matches to see where new Natural or Conservancy AU fall. Retain designation if current SMP is the same as preliminary, ie no change in designation. Refer to STEP *4* if no match occurs. See examples below:



STEP 4: ASSIGN POSSIBLE DRAFT DESIGNATION BASED ON ABOVE COMBINATIONS AS PER TABLE

CURRENT	PRELIMINARY NATURAL	PRELIMINARY CONSERVANCY
NATURAL	match: Natural	Riverine, Conservancy
RURAL	Natural, Riverine, Rural Conservancy or Conservancy	Rural Conservancy, Riverine, Conservancy, Shoreline Residential, Shoreline Recreation
CONSERVANCY	Natural, Riverine or Conservancy	match: Conservancy
SUBURBAN	Urban Conservancy, Shoreline Residential	Urban Conservancy, Shoreline Residential, High Intensity
URBAN	Urban Conservancy	Urban Conservancy, Shoreline Residential, High Intensity

STEP 5: FINALIZE DESIGNATION BASED ON REVIEW OF PLANNING FACTORS: exsisting land use patterns, zoning, or comp plan designation, flood plain extent, potential for channel migration, bankd steepness, ownership

- Land use patterns: review level of subdivision, comp plan and sub-area land use designations, anticipated development (known applications or plats), number and type of structures in AU, setbacks, current uses (based on DOR use codes), and zoning (within UGAs).
- Flood plain extent: if river exhibits wide flood plain or channel migration is possible, assign Riverine, Natural, or Conservancy
- Bank Steepness: if river is incised and erosion potential low, assign Conservancy, Rural Conservancy, Shoreline Recreation or Shoreline Residential
- Ownership: if AU falls primarily in public ownership, including the PUD, assign Conservancy or Shoreline Recreation
- Criteria: check criteria of SMA Designations for consistency

CHAPTER 8

REGULATIONS FOR ALL SHORELINE USES, ACTIVITIES AND DESIGNATIONS

Introduction

The regulations in this chapter are intended to implement the Shoreline Goals and Policies (See Chapter 6) and the shoreline-designation-specific policies (See Chapter 7).

All shoreline uses and activities, even those that are exempt from the requirement to obtain a shoreline substantial development permit, and regardless of the Shoreline Environment in which they are undertaken, must conform to all of the applicable policies and regulations listed in this SMP. For example, a residential development project that includes docks and roads needs to comply with the policies and regulations related to docks and roads as well as those related to residential development.

Sections

8.01 General Regulations

A. General

B. Critical areas

1. **General Rules and Regulations governing Critical Areas within Shorelines**
2. **Mitigation Sequencing**

C. Flood Hazard Reduction – Appendix C Ecology Approved Comprehensive Flood Management Plan

8.02 Use and Designation Specific Regulations

A. Accessory Utilities
B. Agriculture
C. Aquaculture
D. Archaeological, Cultural, Educational, Historic and Scientific Resources
E. Boating Facilities
F. Commercial
G. Industrial
H. Mining
I. Municipal uses (includes all local governments)
J. Parking
K. Public Access
L. Utilities

M. Recreation
N. Residential
O. Signage
P. Transportation

8.03 Shoreline Modification Regulations

A. General
B. Clearing and Grading
C. Dredging and Dredge Material Disposal
D. Fill
E. Shoreline Stabilization
F. Bulkhead
G. Vegetation Conservation

8.01 General Regulations

The following regulations apply to all shoreline uses and activities in all shoreline designations, unless otherwise noted.

8.01 A. General

8.01 A. 1. Regulation of private property to implement any SMP goals such as public access and protection of ecological functions must be consistent with all relevant constitutional and other legal limitations. These include, but are not limited to, property rights guaranteed by the United States Constitution and the Washington State Constitution, applicable federal and state case law, and state statutes.

8.01 A. 2. Rights reserved or otherwise held by Indian Tribes pursuant to Treaties, Executive Orders, or Statues, including right to hunt, fish, gather, and the right to reserved water, shall not be impaired or limited by any action taken or authorized by the Town under its Shoreline Master Program, and all rights shall be accommodated.

8.01 A. 3. Any and all development or use activity which occurs within the shoreline areas of therein coming under the jurisdiction of the Act, whether it requires a permit or not, must be consistent (in design, development and operation) with the intent of the Act, conform to chapter RCW 90.58, the Shoreline Management Act, this master program, current comprehensive plans, all applicable local regulations (including current zoning, floodplain, subdivision, SEPA, critical areas, flood damage prevention or hazard reduction, health, sanitation, and building ordinances or codes), and any applicable state and federal regulations.

8.01 A. 4. Emergency construction may be permitted subject to WAC 173-27-040(2)(d) ("Developments exempt from substantial development permit requirement"), when, as determined by Okanogan County Emergency Services or other formally designated local official in consultation with the Shoreline Administrator, that life and/or property is in danger. Emergency construction must be consistent with the policies of chapter 90.58 RCW and this master program and with the regulations for Shoreline Modification (Section 8.03), including Shoreline Stabilization (Section 8.03 E), herein. Prior to emergency construction, the landowner must agree that, upon abatement of the emergency situation any new structure shall be removed or any permit which would have been required, absent an emergency, pursuant to chapter 90.58 RCW, WAC 173-27, or this master program, shall be obtained. Mitigation pursuant to consultation with appropriate resource agencies shall be required for any permit issued after an emergency action. Regular flooding or other seasonal events that can be anticipated and may occur but that are not imminent are not an emergency.

8.01 A. 5. The provisions of this Master Program do not require modification of or limitations on agricultural activities legally underway on agricultural lands as of the date of adoption of this SMP.

8.01 A. 6. All shoreline uses and activities shall be located and designed to minimize or prevent the need for shoreline stabilization measures, flood protection works, filling, or substantial site re-grading. The use of car bodies, scraps of building materials, tires, asphalt or concrete from street work, or any discarded pieces of equipment, appliances or other debris for the stabilization of shorelines is prohibited. See Shoreline Modification Regulations (Section 8.03), for specific shoreline stabilization regulations and standards.

8.01 A. 7. The disposal or dumping of solid waste is strictly prohibited in all shoreline areas, except in litter containers, which shall be regularly emptied, with the contents collected for transportation to an approved sanitary landfill or transfer station.

8.01 A. 8. Dumping and/or burning of residential, commercial or municipal yard waste within the Zone 1 Vegetation Buffer of the shoreline setback is prohibited in all shoreline designations.

8.01 A. 9. Where no other feasible alternative exists or the alternative would result in unreasonable and disproportionate cost, bridges, utility lines, and other public utility and transportation structures may be allowed within the channel migration zone or floodway. Where such structures are allowed, mitigation shall address impacted functions and processes throughout the affected water body, including effects upstream and downstream of the project site, and shall be adequate to ensure no net loss of shoreline ecological function. Impacts to views and vistas must also be mitigated.

8.01 A. 10. No development designed for human habitation (e.g. houseboats, floating homes or cantilever type construction) is permitted on or over water.

8.01 A. 11. All shoreline development shall be conducted so as to minimize the effects on water quality from the addition of suspended solids, leaching of contaminants, or disturbances to habitat, and shall be consistent with this Master Program as well as the requirements of applicable regulatory agencies, including but not limited to the Washington departments of Ecology and of Fish and Wildlife and the U. S. Army Corps of Engineers. See following sections for activity specific regulations and standards.

8.01 A. 12. In-stream structures shall provide for the protection and preservation, of ecosystem-wide processes, ecological functions, and cultural resources, including, but not limited to, fish and fish passage, wildlife and water resources, shoreline critical areas, hydro-geological processes, and natural scenic vistas. The location and planning of in-stream structures shall give due consideration to the full range of public interests, watershed functions and processes, and environmental concerns, with special emphasis on protecting and restoring habitats and species.

8.01 A. 13. All uses and activities, including those exempt from the requirement to obtain a shoreline substantial development permit, shall adhere to all required setbacks and other development standards, and shall retain all required buffers, in accordance with the provisions of this master program unless the use or activity is granted a variance.

8.01 A. 14. Lot frontage shall be measured along the OHWM.

8.01 A. 15. Lot coverage is the percentage of the parcel to be covered with impervious surfaces consistent with local zoning regulations.

8.01 A. 16. Setbacks and buffers.

8.01 A. 16. a. Vegetation Conservation

8.01 A. 16. a. 1) Restoration or enhancement of any shoreline area that has been disturbed or degraded shall use plant materials from the recommended list (Appendix E) or other species approved by agencies or organizations operating within the jurisdiction, such as the departments of Ecology, County Extension, Fish and Wildlife or the Native Plant Society.

8.01 A. 16. a. 2) Stabilization of erosion-prone surfaces along shorelines shall

primarily use vegetative, non-structural means and shall comply with the provisions of Section 8.03 E. More intensive measures may be permitted providing the project will result in no net loss in shoreline function.

8.01 A. 16. a. 3) Vegetation removal that would be likely to result in significant soil erosion or the need for structural shoreline stabilization measures is prohibited. This does not preclude the removal of noxious weeds, provided a mitigation management plan is submitted and approved.

8.01 A. 16. a. 4) Weed abatement shall comply with all provisions of this SMP.

8.01 A. 16. a. 5) Non-destructive pruning and trimming of vegetation for maintenance purposes shall be permitted in compliance with View Corridor provisions of Section 8.02 K. 1. u.

8.01 A. 16. a. 6) Permits issued for projects in ecologically degraded areas shall include a condition that appropriate shoreline vegetation shall be planted or enhanced, to contribute to the restoration of ecological processes and functions.

8.01 A. 16. a. 7) If weather does not permit immediate restoration of disturbed areas, replanting shall be completed during the next planting season, and the soil shall be protected until replanting is complete.

8.01 A. 16. a. 8) Vegetation from the recommended list (Appendix E) or other species authorized by the local government with jurisdiction shall be used. Native plants are preferred. Plants that may compromise shoreline values shall be prohibited. If necessary, a temporary sterile cover crop (e.g., a sterile non-persistent member of the grass family such sterile Triticale, barley, or oats) shall be planted to prevent erosion during the establishment period; said cover crop shall be maintained until the permanent vegetation is sufficiently established to prevent erosion.

8.01 A. 16. a. 9) Replanted areas shall be maintained until desired vegetation is well established (a minimum of three years). In the case of transportation, utility, or other capital facility construction, the agency or developer constructing the facility shall also be responsible for maintaining the vegetation until it is established.

8.01 A. 16. b. Measurement

8.01 A. 16. b. 1) All setbacks and Zone 1, Vegetation buffers[1] shall be measured on a horizontal plane from the ordinary-high-water-mark (OHWM), or on a horizontal plane from the Top of the Bank (TOB) as measurements designated in Table 8.1 except where the regulatory floodway lies landward of the OHWM[2], and as described below:

i. High-Intensity (30) CR Shoreline Designations, Vegetation Buffer Zone 1 shall include the portion of land from the OHWM to the top of the bank plus

1 - Vegetation buffers are required for all shoreline developments in all environments.
2 - Town of Twisp Municipal Code Chapter 16.10.280 prohibits encroachments and all new construction but does provide for reconstruction and maintenance of existing structures provided said improvements do not surpass 50% of the market value of the structure. Where the regulatory floodway lies landward of the OHWM a distance greater than the setback for the specific shoreline designation (see Table 8.1), the floodway boundary shall be the minimum setback with additional buffer requirements dependent on a site analysis.

the first 15' of the required 30' building setback.

ii. High-Intensity (50) C1 Shoreline Designations, Vegetation Buffer Zone 1 shall include that 25'portion of the land from the OHWM.

iii. Residential 1 (30) (High Bank) Designations, the Vegetation Buffer Zone 1 shall be the portion of land from the OHWM to the top of the bank or 15', whichever is greater.

iv. Residential 2 (50) (low bank), Vegetation Buffer Zone 1 shall include that 25'portion of the land from the OHWM.

v. Urban Conservancy Designation**,** the Vegetation Buffer Zone 1 shall include that 50' portion of land from the OHWM.

vi. Natural Designation[3] **–** the Vegetation Buffer Zone 1 shall include that 200' portion of land from the OHWM.

vii. Parallel Designations **–** For parallel Shoreline Designations (SD) the Zone 1 Vegetation Buffer shall be the larger of the two applicable vegetation buffer areas. In example, if the near water Zone 1 buffer is 30', but the parallel landward ED Zone 1 buffer is 50', the 50' Zone 1 Vegetation buffer would apply as measured from the OHWM.

8.01 A. 16. b. 2) Zone 2, Use buffers shall be measured on a horizontal plane from the landward side of the vegetation buffer or landward edge of the floodway, whichever is greater..

8.01 A. 16. b. 3) Wetland buffers shall be measured from the Ordinary High Water Mark or delineated edge-of the wetland.

8.01 A. 16. c. All buffers, lot frontage and lot coverage requirements shall be as set forth in Table 8.01 and Appendix C except as follows:

8.01 A. 16. c. 1) Standard shoreline setbacks and/or Zone 1 or 2 buffers and/or lot coverage may be reduced using procedures set up by Sections 8.01 A.16.e Buffer Width Averaging and by 8.01 A.16.f. Administrative buffer reduction.

8.01A.16. d. Shoreline buffers[4] in shoreline areas shall be comprised of a vegetation and use buffers as follows:

8.01 A.16. d. 1) Zone 1 -Vegetation Buffer. The area one-half the distance of the setback (setbacks are listed in Table 8.1), in all shoreline areas is designated as a Vegetation Buffer. The vegetation buffer serves as restrictive protection zone for all shoreline functions and values. In these areas, existing native vegetation or vegetation from the recommended list (Appendix E) must be maintained and protected, except as provided for in Public Access – View Corridor Provisions (Section 8.02 K. 1. u.) and Shoreline Modification Regulations - General (Section 8.03A), Clearing and Grading (Section 8.03 B) and Vegetation Conservation (Section 8.03 G) and Recreation (8.02 M)

3 - In the Natural Designation, the ZONE 1 buffer encompasses all of shoreline jurisdiction(200'), so the USE setback is equal to 0 (Zero), buffer averaging and buffer reduction are not allowed in the Natural Designation.
4 -Riparian fish and wildlife buffer standards are required for critical areas that meet PH status. Shoreline buffers in this SMP shall serve as PH buffers for CA in shorelines.

8.01A.16. d. 2) Zone 2 - Use Buffer. The area between the Zone 1 Vegetation Buffer or the floodway, whichever is greater, and setback line (setbacks are listed in Table 8.1) in all shoreline areas is designated as Zone 2 Use Buffer. In these areas, removal of existing native vegetation shall be limited as provided in Table 8.1 and uses limited to low intensity recreation, agricultural, accessory residential uses and accessory water-dependent and accessory water-related commercial uses.

8.01 A. 16. e. Buffer Width Averaging. The total required shoreline buffer (Zone 1+ Zone 2) width may be modified by the Administrator for existing lots of record in place at the time of adoption of this Program, or legally created thereafter, by averaging buffer widths based on a critical areas report, mitigation management plan and SEPA document prepared by a qualified professional and submitted by the applicant. Buffer width averaging shall only be allowed where the applicant demonstrates all of the following:

8.01 A. 16. e. 1) The project site and adjoining area contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation;

8.01 A. 16. e. 2) The width averaging shall not adversely affect the project site and adjoining area and buffer's functional value;

8.01 A. 16. e. 3) The total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging unless a standard reduction is permitted through an administrative reduction as specified in Administrative Buffer Reduction (Section 8.01 A.16. f).

8.01 A. 16. e. 4) The minimum buffer width at its narrowest point shall not be less than seventy-five (75%) percent of the buffer width established under Table 8.01.

8.01 A. 16. e. 5) Sites which have had buffer widths reduced or modified, by any prior action administered by the local government are only eligible for the provisions of this section if the modification shall not result in reduced buffer area.

8.01 A. 16. f. Administrative Buffer Reduction. The Administrator shall have the authority to reduce buffer widths established in Table 8.1 on a case-by-case basis; provided that the general standards for avoidance and minimization shall apply, based on a critical areas report, mitigation management plan and SEPA document prepared by a qualified professional and submitted by the applicant and when the applicant demonstrates to the satisfaction of the Administrator that all of the following criteria have been met:

8.01 A. 16. f. 1) The buffer reduction shall not result in a net loss of functions of the habitat buffer.

8.01 A. 16. f. 2) The maximum buffer width reduction allowed shall not exceed twenty-five (25%) percent total required buffer established in Table 8.1.

8.01 A. 16. f. 3) The buffer width reduction is contingent upon the submittal and approval of a critical areas report, mitigation management plan and SEPA document in conformance with Sections 11.01 B. 3. d., 11.01 B. 3 h.

8.01 A. 16. f. 4) Sites which have had buffer widths reduced or modified, by any prior action administered by the local government are only eligible for the provisions of this section if the modification shall not result in reduced buffer area.

8.01 A. 16. f. 5) In cases where there is less than 25' of existing riparian vegetation, the width of the buffers may be reduced, subject to the buffer Width Averaging or Administrative Buffer Reduction standards established above. To support a claim that the Buffer should be reduced, a planting plan shall be submitted in combination with a mitigation management plan and SEPA document prepared by a qualified professional and submitted by the applicant. The administrator's decision may be based on, but is not limited to, photographs of existing site conditions, and opinions of qualified professionals. In no case shall the Zone 1 buffer be decreased to less than 10'.

8.01 A. 16. g. Activities Exempt from Buffers and Setbacks: The following development activities are not subject to buffers and setbacks, provided that they are constructed and maintained in a manner that minimizes adverse impacts on shoreline ecological functions, and provided further that they comply with all the applicable regulations herein:

8.01 A. 16. g. 1) Water-Dependent Development: Those portions of approved water-dependent development that requires a location directly adjacent to the ordinary high water mark of streams, rivers, lakes, ponds, associated wetlands, and/or within their associated buffers.

8.01 A. 16. g. 2) Modifications Necessary for Agency Compliance or Court Compliance: Modifications to existing development that are necessary to comply with environmental requirements of any State or Federal agency or court, when otherwise consistent with the Shoreline Master Program, provided that the reviewing official determines that:

i. The facility cannot meet the dimensional standard and accomplish the state, federal or court ordered modification necessary to bring it into compliance;

ii. The facility's modification are located, designed, and constructed to meet specified required modification standards necessary while complying with mitigation sequencing, and minimizing damage to ecological function and values of critical area and or shoreline; and

iii. The modification follows necessary provisions for non-conforming development and uses.

8.01 A. 16. g. 3) Shared Moorage: Shared moorages shall not be subject to side yard setbacks when located on or adjacent to a property line shared in common by the project proponents and where appropriate easements or other legal instruments have been executed providing for ingress and egress to the facility.

8.01 A. 16. h Buffer Exemption Criteria: As determined by the Administrator, for development proposed on sites separated from the shoreline by intervening, and lawfully created public roads, railroads, or an intervening parcel under separate ownership, the requirements of this code for a vegetation buffer may be waived. For the purposes of this section, the intervening lots/parcels, roads, or other substantial improvements shall be found to:

8.01 A. 16. h. 1) Separate the subject upland property from the water body due to their width or depth; and

8.01 A. 16. h. 2) Substantially prevent or impair delivery of most ecological functions from the subject upland property to the water body.

8.01 A. 16. h. 3) Be greater than 30' in width, measured perpendicularly from the OHWM of the Shoreline; and

8.01 A. 16. h. 4) Be in separate ownership, has not been subdivided in the last 5 yrs and the applicant does not have a vested interest in the waterward intervening parcel.

8.01 A. 16. h. 5) Be developed; AND the Buffer Exemption shall not be allowed if the intervening parcel is not developed.

8.01 A. 17. All clearing and grading activities shall be limited to the minimum necessary for the allowed or permitted development and shall comply with the provisions of Tables 8.1 and 8.3 and the regulations in Section 8.02 K. 1. u., and Sections 8.03 A, B and G.

8.01 A. 18. The town of Twisp shall give preference to biological or mechanical means rather than herbicides or insecticides for weed and pest control in shoreline areas. When agricultural chemicals, fertilizers and other spray materials are used, provisions shall be made to minimize their entry into any body of water by following guidance found in Eastern Washington Stormwater manual and seeking guidance provided by WS Dept of Agriculture. Spraying over open water is prohibited except to control known risks to public health or as approved by the State for treatment of aquatic weeds. Herbicides and pesticides shall not be applied or allowed to directly enter water bodies or wetlands unless approved for such use by the appropriate agencies.

8.01 A. 19. All shoreline uses and activities shall comply with the Stormwater Management Manual for Eastern Washington (Washington Department of Ecology Publication 04-10-076, as amended). Specific requirements include, but are not limited to:

8.01 A. 19. a) Solid and liquid wastes, untreated effluents, oil, chemicals, and other hazardous materials shall not be allowed to enter any body of water or to be discharged onto land. Equipment for the transportation, storage, handling, or application of such materials shall be maintained in a safe and leak-proof condition. If there is evidence of leakage, the further use of such equipment shall be suspended until the deficiency has been satisfactorily corrected.

8.01 A. 19. b) All shoreline uses and activities in all shoreline designations, both during construction and for the life of the project, shall use stormwater best management practices to minimize any increase in surface water runoff and to control, treat, and release surface water runoff so that receiving water quality and shoreline ecological functions are not adversely affected. Such measures may include but are not limited to low impact development, dikes, catch basins, settling ponds, oil/water separators, grassy swales, interceptor drains, and landscaped buffers. All measures shall be adequately maintained to insure proper functioning over time. The *Stormwater Management Manual for Eastern Washington* (Washington Department of Ecology Publication 04-10-076, as amended) shall provide the preferred guidance for surface water runoff best management practices.

8.01 A. 20. All shoreline areas to be disturbed by transportation, utility projects in all shoreline designations shall be restored in compliance with an approved mitigation

management plan and be subject to posting a reclamation bond. Vegetation from the recommended list (Appendix E) or other species authorized by the Town shall be used. Planting of non-native plant species shall be prohibited in Zone 1 buffer areas. Plants that may compromise shoreline values shall be prohibited. The permit application submittal shall identify the size, location, and species of plants that will be used. The agency or developer maintaining the facility shall also be responsible for maintaining the vegetation until it is established. See Section 8.03 G Vegetation Conservation for specific regulations and standards.

8.01 A. 21. All shoreline areas to be disturbed by residential, commercial, municipal, recreational, aquaculture, boating facilities, mining, parking or industrial development in all shoreline designations shall be restored in compliance with an approved mitigation management plan (if required) and be subject to posting a reclamation bond. Vegetation from the recommended list (Appendix E) or other species authorized by the Town shall be used. Planting of non-native plant species shall be prohibited within Zone 1 buffers. Plants that may compromise shoreline values shall be prohibited. The permit application submittal shall identify the size, location, and species of plants that will be used. The owner or manager of the use shall also be responsible for maintaining the vegetation until it is established. See Section 8.03 G Vegetation Conservation for specific regulations and standards.

TABLE 8.1 SHORELINE DEVELOPMENT STANDARDS

All uses and activities must comply with all applicable standards for the shoreline designation where the use or activity will occur. All development standards are subject to modification based on a site specific assessment, but in no case shall the standards be reduced greater than 25% of the minimums stated below without the approval of a Shoreline Variance.

Standards	Aquatic	Natural[5]	Shoreline Recreation	Urban Conservancy	Shoreline Residential - 1 (high bank)	Shoreline Residential – 2 (low bank)	High Intensity (CR)	High Intensity (CI)
Zone 1 + 2 Combined Vegetation and Use Buffer Width and Setback[7]								
Non-Water Dependent or Oriented Uses and Activities	N/A	200’	80’	100’	30’ OHWM[6]	50’ OHWM	30’ TOB[7]	50’ OHWM’
Water-Oriented Uses and Activities	N/A	200’	30’	30’	30’ OWHM	50’OHMW	30’TOB	50’ OHWM
Water Dependent Uses and Activities[8]	N/A	200’	0’	0’	0’	0	0’	0’
Zone 1 Vegetative Buffer Width[9]								
Non-Water Dependent or Oriented Uses and Activities	N/A	200’	40’	50’	15’	25’	15’	25’
Water-Oriented Uses and Activities	N/A	200’	15’	15’	15’	25	15’	25’
Water Dependent Uses and Activities	N/A	200’	0’	0	0’	0’	0’	0’
Zone 1 Vegetation Buffer Allowed Alterations								
% of Vegetation Buffer that may be altered for view corridor10	N/A	0%	20%	10%	25%	25%	30%	30%
Zone 2 Use Buffer Width[11]								
Non-Water Dependent or	N/A	N/A	40’	50’	15’	25’	15’	25’

5 - In the Natural Designation, the ZONE 1 buffer encompasses all of shoreline jurisdiction (200’), so the USE setback is equal to 0 (Zero), buffer averaging and buffer reduction are not allowed in the Natural Designation. Zone 1 + Zone 2 Setback = 200’.
3 & 4 High-bank, levee or high-bank rip rapped shoreline - the Zone 1 buffer area shall include areas from the OHWM to the top of the bank, or 15 feet whichever is greater. In no instance, shall a structure be located within 15’ of the top of the bank. If the horizontal distance from the OWHM to the top of the bank exceeds 15’, vegetation buffer requirements for Zone 1 will applied the entire width to the TOB. In these instances, Zone 2 buffer requirements will be applied to areas from the TOB to the setback. In instances where the 15’ exceed the horizontal distance to the TOB, Zone 1 buffer requirements apply to the entire 15’ atop the bank.
7 See 3 above
8 The setback may be reduced to 0’ for those water-dependent uses (e.g. aquaculture, marinas, boat launches) that require location adjoining the water, but in all cases such a setback shall be limited to the smallest area possible.
9 The Zone 1 Vegetation Buffer is 50% of the setback.
10 Percent of shoreline that maybe altered is the percentage or 30’, whichever is less
11- The area between the Vegetation Buffer and Setback intended for low impact uses and activities subject to standards

Standards	Aquatic	Natural[5]	Shoreline Recreation	Urban Conservancy	Shoreline Residential - 1 (high bank)	Shoreline Residential – 2 (low bank)	High Intensity (CR)	High Intensity (CI)
Oriented Uses and Activities								
Water-Oriented Uses and Activities	N/A	N/A	15’	15’	15’	25	15’	25’
Water Dependent Uses and Activities	N/A	N/A	0’	0	0’	0’	0’	0’
Zone 2 Use Buffer Allowed Alterations								
% of Use Buffer that may be altered in total for allowed uses and view corridors	N/A	N/A	40%	20%	50%		60%	60%
Dimensions/Lot Coverage Requirements								
Minimum Lot size (acres)[12]	N/A	N/A	1	1	5000 sq ft		5,000 sq ft	2,500 sq ft
Minimum Water Frontage[13]	N/A	N/A	100’	100’	50’		50’	50’
Maximum lot Coverage	N/A	N/A	30%	40%	50%		50%	
Side Yard setbacks	N/A	N/A	10	10	5		0-10[14]	
Maximum Structure Height								
Non-Water Oriented Uses and Activities	N/A	N/A	30’	30’	30’	30’	35’	30’
Water-Oriented Uses and Activities	N/A	N/A	25’	25’	30’	30’	35’	30’
Water Dependent Uses and Activities	10’	N/A	20’	20’	25’	25’	35’	30’

12- Minimum lot size shall conform to underlying zoning requirements unless the underlying zone minimum lot size is less than what is allowed in this SMP. Minimum lot size only applies to lots or parcels created subsequent to the date of adoption of this SMP, lots existing at the time of adoption shall be considered existing legal non-conforming parcels.
13- Minimum water frontage only applies to lots or parcels created subsequent to the date of adoption of this SMP, lots existing at the time of adoption shall be considered existing conforming parcels.
14- Zero (0’) lot lines may be allowed through submittal of a development plan as part of a permit process (such as a building permit, PD, Long plat, binding site plan etc) as long as views of the shoreline from upland properties or right-of –ways are maintained and the cumulative side yard setbacks meet or exceed 20’.

8.01 B. Critical Areas

8.01.B.1. General Rules and Regulations governing Critical Areas.

The provisions of this section, along with the policies and regulations found within **Appendix C- Critical Areas Regulations,** shall apply to all critical areas within shoreline jurisdiction including wetlands, steep slopes and geo-hazard areas, riparian habitat areas, fish and wildlife habitat conservation areas, frequently flooded areas or any other area that meets the criteria for a critical area defined in Appendix C of this SMP. Any use, alteration or development within shoreline jurisdiction, whether or not a shoreline permit or written statement of exemption is required, shall be subject to the rules and regulations within Appendix C of this SMP.

8.01 B. 1.a. Unless otherwise stated, critical area buffers shall be protected and/or enhanced pursuant to this Chapter and Appendix C and all other applicable provisions of this Program.

8.01 B. 1.b. The hydrologic connection between water bodies, water courses and associated wetlands shall be protected.

8.01 B. 1.c. The cumulative effects of individual development proposals shall be identified and evaluated to assure that no net loss standards are achieved.

8.01 B. 2 Mitigation sequencing – applicants shall demonstrate all reasonable efforts have been taken to mitigate potential adverse impacts in the following prioritized offer:

8.01 B. 2. a) Avoiding the impact altogether by not taking a certain action or parts of an action;

8.01 B. 2. b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;

8.01 B. 2. c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment to the conditions existing at the time of the initiation of the project;

8.01 B. 2. d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

8.01 B. 2. e) Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and

8.01 B. 2. f) Monitoring the impact and the compensation projects and taking appropriate corrective measures.

8.01 C. Flood Hazard Prevention Projects

8.01 C. 1 Development in floodplains should not significantly or cumulatively increase flood hazards or be inconsistent with comprehensive flood hazard management plans adopted pursuant to Chapter 86.12. RCW.

8.01 C. 2 New development or new uses in shoreline jurisdiction, including the subdivision of land, should not be permitted when it would be reasonably foreseeable that the development or use would require structural flood hazard reduction measures within the channel migration zone or floodway.

8.01 C. 3 The following uses and activities may be appropriate and/or necessary within the channel migration zone or floodway;

8.01 C. 3. a. Actions that protect or restore the ecosystem-wide processes or ecological functions;

8.01 C. 3. b. Existing and ongoing agricultural practices provided that no new restrictions to channel movement occur.

8.01 C. 3. c. Mining when conducted in a manner consistent with Section 8.02 H. Mining, the shoreline environment designation, and with the provisions or WAC 173-26-241(3)(h);

8.01 C. 3. d. Bridges, utility lines, and other public utility and transportation structures where no other feasible alternative exists or the alternative would result in unreasonable and disproportionate costs. Where such structures are allowed mitigation shall address impacted functions and processes in the affected shoreline.

8.01 C. 3. e. Repair and maintenance of an existing non-agricultural land use, provided that channel migration is not further limited and that the new development includes appropriate protection of ecological functions;

8.01 C. 3. f. Development in incorporated municipalities and designated urban growth areas, as defined in Chapter 36.70A RCW, where structures exist that prevent active channel movement and flooding;

8.01 C. 3. g. Measures to reduce shoreline erosion, provided that it is demonstrated that the erosion rate exceeds that which would normally occur in a natural condition, that the measure does not interfere with fluvial hydrological and geo-morphological processes normally acting in natural conditions, and that the measure includes appropriate mitigation of impacts to ecological functions associated with the river or stream.

8.01 C. 4. Allow new structural flood hazard reduction measures in shoreline jurisdiction only when it can be demonstrated by a scientific and engineering analysis that they are necessary to protect existing development; that nonstructural measures are not feasible; that impacts on ecological functions and priority species and habitats can be successfully mitigated so as to assure no net loss; and that appropriate vegetation conservation actions are undertaken consistent with Chapter 8, and WAC 173-26-221(5).

8.01 C. 5. Structural flood hazard reduction measures shall be consistent with adopted comprehensive flood hazard management plans approved by the Department of Ecology.

8.01 C. 6. Place new structural flood hazard reduction measures landward of the associated wetlands, and designated vegetation conservation areas, except for actions that increase ecological functions, such as wetland restoration; provided that such flood hazard reduction projects be authorized if it is determined that no other alternative to reduce flood hazard to existing development is feasible. The need for, and analysis of feasible alternatives to, structural improvements shall be documented through a geotechnical analysis;

8.01 C. 7. Require that new structural public flood hazard reduction measures, such as dikes and levees, dedicate and improve public access pathways unless public access

improvements would cause unavoidable health or safety hazards to the public, inherent and unavoidable security problems, unacceptable and unmitigated significant ecological impacts, unavoidable conflict with the proposed use, or cost that is disproportionate and unreasonable to the total long-term cost of the development.

8.01 C. 8. Require that the removal of gravel for flood management purposes be consistent with an adopted flood hazard reduction plan and with the provisions of WAC 173-26, Section 8.03 C. Dredging and Section 8.02 H Mining; and be allowed only after a biological and geo-morphological study shows that extraction has a long-term benefit to flood hazard reduction, does not result in a net loss of ecological functions, and is part of a comprehensive flood management solution.

8.02 Use and Designation Specific Regulations

8.02 A. Accessory Utilities

8.02 A. 1. Accessory Utilities – General Regulations

Accessory utilities are small-scale distribution facilities connected directly to the uses along the shoreline. Electrical, gas, telephone, cable, water and sewer lines serving a residential development or a commercial establishment are examples of utilities accessory to shoreline uses. Transmission facilities related to a hydropower generating facility are not accessory utilities—they are primary utility facilities.

8.02 A. 1. a. Sites disturbed for utility installation shall be stabilized during and immediately following construction to avoid adverse impacts from erosion.

8.02 A. 1. b. Sites disturbed for utility installation shall be replanted using native species from the recommended list (Appendix E), with a diversity and type similar to or better than that which originally occurred on the site. Questions about appropriate diversity, plant type, and plant species shall be directed to agencies with expertise, such as the departments of Ecology and Fish and Wildlife.

8.02 A. 1. c. Accessory utilities shall be placed landward of the permitted use setback requirements found in Table 8.1. Compliance with local health district standards for the placement of onsite sewer systems shall be indicated on pre-application drawings. If feasible, utility lines shall be placed underground. Where lines must be placed aboveground, consideration shall be given to the maintenance of trees in the vicinity of the lines, and the utility line located to eliminate the need for topping or pruning trees.

8.02 A. 1. d. Existing rights of way and corridors shall be used whenever possible to accommodate the location of utilities except where no other feasible alternative exists. Accessory utilities that require continued maintenance (i.e. no growth over septic systems, electrical transmission lines that require removal of undergrowth) shall not be placed in Zone 1 or 2 Buffers (between OHWM and structure setback).

8.02 A. 1. e. Accessory Utilities should not result in a net loss of shoreline ecological functions or significant impacts to other shoreline resources and values.

8.02 A. 1. f. Accessory Utilities should not obstruct views or vistas that may alter the visual character of the shoreline environment and its associated water body. Measures to conceal or shield accessory utilities in the shoreline from the water or to

protect important view sheds or vistas from the shoreline may be required as conditions for building and development permits.

8.02 A. 1. g. Aesthetic measures such as material and earth tone color selections to mitigate visual impacts including, but not limited to, light pollution, glare, visual obstructions of views and vistas may be required by the administrator.

8.02 A. 1. h. Underground placement shall given preference over overhead or above ground utilities where feasible.

8.02 A. 1. i. Permanent stormwater management systems located in shoreline jurisdiction or serving property within the shoreline shall be designed using best management practices ensuring water quality treatment in compliance with the Stormwater Management Manual for Eastern Washington to prevent stormwater runoff from degrading or adding to the pollution of recipient waters or adjacent properties. Maintenance of storm drainage facilities on private property shall be the responsibility of the property owner(s). This responsibility and the provision for maintenance shall be clearly stated on any recorded subdivision, short plat, or binding site plan map, building permit, property conveyance documents, maintenance agreements and /or improvement plans.

8.02 A. 2. Accessory Utilities Designation Specific Requirements:

8.02 A. 2. a. Aquatic

8.02 A. 2. a. 1) Prohibited except those required to serve a permitted water dependent use.

8.02 A. 2. b. Natural, Urban Conservancy, Shoreline Recreation, Shoreline Residential and High Intensity

8.02 A. 2. b. 1. Allowed, as permitted by primary use**.**

8.02 B. Agriculture

8.02 B. 1. Agriculture General Use Regulations

8.02 B. 1. a. New agricultural activities on lands that did not have agricultural activities in place at the time of adoption of this Master Program; conversion of agricultural lands or the development of non-agricultural activities on agricultural lands; and uses in support of agricultural activities are governed by the provisions of this Master Program and subject to the following criteria:

8.02 B. 1. a. 1) Non-Agricultural land[15] converted to an agricultural use shall preserve pre-existing riparian habitat and will have a buffer strip of native vegetation no less than the Zone 1 Vegetation Buffer setback for the shoreline designation where it is located. Said buffer will be established and maintained along shorelines to protect shoreline ecological functions. Disturbance of ground in Zone 2 of the Use Buffer is subject to Lot Coverage standards.

8.02 B. 1. a. 2) Uses and activities shall be consistent with regulations specific to the shoreline designation in which the site is located, including regulations in the tables of uses and development standards;

15 - Non-agricultural lands are those lands that have not been subject to agriculture uses as defined in Chapter 2.

8.02 B. 1. a. 3) Uses and activities shall be located and designed to ensure no net loss of ecological functions;

8.02 B. 1. a. 4) Uses and activities shall not have a significant impact on other shoreline ecological function.

8.02 B. 1. b. Discharge of any manure storage facility into ground or surface water is prohibited.

8.02 B. 1. c. New feedlots, AFOS and CAFOS, or any animal feeding operation that is subject to a CAFO permit as defined by Department of Ecology in WAC 173-95A-020 and manure lagoons are prohibited within shoreline jurisdiction.

8.02 B. 1. d. Nothing in this section limits or changes the terms of the current exception to the definition of substantial development. A substantial development permit shall be required for all agricultural development not specifically exempted by the provisions of RCW 90.58.030(3)(a)(vi).

8.02 B. 2. Agriculture - Designation Specific Regulations

8.02 B. 2. a. Aquatic, Natural

8.02 B. 2. a. 1) Prohibited

8.02 B. 2. b. Shoreline Recreation, Shoreline Residential

8.02 B. 2. b. 1) Preference shall be given to non-commercial, community and/or personal gardens that may be used for personal use or small-scale market gardens

8.02 B. 2. b. 2) Conversion of non-agricultural land to an agricultural use - Substantial Development Permit.

8.02 B. 2. c. Urban Conservancy and High Intensity

8.02 B. 2. c. 1) Conversion of non-agricultural land to an agricultural use for commercial purposes shall require a Conditional Use Permit.

8.02 C. Aquaculture

8.02 C. 1. Aquaculture - General Use Regulations

8.02 C. 1. a. Aquaculture projects that involve minimal or no substrate modification shall be given preference over those that involve substantial modification. The applicant shall demonstrate that the degree of proposed substrate modification is the minimum necessary for feasible aquaculture operations at the site. The installation of submerged structures and floating structures shall be allowed only when the applicant demonstrates that no alternative method of operation is feasible.

8.02 C. 1. b. Aquaculture projects that involve minimal or no impact on the aesthetic qualities of the shoreline shall be given preference over those that involve substantial impact. The applicant shall demonstrate that the aesthetic impact is the minimum necessary for feasible aquaculture operations at the site.

8.02 C. 1. c. Aquaculture projects that would have a significant adverse impact on natural, dynamic shoreline processes, or that would result in a net loss of shoreline ecological functions (including spreading disease to native aquatic life or establishing new nonnative species that cause significant ecological impacts), shall be prohibited.

8.02 C. 1. d. Aquaculture practices shall be designed to minimize use of artificial substances and shall use chemical compounds that are least persistent and have the least impact on plants, animals and water quality. Herbicides and pesticides shall be used only in conformance with state and federal standard and to the minimum extent needed for the health of the aquaculture activity.

8.02 C. 1. e. Aquaculture projects that would significantly conflict with navigation or with established water-dependent uses shall be prohibited.

8.02 C. 1. f. Applications for aquaculture projects shall include all information necessary to conduct a thorough evaluation of the proposed aquaculture activity, including but not limited to the following:

8.02 C. 1. f. 1) A site plan map including:

i. The perimeter of the proposed aquaculture operations area.

ii. Existing bathymetry depths based on the Ordinary High Water Mark (OHWM).

iii. Adjacent upland use, vegetation, presence of structures, docks, bulkheads and other modifications. If there are shore stabilization structures, provide the beach elevation at the toe of the structure and the top of the structure (OHWM datum).

iv. Areas where specific substrate modification will take place or structures will be constructed or installed.

v. Access provisions.

vi. Location of storage or processing structures or facilities.

8.02 C. 1. f. 2) A baseline description of existing conditions, including best available information on:

i. Water quality

ii. Prevailing storm wind conditions

iii. Current flows

iv. Flushing rates

v. Areas of differing substrate composition.

vi. Areas of aquatic, and upland vegetation complexes.

vii. Existing shoreline or water uses and structures.

viii. Aquatic and benthic organisms.

ix. Assessment of aquatic species, and spawning and other lifecycle use of, or adjacent to, the site. Further baseline studies including surveys and sampling may be required depending upon the adequacy of available information, existing conditions, and the nature of the proposal.

8.02 C. 1. f. 3) A detailed description of the project proposal including:

i. Species to be reared.

ii. Substrate modification or vegetation removal.

iii. Planting, harvest and processing location, method and timing, including work proposal and construction techniques proposed (list all hand tools, machinery used (such as track hoes, trucks or barges), type of work, frequency, and duration.

iv. Anticipated use of any feed, pesticides, herbicides, antibiotics, vaccines, growth stimulants, antifouling agents, or other chemicals, and an assessment of predicted impacts. No such materials shall be used until approval is obtained from all appropriate State and Federal agencies, including but not limited to the U.S. Food and Drug Administration, and the Washington State departments of Ecology, Fish and Wildlife, and Agriculture, as required, and proof thereof is submitted to the local government with jurisdiction. Compounds with the least persistence shall be used. An annual report of antibiotic use shall be submitted to the Okanogan County Health District. The report shall indicate the type and amount of antibiotics used during the previous calendar year. Actual usage data for all chemicals and antibiotics shall be maintained for review by Health District staff at all times.

v. Number of employees/workers necessary for the project, including average and peak employment.

vi. Methods of waste disposal and predator control.

vii. Methods to address pollutant loading, including biological oxygen demand (BOD).

viii. Assessment of potential impacts on shoreline ecological functions and processes addressing the baseline conditions identified in the *Shoreline Characterization* (Appendix A), including but not limited to watershed-level, indirect and cumulative effects.

ix. For floating culture facilities or other structures, the local government with jurisdiction may require a visual impact analysis. (See the Department of Ecology's "Aquaculture Siting Study" 1986 for general approach.) Depending on the size and complexity of the proposal, such analysis may be prepared by the applicant without professional assistance, provided that it includes an adequate assessment of impacts.

x. Information demonstrating that the site has natural potential for the type(s) of aquaculture proposed, due to necessary substrate or other conditions, as well as water quality suitable for the type(s) of aquaculture proposed.

xi. Information demonstrating that the proposed aquaculture activities will not result in a net loss of shoreline ecological functions or processes or adversely affect Critical Areas.

xii. Information demonstrating that the proposed aquaculture activities will not substantially and materially conflict with areas devoted to established uses of the aquatic environment. Such uses include but are not limited to navigation, moorage, sport or commercial fishing, underwater utilities, and scientific research. Existing public opportunities for gathering wild stock aquatic resources on public lands shall be addressed in any application for aquaculture on public bedlands. Compensation for loss of public access to public aquatic resources may be required.

xiii. Other pertinent information deemed necessary by the Administrator. Applications for aquaculture activities must demonstrate that the proposed activity will be compatible with surrounding existing and planned uses.

xiv. Aquaculture activities shall comply with all applicable noise, air, and water quality standards. All projects shall be designed, operated and maintained to minimize odor and noise.

xv. Aquaculture activities shall be restricted to reasonable hours and/or days of operation when necessary to minimize substantial, adverse impacts from noise, light, and/or glare on nearby residents, other sensitive uses or critical habitat.

xvi. Aquaculture facilities shall not introduce incompatible visual elements or substantially degrade the aesthetic qualities of the shoreline. Aquaculture structures and equipment, except navigation aids, shall be designed, operated and maintained to blend into their surroundings through the use of appropriate colors and materials.

8.02 C. 1. g. If uncertainty exists regarding potential impacts of a proposed aquaculture activity, and for all experimental aquaculture activities, unless otherwise provided for, the local government with jurisdiction shall require baseline and periodic operational monitoring by a consultant approved by said government, at the applicant's expense, which continue until adequate information is available to determine the success of the project and the magnitude of any probable significant adverse environmental impacts. Permits for such activities shall include specific performance measures and provisions for adjustment or termination of the project at any time if monitoring indicates significant, adverse environmental impacts that cannot be adequately mitigated.

8.02 C. 1. h. All aquaculture projects shall be submitted for review to local, state and federal agencies with expertise, including the Washington departments of Ecology and of Fish and Wildlife, and to the operators of affected FERC licensed hydro-projects. The local government with jurisdiction shall make available to those agencies the *Shoreline Inventory and Characterization* (Appendix A and Chapter 4) and maps developed as part of this SMP and shall request technical assistance in establishing any conditions that should be required of a project and in assessing the monitoring plan.

8.02 C. 1. i. New aquatic species that have not previously been cultivated in Washington State shall not be introduced without prior written approval of the Director of the Washington State Department of Fish and Wildlife and the Director of the Washington Department of Health.

8.02 C. 1. j. Except for the sorting or culling of the cultured organism after harvest and the washing or removal of surface materials or organisms prior to or after harvest, no processing of any aquaculture product shall occur in or over the water unless specifically approved by permit. All other processing and processing facilities shall be located landward of the ordinary high water mark.

8.02 C. 1. k. Aquaculture wastes shall be disposed of in a manner that will ensure strict compliance with all applicable waste disposal standards, including but not limited to the Federal Clean Water Act, Section 401, and the Washington State Water

Pollution Control Act, RCW Chapter 90.48. No garbage, wastes or debris shall be allowed to accumulate at the site of any aquaculture operation.

8.02 C. 1. l. Predator control shall not involve killing or harassment of birds or mammals. Approved controls include, but are not limited to, overhead netting for birds. The use of other non-lethal, non-abusive predator control measures shall be contingent upon receipt of written approval from the National Marine Fisheries Service or the U.S. Fish and Wildlife Service, as required.

8.02 C. 1. m. In the event of a significant fish kill at the site of a net pen facility, the aquaculture operator shall immediately report to the Okanogan County Health District stating the cause of death and shall detail remedial action(s) to be implemented to prevent reoccurrence. Permits shall include provisions for adjustment or termination of the project at any time if such an event cannot be remediated to the satisfaction of the Health District may be required.

8.02 C. 1. n. All floating and submerged aquaculture structures and facilities in navigable waters shall be marked in accordance with U.S. Coast Guard requirements.

8.02 C. 1. o. The rights of treaty tribes to aquatic resources within their usual and accustomed areas shall be addressed through direct coordination between the applicant and the affected tribe(s) as part of the permit review process.

8.02 C. 1. p. Aquaculture structures and equipment shall be of sound construction and shall be so maintained. Abandoned or unsafe structures and equipment shall be removed or repaired promptly by the owner. Where any structure might constitute a potential hazard to the public in the future, the local government with jurisdiction shall require the posting of a bond commensurate with the cost of removal or repair. Said government may abate an abandoned or unsafe structure pursuant to the provisions of (TMC 8.05).

8.02 C. 2. Aquaculture - Designation Specific Requirements

8.02 C. 2. a. Aquatic, Natural

8.02 C. 2. a. 1) Conditional Use Permit

8.02 C. 2. b. Shoreline Recreation, Shoreline Residential, High Intensity

8.02 C. 2. b. 1) All aquaculture located upland of the aquatic zone shall be permitted through a SDP only if in compliance with the other applicable sections of this SMP.

8.02 C. 2. c. Urban Conservancy

8.02 C. 2. c. 1) Conditional Use Permit

8.02 D. Archaeological, Cultural, Educational, Historic and Scientific Resources

8.02 D. 1. Archaeological, Cultural, Educational, Historic and Scientific Resources - General Use Regulations

The following regulations apply to all shoreline uses and activities in all shoreline designations and on all sites within shoreline jurisdiction having archaeological, cultural, or historic resources that are recorded at the Washington Department of Archaeology and

Historic Preservation (DAHP) and/or with local jurisdictions, including the cities and towns within Okanogan County, the Colville Confederated Tribes (CCT), the Yakama Indian Nation (YIN) and affected Indian tribes and bands; or that have been or may be inadvertently uncovered.

8.02 D. 1. a. Archaeological sites are subject to the National Historic Preservation Act, as amended (16USC470), RCW 27.44 (Indian Graves and Records), RCW 27.53 (Archaeological Sites and Resources), and WAC 25-48 (Archaeological Excavation and Removal Permit).

8.02 D. 1. b. All Shorelines of the State and any other sites identified by the DAHP and/or the CCT or YIN as having a high probability of containing significant archaeological and historic resources shall be considered suspected historic, cultural, or archaeological resources.

8.02 D. 1. c. Known or suspected historic, cultural, and archaeological sites:

8.02 D. 1. c. 1) Notification of DAHP, or CCT and/or YIN and, if required, preparation of an evaluation and a report meeting the minimum reporting standards of the DAHP or Colville and/or Yakama Tribes (as appropriate). Such a report shall be prepared by a cultural resource management professional who meets the qualification standards promulgated by the National Park Service and published in 36 CFR Part 61, shall be required before the start of any ground disturbance work in any area known to contain archaeological, cultural, or historic resources, regardless of whether a shoreline permit or exemption is required.

8.02 D. 1. c. 2) Upon receipt of application for a shoreline permit or request for a statement of exemption for development on properties within 500 feet of a site known to contain an historic, cultural or archaeological resource(s), the local government with jurisdiction shall require an evaluation and a report meeting the minimum reporting standards of the DAHP, Colville and/or Yakama Tribes (as appropriate), prepared by a cultural resource management professional who meets the qualification standards promulgated by the National Park Service and published in 36 CFR Part 61; provided that, the provisions of this section may be waived if the Administrator determines that the proposed development activities do not include any ground disturbing activities and will not impact a known historic, cultural or archaeological site.

i. The fee for the services of the cultural resource management professional shall be paid by the applicant. The applicant shall submit a minimum of five (5) copies of the site assessment to the Administrator for distribution to the applicable parties for review.

ii. If the evaluation identifies the presence of significant historic, cultural, or archaeological resources, a Cultural Resource Management Plan (CRMP) shall be prepared by a cultural resource management professional who meets the qualification standards promulgated by the National Park Service and published in 36 CFR Part 61. The fee for the services of the cultural resource management professional shall be paid by the applicant. In the preparation of such plans, the cultural resource management professional shall solicit comments from the DAHP, the History and Archeology Department of the CCT, and any Indian or First Nations tribes or bands known to be affected. Comments received shall be incorporated into the conclusions and

recommended conditions of the CRMP to the maximum extent practicable. The applicant shall submit a minimum of five (5) copies of the CRMP to the Administrator for distribution to the applicable parties for review.

iii. The recommendations and conclusions of the CRMP shall be used to assist the Administrator in making final administrative decisions concerning the presence and extent of historic, cultural, and archaeological resources and appropriate mitigating measures. The Administrator shall consult with the DAHP, the History and Archeology Department of the CCT, and any affected Indian or First Nations tribes or bands prior to approval of the CRMP.

iv. The Administrator may reject or request revision of the conclusions reached in a CRMP when the Administrator can demonstrate that the assessment is inaccurate or does not fully address the historic, cultural, and archaeological resource management concerns involved.

8.02 D. 1. c. 3) Upon receipt of a complete development permit application in an area of known or suspected historic, cultural, or archaeological resources, the local government with jurisdiction shall notify and request a recommendation from appropriate agencies, including the DAHP, the CCT, and any Indian or First Nations tribes or bands known to be affected. Recommendations of such agencies and other affected persons shall be duly considered and adhered to whenever feasible. Notification shall include the following information:

i. The date of application, the date of notice of completion of the application, and the date of the notification;

ii. A site map including the street address, tax parcel number, township, range, and section of the proposed project area;

iii. A description of the proposed project action and a list of the project permits included in the application, and, if applicable, a list of any studies requested by the local government with jurisdiction;

iv. The identification of other permits not included in the application, to the extent known by the local government with jurisdiction;

v. The identification of existing environmental documents that evaluate the proposed project and, if not otherwise stated on the document providing notice of application, the location where the application and any studies can be reviewed;

vi. Any other information determined appropriate by the local government with jurisdiction;

vii. A statement indicating those development regulations that will be used for project mitigation or a determination of consistency, if they have been identified at the time of notice;

viii. A statement of the limits of the comment period and the right of each agency to comment on the application within a thirty (30) day time period, request a copy of the decision once made, and appeal a decision when allowed by law.

8.02 D. 1. c. 4) In granting shoreline permits or statements of exemption for development on properties within 500 feet of a site known to contain an historic, cultural or archaeological resource(s), the local government with jurisdiction may attach conditions to provide sufficient time and/or conditions for consultation with the DAHP, the CCT, and any affected Indian or First Nations tribes or bands, and to ensure that historic, cultural, and archaeological resources are properly protected, or for appropriate agencies to contact property owners regarding purchase or other long-term arrangements. Provision for the protection and preservation of historic, cultural, and archaeological sites shall be incorporated to the maximum extent practicable. Permit or other requirements administered by the DAHP pursuant to RCW 27.44 and RCW 27.53 may apply in addition to the provisions of this SMP.

8.02 D. 1. d. Inadvertent Discovery

8.02 D. 1. d. 1) All shoreline permits shall contain provisions requiring that, whenever historic, cultural or archaeological sites or artifacts are discovered in the process of development in shoreline areas, work on that portion of the development site shall be stopped immediately, the site secured, and the find reported as soon as possible to the Administrator.

8.02 D. 1. d. 2) Upon notification of such find, the property owner shall notify the DAHP, the History and Archaeology Department of the CCT, and any Indian or First Nations tribes or bands known to be affected. Notification to agencies shall include the information specified for notification under the heading "Known or suspected historic, cultural, and archaeological sites" above.

8.02 D. 1. d. 3) Upon notification of such find, the Administrator shall conduct a site investigation to determine the significance of the discovery. Based upon the findings of the site investigation and consultation with the parties listed above, the Administrator may require that an immediate evaluation be conducted or may allow stopped work to resume. The evaluation shall meet the minimum reporting standards of the DAHP and shall be conducted by a cultural resource management professional who meets the qualification standards promulgated by the National Park Service and published in 36 CFR Part 61, to determine the presence of significant historic, cultural, or archaeological resources. The fee for the services of the cultural resource management professional shall be paid by the landowner or responsible party. The applicant shall submit a minimum of five (5) copies of the evaluation and accompanying report to the Administrator for distribution to the applicable parties for review.

8.02 D. 1. d. 4) If an evaluation is required, the area of inadvertent discovery shall be stabilized, contained or otherwise protected until the evaluation is completed. The evaluation shall be distributed to the DAHP, the History and Archaeology Department of the CCT, and any Indian or First Nations tribes or bands known to be affected for a thirty (30) day review period or, in the case of inadvertent discovery of human remains, a thirty (30) day review period to determine the significance of the discovery. If the above listed agencies or governments have determined that the site is not significant, or if the above listed agencies or governments have failed to respond within the applicable review period following receipt of the site assessment, stopped work may resume.

8.02 D. 1. d. 5) Upon receipt of a positive determination of a site's significance, the Administrator may invoke the provisions for known sites, above, for a Cultural Resource Management Plan.

8.02 D. 1. e. The requirements of this section shall not apply where an applicant has obtained an approved Archeological Excavation and Removal permit from the DAHP pursuant to WAC 25-48-060, provided that the applicant must adhere to the requirements of said approved permit.

8.02 D. 2. Archaeological, Cultural, Educational, Historic and Scientific Uses - Designation specific requirements

8.02 D. 2. a. Aquatic, Natural, Urban Conservancy, Shoreline Recreation, Shoreline Residential, High Intensity

8.02 D. 2. a. 1) Exempt, if low intensity use and provided no significant ecological impact to the area will result.

8.02 E. Boating Facilities

8.02 E. 1. Boating Facilities - General Regulations (including docks, marinas, launches, moorage)

8.02 E. 1. a. When establishing regulation of motorized vs. non-motorized uses, hours and other limitations on boating use of waters in Okanogan County and the incorporated communities therein, the regulations shall be based, in part, on protection of shoreline functions and values.

8.02 E. 1. b. Mitigation for any adverse development impacts of boating facilities shall be required. On-site mitigation shall be preferred; however, in cases in which meaningful on-site mitigation is not feasible, off-site mitigation may be allowed. In such instances a mitigation management plan shall be required, and shall specify a suitable mitigation site. Adverse development impacts to adjacent properties shall not be allowed.

8.02 E. 1. c. New boating facilities shall be consistent with the applicable local comprehensive and recreation plans. When new sites are considered, sufficient evidence must be presented to show that existing public and commercial marinas, docks, and boat launches are inadequate and cannot be expanded to meet regional demand.

8.02 E. 1. d. For commercial and public boating facilities, the perimeter of parking and storage areas shall be landscaped to provide a visual and noise buffer between adjoining dissimilar uses or scenic areas, using primarily native, self-sustaining vegetation from the recommended list (Appendix E). Landscaping along the waterward side shall also be required. The permit application submittal shall identify the size, location, and species of plants that will be used.

8.02 E. 1. e. Boating facilities shall be located where no or minimal shoreline stabilization will be necessary and where water depths are adequate to eliminate or minimize the need for offshore or foreshore channel construction dredging, maintenance dredging, spoil disposal, filling, beach enhancement, and other maintenance activities.

8.02 E. 1. f. When plastics and other non-biodegradable materials are used in boating facilities, precautions shall be taken to ensure their containment.

8.02 E. 1. g. Boating facility design shall minimize interference with geohydraulic processes and disruption of existing shore forms.

8.02 E. 1. h. Parking facilities serving a boating facility shall be located outside shoreline jurisdiction, or, if that is not feasible, shall be located landward of the Zone 2 - Use Buffer (Table 8.1).

8.02 E. 1. i. Boating facilities, including boat lifts, and navigation aids shall be positioned so as not to be a hazard to navigation.

8.02 E. 1. j. Boating facilities shall provide public access in accordance with Section 8.02 K Public Access.

8.02 E. 1. k. Boating facilities shall be located and designed so their structures and operations will be aesthetically compatible with the area visually affected and will not unreasonably impair shoreline views. Use of natural non-reflective materials is encouraged.

8.02 E. 1. l. The local government with jurisdiction shall request technical assistance from agencies with jurisdiction and/or knowledge, including but not limited to the Washington departments of Ecology, of Fish and Wildlife, and of Health; and shall make available to those agencies the *Shoreline Inventory and Characterization* (Appendix A and Chapter 4) and maps developed as part of this master program. The local government with jurisdiction shall consider the comments received from those agencies before making a decision on whether or not to approve the permit, and any conditions or modifications required.

8.02 E. 1. m. Overwater structures shall only be placed on portions of the shorelines where the natural flows and velocities shall not be impeded by the structure and where the placement of the structure will not restrict the natural scour and depositional actions of the shoreline.

8.02 E. 1. n. New pier or dock construction, excluding docks accessory to single-family residences, shall be permitted only when the applicant has demonstrated that a specific need exists to support the intended water-dependent uses. If a port district or other public or commercial entity involving water-dependent uses has performed a needs analysis or comprehensive master plan projecting the future needs for pier or dock space, and if the plan or analysis is approved by the local government and consistent with these guidelines, it may serve as a necessary justification for pier design, size and construction. The intent of this provision is to allow ports and other entities the flexibility necessary to provide for existing and future water-dependent uses.

8.02 E. 2. Marina-Specific Regulations

8.02 E. 2. a. Where allowed, marinas shall be permitted only as a conditional use.

8.02 E. 2. b. Public access, both physical and visual, shall be required as part of all marinas.

8.02 E. 2. c. Marinas shall be constructed in accordance with the provisions all applicable current state and local regulations.

8.02 E. 2. d. Marinas or expanded constructed after the effective date of these regulations that provide moorage space for watercraft-shall provide sewage pump-out facilities.

8.02 E. 2. e. Marinas shall be sited, designed, and built to minimize conflicts with agriculture.

8.02 E. 2. f. Marinas shall be designed to not interfere with existing navigational routes on the river.

8.02 E. 3. Marinas - Designation Specific Requirements

8.02 E. 3. a. Aquatic

8.02 E. 3. a. 1) Marinas are allowed or prohibited based on the regulation for the adjoining upland shoreline designation.

8.02 E. 3. b. Natural

8.02 E. 3. b. 1) Prohibited.

8.02 E. 3. c. Shoreline Recreation, Urban Conservancy, Shoreline Residential and High Intensity

8.02 E. 3. c. 1) Conditional Use Permit.

8.02 E. 4. Docks and Moorage - Specific Regulations

The regulations that follow are applicable to all docks, shared moorage facilities, and other overwater boating facilities, and the word "dock" shall apply to all such facilities.

8.02 E. 4. a. The Administrator shall require and use the following information in his or her review of proposals for docks:

8.02 E. 4. a. 1) Description of the proposed structure, including its size, location, design, materials, and any shoreline stabilization or other modifications required by the project.

8.02 E. 4. a. 2) Proposed location of the dock relative to property lines and the ordinary high water mark.

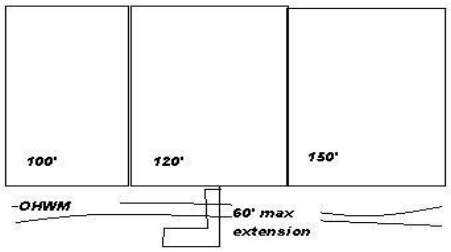
8.02 E. 4. a. 3) Orientation of the dock relative to neighboring docks.

8.02 E. 4. a. 4) Anticipated impacts on views and on access to existing docks, and other reasonably foreseeable impacts on adjacent properties.

8.02 E. 4. a. 5) Any provisions for public access, enjoyment and use of the water and shorelines.

8.02 E. 4. b. Docks shall not significantly interfere with the use of navigable waters or with public use of shorelines. The length of any dock shall be the minimum necessary to assure navigability and protect public use of the water body. On "T" or "L" shaped docks, the length of the extension or extensions perpendicular to the main body of the dock shall not exceed 50% of the length of the lot property line at the OHWM, or the upland property line adjacent to the lake, as shown in Figure 8.02 a, below. Docks may be prohibited where necessary to protect navigation or public use of the water body. Docks not attached to the shoreline may be allowed where the dock serves a water-dependent or water-oriented use and measures have been taken to reduce the hazard to navigation.

Figure 8.02 a) Dock Extension



8.02 E. 4. c. All docks shall be constructed and maintained in a safe condition. Wood treated with creosote, pentachlorophenol or other similarly toxic materials is prohibited. Abandoned or unsafe docks shall be removed or repaired promptly by the adjoining upland property owner. Where any such structure constitutes a hazard to the public, the local government with jurisdiction may, following notice to the owner, abate the structure if the owner fails to do so within 90 days. Said government may impose a lien on the associated shoreline property in an amount equal to the cost of the abatement.

8.02 E. 4. d. No over-water application of preservative treatment or other chemical compounds shall be permitted. Docks may be painted provided brush application is used and best management practices are followed to prevent paint from coming in contact with the water.

8.02 E. 4. e. Any person or succession of different persons residing on the vessel in a specific location, and/or in the same area on more than a total of thirty days in any forty-day period or on more than a total of ninety days in any three hundred sixty-five-day period results in a "Residential Use" Status and is prohibited. "In the same area" means within a radius of one mile of any location where the same vessel previously moored or anchored on state-owned aquatic lands. A vessel that is occupied and is moored or anchored in the same area, but not for the number of days described in this subsection, is considered used as a recreational or transient vessel.

8.02 E. 4. f. Bulk storage for gasoline, oil, and other petroleum products is prohibited on docks.

8.02 E. 4. g. All docks shall be designed and constructed in compliance with the following standards:

8.02 E. 4. g. 1) Pilings must be structurally sound prior to placement in the water.

8.02 E. 4. g. 2) Piles, floats, or other materials in direct contact with the water must be approved by applicable state agencies, including the Washington Department of Fish and Wildlife and, in the case of navigable waters, the Washington Department of Natural Resources.

8.02 E. 4. g. 3) Floating docks shall include stops to keep the floats off the bottom of the water body at low water level.

8.02 E. 4. g. 4) Overhead wiring or plumbing is not permitted on docks.

8.02 E. 4. g. 5) Lighting shall be the minimum necessary to locate the dock at night and shall focus downward to minimize glare. Any dock extending more than fifty feet (50') beyond the OHWM shall have white lights marking the outer dimensions. In all cases, solar-powered lights shall be preferred.

8.02 E. 4. g. 6) Docks with feet or plates that rest on the lakebed or streambed are preferred over those requiring excavation and footings.

8.02 E. 4. g. 7) Dock design, placement, and orientation shall allow for access to existing docks in the vicinity and shall minimize impacts on adjacent properties, including impacts on views.

8.02 E. 4. h. All residential moorage facilities shall be subject to number, size, and setback standards as follows:

8.02 E. 4. h. 1) Number:

i. All new residential developments (including subdivisions if moorage facilities are to be proposed) serving more than two dwelling units that intend to provide moorage facilities must create shared moorage facilities rather than individual docks. Such development, including new residential subdivisions or planned developments shall be required to indicate the location of shoreline access to proposed moorage facilities at the time of plat or subdivision.

ii. All multi-family residences proposing to provide moorage facilities shall be limited to a single shared moorage facility, provided that the Administrator may authorize more than one shared moorage facility if, based on conditions specific to the site, a single facility would be inappropriate for reasons of safety, security, or impact to the shoreline environment; and if the additional facility or facilities will have no net impact on shoreline ecological resources.

iii. For existing residential lots, no more than one dock shall be permitted for each shoreline lot.

8.02 E. 4. h. 2) Size:

i. The length of any dock shall be the minimum necessary to accomplish moorage for the intended boating use and shall be only long enough to accommodate slips for one boat for each residence served plus one slip for transient moorage.

ii. A dock serving a single family use over 200 square feet or 25 feet in length is allowed only as a conditional use in all shoreline designations.

iii. To decrease impacts on navigation, docks extending farther than 1/3 the width of the river, measured perpendicular to the shoreline where dock is to be installed, shall not be allowed.

8.02 E. 4. h. 3) Side yard setbacks:

i. Docks shall be set back a minimum of five feet (5') from side property lines, except that shared moorage facilities may be located adjacent to or upon a side property line when mutually agreed to by a legal instruments such as a contract, covenant or easement with the owners of all properties with access privilege. A copy of the contract, covenant or easement must be recorded

with the Okanogan County Auditor and filed with the application for permit or shoreline exemption.

8.02 E. 4. i. All shared moorage facilities shall be subject to the following standards:

8.02 E. 4. i. 1) Shared moorage facilities shall include no more than one moorage space per dwelling unit or lot and one transient slip.

8.02 E. 4. i. 2) The size of the moorage facility shall be the minimum necessary to accomplish moorage for one boat for each residence served plus one transient slip, and the moorage facility shall be configured to cause minimal disturbance to shoreline resources.

8.02 E. 4. i. 3) Any requirement for shared moorage shall be documented with a restriction on the face of the plat. Restrictive covenants prohibiting individual docks and requiring shared moorage, and providing that the covenants shall not be altered without the approval of the Administrator, shall be recorded with the Okanogan County Auditor.

8.02 E. 4. i. 4) If shared moorage is provided, the applicant shall file a legally enforceable joint use agreement or other legal instrument at the time the permit application for the mooring facility is submitted. Said instrument shall, at minimum, address the following:

i. Provisions for maintenance and operation;

ii. Easements or tracts for community access; and

iii. Provisions for joint or community use for all benefiting parties.

8.02 E. 4. i. 5) Any site for shared moorage shall be owned in undivided interest by property owners or managed by the homeowners' association as a common easement within the residential development. Shared moorage facilities shall be available to property owners in the residential development for community access.

8.02 E. 5. Piers and Docks - Designation Specific Requirements:

8.02 E. 5. a. Aquatic

8.02 E. 5. a. 1) Piers and docks are allowed or prohibited based on the regulation for the adjoining upland shoreline designation.

8.02 E. 5. b. Natural

8.02 E. 5. b. 1) Piers and docks for motor-craft are prohibited.

8.02 E. 5. b. 2) Piers and docks for non-motorized craft require Conditional Use Permit.

8.02 E. 5. c. Shoreline Recreation, Urban Conservancy, High Intensity and Shoreline Residential

8.02 E. 5. c. 1) Piers and docks shall be allowed subject to a Substantial Development Permit.

8.02 E. 6. Moorage - Designation Specific Requirements:

8.02 E. 6. a. Aquatic

8.02 E. 6. a. 1) Moorage facilities are allowed or prohibited based on the regulation for the adjoining upland shoreline designation.

8.02 E. 6. b. Natural, Urban Conservancy and Shoreline Residential

8.02 E. 6. b. 1) Moorage facilities for motor-craft are prohibited.

8.02 E. 6. c. High Intensity and Shoreline Recreation

8.02 E. 6. c. 1) Moorage facilities shall be allowed subject to a shoreline Conditional Use Permit.

8.02 E. 7. Float-Specific regulations:

8.02 E. 7. a. No more than one float shall be permitted for each shoreline lot.

8.02 E. 7. b. Floats shall not significantly interfere with the use of navigable waters or with public use of shorelines. No portion of the float shall be placed more than eighty feet (80') from the OHWM or the point at which the depth of the water exceeds seven feet (7') during high water. Floats may be prohibited where necessary to protect navigation or public use of the water body.

8.02 E. 7. c. No float shall have more than one hundred (100') square feet of surface area.

8.02 E. 7. d. All multi-family residences proposing to provide floats shall be limited to a single shared float, provided that the Administrator may authorize more than one shared float if, based on conditions specific to the site, a single float would be inappropriate for reasons of safety, security, or impact to the shoreline environment; and if the additional float or floats will have no net impact on shoreline ecological resources.

8.02 E. 8. Floats - Designation Specific Requirements:

8.02 E. 8. a. Aquatic

8.02 E. 8. a. 1) Floats are allowed or prohibited based on the regulation for the adjoining upland shoreline designation.

8.02 E. 8. b. Urban Conservancy, Natural and High Intensity

8.02 E. 8. b. 1) Conditional Use Permit.

8.02 E. 8. c. Shoreline Recreation and Shoreline Residential

8.02 E. 8. c. 1) Substantial Development Permit.

8.02 E. 9. Covered Moorage (e.g., overhead boat & jet ski canopies) - Designation Specific Requirements

8.02 E. 9. a. Aquatic, Natural, Urban Conservancy, Shoreline Residential, Shoreline Recreation, and High Intensity

8.02 E. 9. a. 1) Prohibited

8.02 E. 10. Boat Lifts - Designation Specific Requirements

8.02 E. 10. a. Aquatic

8.02 E. 9. a. 1) Allowed or prohibited based on the regulation for the adjoining upland shoreline designation.

8.02 E. 10. b. Natural

8.02 E. 10. b. 1) Prohibited

8.02 E. 10. c. Shoreline Recreation, Urban Conservancy, Shoreline Residential, and High Intensity:

8.02 E. 10. c. 1) Substantial Development Permit.

8.02 E. 11. Commercial and Public Boat Launch Ramps - Designation Specific Requirements

8.02 E. 11. a. Aquatic.

8.02 E. 11. a. 1) Allowed or prohibited based on the regulation for the adjoining upland shoreline designation.

8.02 E. 11. b. Natural,

8.02 E. 11. b. 1) All launch ramps prohibited.

8.02 E. 11. c. High Intensity, Shoreline Recreation

8.02 E. 11. c. 1) Commercial and Public: Substantial Development Permit.

8.02 E. 11. d. Urban Conservancy, Shoreline Residential

8.02 E. 11. d. 1) Commercial: Prohibited.

8.02 E. 11. d. 2) Public: Substantial Development Permit in Urban Conservancy, Conditional Use Permit in Shoreline Residential.

8.02 E. 12. Individual Private Boat Launch Ramps - Designation Specific Requirements

8.02 E. 11. a. Aquatic, Natural, Shoreline Recreation, Urban Conservancy, Shoreline Residential and High Intensity

8.02 E. 11. a. 1) Prohibited.

8.02 E. 13. Mooring Buoys/Float Plane Moorage Accessory to Permitted Moorage - Designation Specific Requirements

8.02 E.13. a. Natural, Aquatic, Waterward of Urban Conservancy

8.02 E. 13. a. 1) Conditional Use Permit

8.02 E. 13. b. Aquatic, waterward of Shoreline Recreation, Shoreline Residential, and High Intensity

8.02 E. 13. b. 1) Substantial Development Permit.

8.02 F. Commercial Uses and Activities

8.02 F. 1. Commercial Uses and Activities – General Regulations

8.02 F. 1. a. Commercial developments permitted in shoreline areas are, in descending order of preference:

8.02 F. 1. a. 1) Water-dependent uses;

8.02 F. 1. a. 2) Water-related uses;

8.02 F. 1. a. 3) Water-enjoyment uses; and

8.02 F. 1. a. 4) Non-water-oriented

8.02 F. 1. b. The Administrator shall require and use the following information in his or her review of commercial development proposals:

8.02 F. 1. b. 1) Consistency with local comprehensive plan and zoning;

8.02 F. 1. b. 2) Specific nature of the commercial activity;

8.02 F. 1. b. 3) Need for shoreline frontage; determination if use qualifies as water-dependent, water-related or water-enjoyment;

8.02 F. 1. b. 4) Provisions for public visual and/or physical access to the shoreline;

8.02 F. 1. b. 5) Provisions to ensure that the development will not result in loss of shoreline functions including conditions for ecological restoration;

8.02 F. 1. b. 6) Measures for enhancing the relationship of the use to the shoreline, including aesthetics and landscaping; and

8.02 F. 1. b. 7) The *Shoreline Inventory and Characterization* (Appendix A and Chapter 4) and accompanying maps.

8.02 F. 1. c. Nonwater-oriented commercial uses are prohibited in all shoreline designations unless they meet the following criteria:

8.02 F. 1. c. 1) The use is part of a mixed-use project that includes water-dependent uses and provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration; or

8.02 F. 1. c. 2) Navigability is severely limited at the proposed site; and the commercial use provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration.

8.02 F. 1. c. 3) In areas designated or zoned for commercial use, nonwater-oriented commercial development may be allowed if the site is physically separated from the shoreline by another property, flood control structure or public right of way.

8.02 F. 1. c. 4) Non-water dependent commercial uses should not be allowed over water except in existing structures or in the limited instances where they are auxiliary to and necessary in support of water-dependent uses.

8.02 F. 1. c. 5) The use serves a function supportive of water-oriented or water-dependent uses or is otherwise consistent with approved community planning.

8.02 F. 1. d. Commercial development shall be designed and maintained in a neat, orderly, and environmentally-compatible manner, consistent with the character and features of the surrounding area. To that end, the Administrator may, following a public hearing, adjust the project dimensions and alter required setbacks established in Table 8.1 and/or prescribe screening conditions. Need and special considerations for landscaping and buffer areas shall also be subject to review and approval.

8.02 F. 1. d. 1) All commercial loading and service areas shall be located on the upland (landward) side of the commercial structure to the maximum extent practical or provisions shall be made to separate and screen the loading and service areas from the shoreline.

8.02 F. 1. d. 2) Commercial developments where landscaping is proposed shall be landscaped to visually enhance the shoreline area and contribute to shoreline functions and values, using primarily native, self-sustaining vegetation. Plants from the recommended list (Appendix E) are preferred. The permit application submittal shall identify the size, location, and species of plants that will be used.

8.02 F 1. e. Commercial development on private and public lands shall be required to consider incorporating public access and ecological restoration as mitigation for impacts to shoreline resources and values unless public access cannot be provided in a manner that does not result in significant interference with operations or hazards to life or property, where commercial use is proposed for location on land in public ownership, public access shall be required. Refer to Section 8.02 K and WAC 173-26-221(4) for public access provisions. Any intended public access facilities must be platted, or incorporated into a binding site plan, improved, and maintained and in compliance with local comprehensive planning and shoreline recreational access planning.

8.02 F.2 Commercial Uses and Activities - Designation Specific Requirements:

8.02 F. 2. a. Aquatic

8.02 F. 2. a. 1) Commercial development shall be limited to water-dependent uses that require an over-the-water location and are allowed in the landward shoreline designation.

8.02 F. 2. a. 2) Conditional use permit.

8.02 F. 2. b. Natural, Urban Conservancy

8.02 F. 2. b. 1) Prohibited.

8.02 F. 2. c. Shoreline Recreation, Shoreline Residential and High Intensity

8.02 F. 2. c. 1) Commercial development is allowed with a substantial development permit provided such development is consistent with local zoning

regulations or directly related to an existing conforming or permitted agricultural, recreational or residential use and be subject to the development standards set forth in Table 8.1 as follows:

i. Commercial development shall be water-oriented, except as allowed in 8.02 F. 1. c.

ii. Commercial development shall be consistent with local comprehensive plan provisions and zoning regulations.

8.02 G. Industrial Uses and Activities

8.02 G. 1. Industrial Uses and Activities – General Regulations

8.02 G. 1. a. Industrial developments permitted in shoreline areas are, in descending order of preference:

8.02 G. 1. a. 1) Water-dependent uses;

8.02 G. 1. a. 2) Water-related uses;

8.02 G. 1. a. 3) Water-enjoyment uses; and

8.02 G. 1. a. 4) Non-water-oriented uses

8.02 G. 1. b. New nonwater-oriented industrial development shall be prohibited in all shoreline designations except when:

8.02 G. 1. b. 1) The use is part of a mixed-use project that includes water-dependent uses and provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration; or

8.02 G. 1. b. 2) Navigability is severely limited at the proposed site; and the industrial use provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration.

8.02 G. 1. b. 3) In areas designated or zoned for industrial use, nonwater-oriented industrial uses may be allowed if the site is physically separated from the shoreline by another property or public right of way.

8.02 G. 1. c. The Administrator shall require and use the following information in his or her review of industrial development proposals:

8.02 G. 1. c. 1) Consistency with local comprehensive plans and zoning;

8.02 G. 1. c. 2) Specific nature of the industrial activity;

8.02 G. 1. c. 3) Need for shoreline frontage;

8.02 G. 1. c. 4) Provisions for public visual and/or physical access to the shoreline;

8.02 G. 1. c. 5) Provisions to ensure that the development will not result in loss of shoreline functions or reduction in shoreline values;

8.02 G. 1. c. 6) Measures for enhancing the relationship of the use to the shoreline, including aesthetics and landscaping; and

8.02 G. 1. c. 7) The *Shoreline Inventory and Characterization (*Appendix A and Chapter 4) and accompanying maps.

8.02 G. 1. d. Industrial development shall consider incorporating public access as mitigation for impacts to shoreline resources and values unless public access cannot be provided in a manner that does not result in significant interference with operations or hazards to life or property, as provided in WAC 173-26-221(4).

8.02 G. 1. e. Industrial development and redevelopment are encouraged to locate where environmental cleanup and restoration of the shoreline area can be incorporated.

8.02 G. 1. f. Where industrial development is allowed, it shall be located, designed, or constructed in a manner that assures no net loss of shoreline ecological functions and such that it does not have significant adverse impacts to other shoreline resources and values.

8.02 G. 1. g. Industrial development shall be designed and maintained in a neat, orderly, and environmentally-compatible manner, consistent with the character and features of the surrounding area. To that end, the Administrator may, following a public hearing, adjust the project dimensions and increase required setbacks established in Table 8.1 and/or prescribe reasonable use-intensity and screening conditions. Need and special considerations for landscaping and buffer areas shall also be subject to review and approval.

8.02 G. 1. h. New over-water construction for industrial uses is prohibited unless it can be shown to be essential to a water-dependent industrial use.

8.02 G. 1. i. All loading and service areas shall be located on the upland (landward) side of the industrial facility or provisions shall be made to separate and screen the loading and service areas from the shoreline, unless such provisions are infeasible due to the specific nature of the water-dependent industrial use or the proposed circulation poses a safety hazard to existing traffic patterns.

8.02 G. 1. j. Industrial development on private and public lands shall be required to consider incorporating public access as mitigation for impacts to shoreline resources and values unless public access cannot be provided in a manner that does not result in significant interference with operations or hazards to life or property, as provided in WAC 173-26-241(3)(f). Any intended public access facilities must be platted, or incorporated into a binding site plan, improved, and maintained and in compliance with local comprehensive planning and shoreline recreational access planning.

8.02 G. 1. k. Industrial developments shall be landscaped to visually enhance the shoreline area and contribute to shoreline functions and values, using primarily native, self-sustaining vegetation. Plants from the recommended list (Appendix E) are preferred. Plants that may compromise shoreline values shall be prohibited. The permit application submittal shall identify the size, location, and species of plants that will be used.

8.02 G. 1. l. Drainage and surface runoff from industrial developments shall be controlled so that pollutants will not be carried into water bodies.

8.02 G. 2. Industrial Uses - Designation Specific Requirements:

8.02 G. 2. a. Aquatic

8.02 G. 2. a. 1) Industrial development shall be limited to water-dependent uses that require an over-the-water location and are allowed in the landward shoreline designation.

8.02 G. 2. a. 2) All such uses shall require a conditional use permit and be subject to the development standards set forth in Table 8.1.

8.02 G. 2. b. Natural, Shoreline Recreation, Urban Conservancy, Shoreline Residential

8.02 G. 2. b. 1) New industrial development shall be prohibited.

8.02 G. 2. b. 2) Expansion of pre-existing water-dependent industrial uses in these zones shall only be permitted through a conditional use permit.

8.02 G. 2. b. 3) Expansion of pre-existing industrial uses shall not alter the visual character of the zone and be subject to mitigations measures that will enhance the natural character of the shoreline.

8.02 G. 2. c. High Intensity

8.02 G. 2. c. 1) Water-oriented industrial development is allowed with a substantial development permit provided such development is conforming to the underlying land use zone or associated with a permitted agricultural or industrial use and be subject to the development standards set forth in Table 8.1.

8.02 G. 2. c. 2) Industrial development shall be water dependent, water related or water-oriented or be physically separated from the shoreline by another property under separate ownership, a flood control structure, or public right of way.

8.02 G. 2. c. 3) In no case shall non-water dependent new industrial development warrant to construction of flood protection structures or shoreline stabilization.

8.02 H. Mining Uses and Activities

8.02 H. 1. Mining Uses and Activities – General Regulations

8.02 H. 1. a. Mineral prospecting and placer mining are allowed subject to compliance with the current edition of the Washington State Department of Fish and Wildlife's Gold and Fish pamphlet, all other prospecting and placer mining activities at different times or locations, or with different equipment than allowed in WDFW Gold and Fish shall require a Conditional Use Permit. This provision does not apply to mining that meets the definition of a substantial development (See Chapter 2 – Definitions). .

8.02 H. 1. b. All surface mining shall be conducted in strict conformance with the Washington State Surface Mining Reclamation Act, Chapter 78.44 RCW. Surface mining permits shall be coordinated with state and federal permits.

8.02 H. 1. c. Mining not meeting the definition of mineral prospecting or placer mining shall require a conditional use permit.

8.02 H. 1. d. In all shoreline designations, mining shall only be allowed by Conditional Use Permit and only when the proposed mine site has been identified as a mineral land of long term commercial significance.

8.02 H. 1. e. Mining waterward of the ordinary high-water mark:

8.02 H. 1. e. 1) Mining waterward of the ordinary high-water mark of a river shall not be permitted unless:

i. Removal of specified quantities of sand and gravel or other materials at specific locations will not adversely affect the natural processes of gravel transportation for the river system as a whole; and

ii. The mining and any associated permitted activities will not have significant adverse impacts to habitat for priority species nor cause a net loss of ecological functions of the shoreline.

8.02 H. 1. e. 2) The determinations required by Section 8.02 H.1. a., above, shall be made consistent with RCW 90.58.100(1) and WAC 173-26-201 (2)(a) and shall be integrated with required SEPA review.

8.02 H. 1. e. 3) In considering renewal, extension or reauthorization of gravel bar and other in-channel mining operations in locations where they have previously been conducted, local government shall require compliance with the provisions of 8.02.H.1.f and 8.02 H. 1. g. to the extent that no such review has previously been conducted. Where there has been prior review, local government shall review previous determinations comparable to the requirements of this section to assure compliance with the provisions of Section 8.02 H. 1. g. and 8.02 H. 1 g.

8.02 H. 1. e. 4) The provisions of this section do not apply to dredging of authorized navigation channels when conducted in accordance with WAC 173-26-231 (3)(f).

8.02 H. 1. f. The Administrator shall require and use the following information in his or her review of mining proposals (except mineral prospecting and placer mining):

8.02 H. 1. f. 1) Materials to be mined;

8.02 H. 1. f. 2) Need for those materials;

8.02 H. 1. f. 3) Need for shoreline location;

8.02 H. 1. f. 4) Quantity of materials to be mined, by type;

8.02 H. 1. f. 5) Quality of materials to be mined, by type. For certain minerals, an evaluation by a geologist licensed under the provisions of RCW 18.220 may be required;

8.02 H. 1. f. 6) Mining technique and equipment to be used;

8.02 H. 1. f. 7) Depth of overburden and proposed depth of mining;

8.02 H. 1. f. 8) Lateral extent and depth of total mineral deposit;

8.02 H. 1. f. 9) Cross section diagrams indicating present and proposed elevations and/or extraction levels;

8.02 H. 1. f. 10) Existing drainage patterns, seasonal or continuous, and proposed alterations thereof including transport and deposition of sediment and channel changes that may result;

8.02 H. 1. f. 11) Proposed means of controlling surface runoff and preventing or minimizing erosion and sedimentation including impacts to banks on both sides of the excavation;

8.02 H. 1. f. 12) The location and sensitivity of any affected critical areas;

8.02 H. 1. f. 13) Subsurface water resources and aquifer recharge areas, including origin, depth, and extent;

8.02 H. 1. f. 14) Quality analysis of overburden, excavation materials, and tailings, with plans for storage, use, or disposition;

8.02 H. 1. f. 15) Mining plan and scheduling, including seasonal, phasing, and daily operation schedules;

8.02 H. 1. f. 16) Reclamation plan that meets the requirements of this master program and Chapter 78.44 RCW (for surface mining operations only);

8.02 H. 1. f. 17) Screening, earthen berm buffering, and/or fencing plans; and

8.02 H. 1. f. 18) Impacts to aquatic and shoreline habitat.

8.02 H. 1. g. Mining operations (except mineral prospecting and placer mining) shall be sited, designed, conducted, and completed (including reclamation) to ensure no net loss of shoreline ecological functions, including watershed-scale functions and cumulative impacts. A reclamation plan prepared by a qualified professional and providing for restoration of slope stability, water conditions, safety conditions, and, where relevant, vegetative cover shall be required for any new mining and associated activities. Meeting the "no net loss" standard shall include avoidance and mitigation of adverse impacts during the course of mining and reclamation, and shall be based on an evaluation of the final reclamation required for the site. Preference shall be given to mining proposals that result in the creation, restoration, or enhancement of habitat for priority species. The proposed subsequent use of mined property must be consistent with the provisions of the environment designation in which the property is located. Performance security requirements are as follows:

8.02 H. 1. g. 1) Surface mining operations must comply with the relevant performance security requirements of RCW 78.44.

8.02 H. 1. g. 2) A public or governmental agency shall not be required to post performance security.

8.02 H. 1. g. 3) All other approved mining operations shall be required to post performance security in an amount adequate to complete reclamation, based on an approved reclamation plan.

8.02 H. 1. h. Mining operations shall comply with all local, state, and federal water quality standards and pollution control laws. Operations shall use effective techniques to prevent or minimize surface water runoff, erosion and sedimentation; prevent reduction of natural flows; protect all shoreline areas from acidic or toxic

materials; and maintain the natural drainage courses of all streams. Surface water runoff shall be impounded as necessary to prevent accelerated runoff and erosion.

8.02 H. 1. i. Overburden, mining debris, and tailings shall not be placed in water bodies or floodways and shall be stored and protected so as to prevent or minimize erosion or seepage to surface and ground waters.

8.02 H. 1. j. Precautions shall be taken to insure that stagnant or standing water especially that of a toxic or noxious nature does not develop.

8.02 H. 1. k. In no case shall mining operations impair lateral support and thereby result in earth movements extending beyond the boundaries of the site.

8.02 H. 1. l. If substantial evidence indicates that mining operations are causing, or continued operation would cause, significant and adverse impacts to water quality, habitat, or any shoreline ecological function, the Administrator shall terminate the shoreline permit for mining or impose further conditions on the mining operation to ensure no net loss of shoreline ecological functions.

8.02 H. 2. Mining - Designation Specific Requirements:

8.02 H. 2. a. Aquatic

8.02 H. 2. a. 1) Mining shall be allowed or prohibited based on the regulation for the adjoining shoreline designation landward of the OHWM.

8.02 H. 2. a. 2) Mineral prospecting and placer mining are allowed subject to the provisions of Section 8.02 H. 1. a.

8.02 H. 2. b. Natural, Shoreline Recreation, Urban Conservancy, Shoreline Residential and High Intensity

8.02 H. 2. b. 1) Mining is prohibited, unless the subject property has been designated as mineral lands of long-term commercial significance which shall require a conditional use permit.

8.02 H. 2. b. 2) Mineral prospecting and placer mining are allowed subject to the provisions of this section, above.

8.02 I. Municipal (includes all local governments)

Municipal uses are those in support of local government functions and services (e.g. public schools, city hall, maintenance facilities, hospitals, etc…). For the purposes of this SMP, recreational uses and utility facilities are excluded and shall comply with applicable sections.

8.02 I. 1. Municipal – General Regulations

8.02 I. 1. a. Non-water-oriented municipal uses will be permitted in shoreline areas only when no other feasible location is available, and only in compliance with bulk and dimensional standards established in Table 8.1 and shall be in compliance with the clearing and grading ordinance section.

8.02 I. 1. b. The Administrator shall require and use the following information in his or her review of municipal use proposals:

8.02 I. 2. b. 1) Specific nature of the proposed activity;

8.02 I. 2. b. 2) Need for shoreline location; including minimizing portion of use within shoreline jurisdictions.

8.02 I. 2. b. 3) Other locations considered and the reasons for choosing a shoreline site;

8.02 I. 2. b. 4) Provisions for public visual and/or physical access to the shoreline;

8.02 I. 2. b. 5) Provisions to ensure that the development will not result in loss of shoreline functions or reduction in shoreline values;

8.02 I. 2. b. 6) Measures for enhancing the relationship of the use to the shoreline, including aesthetics and landscaping; and

8.02 I. 2. b. 7) The *Shoreline Inventory and Characterization* (Appendix A and Chapter 4) and maps developed as part of this SMP.

8.02 I. 1. c. Municipal uses shall not be allowed in wetlands, or shoreline riparian vegetation conservation areas (Zone 1 & 2) or their buffers without following mitigation sequencing, complying with other parts of the SMP and Appendix C. All loading and service areas shall be located on the upland (landward) side of the principal structure or provisions shall be made to separate and screen the loading and service areas from the shoreline.

8.02 I. 1. d. Municipal uses shall be landscaped to visually enhance the shoreline area and contribute to shoreline functions and values, using primarily native, self-sustaining vegetation. Plants from the recommended list are preferred. Plants that may compromise shoreline values shall be prohibited. The permit application submittal shall include a landscape plan identifying the size, location, and species of plants that will be used.

8.02 I. 1. e. Drainage and surface runoff from municipal uses shall be controlled so that pollutants will not be carried into water bodies complying with the Eastern Washington Stormwater Manual.

8.02 I. 1. f. Public access facilities must be provided, dedicated, improved, and maintained as part of any shoreline municipal use.

8.02 I. 2. Municipal - Designation Specific Requirements:

8.02 I. 2. a. Aquatic

8.02 I. 2. a. 1) Municipal uses shall be allowed or prohibited based on the regulation for the adjoining shoreline designation landward of the OHWM..

8.02 I. 2. b. Natural

8.02 I. 2. b. 1) Municipal Uses are prohibited, except low intensity recreational uses and restoration activities.

8.02 I. 2. c. Shoreline Recreation, Urban Conservancy, Shoreline Residential and High Intensity

8.02 I. 2. c. 1) Non-water oriented uses and activities require a conditional use permit.

8.02 I. 2. c. 2) Water-oriented uses require a substantial development permit.

8.02 J. Parking

8.02 J. 1. Parking – General Regulations

8.02 J. 1. a. Any new and expanded parking area in a shoreline area shall directly serve an existing (legal at the time of adoption of this SMP) shoreline use and shall not be located on the waterward side of the permitted use.

8.02 J. 1. b. All parking shall be prohibited over water.

8.02 J. 1. c. Parking facilities shall prevent surface water runoff from contaminating water bodies, using the best available technology and best management practices, including complying with applicable Eastern Washington Storm Water Manual, and a maintenance program to assure proper functioning over time of any stormwater facilities required to comply with this regulation.

8.02 J. 1. d. New commercial and industrial parking facilities, necessary to support an authorized use, in shoreline areas shall be sited in compliance with bulk and dimensional standards and comply with Clearing and Grading Standards of Table 8.3 and designed to minimize visual, pedestrian, and other transportation network impacts as well as to minimize environmental impact on shoreline resources.

8.02 J. 1. e. Commercial parking facilities shall be adequately screened and landscaped along the waterward side with plants from the recommended list (Appendix E). Where a flood levee exists, it shall be considered screening.

8.02 J. 1. f. Parking facilities that will serve more than one use, such as recreational use on weekends and commercial use on weekdays shall be allowed and preferred to single use parking facilities.

8.02 J. 2. Parking - Designation Specific Regulations

8.02 J. 2. a. Aquatic, Natural

8.02 J. 2. a. 1) All parking - prohibited.

8.02 J. 2. b. Shoreline Recreation, Urban Conservancy, Shoreline Residential and High Intensity

8.02 J. 2. b. 1) Parking as a primary use - prohibited**.**

8.02 J. 2. b. 2) Parking appurtenant to a permitted use – allowed

8.02 K. Public Access

8.02 K. 1. Public Access – General Regulations

8.02 K. 1. a. For the purpose of this SMP, the Town of Twisp Comprehensive Plan shall be considered the official public access plan. Additional recreation plans approved by Town Council may be used to supplement public access provisions of the Comprehensive Plan for this SMP and are included as Appendix F.

8.02 K. 1. b. Development, uses, and activities shall be designed and operated to avoid unnecessarily impairing or detracting from the public's physical or visual access to the water and shorelines.

8.02 K. 1. c. Public access sites shall be dedicated to a public or non-profit entity unless a formal homeowners association or other legal entity exists or will be established to ensure the long term viability of the access.

8.02 K. 1. d. The Signage regulations in Section 8.02 O Signage of this chapter and the Shoreline Development Standards in Table 8.1 have been established in part to prevent impairment of or detraction from visual public access.

8.02 K. 1. e. Provisions for public or community access to the shoreline shall be incorporated into the shoreline development proposal for any action requiring such access unless the applicant demonstrates that such access is infeasible because at least one of the following provisions applies:

8.02 K. 1. e. 1) Unavoidable health or safety hazards to the public exist which cannot be prevented by any practicable means;

8.02 K. 1. e. 2) Inherent security requirements of the use cannot be satisfied through the application of alternative design features or other solutions;

8.02 K. 1. e. 3) Unacceptable environmental harm will result from the public access which cannot be mitigated;

8.02 K. 1. e. 4) Significant undue and unavoidable conflict between the proposed access and adjacent uses would occur and cannot be mitigated;

8.02 K. 1. e. 5) In determining that public access (physical or/and visual) is infeasible the director and applicant shall ensure that all reasonable alternatives have been evaluated, including but not limited to:

i. Regulating access by such means as limiting hours of use to daylight hours;

ii. Designing separation of uses and activities, i.e., fences, terracing, hedges, landscaping, signage, etc;

iii. Provision of an access at a site physically separated from the proposal such as a nearby street end, providing off-site public access improvements such as building a view point or establishment or providing improvements to a trail system.

8.02 K. 1. f. Dedication and improvement of physical public access shall be required as part of all shoreline development by public entities, including local governments, port districts, state agencies, and public utility districts, with the following exceptions:

8.02 K. 1. f. 1) Where an approved public access plan developed as part of a regulatory licensing process is submitted. Said public access plan must provide adequate public access to the shoreline, based on a needs analysis. Said public access facilities shall be developed, improved, and maintained as part of an approved Shoreline Recreational Plan and installed in a timely manner in coordination with the approved shoreline development.

8.02 K. 1. f. 2) Where more effective public access to the shoreline can be achieved through implementation of the adopted recreation plan of the local government with jurisdiction, the public entity or private individual proposing the development may contribute proportionally to implementation of the recreation

plan in lieu of providing public access on site unless onsite improvements are part of the public access plan.

8.02 K. 1. f. 3) Where the community makes a finding that no additional public access is required consistent with local comprehensive plans, subject to approval by CUP.

8.02 K. 1. g. Dedication and improvement of public physical access shall be required in all shoreline areas as follows:

8.02 K. 1. g. 1) As part of all marina development;

8.02 K. 1. g. 2) As part of boating facilities designed to serve the public or located on and adjoining on publically owned uplands.

8.02 K. 1. g. 3) As part of all new water-enjoyment, water-related and non-water-dependent commercial and industrial development, while consistent with local comprehensive plans, provided the intended use does not pose a safety threat to the general public.

8.02 K. 1. g. 4) As part of all primary utility development on public land. The requirement may be waived where an approved public access plan has been adopted as part of a regulatory licensing process. Said public access plan must provide adequate public access, based on a needs analysis.

8.02 K. 1. g. 5) As part of all subdivisions of land into more than four parcels, while consistent with local comprehensive plans and recreational public access plans.

8.02 K. 1. g. 6) As part of new structural public flood hazard reduction measures, such as dikes and levees.

8.02 K. 1. g. 7) As part of publicly financed or subsidized shoreline erosion control measures, where feasible, incorporate ecological restoration and public access improvements into the project, except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions. These shoreline erosion measures shall not restrict existing public access to the shoreline.

8.02 K. 1. h. Adjoining short plats totaling more than four parcels and submitted within 5 years of each other by the same applicant shall be subject to public access dedications.

8.02 K. 1. i. The scope and scale of public access shall be commensurate with the scale of the proposed land use action and the need for public physical and visual access opportunities in the vicinity of the proposed action. Multi-family and multi-lot residential and recreational developments shall provide public access and joint use for community recreational facilities.

8.02 K. 1. j. In all cases, the minimum width of shoreline public access easements shall be ten feet (10’), unless the Administrator determines that undue hardship would result. In such cases, easement or right-of-way widths may be reduced only to the extent necessary to relieve the demonstrated hardship.

8.02 K. 1. k. Where there is an irreconcilable conflict between water-dependant shoreline uses or physical public access and maintenance of views from adjacent

properties, the water-dependant uses and physical public access shall have priority, unless there is a compelling reason to the contrary.

8.02 K. 1. l. Rights of navigation shall be protected in conformance with the provisions of this Master Program.

8.02 K. 1. m. Public access sites and facilities shall be designed, constructed, operated, and maintained to result in no net loss of shoreline ecological functions.

8.02 K. 1. n. Public access sites shall be connected directly to the best-suited public street by way of a right of way or easement dedicated, improved, and maintained for public use. This requirement may be modified if the cost would be disproportionate to the scale of the proposed land use action.

8.02 K. 1. o. Any vacation of right-of-way within the shoreline must comply with RCW 35.79.035, "Limitations on vacations of streets abutting bodies of water — Procedure." Vacation of existing public access established through deed or declarations may not be vacated with written approval of the Town Shoreline Administrator.

8.02 K. 1. p. Where feasible, and in accordance with the Americans with Disabilities Act (ADA), public access sites shall be made barrier-free for people with disabilities.

8.02 K. 1. q. Required public access sites shall be developed and available for public use at the time of occupancy of the use or activity; or in accordance with other provisions for guaranteeing installation through a monetary performance assurance.

8.02 K. 1. r. Public access facilities shall be maintained over the life of the use or development. Future actions by successors in interest or other parties shall not diminish the usefulness or value of required public access areas and associated improvements.

8.02 K. 1. s. Public access easements shall be recorded on the deed of title and/or on the face of the plat or short plat as conditions running in perpetuity. Said recording with the Okanogan County Auditor's Office shall occur at the time of permit approval. Future actions by the applicant, successors in interest, or other parties shall not diminish the usefulness or value of the public access provided.

8.02 K. 1. t. The standard State-approved logo or other approved signs that indicate the public's right of access and hours of access shall be installed and maintained by the owner. Such signs shall be posted in conspicuous locations at public access sites.

8.02 K. 1. u. View Corridor Provisions.

8.02 K. 1. u. 1) View corridors shall comply with provisions for vegetation management and buffer requirements for the shoreline designation for the project site. View Corridors shall be allowed to the percentage listed in table 8. 1, but in no case shall a single view corridor be greater than 30' in width per 100 linear feet of shoreline.

8.02 K. 1. u. 2) View corridors may be allowed, subject to the provisions of this section, to provide the general public and property owners with opportunities for visual access to water bodies associated with shoreline lots.

8.02 K. 1. u. 3) Vegetation removal that would be likely to result in significant soil erosion or the need for structural shoreline stabilization measures is prohibited.

8.02 K. 1. u. 4) Prior to removing vegetation for a view corridor, the owner of the shoreline parcel on which vegetation alterations are proposed must submit:

i. A signed application;

ii. A scaled graphic which demonstrates the areal extent of the view corridor (width and depth), showing existing vegetation and proposed alterations; and

iii. A graphic and/or site photos for the entire shoreline frontage, which demonstrates that the building site and proposed or existing structure does not, or will not when constructed, have a view of the water body, taking into account site topography and the location of shoreline vegetation on the parcel.

8.02 K. 1. u. 5) In creating a view corridor, removal of vegetation shall be limited to the minimum necessary to preserve or enhance views. In no case shall the view corridor exceed the provisions found in Table 8.1.

i. The following standards apply:

(1) View corridors are not allowed in the Natural and Urban Conservancy designations unless associated with an existing use.

(2) Pruning of native trees shall not exceed 30% of a tree's limbs. Topping of native trees is prohibited.

(3) Shrubs shall not be pruned to a height of less than six feet (6').

(4) Removal or pruning of vegetation waterward of the ordinary high water mark is prohibited.

(5) Once a view corridor or other shoreline access corridor has been established, no additional vegetation pruning for the view corridor is authorized except as may be permitted to maintain the approved view corridor from the re-growth of pruned limbs.

(6) On any site on which a buffer has been reduced or modified, a view corridor will be allowed only when a critical areas report (described in Appendix C) can clearly establish that fragmentation of fish and wildlife habitat will not occur, and that there will be no net loss of shoreline ecological functions.

ii. The following exceptions apply:

(1) Plants that represent a hazard to safety, security, or shoreline ecological functions may be replaced with plants from the recommended list (Appendix E), provided a mitigation plan is submitted and approved. The mitigation plan must meet the standards of the local government with jurisdiction for a mitigation plan for Critical Fish and Wildlife Habitat.

(2) Non-native or invasive species may be replaced with plants from the recommended list (Appendix E), provided a mitigation management plan is submitted and approved. The mitigation plan must meet the standards

of the local government with jurisdiction for a mitigation plan for Critical Fish and Wildlife Habitat.

(3) All developments proposing a view corridor shall provide a mitigation plan that will need to be approved by the administrator. The mitigation plan must meet the standards of the Appendix C with jurisdiction for a mitigation plan for Critical Fish and Wildlife Habitat.

8.02 K. 1. u. 6) Trimming and removal of trees to provide or enhance visual access shall be limited to the requirements found in this section, limitations found in Table 8.1 as well as shoreline modification standards found in Section 8.03.

8.02 K. 1. u. 7) Removal of diseased, damaged or stressed trees for the purpose of forest stewardship and conservation, property protection, or fire safety are subject to approval through a shoreline exemption.

8.02 L. Utilities

Utilities are transmission, collection, production, or treatment facilities that are generally regional or area wide in scope and provide the primary service to a large area and may or may not be connected directly to the uses along the shoreline. Utilities include primary transmission facilities related to a hydropower and communications, and distribution or collection systems for water, sewer mains, gas and oil pipelines, and wastewater and water treatment plants. On-site utility features serving a shoreline property, such as water, sewer or gas line connections to a residence, are "accessory utilities" and shall be considered a part of the primary use and are subject to the regulations contained in Section 8.02 A Accessory Utilities.

8.02 L. 1. Utilities – General Regulations

8.02 L. 1. a. Utility development shall be located within public rights-of-ways or existing infrastructure corridors whenever possible and be coordinated with government agencies to provide for compatible multiple uses.

8.02 L. 1. b. Utilities shall be located and designed to avoid damage or degradation to shoreline ecological function including wetlands, marshes, bogs and other swamps; important wildlife areas; and other unique and fragile areas.

8.02 L. 1. c. Underwater pipelines which transport material intrinsically harmful to aquatic life or potentially injurious to water quality, including sewer lines, shall be provided with automatic shut off valves at each end of the underwater segments.

8.02 L. 1. d. Sites disturbed for utility installation shall be stabilized during and immediately following construction to avoid adverse impacts from erosion and shoreline ecological function, including protection of water quality using Best Management Practices.

8.02 L. 1. e. Sites disturbed for utility installation shall be replanted using native species from the recommended list (Appendix E), with a diversity and type similar to or better than that which originally occurred on the site. Questions about appropriate diversity, plant type, and plant species shall be directed to agencies with expertise, such as the departments of Ecology and Fish and Wildlife.

8.02 L. 1. f. The placing of utility lines shall not obstruct or hinder physical or visual access to shoreline areas from public right-of-ways or public use areas.

Utilities shall be placed landward of the primary structural setback requirements found in Table 8.1. Compliance with local health district standards for the placement of onsite sewer systems shall be indicated on pre-application drawings. If feasible, utility lines shall be placed underground. Where lines must be placed aboveground, consideration shall be given to the maintenance of trees in the vicinity of the lines, and the utility line located to eliminate the need for topping or pruning trees.

8.02 L. 1. g. Except where no other feasible alternative exists, utilities that require continued maintenance and therefore disrupt ecological processes (i.e. electrical transmission lines that require removal of undergrowth) shall not be placed in Vegetation Conservation areas (between OHWM and structure setback).

8.02 L. 2. Utilities - Designation Specific Regulations

8.02 L. 2. a. Aquatic, Natural, Shoreline Recreation, Urban Conservancy, Shoreline Residential and High Intensity

8.02 L. 2. a. 1) Conditional use permit.

8.02 M. Recreation

8.02 M. 1. Recreation – General Regulations

8.02 M. 1. a. Shoreline recreational development is given priority and shall be primarily related to access to, enjoyment and use of the water and shorelines of the state.

8.02 M. 1. b. State-owned shorelines are particularly adapted to providing ecological study areas and other recreational uses for the public and shall be given special consideration when developing recreational uses in shoreline areas.

8.02 M. 1. c. The location, design and operation of shoreline recreational developments shall be primarily related to access, enjoyment and use of the water and shorelines of the state, consistent with the comprehensive plan and recreation plan of the local government with jurisdiction. All such uses shall not result in a net loss of shoreline function.

8.02 M. 1. d. Commercial recreational development shall comply with the provisions for commercial development Section 8.02 F Commercial.

8.02 M. 1. e. Substantial accessory use facilities, such as rest rooms, recreation halls and gymnasiums, commercial services, access roads, and parking areas shall be set back from the ordinary high water mark as specified in the Development Standards Table (Table 8.1), unless it can be shown that such facilities are water dependent and the planned location will not adversely affect shoreline functions. Such facilities may be linked to the shoreline by walkways.

8.02 M. 1. f. Shoreline recreational developments shall maintain, and, when feasible, enhance or restore desirable shoreline features including those that contribute to shoreline ecological functions and processes, scenic vistas, and aesthetic values. Removal of healthy native vegetation to enhance views shall be allowed only in compliance under Section 8.02 K. 1. u 5-7).

8.02 M. 1. g. Recreational uses shall be designed to complement their environment and surrounding land and water uses.

8.02 M. 1. h. No recreational buildings or structures shall be built over water, other than water-dependent and/or public access structures such as piers, docks, bridges, boardwalks, or viewing platforms.

8.02 M. 1. i. Each development proposal shall include a landscape plan that uses native, or native compatible self-sustaining vegetation. Removal of on-site native vegetation shall be limited to the minimum necessary for the permitted development or structures.

8.02 M. 1. j. For recreational uses such as golf courses or parklands that require the use of fertilizers, pesticides, or other chemicals, the applicant shall specify the methods that will be used to ensure that the use complies with all provisions of this master program, including preventing the chemicals from entering adjacent water bodies or wetlands. Chemical-free buffer strips may be required at the discretion of the Administrator.

8.02 M. 1. k. Recreational uses shall provide facilities for non-motorized access to the shoreline, such as pedestrian and bicycle paths, where those facilities will not result in loss of shoreline ecological functions.

8.02 M. 1. l. Recreational uses shall include adequate provisions for water supply, sewage, garbage disposal, and fire protection.

8.02 M. 1. m. Recreational development shall include adequate provisions, such as screening, buffer strips, fences, and signs, to buffer adjacent private property and natural areas and protect the value and enjoyment of those sites.

8.02 M. 1. n. Trails and paths on steep slopes shall be located, designed, and maintained to protect bank stability.

8.02 M. 1. o. Recreational uses shall be consistent with local comprehensive plan provisions and zoning regulations and required buffers and use setbacks in Section 8.01 A. 16 and critical area protection regulations in Appendix C.

8.02 M. 1. p. Non-motorized recreation trails (for example, a riverfront trail running parallel to the shoreline) shall be allowed in both Zone 1 and Zone 2 Buffers provided they are consistent with the local comprehensive plan and zoning regulations, including development and design standards. Non-motorized, non-impervious surface trails no greater than 4 feet in width to provide shoreline physical access to the water's edge may be allowed in the Zone 1 Vegetation Buffer through submittal of a vegetation planting plan, mitigation management plan and compliance with mitigation sequencing standards found in Appendix C.

8.02 M. 2. Recreation - Designation Specific Requirements:

8.02 M. 2. a. Aquatic, Natural

8.02 M. 2. a. 1) Recreation development shall be limited to water-dependent uses that require an over-the-water location and are allowed in the landward shoreline designation – Conditional Use Permit.

8.02 M. 2. b. Urban Conservancy

8.02 M. 2. b. 1) High impact recreation development - Conditional Use Permit.

8.02 M. 2. b. 2) Low impact recreation development - Substantial Development Permit.

8.02 M. 2. c. Shoreline Recreation, Shoreline Residential and High Intensity

8.02 M. 2. c. 1) Substantial Development Permit.

8.02 N. Residential Development

8.02 N. 1. Residential Development – General Regulations

8.02 N. 1. a. No lot for residential use shall be created that would not accommodate a buildable area, based on the zoning district, comprehensive plan designation and critical areas regulations, that meets the minimum building setback and other standards for the shoreline designation in which the lot is located.

8.02 N. 1. b. No lots or plats will be approved that do not meet the minimum requirements of this SMP.

8.02 N. 1. c. Plats and subdivisions shall not rely upon new shoreline stabilization or flood hazard reduction measures that would cause significant impacts to other properties or public improvements or a net loss of shoreline ecological functions.

8.02 N. 1. d. In its review of proposals for multi-lot and or multi-unit subdivisions and/or planned developments and other large developments, the city or town with jurisdiction shall require and use information about the impacts of the proposed development on shoreline ecological functions, including the cumulative impacts of exempt uses and activities within the development over time, and ensure there will be no net loss of shoreline function.

8.02 N. 1. e.

8.02 N. 1. e. 1) All single family and multi-unit residential developments shall comply with the buffer, setback, bulk and dimensional standards set forth in Table 8.1 of this SMP, and shall be authorized only after approval of a site development plan, indicating the total disturbance footprint as required by this section. The disturbance footprint shall include:

i. all driveways and parking areas;

ii. wildfire defensible space;

iii. building footprint(s);

iv. water access pathway location and width, not to exceed 4 feet;

v. view access corridor, if any;

vi. location of storage and staging of materials and equipment during construction;

vii. location of well and septic systems, if applicable;

viii. Location of public access, joint use or community recreational facilities if applicable.

8.02 N. 1. e. 2) The construction of home(s) (inside the buffer or utilizing a buffer reduction) shall require development of a shoreline pre-application review

packet. The review of the assessment may require the applicant to prepare a mitigation management plan as specified in Appendix C of this SMP.

8.02 N. 1. e. 3) Individual or multi-family on-site wastewater treatment systems serving allowed uses in conformance with this SMP shall be subject to regulations administered by the Okanogan County Health District.

8.02 N. 1. e. 4) Large On-site Sewage Systems (LOSS) shall be subject to regulations administered by the Washington State Departments of Ecology, or Department of Health as required by rule adopted under RCW 70.118B.020. Such sewage treatment systems shall be located to prevent or minimize entry of nutrients, including phosphorus and nitrogen, or other pollutants, into ground and surface water within jurisdiction of this SMP.

8.02 N. 1. e. 5) All individual and community on-site wastewater treatment systems, also called sewage treatment systems, including septic tanks and drain fields or alternative systems approved and inspected by the Okanogan County Health District, the Washington State Department of Ecology, or Department of Health, shall be located landward of designated riparian and buffers within jurisdiction of this SMP.

8.02 N. 1. e. 6) In instances where shoreline buffers designated in Table 8.1 of this SMP are less than 100 feet as measured on a horizontal plane, perpendicular to the shoreline, all sewage system components shall be located a minimum of 100 feet from the ordinary high water mark (unless lot size/configuration is such that the applicant obtains an approval from the Okanogan County Health District to no less than 75ft from the ordinary high water mark). Where the lot size in combination with health district requirements would cause the development or use to need a variance from the standards established in table 8.1, the applicant shall be required to connect to town water and sewer.

8.02 N. 1. e. 7) Location of the landward boundary of shoreline buffers as specified in Table 8.1 shall be approved by county or Washington Department of Ecology staff, and marked with clearly visible means sufficient to prevent damage to any portion of the buffer and its topography, soils or vegetation.

8.02 N. 1. e. 8) Prior to any clearing, construction or other activity within the approved disturbance footprint, the landward boundary of buffers specified in Table 8.1 shall be marked with permanent or temporary fencing approved by the county administrator, sufficient to prevent any incidental incursion into, or disturbance to the buffer, by equipment, vehicles, building materials or other means.

8.02 N. 1. e. 9) Whenever feasible while meeting Okanogan County Health District or Washington State Health Department standards, all components of on-site sewage treatment systems, including subsurface soil absorption systems, shall be located landward of the residential structures they serve.

8.02 N. 1. e. 10) Buildings constructed in areas of 20 percent or greater slope, or slide-prone areas, shall conform to the requirements for geologically hazardous areas of the Critical Areas Ordinance Appendix C.

8.02 N. 1. e. 11) Except for minimal pathways no greater than 4 feet in width to afford access to allowed docks, boat access or swimming areas or to remove

hazard trees as set forth applicable sections of this SMP native plant communities and species in buffers specified in Zone 1 Table 8.1 shall not be disturbed for any reason.

8.02 N. 1. e. 12) New parcels/lots created through land division within jurisdiction of this SMP shall accomplish the following:

i. Plats and subdivisions as regulated elsewhere in this SMP must be designed, configured and developed in a manner that assures that no net loss of ecological functions results from the plat or subdivision at full build-out of all lots.

ii. Plats and subdivisions as regulated elsewhere in this SMP must be designed, configured and developed in a manner that assures that no need for new shoreline stabilization or flood hazard reduction measures that would cause significant impacts to other properties or public improvements or a net loss of shoreline ecological functions. Such review shall require using geotechnical analysis of the site and shoreline characteristics when development is to occur in known or suspected geologically hazardous areas (E.g., Slopes-greater than 20%, Channel Migration Zones- See Appendix G). New development on steep slopes or bluffs shall be set back sufficiently to ensure that shoreline stabilization is unlikely to be necessary during the life of the structure, as demonstrated by a geotechnical analysis. New development that would require shoreline stabilization which causes significant impacts to adjacent or down-current properties and shoreline areas shall not be allowed.

iii. Plats and subdivisions as regulated elsewhere in this SMP must be designed and configured such that a buildable area is available on each lot in conformance with Comprehensive Plan as well as required shoreline and critical area buffer/setbacks, unless a specific, unbuildable lot is being created as an shoreline open space/conservancy lot and is so recorded

8.02 N.2 Residential Development - Designation Specific Regulations

8.02 N. 2. a. Aquatic, Natural

8.02 N. 2. a. 1) Residential Development is prohibited.

8.02 N. 2. a. 2) Subdivisions - CUP

8.02 N. 2. b. Urban Conservancy

8.02 N. 2. b. 1) Subdivisions (both short and long) shall be subject to a conditional use permit and require the division to be processed as a planned development under local zoning and platting regulations.

8.02 N. 2. b. 2) Residential development- CUP

8.02 N. 2. c. Shoreline Recreation, Shoreline Residential and High Intensity

8.02 N. 2. c. 1) Exempt for Single Family Residences built for applicant's own use or for the use by his/her family.

8.02 N. 2. c. 2) All other residential development is subject to a Substantial Development Permit.

8.02 O. Signage

8.02 O. 1. Signage – General Regulations

The following provisions apply to any commercial or advertising sign directing attention to a business, professional service, community, site, facility, or entertainment; and to temporary and interpretive signs. Highway, public information, and temporary signs are addressed in the Use Chart.

8.02 O. 1. a. All signs shall comply with applicable regulations of the city or town in which the sign is located and any other applicable regulations (e.g., Scenic Vistas Act).

8.02 O. 1. b. Signs shall be designed and placed so that they are compatible with the aesthetic quality of the existing shoreline and adjacent land and water uses. Except as necessary for safe navigation, moorage, or public safety signs shall be located landward of the required building setback.

8.02 O. 1. c. All signs shall be located and designed to minimize interference with vistas, viewpoints, and visual access to the shoreline.

8.02 O. 1. d. No signs shall be placed on trees or other natural features.

8.02 O. 1. e. Off premises and non-appurtenant signs shall not be permitted, with the following exception: temporary signs and interpretive signs related to shoreline uses and ecological functions shall be allowed where they comply with the other policies of this SMP and, in the case of temporary signs, where adequate provisions are made for timely removal.

8.02 O. 1. f. No sign shall have a surface area larger than 32 square feet.

8.02 O. 1. g. Signs shall be lit by direct or indirect lighting only. Signs lit by internal sources are prohibited.

8.02 O. 2. Signage - Designation Specific Regulations

8.02 O. 2. a. Aquatic and Natural

8.02 O. 2. a. 1) All outdoor advertising, signs and billboards shall be prohibited.

8.02 O. 2. b. Shoreline Residential and Urban Conservancy

8.02 O. 2. b. 1) All outdoor advertising, signs and billboards shall be prohibited except:

i. Those signs necessary to protect the health, safety, and welfare of the public.

ii. Those necessary to give direction or identify and/or interpret a natural or cultural feature.

iii. Permitted signs shall not exceed 6 square feet in surface area.

iv. Permitted signs shall not exceed 6 feet in height.

v. Outdoor lighting of signs in the Urban Conservancy designation shall be prohibited

8.02 O. 2. c. Shoreline Recreation and High Intensity

8.02 O. 2. c. 1) Outdoor advertising, signs and billboards are allowed subject to a substantial development permit and shall not exceed 36 sq ft.

8.02 O. 2. c. 2) No sign shall exceed the highest point of the roofline.

8.02 P. Transportation

8.02 P. 1. Transportation – General Regulations

Transportation development serving non-water dependent uses should avoid the shoreline area where possible to avert damage to shoreline ecological function. Transportation development serving water oriented and water related uses shall be considered as part of that use and subject to the following provisions:

8.02 P. 1. a. Plan, locate, and design proposed transportation and parking facilities where routes will have the least possible adverse effect on unique or fragile shoreline features, will not result in a net loss of shoreline ecological functions or adversely impact existing or planned water-dependent uses.

8.02 P. 1. a. 1) New roads or road expansions should not be built within shoreline jurisdiction, unless other options are unavailable and infeasible. Design of roadways through shoreline areas should occupy the least narrow horizontal profile possible to convey traffic in a safe manner measured from ditch to ditch or shoulder to shoulder (whichever is largest) to minimize the footprint of roadway.

8.02 P. 1. a. 2) Stormwater runoff from roadways should be contained using Best Management Practices

8.02 P. 1. a. 3) De-icing, salting, and graveling of roads should be conducted in accordance with Best Management Practices.

8.02 P. 1. a. 4) Surfacing materials should not input or erode sediment into waterways.

8.02 P. 1. b. Transportation and parking plans and projects shall be consistent with the master program public access policies, public access plan, and environmental protection provisions.

8.02 P. 1. c. Circulation system planning shall include integrated corridors for pedestrian, bicycle, and public transportation where appropriate. Circulation planning and projects should support existing and proposed shoreline uses that are consistent with the master program.

8.02 P. 1. d. Transportation and circulation systems shall be included as part of a development or land use permit and be subject to lot coverage and clearing and grading standards set forth in Table 8.3.

8.02 P. 2. Transportation – Designation Specific Regulations

8.02 P. 2. a. Aquatic

8.02 P. 2. a. 1) same as in the adjacent shoreline designation landward of the OHWM

8.02 P. 2. b. Natural

8.02 P. 2. b. 1) Conditional Use Permit

8.02 P. 2. c. Shoreline Recreation, Urban Conservancy, Shoreline Residential and High Intensity

8.02 P. 2. c. 1) Substantial Development Permit.

TABLE 8.2 SHORELINE USE & ACTIVITY TABLE

All uses and activities must comply with all applicable provisions of this Shoreline Master Program (SMP), including the General, Shoreline Modification, Use-Specific, and Shoreline Designation-Specific regulations in this Chapter. Uses and activities not listed in the Shoreline Use and Activity Chart may be allowed (with a shoreline exemption, substantial development permit, or conditional use permit), subject to approval by the Administrator, if they comply with the standards in this section and with any regulations that apply to similar uses. All shoreline permits and exemptions are subject to conditions providing for maintenance, enhancement, and/or restoration of shoreline functions.

A = Allowed – requires exemption16; or, Substantial Development or Conditional Use Permit, depending on fair market value and/or intensity of use or activity, or designation-specific requirements
SDP = Shoreline Substantial Development Permit required.
CUP = Shoreline Conditional Use Permit required.
X = Prohibited use
S = Same as in adjacent shoreline designation landward of the OHWM (applicable to areas designated Aquatic only)
N/A = Not Applicable
(–) = Subject to limitations.

(+) = Subject to conditions.

(*) = Subject to exceptions.

(a) In the event that there is a conflict between the use(s) identified in Table 8.2 and the policies or regulations in Chapters 6, 7, or 8, the policies and regulations shall apply.

(b) Aquatic: Water-dependent use only, subject to the use and development regulations of the abutting upland shoreline area designation.

16 - exempt uses and activities are defined by statute, see definitions in Chapter 2.

Table 8.2 Use and Activity Chart[(a)]

Uses and Activities	Aquatic [(b)]	Natural	Shoreline Recreation	Urban Conservancy	Shoreline Residential	High Intensity
Agriculture (8.02 B)						
Grazing/Cultivation/Orchards	X	X	A	A	A	A
Agricultural Buildings	X	X	A	A	A	A
Feedlots (CAFOS/AFOS)	X	X	X	X	X	X
Conversion from non-agricultural land to agricultural use	X	X	SDP	CUP	SDP	CUP
Archaeological Areas, Scientific, Educational and Historic Sites (8.02 C)						
Archaeological Areas, Scientific, Educational and Historic Sites	A	A	A	A	A	A
Aquaculture (8.02 C)						
Floating Net Pen type & Accessory structures	CUP	CUP	SDP	CUP	SDP	SDP
On shore, confined types of facilities & Accessory structures	CUP	CUP	SDP	CUP	SDP [17]	SDP
Boating Facilities (8.02 E)						
Marinas	S	X	CUP	CUP	CUP	CUP
Piers and Docks	S	X	SDP	SDP	SDP	SDP
Covered Moorage (Boat Garages)	X	X	X	X	X	X
Commercial Wet Moorage	S	X	CUP	X	X	CUP
Boat lifts	S	X	SDP	SDP	SDP	SDP
Commercial dry boat storage	SDP	X	SDP	X	X	SDP
Boat Launch Ramps						
Commercial (private or public)	S	X	SDP	X	X	SDP
Public	S	X	SDP	SDP	CUP	SDP
Private (paved, for motorized craft)	S	X	X	X	X	X
Private Hand launch, sand or cobble construction)	SDP	SDP	SDP	SDP	SDP	SDP
Mooring buoys/float plane moorage accessory to permitted moorage	CUP	CUP	SDP	CUP	SDP	SDP
Floats	CUP	CUP	SDP	CUP	SDP	CUP
Commercial (8.02 F)						
Water dependent	CUP	X	SDP	X	SDP	SDP
Water-related/water-enjoyment (oriented)	X	X	SDP	X	SDP	SDP
Non-water oriented	X	X	X	X	X	SDP

17 - Requires minimum parcel size of 2 acres.

Uses and Activities	Aquatic [b]	Natural	Shoreline Recreation	Urban Conservancy	Shoreline Residential	High Intensity
Mining (8.02 H)						
Surface Mining	S	X	X	X	X	X
Other Mining	S	X	X	X	X	X
Mineral Prospecting and Placer Mining[18]	A	A	A	A	A	A
Municipal Uses (8.02 I)						
Water dependent	SDP	X	SDP	SDP	SDP	SDP
Water oriented	X	X	SDP	SDP	SDP	SDP
Non-water oriented	X	X	CUP	CUP	CUP	CUP
Signage (8.02 O)						
Commercial Signs – on site advertising	X	X	SDP	X	X	SDP
Commercial Signs- off-site advertising	X	X	X	X	X	X
Public Highway, Safety, Directional and Informational Signs	CUP	CUP	SDP	SDP	SDP	SDP
Residential (8.02 N)						
Exempt single family dwellings[19]	X	X	A	CUP	A	A
Non-exempt single family dwellings (e.g. seasonal or year round rentals)	X	X	SDP	CUP	SDP	SDP
Multi-family	X	X	SDP	CUP	SDP	SDP
Subdivision	CUP	CUP	SDP	CUP	SDP	SDP
Utilities (8.02L & A)						
Primary (8.02 L)	CUP	CUP	CUP	CUP	CUP	CUP
Accessory (8.02 A)	X[20]	A	A	A	A	A
Industrial (8.02 G)						
Water-dependent	CUP ~~S~~	X	X	X	X	SDP
Water-related	X	X	X	X	X	SDP
Nonwater Oriented	X	X	X	X	X	X
Parking (8.02 J)						
As a primary use	X	X	X	X	X	X
Appurtenant to a permitted use	X	X	A	A	A	A
Shoreline Modifications (8.03)						

18 - If performed in compliance with WDFW Gold and Fish Pamphlet, all others CUP
19 - RCW 90.58.030(3)(e)(vi) Construction on shorelands by an owner, lessee, or contract purchaser of a single family residence (inclusive of accessory utilities) for his own use or for the use of his or her family, which residence does not exceed a height of thirty feet above average grade level and which meets all requirements of the state agency or local government having jurisdiction thereof, other than requirements imposed pursuant to this chapter (SEE WAC 173-26-211(5)(a)(ii)(C)
20 - Accessory utilities shall be prohibited except those required to serve a permitted water dependent use, which shall require a conditional use permit.

Uses and Activities	Aquatic [b]	Natural	Shoreline Recreation	Urban Conservancy	Shoreline Residential	High Intensity
Dikes/levees	CUP	X	CUP	CUP	CUP	CUP
Breakwaters, groins and jetties	CUP	X	CUP	CUP	CUP	CUP
Dredging and Material Disposal[21]	CUP	CUP	CUP	CUP	CUP	CUP
Filling[22]	CUP	X	CUP	CUP	CUP	CUP
Clearing and Grading[23]	X	X	CUP	CUP	CUP	CUP
Bulkheads and revetments	X	X	CUP	CUP	CUP	CUP
Shoreline Restoration and Enhancement[24]	S	SDP	SDP	SDP	SDP	SDP
Shoreline Stabilization(8.03 E)						
Hardening, Structural approaches	X	X	CUP	CUP	CUP	CUP
Bioengineering approaches	SDP	SDP	SDP	SDP	SDP	SDP
Shoreline Restoration and Enhancement[18]	S	SDP	SDP	SDP	SDP	SDP
Transportation (8.02 P)						
Roads and Railroads	S	CUP	SDP	SDP	SDP	SDP
Recreation (8.02 M)						
High Intensity	S	CUP	SDP	CUP	SDP	SDP
Low Intensity / Passive	S	CUP	SDP	SDP	SDP	SDP

21 - All dredging shall be the minimum required to support an existing permitted or proposed allowed use and shall be subject to a conditional use permit.
22 - All fill is limited to the minimum amount required for existing permitted or proposed allowed uses, except as allowed in 8.03 D. 5.
23 - Clearing and grading that is not part of an allowed and permitted shoreline use shall require a conditional use permit except on properties physically separated from the shoreline by another property or public right of way.
24 - Restoration and enhancement projects may be exempted if part of an approved recovery plan.

8.03 Shoreline Modification Activities

Shoreline modifications are generally related to construction of a physical element such as a dike, breakwater, dredged basin, or fill, but they can include other actions such as clearing, grading, application of chemicals, or significant vegetation removal. Shoreline modifications are usually undertaken in support of or in preparation for a shoreline use; for example, dredging (shoreline modification) to allow for a marina (boating facility use).

8.03 A. General (applicable in all shoreline designations)

8.03 A. 1. All shoreline modification activities not in support of an existing conforming use or other allowed use are prohibited, unless it can be demonstrated, that such activities are necessary to protect primary structures and in the public interest or are for the maintenance, restoration or enhancement of shoreline ecological functions.

8.03 A. 2. Shoreline modifications shall result in no net loss of shoreline ecological functions. The number and extent of shoreline modifications shall be limited to the minimum required.

8.03 A. 3. Only shoreline modifications that are appropriate to the specific type of shoreline and environmental conditions shall be allowed. Preference shall be given to those types of shoreline modifications that have a lesser impact on ecological functions. For example, planting vegetation that will stabilize the shoreline is preferred rather than a concrete bulkhead.

8.03 A. 4. Ecological impacts of shoreline modifications shall be mitigated in conformance with Critical Areas Regulations in Appendix C.

8.03 A. 5. All shoreline modification activities must conform to Section 8.01 General Regulations and the provisions for the appropriate shoreline designation.

8.03 B. Clearing and Grading

8.03 B. 1. Clearing and grading shall be addressed and identified in the permit or exemption application for the shoreline use or activity with which it is associated.

8.03 B. 2. Clearing or grading within required Zone 1 Vegetation and Zone 2 Use buffers and/or wetland buffers shall comply with the requirements of Section 8.01 A. 16. and Table 8.3.

8.03 B. 3. No clearing or grading shall be initiated before the permit, exemption or variance is issued.

8.03 B. 4. Existing native riparian vegetation shall be retained whenever possible.

8.03 B. 5. Grading permits:

8.03 B. 5. a. A grading permit issued by the local government with jurisdiction shall be required in the following situations:

8.03 B. 5. b. Where more than 50 cubic yards of material will be moved within a shoreline area for any portion of a construction project including foundations or septic installations; or

8.03 B. 5. c. Any clearing or grading within building setbacks or buffers.

8.03 B. 5. d. Where clearing and grading will modify a percentage of a site's shoreline area landward of the building setback that is greater than the percentage or

square footage (whichever is greater) as specified in the following table.

8.03 B. 5. e. An increase of up to 25% cleared or graded area may be permitted through the submittal of a planting plan, critical areas report and mitigation plan that demonstrates the grading and clearing will not impact or increase the impact to shoreline ecological function or value.

Table 8.3 Shoreline Designation Specific Clearing and Grading Standards[25]

Shoreline Designation	Percent of site located within shoreline jurisdiction that may be cleared and/or graded outside required buffer zones[26]
High Intensity	50%
Shoreline Residential	50%
Urban Conservancy	15%
Shoreline Recreation	50%
Natural	5%
Aquatic	N/A

8.03 B. 6. In its review of clearing and grading proposals, the local government with jurisdiction shall require and utilize a clearing and grading plan that addresses species removal, replanting, irrigation, erosion and sedimentation control, and plans for protecting shoreline resources from harm.

8.03 B. 7. Grading of a development site shall not alter natural drainage patterns in manner that would increase the rate or quantity of surface run-off, stormwater BMPs may be required.

8.03 B. 8. Immediately upon completion of the construction or maintenance activity, remaining cleared areas shall be restored to a naturalistic condition using compatible, self-sustaining vegetation in accordance with Section 8.03 G Vegetation Conservation.

8.03 B. 9. Clearing by hand-held equipment of invasive non-native vegetation on the State Noxious Weed List is permitted in shoreline areas provided the disturbed area is promptly replanted with vegetation from the recommended list (Appendix E) or if the site will fully re-vegetate with plants that will support healthy shoreline function on its own within three growing seasons.

8.03 B. 10. All shoreline development and activity shall use applicable BMPs from Eastern Washington Stormwater Management to minimize increases in surface water runoff that may result from clearing and grading activity.

8.03 B. 11. Soil stabilization associated with clearing and grading shall, whenever

25 - The standards in the table provide for the maximum percentage that may be cleared outside of Vegetation and Use Buffers.

26 - The percentages represent the maximum allowable with an increase of up to 25% permitted subject to a critical areas report and mitigation management plan that considers present ecological function, cumulative impacts of the development and restoration opportunities, both on and off-site, DOES NOT INCLUDE CLEARING WITHIN THE ZONE 1 or ZONE 2 BUFFERS.

feasible, use bioengineering or other soft stabilization techniques.

8.03 B. 12. Any significant placement of materials from off of the site, or substantial creation or raising of dry upland, shall be considered filling and shall comply with the fill provisions of Section 8.03 D Fill.

8.03 B. 13. Clearing and grading that is not part of an allowed and permitted shoreline use shall require a conditional use permit except on properties physically separated from the shoreline by another developed property or developed public right of way.

8.03 C. Dredging and Dredge Material Disposal

8.03 C. 1. The Town shall require and use the following information in its review of shoreline dredging and dredge material disposal proposals:

8.03 C. 1. a. Dredging volumes, methods, schedules, frequency, hours of operation, and procedures.

8.03 C. 1. b. Analysis of material to be dredged in compliance with Model Toxics Control Act.

8.03 C. 1. c. Method of disposal, including the location, size, capacity, and physical characteristics of the disposal site, transportation methods and routes, hours of operation, and schedule.

8.03 C. 1. d. Stability of bedlands adjacent to the proposed dredging site.

8.03 C. 1. e. Stability of geologically hazardous areas in the vicinity of the proposed dredging site.

8.03 C. 1. f. Assessment of water quality impacts.

8.03 C. 1. g. Habitat assessment meeting the standards prescribed for Fish and Wildlife Habitat Conservation Areas in Critical Areas regulations of appendix C, including migratory, seasonal, and spawning, migration, wetland and riparian use areas.

8.03 C. 2. In evaluating permit applications for any dredging project, the Administrator and/or appropriate hearing or review body shall consider the need for and adverse effects of the initial dredging, subsequent maintenance dredging, and dredge disposal. Dredging and dredge material disposal shall only be permitted where it is demonstrated that the proposed actions will not:

8.03 C. 2. a. Result in significant and/or on-going damage to water quality, fish, or other biological elements;

8.03 C. 2. b. Adversely alter natural drainage and circulation patterns, or significantly reduce flood storage capacities;

8.03 C. 2. c. Affect slope stability; or

8.03 C. 2. d. Otherwise damage shoreline or aquatic resources.

8.03 C. 3. Proposals for dredging and dredge disposal shall prepare a mitigation management plan to protect fish and wildlife habitat in compliance with Appendix C to minimize adverse impacts such as turbidity; release of nutrients, heavy metals, sulfides, organic materials, or toxic substances; dissolved oxygen depletion; or disruption of food chains.

8.03 C. 4. Dredging and dredge material disposal shall not occur in wetlands except as authorized by Conditional Use Permit in compliance with Appendix C with conditions providing that valuable functions of the wetland, such as wildlife habitat and natural drainage, will not be diminished.

8.03 C. 5. Dredging waterward of the ordinary high water mark shall be allowed by conditional use permit only when:

8.03 C. 5. a. It has been proven that the development cannot be sited elsewhere and has been designed to avoid and minimize new and maintenance dredging (WAC 173-26-231(3)(f)

8.03 C. 5. b. For navigation or existing navigational access;

8.03 C. 5. c. In conjunction with a conforming allowed water-dependent use of water bodies or adjacent shorelands;

8.03 C. 5. d. As part of a habitat management plan that has been approved by the Town and other entity with jurisdiction, and has been accepted by the Washington Department of Fish and Wildlife or other agency with jurisdiction;

8.03 C. 5. e. To improve water quality;

8.03 C. 5. f. For mining, mineral extraction, mineral prospecting and placer mining as provided in Section 8.02 H Mining;

8.03 C. 5. g. In conjunction with a bridge or a navigational channel, basin, or structure for which there is a documented public need and where other feasible sites or routes do not exist; or

8.03 C. 5. h. To improve water flow and/or manage flooding only when consistent with an approved flood and/or stormwater comprehensive management plan in conjunction with a habitat mitigation management plan.

8.03 C. 6. Any impacts of dredging that cannot be avoided shall be mitigated in a manner that assures no net loss of shoreline ecological functions.

8.03 C. 7. Dredging shall use techniques that cause the minimum dispersal and broadcast of bottom material.

8.03 C. 8. Dredging for the primary purpose of obtaining material for fill is prohibited, except when the material is necessary for the restoration of ecological functions. The fill must be associated with a significant habitat enhancement project that is listed as part of a regional or watershed-scale plan, MTCA or CERCLA habitat restoration project. When allowed, the site where the fill is to be placed must be located waterward of the OHWM (WAC 173-26-231(3)(f)) and conducted in accordance with the dredged material management program of the department of natural resources.

8.03 C. 9. Dredging to construct canals or basins for boot moorage or launching, water ski landings, swimming holes, and similar uses shall only be permitted as a conditional use and shall include a habitat enhancement/mitigation plan.

8.03 C. 10. Disposal of dredged materials shall be accomplished at approved contained upland sites in compliance with all Federal, State and local regulations.

8.03 C. 11. Depositing dredge materials in water areas shall be allowed only by Conditional Use Permit, for one or more of the following reasons:

8.03 C. 11. a. For wildlife habitat improvement.

8.03 C. 11. b. To correct problems of material distribution adversely affecting fish resources.

8.03 C. 11. c. For permitted enhancement of beaches that provide public access, where it has been conclusively demonstrated that no net loss of shoreline ecological functions will result or for public safety.

8.03 C. 12. Use of dredged material for beach enhancement shall be conducted so that:

8.03 C. 12. a. Erosion from the disposal site is minimized. Erosion of the dredged material shall not smother emergent vegetation or other shallow productive areas.

8.03 C. 12. b. To the extent possible, the volume of dredged material and frequency of disposal maintain a stable beach profile. Dredged material shall be graded as a uniform slope and contoured to reduce cove and peninsula formation and to preclude stranding of juvenile fish.

8.03 C. 13. Land disposal sites shall be replanted as soon as feasible, and in no case later than the next planting season, in order to retard wind and water erosion and to restore the wildlife habitat value of the site. Vegetation from the recommended list (Appendix E) or other species authorized by the Town shall be used. Native plants are preferred. Plants that may compromise shoreline values are prohibited. The permit application planting plan submittal shall identify the size, location, and species of plants that will be used. The agency or developer responsible for the land disposal shall also be responsible for maintaining the vegetation as established in the approved mitigation management plan.

8.03 C. 14. Proposals for disposal in the channel migration zone is discouraged and only allowed by Conditional Use Permit (WAC 17-26-231(3)(f). Disposal in other shoreline areas must provide for the implementation of adopted regional interagency dredge material management plans or watershed management planning that benefits the shoreline resources.

8.03 C. 15 Designation Specific Regulations.

8.03 C. 15. a. Aquatic, Natural, Shoreline Recreation, Urban Conservancy, Shoreline Residential and High Intensity

8.03 C. 15. a. 1) All dredging shall be the minimum required to support an existing permitted or proposed allowed use and shall be subject to a Conditional Use Permit.

8.03 D. Fill

8.03 D. 1. The Town shall require and use the following information in its review of fill proposals and the applicant shall submit the following on their permit or exemption application:

8.03 D. 1. a. Proposed use of the fill area.

8.03 D. 1. b. Physical characteristics, such as chemical and biological composition if appropriate, depending on where it is to be placed or will be subject to inundation.

8.03 D. 1. c. Source of the fill material.

8.03 D. 1. d. Method of placement and compaction.

8.03 D. 1. e. Location of fill relative to existing drainage patterns and wetlands.

8.03 D. 1. f. Location of the fill perimeter relative to the ordinary high water mark.

8.03 D. 1. g. Perimeter erosion control or stabilization measures.

8.03 D. 1. h. Type of surfacing and runoff control devices.

8.03 D. 2. Fill waterward of the ordinary high water mark or in wetlands shall only be permitted as a conditional use in all shoreline designations, and only when necessary for the support of one of the following purposes:

8.03 D. 2. a. water-dependent use,

8.03 D. 2. b. public access,

8.03 D. 2. c. cleanup and disposal of contaminated sediments as part of an interagency environmental clean-up plan,

8.03 D. 2. d. disposal of dredged material considered suitable under, and conducted in accordance with the dredged material management program of the department of natural resources,

8.03 D. 2. e. expansion or alteration of transportation facilities of statewide significance currently located on the shoreline and then only upon a demonstration that alternatives to fill are not feasible, mitigation action, environmental restoration, beach nourishment or enhancement project.

8.03 D. 2. f. Fill in wetlands must comply with the wetlands provisions of the Critical Areas regulations in Appendix C and shall result in no net loss of wetland area in functions including lost time when the wetland does not perform the function and is subject to mitigation in this SMP.

8.03 D. 3. Pier or pile support shall be utilized whenever feasible in preference to filling. Fills for approved road, bridge or navigational structure development in floodways or wetlands shall be permitted only if pile or pier supports are proven infeasible.

8.03 D. 4. Fills are prohibited in floodplains except where it can be clearly demonstrated that the geo-hydraulic characteristics and floodplain storage capacity will not be altered to cause increased flood hazard or other damage to life or property in excess of accepted standards provided by state and/or federal agencies.

8.03 D. 5. Fills are prohibited in floodways, and channel migration zone areas (See CMZ Map Appendix G) except when approved by conditional use permit and where required in conjunction with a proposed water-dependent or other use, as specified in Section 8.03 D 2 above, and where permitted by the local jurisdiction's Critical Areas regulations and any other relevant regulations or plan (e.g., flood hazard prevention regulations or Comprehensive Flood Hazard Management Plan).

8.03 D. 6. Fills shall be permitted only when it is demonstrated that the proposed action will not:

8.03 D. 6. a. Result in significant damage to water quality or fish and wildlife habitat;

8.03 D. 6. b. Adversely affect natural drainage and circulation patterns or significantly reduce flood water capacities;

8.03 D. 6. c. Affect slope stability; or

8.03 D. 6. d. Otherwise damage shoreline or aquatic resources.

8.03 D. 7. Placing fill in water bodies or wetlands to create usable land for shoreline development is prohibited and shall not be used to calculate parcel size proposed for subdivision.

8.03 D. 8. Fills shall be designed, constructed, and maintained to prevent, minimize, and control all material movement, erosion, and sedimentation from the affected area. Perimeters of permitted fill projects shall be designed and constructed with silt curtains, vegetated buffer areas, or other methods, and shall be adequately sloped to prevent erosion and sedimentation both during initial fill activities and afterwards. Such containment practices shall occur during the first growing season following completion of the fill and shall be maintained until self-sustaining. The design shall incorporate natural-appearing and self-sustaining control methods unless they can be demonstrated to be infeasible due to existing environmental conditions such as currents and weather.

8.03 D. 9. Fill materials shall be sand, gravel, rock, soil, or similar materials. Use of polluted dredge spoils, solid waste, and sanitary landfill materials is prohibited.

8.03 D. 10. Fills shall be designed to allow surface water penetration into ground water supplies where such conditions existed prior to fill. Fills shall not be permitted in aquifer recharge areas if they would have the effect of preventing percolation of the water.

8.03 D. 11. The timing of fill construction shall be regulated to result in no net loss of shoreline ecological functions, including water quality and aquatic life.

8.03 D. 12. Fill on dry land shall not result in substantial changes to patterns of surface water drainage from the project site and onto adjacent properties; within shoreline areas; into aquatic areas; or onto steep slopes or other erosion hazard areas.

8.03 D. 13. Designation specific regulations.

8.03 D. 13. a. Aquatic, Shoreline Recreation, Urban Conservancy, Shoreline Residential and High Intensity

8.03 D. 13. a. 1) All fill is prohibited except the minimum amount required for existing permitted or proposed allowed uses.

8.03 D. 13. a. 2) All permitted fill shall require a Conditional Use Permit.

8.03. D. 13. b. Natural

8.03 D. 13. b. 1) Prohibited.

8.03 E. Shoreline Stabilization (See WAC 173-26-231(3)(a)(iii))

8.03 E. 1. New development shall be located and designed to avoid the need for future shoreline stabilization to the extent feasible. Subdivisions shall be reviewed to assure that the lots created will not require shoreline stabilization in order for reasonable development to occur. Such review shall require using geotechnical analysis of the site and shoreline characteristics when development is to occur in known or suspected geologically hazardous areas. New development on steep slopes or bluffs shall be set back sufficiently to ensure that shoreline stabilization is unlikely to be necessary during

the life of the structure, as demonstrated by a geotechnical analysis. New development that would require shoreline stabilization which causes significant impacts to adjacent or down-current properties and shoreline areas shall not be allowed.

8.03 E. 2. New structural stabilization measures shall not be allowed[27] except to protect an existing primary structure when all of the conditions below apply:

8.03 E. 2. a. New or enlarged structural shoreline stabilization measures for an existing primary structure, including residences, should not be allowed unless there is conclusive evidence, documented by a geotechnical analysis that the structure is in danger from shoreline erosion caused by tidal action, currents, or waves. Normal sloughing, erosion of steep bluffs, or shoreline erosion itself, without a scientific or geotechnical analysis, is not demonstration of need. The geotechnical analysis should evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization.

8.03 E. 2. b. The erosion control structure will not result in a net loss of shoreline ecological functions.

8.03 E. 3. New shoreline stabilization for water-dependent development shall not be allowed except when all of the conditions below apply:

8.03 E. 3. a. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.

8.03 E. 3. b. Nonstructural measures, such as placing the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.

8.03 E. 3. c. The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report.

8.03 E. 3. d. The erosion control structure will not result in a net loss of shoreline ecological functions.

8.03 E. 4. New structural stabilization measures shall not be allowed for the restoration of ecological functions or hazardous substance remediation projects pursuant to chapter 70.105D RCW except when all of the conditions below apply:

8.03 E. 4. a. Nonstructural measures, planting vegetation or installing on-site drainage improvements are not feasible or not sufficient;

8.03 E. 4. b. The erosion control structure will not result in a net loss of shoreline ecological functions.

8.03 E. 5. Use of shoreline stabilization measures to create new land is prohibited including creation of new lots that will require shoreline stabilization in order to allow development.

8.03 E. 6. New non-water-dependent development, including exempt and non-exempt single-family residences, that include structural shoreline stabilization shall not be allowed unless all of the following conditions apply:

8.03 E. 6. a. The need for shoreline stabilization is to protect the development from destruction due to erosion caused by natural processes, such as currents and waves, is

27 Except for approved habitat restoration or enhancement projects

demonstrated through a geotechnical report;

8.03 E. 6. b. The erosion is not being caused by upland conditions, such as drainage and the loss of vegetation;

8.03 E. 6. c. Non-structural measures (such as placing the development farther from the shoreline), vegetative methods, or installing on-site drainage, are not feasible or not sufficient; and

8.03 E. 6. d. The stabilization will not cause a net loss of shoreline ecological functions.

8.03 E. 7. An existing shoreline stabilization structure may be replaced with a similar structure[28] if there is a demonstrated need to protect principal uses or structures from erosion caused by currents or waves.

8.03 E. 7. a. The replacement structure should be designed, located, sized, and constructed to assure no net loss of ecological functions.

8.03 E. 7. b. Replacement walls or bulkheads shall not encroach waterward of the ordinary high-water mark or existing structure unless the residence was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure.

8.03 E. 7. c. Soft shoreline stabilization measures that provide restoration of shoreline ecological functions may be permitted waterward of the ordinary high-water mark.

8.03 E. 7. d. For purposes of this section standards on shoreline stabilization measures, "replacement" means the construction of a new structure to perform a shoreline stabilization function of an existing structure which can no longer adequately serve its purpose. Additions to or increases in size of existing shoreline stabilization measures shall be considered new structures.

8.03 E. 8. A geotechnical report prepared to address the need to prevent potential damage to a primary structure shall address the town's standards for a critical areas report in Appendix C for geologically hazardous areas as well as issues below.

8.03 E. 9. Geotechnical reports that address the need to prevent potential damage to a primary structure shall address the necessity for shoreline stabilization by estimating time frames and rates of erosion and report on the urgency associated with the specific situation.

8.03 E. 10. Hard armoring solutions shall not be authorized except when a geotechnical report confirms that there is a significant possibility that the primary structure will be damaged within three years as a result of shoreline erosion in the absence of hard armoring measures, or where waiting until the need is that immediate, would foreclose the opportunity to use measures that avoid impacts on ecological functions. Where the geotechnical report confirms a need to prevent potential damage to a primary structure, but the need is not as immediate as the three years, the report may still be used to justify more immediate authorization to protect against erosion using soft measures.

28 Said replacement structure shall be engineered and designed to address the issues of the failure of the existing structure

8.03 E. 11. Shoreline stabilization shall not be allowed for new uses if it would cause a net loss of shoreline ecological functions on the site, or within the watershed; or if it would cause significant ecological impacts to adjacent properties or shoreline areas. Those impacts include accelerated erosion of adjacent properties caused by the stabilization measures.

8.03 E. 12. New uses, including exempt uses, in areas above unstable slopes and moderately unstable slopes shall be set back sufficiently to ensure that shoreline stabilization will not be needed during the life of the structure, as demonstrated by a geotechnical analysis.

8.03 E. 13. Where structural shoreline stabilization measures are shown to be necessary, the extent of the stabilization measures shall be limited to the minimum necessary.

8.03 E. 14. Stabilization measures shall be designed to minimize harm to and as much as possible restore ecological functions. Lost functions shall be mitigated to ensure no net loss of shoreline ecological functions. Soft approaches shall be used unless demonstrated to be insufficient to protect the primary structure or structures.

8.03 E. 15. Where stabilization is necessary to alleviate erosion caused by removal of vegetation, vegetative stabilization measures shall be the only stabilization measures allowed, except where a report by a qualified professional is submitted. See Section 8.03 G Vegetation Conservation.

8.03 E. 16. Where feasible, ecological restoration and public access improvements shall be incorporated into public projects. Publicly financed or subsidized shoreline erosion control measures shall not restrict appropriate public access to the shoreline, except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions.

8.03 E. 17. All applicable federal, state, and local permits shall be obtained and complied with in the construction of shoreline stabilization measures. All permits must be issued before any stabilization work takes place.

8.03 E. 18. Designation Specific Regulations.

8.03 E. 18. a. Aquatic and Natural

8.03 E. 18. a. 1) Dikes/levees, breakwaters, groins and jetties are prohibited.

8.03 E. 18. b. Shoreline Recreation, Shoreline Residential and High Intensity

8.03 E. 18. b. 1) Dikes/levees, breakwaters, groins and jetties shall require a Conditional Use Permit.

8.03 E. 18. c. Aquatic, Natural, Urban Conservancy, Shoreline Recreation, Shoreline Residential and High Intensity

8.03 E. 18. c. 1) Bioengineering approaches shall require a Substantial Development Permit.

8.03 F. Bulkheads

8.03 F. 1. All bulkheads are also subject to the provisions of Sections 8.01 A and 8.03 A, 8.03 E and 8.03 F.

8.03 F. 2. New or enlarged bulkheads for an existing principal structure or use, including residences and accessory structures, shall not be allowed unless there is

conclusive evidence, documented by a geotechnical report prepared according to the local jurisdiction's standards for a critical areas report for geologically hazardous areas, that the principal structure is in danger from shoreline erosion caused by currents or waves. Normal sloughing, or shoreline erosion itself, without a scientific or geotechnical analysis, is not demonstration of need. The geotechnical analysis shall evaluate on-site drainage issues and address drainage in a manner that does not degrade shoreline function before considering structural shoreline stabilization. The project design and analysis shall also evaluate vegetation enhancement as a means of reducing undesirable erosion. The geotechnical analysis shall demonstrate that the stabilization measure chosen is the least intrusive means that will be sufficient to achieve stabilization. The geotechnical analysis shall evaluate impacts that could pose stabilization problems to neighboring properties.

8.03 F. 3. An existing bulkhead may be replaced with a similar structure if there is a demonstrated need to protect principal uses or structures from erosion caused by currents or waves. In this case, demonstration of need does not necessarily require a geotechnical report; need must, however, be demonstrated using documentable information sources. The replacement structure shall be designed, located, sized, and constructed to ensure no net loss of ecological functions. Replacement bulkheads shall not encroach waterward of the ordinary high water mark or existing structure unless the residence was occupied prior to the date of adoption of this SMP, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing stabilization structure. The Administrator may permit vegetative stabilization that restores ecological functions waterward of the ordinary high water mark.

8.03 F. 4. A bulkhead-type structure used to stabilize a dock may be permitted, but the size shall be limited to the minimum necessary for the dock. The stabilization structure shall not exceed 1' wider than the gangplank or pier structure on each side nor shall it exceed 6' landward in total width along the shoreline.

8.03 F. 5. Designation Specific Regulations

8.03 F. 5. a. Aquatic, Natural

8.03 F. 5. a. 1) Bulkheads shall be prohibited.

8.03 F. 5. b. Urban Conservancy, Shoreline Recreation, Shoreline Residential and High Intensity

8.03 F. 5. b. 1) Bulkheads shall require a Conditional Use Permit.

8.03 G. Vegetation Conservation

8.03 G. 1. Restoration or enhancement of any shoreline area that has been disturbed or degraded shall use plant materials from the recommended list (Appendix E) or other species approved by agencies or organizations operating within the jurisdiction, such as the departments of Ecology, County Extension, Fish and Wildlife or the Native Plant Society.

8.03 G. 2. Stabilization of erosion-prone surfaces along shorelines shall primarily use vegetative, non-structural means and shall comply with the provisions of Section 8.03 E. More intensive measures may be permitted providing the project will result in no net loss in shoreline function.

8.03 G. 3. Vegetation removal that would be likely to result in significant soil erosion

or the need for structural shoreline stabilization measures is prohibited. This does not preclude the removal of noxious weeds, provided a mitigation management plan is submitted and approved.

8.03 G. 4 Weed abatement shall comply with all provisions of this SMP.

8.03 G. 5. Non-destructive pruning and trimming of vegetation for maintenance purposes shall be permitted in compliance with View Corridor provisions of Section 8.02 K. 1. u.

8.03 G. 6. Permits issued for projects in ecologically degraded areas shall include a condition that appropriate shoreline vegetation shall be planted or enhanced, to contribute to the restoration of ecological processes and functions.

8.03 G. 7. If weather does not permit immediate restoration of disturbed areas, replanting shall be completed during the next planting season, and the soil shall be protected until replanting is complete.

8.03 G. 8. Vegetation from the recommended list (Appendix E) or other species authorized by the local government with jurisdiction shall be used. Native plants are preferred. Plants that may compromise shoreline values shall be prohibited. If necessary, a temporary sterile cover crop (e.g., a sterile non-persistent member of the grass family such sterile Triticale, barley, or oats) shall be planted to prevent erosion during the establishment period; said cover crop shall be maintained until the permanent vegetation is sufficiently established to prevent erosion.

8.03 G. 9. Replanted areas shall be maintained until desired vegetation is well established (a minimum of three years). In the case of transportation, utility, or other capital facility construction, the agency or developer constructing the facility shall also be responsible for maintaining the vegetation until it is established.

Chapter 9
Cumulative Impact Analysis

Background

RCW 90.58 requires updated SMPs to scientifically analyze the effects of new regulations on shoreline function. The law and new guidelines require a cumulative impact analysis as part of the update process to determine if the proposed regulations will result in no net loss of shoreline function.

This analysis represents the culmination of nearly four years of effort to review, update and prepare a regional Shoreline Master Program for Okanogan County and the cities of Oroville, Tonasket, Omak, Okanogan, Brewster and Pateros and the towns of Twisp and Winthrop within the County. The analysis builds upon data collected and analyzed during the inventory and characterization of the shorelines within the entirety of Okanogan County as well as the shoreline designation process and the County's and several city and towns efforts to update local comprehensive plans and zoning codes.

There are two significant parts of the analysis, separated in the same manner as the characterization: planning, physical and administrative factors such as zoning, parcel sizes and locations and types of structures (e.g. docks, bridges, pipelines, buildings), etc…; and, biological factors including the resources and stressors that affect shoreline function. As in the Characterization (see Chapter 4), the cumulative impact analysis was conducted through the combined efforts of Highlands Associates and ENTRIX, with Highlands the lead on planning factors and ENTRIX the biological processes (complete ENTRIX Report in Appendix A).

Highlands work on the planning factors focused on developing projections for build-out and future land uses within the shoreline areas of Okanogan County and its incorporated municipalities. In order to complete this work, a set of assumptions was developed and used to guide decisions about where and what type of development would occur in the jurisdiction. The assumptions were subject to review by members of both the Technical and Shoreline Advisory Groups. ENTRIX utilized the results of Highlands' analysis to run a cumulative impacts model to determine the effects of development on shoreline functions under the proposed shoreline regulations.

Built-Out and Future Land Use Projections

Original Assumptions

The build-out and future land use projections prepared by Highlands Associates went through several iterations as changes were made to the proposed draft County Comprehensive Plan and Zoning Code, more current parcel and land use data became available and final revisions were made to the proposed shoreline designations and regulations. Okanogan County provided the parcel and shoreline jurisdiction boundaries used in the analysis. Each parcel in shoreline

jurisdiction within the county was assigned a build-out value along with an assigned future land use code using the following assumptions. The build-out value represents the potential number of parcels that could be created under the proposed shoreline designations and regulations.

Future land use codes were assigned based on several factors including comprehensive plan land use designation, existing land use patterns in the area, critical areas and access. Details on the original assumptions used to assign the build-out number and future land use code follow.

1. All parcels lying entirely or partially within the "maximum" definition for shoreline jurisdiction (those lands lying 200 feet landward on a horizontal plane from the OHWM or the 100-year floodplain, whichever is greater, plus associated wetlands).
2. All parcels lying entirely within mapped floodway areas were assigned a build-out of zero (0). Assumption relies on the fact that federal and state flood hazard reduction statutes generally limit all development in areas designated by FEMA as floodways.
3. All parcels located in the "Conservancy", "Natural" and "Aquatic" designations were generally assigned a build-out of zero (0). This assumption is based on the fact that all of the parcels designated "Conservancy" are publically owned or have been placed in a conservation easement or platted open space or common area, however some privately owned parcels were assumed to be able to develop; all parcels designated "Natural" are generally publically owned or unbuildable by virtue of location (islands), however some are private owned and could potentially be developed (most are parcels outside of the Methow Review District and lie entirely within the 100-year floodplain); and, all parcels designated "Aquatic" lie below the ordinary-high-water-mark and are subject to the Shoreline Management Act limitation on overwater construction.
4. All parcels located entirely within the mapped 100-year floodplain were assigned a build-out of zero (0).
5. All parcels with existing developed uses (residential, recreation, commercial or industrial – based on Assessor's Use Codes) less than twice the minimum lot size for the shoreline designation where they are located are assigned a build-out of zero (0). The assumption is that the parcel was already developed and impact associated with existing development was part of the baseline shoreline characterization and functional classification.
6. All parcels without existing developed uses (based on Assessor's Use Codes) less than twice the minimum lot size for the shoreline designation where they are located are assigned a build-out of one (1). Assumes all such parcels are buildable.
7. All parcels greater than or equal to twice the minimum lot size for the shoreline designation where they are located were identified assigned a value using the following assumptions:
    a. Those parcels with less than twice the minimum shoreline frontage requirement for the shoreline designation where they are located were assigned a build-out of one (1) if the parcel was undeveloped (based on Assessor Use Codes) or a zero (0) if the parcel was developed (based on Assessors Use Codes).

b. Those parcels with greater than or equal to the minimum shoreline frontage requirements for the shoreline designation where they are located required that shoreline frontage to be measured (using 2006 aerial photos registered to the county parcel layer) and the minimum lot size determined. Build-out value was then assigned based on existing shoreline development and the potential number of parcels that could be created based on a combination of minimum frontage and minimum lot size requirements.

   For example, a 20 acre parcel is located in a shoreline designation that requires a 5 acre minimum lot size and a 200 foot minimum frontage. The parcel has an existing residence (located within shoreline jurisdiction) and 450 feet of shoreline frontage. While the minimum lot size requirement would allow up to four lots to be created, the shoreline frontage requirement limits the total lots to two (2) within shoreline jurisdiction. This example parcel would have a build-out of one (1) for the undeveloped lot that could be created.

8. All parcels were assigned a future land use code based on adopted City, Town or County comprehensive plan land use designations.
9. Future land uses were categorized as low, medium or high intensity with land uses including residential, commercial, industrial, agriculture, resource, mixed residential/agriculture, mixed residential/commercial, etc….. using the following information (based on adopted and draft maps, aerial photos, personal knowledge and professional judgment):
   a. Local comprehensive plan designation
   b. Existing development patterns
   c. Access to state or improved county roads
   d. Existence of critical areas (primarily steep slopes, flood hazard and wetlands)

Modified Assumptions

These original assumptions were subsequently modified based on input from the Technical and Stakeholder Advisory Committees and local planners.

1. Only parcels lying entirely within the 100-year floodplain in the Methow Review District were assigned a build-out of zero (0) with those parcels lying entirely in 100-year floodplain elsewhere in the County assigned a build-out using the original assumptions.
2. Where local comprehensive plan designations and density standards conflict with shoreline designation requirements, the more stringent would apply. For example, the comprehensive plan designation allows 1acre lots, but the shoreline designation limits lot sizes to 5 acres, the shoreline lot size was used to assign build-out. Where the comprehensive plan designation limits parcels to 20 acres, but the shoreline designations allows 1 acre lots, the comprehensive plan designation was used to assign build-out.

3. The proposed definition used to define the area of shoreline jurisdiction was changed to the "minimum" (200 feet on a horizontal plane from the floodway boundary). This change is only applicable to those areas with an official floodway on federal flood insurance rate maps.

Methodology

The methodology for generating the data used in the planning factors component of the cumulative impact assessment required that each parcel within shoreline jurisdiction in Okanogan County and the cities and towns therein, be coded with the following basic data:

- existing or proposed comprehensive plan land use designation (includes density and use information)
- existing or proposed zoning district (includes minimum lot size and allowable uses)
- existing ownership verified
- percentage of parcel in mapped floodplain
- existing platted common areas and open space parcels identified
- existing conservation easement parcels identified
- location within a city or town corporate limits
- location within an adopted (by the city or town) urban growth area
- proposed shoreline designation
- proposed minimum shoreline lot size
- proposed minimum shoreline frontage

Given the elapsed time between the beginning of the characterization process and the cumulative impact assessment (nearly 3 years) the most current parcel data from Okanogan County was imported for use in the analysis. As a result of subdivision and boundary line adjustment activities the number of shoreline parcels increased over that time period. In addition, Okanogan County began working on a new comprehensive plan with several different drafts with changing land use designation maps being released during the period of time the data for the analysis was entered. This created additional work as the new or modified parcels had be individually examined and coded with the basic data noted above.

Once the parcel data was coded with the basic data and deemed complete (duplicates removed, data verified) the process then turned to assigning build-out and future land use codes using the assumptions described above. As the assumptions were changed additional iterations of assigning build-out and future land use codes were required.

The other aspect of the planning component of the cumulative impact analysis was the assignment of a future land use for each parcel. This data, along with the build-out numbers were provided to ENTRIX for use in their modeling of cumulative impacts on shoreline

functions resulting from development under the proposed SMP regulations. The following table (4.1) provides a summary of the build-out numbers for each shoreline designation. Table 4.2 provides a summary of the types of development that are projected to occur on the buildout parcels.

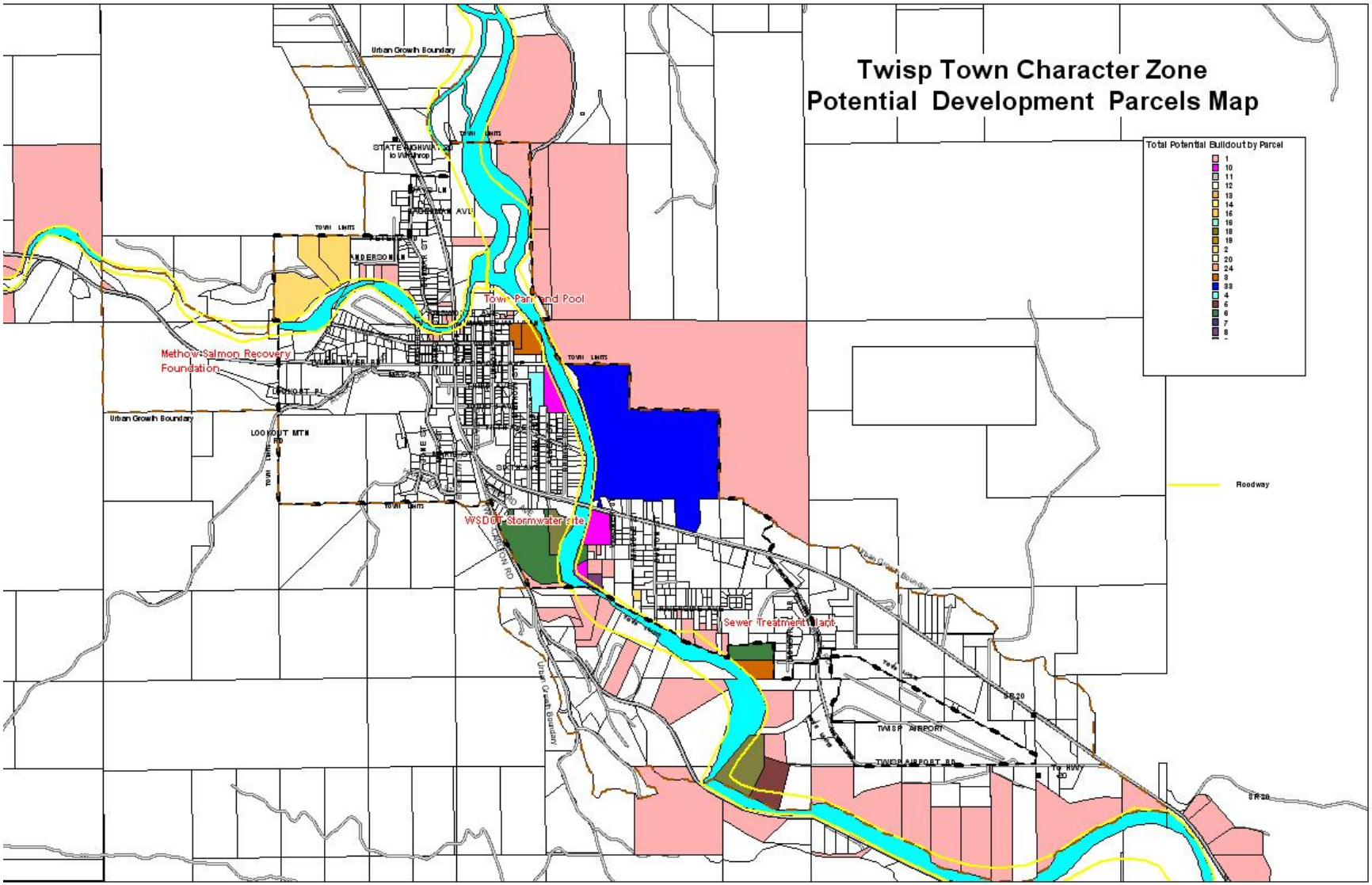
Build-out Data Results for Twisp

The following table summarizes build-out data by shoreline designation. See map on following page for graphic illustration of the following data.

Table 4.1

Shoreline Designation	# of Parcels[1]		# of Parcels Currently Developed[2]		Potential Build-out[3]	
	Town	UGA	Town	UGA	Town	UGA
Aquatic	N/A	N/A	N/A	N/A	N/A	N/A
Natural	2	4	2	4	0	0
Conservancy	0	2	0	2	0	0
Riverine/Lacustrine	0	14	0	5	0	9
Rural Resource	0	0	0	0	0	0
Rural Residential	0	0	0	0	0	0
Shoreline Recreation	0	0	0	0	0	0
Shoreline Residential	112	27	79	16	66	30
High Intensity	48	0	34	0	76	0
Urban Conservancy	12	8	11	8	1	0
Totals	**174**	**55**	**126**	**35**	**143**	**39**

[1] -includes all existing parcels (January 2009 County data) with any portion lying within shoreline jurisdiction
[2] -includes all parcels with Assessors Use Codes that indicate existing development, public lands, land under conservation easements and platted common areas or open space.
[3] -represents potential new parcels under proposed shoreline regulations.


Twisp Town Character Zone
Potential Development Parcels Map
Total Potential Buildout by Parcel
Urban Growth Boundary
Town Park and Pool
Methow Salmon Recovery Foundation
WSDOT Stormwater site
Sewer Treatment Plant
Floodway
TWISP AIRPORT
SR 20

A review of the data in the table finds that at present approximately 72% of shoreline parcels in the town limits and 64% in the UGA are already developed in some form. The potential exists under the proposed shoreline regulations for an additional 143 parcels in the town, and 39 in the UGA in areas subject to shoreline jurisdiction. The build-out analysis shows that the vast majority of the potential parcels within the Town are within areas designated as Shoreline Residential or High Intensity with the potential parcels in the UGA primarily focused in areas designated as Shoreline Residential. The shoreline regulations as proposed could allow for the number of parcels in shoreline jurisdiction to total over 411 (in Town and UGA) if build-out occurs under the assumptions used for this analysis.

The actual number of parcels created and land uses to be developed will vary depending on a range of factors, including location and market forces. Therefore, this analysis assumed the densest scenario of development in order to model the worst case scenario in terms of impacts. Based on regional growth projections and the current economic stagnation, it is highly unlikely that the projected build-out will be achieved in the foreseeable future. The analysis also did not take into account the use of clustered development, planned development, density bonuses, or development standards that are emerging such as low-impact development and green technology that may alter development impacts for the shoreline. These types of development tools will provide additional shoreline protection through open space plans, covenants and restrictions.

Table 4.2 shows that 41% of the new development will be high intensity commercial in nature, 51% high intensity residential, 10 % medium intensity residential and 3% medium intensity resource.

Table 4.2

Build-Out by Future Land Use and Shoreline Designation																	
Shoreline Designation	High Intensity Ag/Residential	High Intensity Commercial	High Intensity Dam/Public/ Irrigation/WWTP	High Intensity Recreation	High Intensity Residential	Low Intensity Agriculture	Low Intensity Forest	Low Intensity Recreation	Low Intensity Resource	Low Intensity Residential/ Agriculture	Low Intensity Residential	Medium Intensity Commercial	Medium Intensity Recreation	Medium Intensity Resource	Medium Intensity Residential/ Agriculture	Medium Intensity Residential	**TOTALS**
Aquatic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Natural	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Conservancy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Riverine/Lacustrine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	**9**
Shoreline Recreation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Shoreline Residential	0	0	0	0	90	0	0	0	0	0	0	0	0	6	0	9	**96**
High Intensity	0	74	0	0	2	0	0	0	0	0	0	0	0	0	0	0	**76**
Urban Conservancy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**
Totals	**0**	**74**	**0**	**0**	**92**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**19**	**182**

Scientific Analysis—Impact on Shoreline Function

The next step in the process required ENTRIX to enter the build-out and future land use data into a similar computer model constructed for the characterization process (see Chapter 4—Characterization). The process also developed formulas to represent the proposed regulations such as buffer widths, setbacks and frontages. (see Chapter 8—Regulations).

The science team reviewed and discarded a number of variables to have the model consider but in the end decided to generally use a worst case scenario—every parcel identified as having build-out potential would be developed with each parcel using the maximum lot coverage (developed area). The team also assumed that required setbacks and buffers would be enforced.

The results of the analysis finds that the average AU functional score for the Twisp Town Character Zone (see Chapter 4—Characterization) will remain a 3, meaning no net loss of shoreline function. Please refer to Appendix D for the data summaries prepared by ENTRIX.

Summary and Recommendations

The results of the cumulative impacts analysis show that even under a worst case scenario (assuming proposed buffers are enforced), the shorelines of the Methow and Twisp Rivers within the Twisp Town Character Zone will maintain their current function with low condition and high asset values. However, it is possible as new development occurs in presently undeveloped areas and existing developed areas are redeveloped under the new regulations, that a combination of restoration and enhancement will result that can improve the condition of the shoreline areas in some places.

It is recommended that the Town:

- encourage the replacement of non-native species of vegetation with native species as practical in all shoreline development projects
- require establishment of native shoreline vegetation in areas presently degraded as part of all shoreline development projects
- develop a voluntary restoration plan for shoreline residents

Chapter 10
Restoration Plan

Introduction

Degraded areas from the Inventory and Analysis have been identified including those with impaired ecosystem processes and ecological functions. Of the areas identified those which have a high potential for restoration opportunities have been mapped.

In addition to the Inventory and Analysis conducted as part of this SMP update, regional efforts to restore ecosystem functions and values in response to water quality impairments, water conservation, invasive species, and the listing of threatened and endangered species have identified a multitude of sites for restoration and are underway throughout the county by a variety of agencies and organizations. This restoration plan is intended to provide (jurisdiction) with general goal and policies, a prioritization, and strategies for implementation and coordination of restoration of shorelines.

Overall Goals and Priorities

The governing principals of the shoreline update guidelines require cities and counties containing shorelines with impaired ecological functions to provide goals and policies to guide the restoration of those impaired shorelines. The regional shoreline staff and advisory committee compiled a list of potential restoration sites using data obtained during the inventory phase of the master program update, which identified impaired shoreline areas. Ongoing restoration efforts were included with the inventoried sites to create a comprehensive list of potential restoration opportunities. General and specific goals and policies have been developed and are listed below to address restoration of these various areas.

Goal

The goal of restoration is to achieve a net gain in shoreline ecological functions by providing for the timely repair and rehabilitation of impaired shorelines through a combination of public and private programs and actions including conservation.

Policies

- Restoration projects shall be designed with the intent to achieve no net loss of ecological functions.
- Encourage cooperation between public agencies, private property owners, citizens, and non-profits, volunteer groups for restoration projects.

- Facilitate restoration by expediting and simplifying the shoreline permit process for projects that are conducted solely for restoration purposes, when such projects comply with the statutory authority to grant exemptions.
- Encourage public education of shorelines in conjunction with restoration projects.

Objectives

- Development proposals in the shoreline shall be evaluated as to their potential for voluntary ecological restoration and conservation in context to regional priorities on behalf of the property owner. The jurisdiction shall provide guidance and, where appropriate[1], administrative assistance in voluntary restoration projects.
- Restoration and enhancement of shorelines should be designed using principles of landscape and conservation ecology and should restore or enhance shoreline ecological functions and values at local and watershed scales.
- Coordinate and facilitate restoration efforts on behalf of development proposals as they relate to local plans and policies such as recreation and economic development plans.
- The jurisdiction shall seek funding from state, federal, private and other sources to implement restoration, enhancement, and acquisition projects and where appropriate serve as agency sponsors for restoration plans that affect shorelines and water quality of shorelines, especially shorelines of statewide significance
- Develop review guidelines that will streamline the review of restoration only projects. Exemption guidelines or criteria need to be developed.
- Educate public and private shoreline owners of the benefit of using native, noninvasive wildlife, fish and plants in shoreline areas.
- Ensure that long-term maintenance and monitoring of mitigation sites are included in the original permitting of the project.
- Allow for the use of tax incentive programs, mitigation banking, restoration grants, land swaps, or other programs, as they are developed to encourage restoration of shoreline ecological functions and protect habitat for fish, wildlife and plants.
- Jurisdictions shall pursue the development of a public benefit rating system (PBRS) that provides incentives for the restoration of the shoreline. Guidance for communities establishing a PBRS can be found at http://www.ecy.wa.gov/pubs/99108.pdf
- Jurisdictions shall develop educational materials which promote the stewardship =of shoreline functions including information on permitting and regulations.
- Encourage the agricultural industry to continue to work closely with agencies, such as the Natural Resource Conservation Service and Okanogan Conservation District, with expertise in agricultural practices and restoration to improve degraded shoreline functions.
- Shoreline administrator shall participate in local, regional or national efforts as needed to coordinate restoration efforts in the jurisdiction.

[1] Jurisdictions shall provide administrative a services for restoration projects as local budgets allow.

Restoration Techniques

Table 1. The following provides a list of techniques that are available for shoreline restoration by focusing on enhancement of natural functions

Restoration Goal/Objectives	Function or Value Description	Specific techniques (examples)
Reconnect access to floodplain	Isolated habitats- off channel/side channel, channel cutoffs, avulsion areas, wetlands, and oxbow lakes, areas isolated by instream barriers (culverts) or other artificial obstructions.	Remove anthropogenic instream barriers by culvert modification, levee breaching; excavating new ponds and wetlands, enhance instream processes, and reconnect channel and floodplain function
	Off-channel/ side channel - alcoves, ponds, wetland, seasonally flooded areas that are still in connection. Usually these off-channel habitats are altered by agriculture, urban land use, flood control, and roads.	Use instream enhancement structures to improve channel connectivity and habitat conditions
Enhance hydrologic and sediment processes	Enhance natural timing, frequency, and duration of peak flows and low flows, and redirect flows to enhance natural processes. Restores sediment process functions that deliver coarse and fine sediment to the aquatic system.	Road improvement : removal, upgrade stream/culvert crossings, reduce road drainage to stream, use natural systems engineering techniques to protect infrastructure and improve/ enhance habitat and ecosystem function, traffic reduction; decommissioning of forest roads Riparian Enhancement: fencing[1], reforestation, conifer conversion[2] wetland restoration impervious surface reduction
Nutrient enhancement	Primary productivity increases with nutrients and provides multiple benefits to the capacity	Carcass placement, stream fertilization, LWD and engineered log structures

	and diversity of the aquatic food web.	
Instream habitat enhancement	Over time, watershed process will restore channel complexity naturally, but the installation of channel structures may be necessary to increase habitat quality as a near-term action.	Log structures, natural LWD placement, engineered log jams, boulder placement, channel reconfiguration, channel roughness elements, floodplain enhancement structures

1 Exclude livestock: grazing can alter natural riparian and channel processes, increase streambank erosion, channel sedimentation and widening, increase stream temperature due to reduced natural vegetation, decrease stream water quality (Elmore and Beschta 1987; Platts 1991).
2 A long-term opportunity is the concept of conifer conversion in areas where hardwoods have replaced the natural conifer vegetation. However, little scientific information exists since this takes decades to 100 years. (Emmingham et al. 2000).

Prioritization

Shorelines of Statewide Significance:

Prioritization is based on a number of factors, including the needs of individual species, locations of refugia, and cost-effectiveness, response time of techniques, and the probability of success (Beechie and Bolton 1999). Those techniques that have a high probability of success, low variability among projects, and relatively quick response time should be implemented before other techniques. In general, reconnect high-quality isolated habitats, then riparian enhancements, and lastly road restoration.

Roni et al., 2002 described a methodology for prioritizing site-specific restoration strategies in a watershed. This methodology describes three key knowledge components needed to prescribe appropriate site-specific restoration, principles of watershed processes, protection of existing high-quality habitats, and the current knowledge of the effectiveness of specific natural system engineering techniques such as placement of engineered log jams and instream channel roughness elements. While the state of the science on the use of this approach is recent, examples from the past three years include work within the Elwha, Yakima, Nooksack, Quinault river systems. It is recommended that shoreline enhancement projects should include a monitoring plan.

Timelines and funding

Multiple entities are responsible for systematically identifying, securing funding, designing, and constructing projects that provide regionally important watershed scale improvements to water quality and habitat improvements. The funding and timing with respect to design and construction of potential restoration projects is a continuous process.

Existing Efforts and Ongoing Programs

This section lists the programmatic measures within Okanogan County designed to foster shoreline restoration, achieve a no-net loss in shoreline and upland ecological processes, functions and habitats. There are many programs in place that occur in Okanogan County that are related to Natural Resource Conservation Service or Conservation District programs. The jurisdictions do not anticipate leading most restoration projects or programs. However, the SMP represents an important vehicle for facilitating and encouraging restoration projects and programs that could be led by public,
private and/or non-profit entities.

Federal Programs

Natural Resources Conservation Service

Conservation Reserve Enhancement Program (CREP) – is a joint partnership between the state of Washington and U.S. Department of Agriculture (USDA) that is administered by the Washington State Conservation Commission and the Farm Services Agency (FSA). The agreement was signed in 1998 and provides incentives to restore and improve salmon and steelhead habitat on private land. The program is voluntary for landowners; the land enrolled in CREP is removed from production and grazing under ten- or 15-year contracts. In return, landowners plant trees and shrubs to stabilize the stream bank and to provide a number of additional ecological functions. Landowners receive annual rent, incentive and maintenance payments and cost share for practice installations. These payments made by FSA and the Conservation Commission can result in no cost to the landowner for participation.

Conservation Reserve Program – provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. The program provides assistance to farmers and ranchers in complying with federal, state, and tribal environmental laws, and encourages environmental enhancement. The program is funded through the Commodity Credit Corporation (CCC). CRP is administered by the FSA, with National Resources Conservation Services (NRCS) providing technical land eligibility determinations, Environmental Benefit Index Scoring, and conservation planning.

Comprehensive Nutrient Management Plans (CNMPS) – helps Animal Feeding Operations owners and operators to achieve their production and natural resource conservation goals through development and implementation of CNMPs.

Conservation of Private Grazing Land Program – is authorized by the conservation provisions of the Federal Agricultural Improvement and Reform Act (1996 Farm Bill). The intent of this provision is to provide accelerated technical assistance to owners and managers of grazing land. The purpose is to provide a coordinated technical program to conserve and enhance grazing land resources and provide related benefits to all citizens of the United States. Currently, funds have not been appropriated for this program. However, the 2002 Farm Bill mandates establishment of a separate funding line-item for this purpose.

Emergency Watershed Protection (EWP) Program – helps protect lives and property threatened by natural disasters such as floods, hurricanes, tornadoes, and wildfires. The program is administered by the NRCS, which provides technical and financial assistance to preserve life and property threatened by excessive erosion and flooding. EWP provides funding to project sponsors for such work as clearing debris from clogged waterways, restoring vegetation, and stabilizing riverbanks. The measures that are taken must be environmentally and economically sound and generally benefit more than one property owner. NRCS provides up to 75 percent of the funds needed to restore the natural function of a watershed. The community or local sponsor of the work pays the remaining 25 percent, which can be provided by cash or in-kind services.

Environmental Quality Incentives Program (EQIP) – provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial manner. The program provides assistance to farmers and ranchers in complying with federal, state, and tribal environmental laws, and encourages environmental enhancement. The EQIP program is funded through the CCC. The purposes of the program are achieved through the implementation of an EQIP plan of operations, which includes structural and land management practices on eligible land. Contracts of up to ten years are made with eligible producers. Cost-share payments may be made to implement one or more eligible conservation practices, such as animal waste management facilities, terraces, filter strips, tree planting, and permanent wildlife habitat. Incentive payments can be made to implement one or more land management practices, such as nutrient management, pest management, and grazing land management.

Farmland Protection Program – provides matching funds to help purchase development rights to keep productive farm and ranchland in agricultural uses. Working through existing programs, the U.S. Department of Agriculture (USDA) partners with state, tribal, or local governments and non-governmental organizations to acquire conservation easements or other interests in land from landowners. USDA provides up to 50 percent of the fair market easement value. To qualify, farmland must: be part of a pending offer from a state, tribe, or local farmland protection program; be privately owned; have a conservation plan for highly erodible land; be large enough to sustain agricultural production; be accessible to markets for what the land produces; have adequate infrastructure and agricultural support services; and have surrounding parcels of land that can support long-term agricultural production. Depending on funding availability, proposals must be submitted by the eligible entities to the appropriate NRCS state office during the application window.

Wetlands Reserve Program – is a voluntary program offering landowners the opportunity to protect, restore, and enhance wetlands on their property. The USDA's NRCS provides technical and financial support to help landowners with their wetland restoration efforts. The NRCS goal is to achieve the greatest wetland functions and values, along with optimum wildlife habitat, on every acre enrolled in the program. This program offers landowners an opportunity to establish long-term conservation and wildlife practices and protection. The program offers three enrollment options:

- Permanent easement – conservation easement in perpetuity. This program pays the lowest of either agricultural value of land, established payment cap, or an amount offered by the landowner and pays 100 percent of wetland restoration costs.
- Thirty-year easement – 75 percent of permanent easement and 75 percent of restoration costs.
- Restoration cost-share agreement – agreement to re-establish degraded or lost wetlands for minimum of 10 years. The program pays 75 percent of the restoration costs.

Wildlife Habitat Incentives Program (WHIP) – is a voluntary program for people who want to develop and improve wildlife habitat primarily on private land. Through WHIP, USDA's NRCS provides both technical assistance and up to 75 percent cost-share assistance to establish and improve fish and wildlife habitat. WHIP agreements between NRCS and the participant generally last from five to ten years from the date the agreement is signed. The 2002 Farm Bill provides for up to 15 percent of annual WHIP funds for increased cost-share payments to producers using agreements with a duration of at least 15 years.

U.S. Fish and Wildlife Service

North American Wetlands Conservation Fund – has funds for local governments with at least a 50 percent match to: (1) acquire real property interest in lands or waters, including water rights, if the obtaining of such interest is subject to terms and conditions that will ensure that the real property will be administered for the long-term conservation of such lands and waters and the migratory birds and other fish and wildlife dependent thereon; and (2) restore, manage, or enhance wetland ecosystems and other habitat for migratory birds and other fish and wildlife species if such restoration, management, or enhancement is conducted on lands and waters that are administered for the long-term conservation of such lands and waters and the migratory birds and other fish and wildlife dependent thereon.

Cooperative Conservation Initiative – has funds available to support efforts to restore natural resources and establish or expand wildlife habitat. The program pays up to 50 percent.

Private Stewardship Grants -– provides grants or other assistance on a competitive basis to individuals and groups engaged in private conservation efforts that benefits species listed or proposed as endangered or threatened under the Endangered Species Act, candidate species, or other at-risk species on private lands within the United States. The program pays up to 90 percent.

Cooperative Endangered Species Conservation Fund (Recovery Land Acquisition Grants) – is authorized under the Endangered Species Act. This fund provides grants to states and territories to support their participation in a wide array of voluntary conservation projects for listed species, as well as for species either proposed or candidates for listing. By law, the state or territory must contribute 25 percent of the estimated program costs of approved projects, or 10 percent when two or more states or territories undertake a joint project. One of the three grants available is the Recovery Land Acquisition Grants ($17.8 million). These grants provide funds to states and territories for acquisition of habitat for endangered and threatened species in support of approved recovery plans.

Bonneville Power Administration

Wildlife Mitigation for the Federal Columbia River Power System – provides funding to acquire fish and wildlife habitat above Bonneville Dam.

Bureau of Reclamation

National Fish and Wildlife Foundation – the environmental restoration challenge grants program uses challenge grants, where recipients match funds, to encourage partnerships among federal agencies, tribes, state and/or local governments, nonprofit organizations, and individual landowners. The program offers reclamation awards grants for on-the-ground efforts to recover or conserve endangered or sensitive fish, plant, and wildlife species; restore riverine, wetland, riparian, or upland habitats; improve water quality;

and control noxious weeds. All projects receiving reclamation funds must be connected to the waters or lands the Bureau of Reclamation administers.

State Programs

Washington State Conservation Commission

Conservation Reserve Enhancement Program – a joint partnership between the state of Washington and USDA that is administered by the Washington State Conservation Commission (WSCC) and the FSA. See Federal programs above.

Conservation Easements program (SHB 2754) – the WSCC is creating a Washington purchase of agricultural conservation easements program that will facilitate the use of federal funds, ease the burdens of local governments launching similar programs at the local level, and help local governments fight the conversion of agricultural lands.

Washington State Department of Ecology

Water Quality Financial Assistance – The state Department of Ecology administers funding from three programs:

- The Centennial Clean Water Fund (Centennial), which provides low-interest loans and grants for wastewater treatment facilities and fund-related activities to reduce nonpoint sources of water pollution.
- The State Revolving Loan Fund (SRF), which provides low-interest loans for wastewater treatment facilities and related activities, or to reduce nonpoint sources of water pollution.
- The Section 319 Nonpoint Source Grants Program (Section 319), which provides grants to reduce nonpoint sources of water pollution.

Examples of the type of projects that they have funded in the past:

- Planning, design, and construction of wastewater and stormwater treatment facilities.
- Agricultural best management practices projects.
- Stream and salmon habitat restoration.
- Local loan funds for water quality projects.
- Watershed planning.
- Water quality monitoring.
- Water reuse planning and facilities.
- Lake restoration.
- Wellhead protection.
- Acquiring wetland habitat for preservation.
- Construction of public boat pump-outs.
- Public information and education.

Salmon Recovery Funding Board

Salmon Recovery Funding Board (SRFB) – grants to provide funding of habitat protection and restoration projects and related programs and activities that produce sustainable and measurable benefits for fish and their habitat. Local governments, private landowners, conservation districts, Native American tribes, non-profit organizations, and special purpose districts are eligible to receive funding. Private landowners are eligible applicants only when the project takes place on their own land. All projects must come through the local lead entity group and a Technical Advisory Group to the SRFB for final funding decisions.

Interagency Committee on Outdoor Recreation

Washington Wildlife and Recreation Program – funds for municipal subdivisions, tribes, and state agencies in seven categories, including critical habitat and natural areas. They must be able to document at least a 50 percent match in funding for a project.

Washington State Department of Natural Resources

Aquatic Land Enhancement Grants – grants to state agencies, tribes, and local governments. The project sponsor must document a minimum 50 percent match in funds. Eligible projects must be associated with navigable waters and are limited to aquatic habitat acquisition projects (including conservation easements), restoration projects, and public access and development projects. Acquisition projects have first priority and restoration projects second priority.

Types of Local Government Programs

Comprehensive Land Use Plan Policies – Policies in the plan requiring use of incentive programs to encourage water quality and habitat protection.

Land Acquisition or Purchase of Conservation Easements – Town programs for acquisition funded by conservation futures or other local funding sources and federal and state.

Long-Term Lease – Land trust/governmental agency leases property from the landowner, thereby preventing other uses of the property during the lease term.

Restoration of Habitat Projects – Projects to create fish passage at culverts, restore floodplains, etc., with conservation futures or other local funding sources and federal and state funding noted above.

Purchase of Development Rights – Jurisdictions may develop a program that would allow the purchase of development rights if allowed under current zoning from the landowner with conservation futures or other local, state, or federal funding sources.

Transfer of Development Rights – Okanogan County and Twisp may develop a program in the whereby development rights may be transferred from agricultural land to an area where higher densities are encouraged.

Incentive Programs

Develop a preferential tax incentive through the Public Benefit Rating System administered by the County under the Open Space Taxation Act (RCW 84.34) which would encourage private land owners to preserve and restore shoreline areas for "open space" tax relief. The Department of Ecology has a guidance document (http://www.ecy.wa.gov/pubs/99108.pdf) for local governments to use any portion of the criteria to tailor their public benefit rating system to the watershed issues they are facing. Another option is to incorporate restoration in accordance with the performance based cluster platting Okanogan County Code 16.14. This would encourage development to be clustered outside of critical habitat areas to protect them. This program also promotes restoration opportunities, recreation opportunities, and public access opportunities.

Implementation and Monitoring

In addition to project monitoring required for individual restoration and/or mitigation projects, the Town should conduct system-wide monitoring of shoreline conditions and development activity, to the degree practical, recognizing that individual project monitoring does not provide an assessment of overall shoreline ecological health.

The following approach is suggested:
1. Track information using GIS and the permitting software as activities occur, such as:

a. New shoreline development, by permit type
b. Unresolved compliance issues
c. Mitigation areas
d. Restoration areas

The Town may require project proponents to monitor as part of project mitigation, which may be incorporated into this process. Regardless, as development and restoration activities occur in the shoreline area, the municipalities should seek to monitor shoreline conditions to determine whether both project specific and SMP overall goals are being achieved.

2. Periodically review and provide input to the regional ongoing monitoring programs/agencies, such as:

- Washington Dept of Ecology water quality monitoring
- Methow Watershed Council
- Methow Restoration Council
- Upper Columbia Regional Fisheries Enhancement Group
- Okanogan Basin Watershed Planning Unit
- Okanogan Conservation District
- Washington Department of Fish and Wildlife
- Upper Columbia Salmon Recovery Board

- Confederated Tribes of the Colville
- Yakama Nation

Through this coordination with regional agencies, the municipalities should seek to identify any major environmental changes that might occur.

3. Periodic review of environmental processes and functions at the time of SMP updates to, at a minimum, validate the effectiveness of the SMP. The review should consider what restoration activities actually occurred compared to stated goals, objectives and priorities, and whether restoration projects resulted in a net improvement of shoreline resources. Under the Shoreline Management Act, the SMP is required to result in no net loss of shoreline ecological functions. If this standard is found to not be met at the time of review, the town will be required to take corrective actions. The goal for restoration is to achieve a net gain in ecological function. The cumulative effect of restoration over the time between reviews should be evaluated along with an assessment of impacts of development that is not fully mitigated to determine effectiveness at achieving a net improvement to shoreline ecological resources.

To conduct a valid reassessment of the shoreline conditions every seven years, it is necessary to monitor, record and maintain key environmental metrics to allow a comparison with baseline conditions. The Town needs to establish metrics as part of this plan to measure overall success of SMP. Most of these were measured during the inventory and analysis. Examples:

- Linear feet of harden bank
- Linear feet of shoreline protected by easement or dedication
- Linear feet of shoreline with intact riparian vegetation
- Number of restoration sites
- Number of mitigation sites
- Number of NDPS permits
- Acreage of floodplain accessible
- Number of public access points
- Linear feet of shoreline accessible to public
- Number of structures in Shoreline and uses
- Crossings and culverts
- Stormwater or pollution abatement facilities

Evaluation of shoreline conditions, permit activity, GIS data, and policy and regulatory effectiveness should occur at varying levels of detail consistent with the Regional Shoreline Master Program update cycle and the Comprehensive Plan amendment cycle which takes place every five years. A complete reassessment of conditions, policies and regulations should be considered every seven years.

CHAPTER 11
Administration

Introduction

To be authorized, all uses and developments shall be planned and carried out in a manner that is consistent with this Program and the policy of the Act as required by RCW 90.58.140(1), regardless of whether a shoreline permit, statement of exemption, shoreline variance, or shoreline conditional use permit is required.

Sections

11.01 Minimum Application Requirements

11.02 Pre-application Conference

11.03 Plan Review

11.04 Application Vesting

11.05 Notice of Application

11.06 Limited Administrative Review

11.07 Full Administrative Review

11.08 Quasi-Judicial Review

11.09 Legislative Review

11.10 Notice of Final Decision

11.11 Shoreline Substantial Development Permits

11.12 Exemptions from Substantial Development Permit Process

11.13 Conditional Use Permits

11.14 Variance Review Criteria

11.15 Appeals

11.16 Reasonable Use Exception

11.17 Non-Conforming Structures

11.18 Non-Conforming Uses

11.19 Non-Conforming Lots

11.20 Violations and Penalties

11.01 Minimum Application Requirements

11.01 A. Where other approvals or permits are required for a use or development that does not require an open record hearing, such approvals or permits shall not be granted until a shoreline approval or permit is granted. All shoreline approvals and permits shall include written findings prepared by the Administrator documenting compliance with bulk and dimensional standards and other policies and regulations of this Program.

11.01 B. A complete application for an exemption, substantial development, conditional use, or variance permit shall contain, at a minimum, the following information; provided that the Administrator may vary or waive these requirements on a case-by-case basis. The Administrator may require additional specific information depending on the nature of the proposal and the presence of sensitive ecological features or issues related to compliance with other town requirements.

11.01 B. 1. Applicant/Proponent Information

11.01 B. 1. a. The name, address and phone number of the applicant/proponent, applicant's representative, and /or property owner if different from the applicant/proponent.

11.01 B. 1. b. The applicant/proponent should be the owner of the property or the primary proponent of the project and not the representative of the owner or primary proponent.

11.01 B. 2. Property Information

11.01 B. 2. a. The property's physical address and identification of the section, township and range to the nearest quarter, quarter section or latitude and longitude to the nearest minute. All applications for projects located in open water areas away from land shall provide a longitude and latitude location.

11.01 B. 2. b. Identification of the name of the shoreline (waterbody) that the site of the proposal is associated with.

11.01 B. 2. c. A general description of the property as now exists including its size, dimensions, land use, vegetation, landforms, other physical and ecological characteristics, existing improvements and existing structures.

11.01 B. 2. d. A general description of the vicinity of the proposed project including identification of the surrounding land uses, structures and improvements, intensity of development and physical characteristics.

11.01 B. 2. e. A vicinity map showing the relationship of the property and proposed development or use to roads, utilities, water and sewer, existing developments and uses on adjacent properties.

11.01 B. 3. Site Plans

Site plan(s) identifying *existing* conditions and *proposed developments* consisting of photographs, text, maps and elevation drawings, drawn to an appropriate scale to clearly depict all relevant information that may include the following: The Administrator may required more specific detailed information prepared by a qualified professional, if additional information is required to confirm or add detail to the application.

11.01 B. 3. a. Parcel Boundary and Dimensions. The boundary of the parcel(s) of land upon which the development is proposed. A survey may be required where substantial questions exist regarding the location of property lines or other important features.

11.01 B. 3. b. OHWM. The ordinary high water mark of all water bodies located adjacent to or within the boundary of the project. For any development where a determination of consistency with the applicable regulations requires a precise location of the ordinary high water mark (e.g. structure setback), the mark shall be located precisely on the ground and the biological and hydrological basis for the location as indicated on the plans shall be noted in the development plan. Where the ordinary high water mark is neither adjacent to or within the boundary of the project, the plan shall indicate the distance and direction to the nearest ordinary high water mark of a shoreline.

11.01 B. 3. c. Topography. Existing and proposed land contours. The contours shall be at intervals sufficient to accurately determine the existing character of the property and the extent of proposed change to the land that is necessary for the development. Areas within the boundary that will not be altered by the development may be indicated as such and contours approximated for that area. The use of cross-sectional drawing and 3-Dimensional drawings or imagery may also be used to provide elevation information.

11.01 B. 3. d. Critical Areas. Existing critical areas must be identified together with any supporting information consistent with the reporting requirements found below.

11.01 B. 3. d. 1) Critical Areas Report.

If the administrator determines that the site of a proposed development potentially includes, or is adjacent to, critical area(s), a critical areas report may be required. When required, the expense of preparing the critical areas report shall be borne by the applicant. The content, format and extent of the critical areas report shall be approved by the administrator.

i. The requirement for critical areas reports may be waived by the administrator if there is substantial evidence that:

(a) There will be no alteration of the critical area(s) and/or the required buffer(s);

(b) The proposal will not impact the critical area(s) in a manner contrary to the purpose, intent and requirements of this ordinance and the comprehensive plan; and,

(c) The minimum standards of this chapter will be met.

ii. No critical area report is required for proposals that are exempt from the provisions of this chapter as set forth in Section 11.12 herein.

iii. Critical area reports shall be completed by a qualified professional who is knowledgeable about the specific critical area(s) in question, and approved by the administrator.

iv. At a minimum, a required critical areas report shall contain the following information:

(a) Applicant's name and contact information; permits being sought, and description of the proposal;

(b) A copy of the site plan for the development proposal, drawn to scale and showing:

(1) Identified critical areas, buffers, and the development proposal with dimensions;

(2) Limits of any areas to be cleared; and

(3) A description of the proposed stormwater management plan for the development and consideration of impacts to drainage alterations;

(c) The names and qualifications of the persons preparing the report and documentation of any fieldwork performed on the site;

(d) Identification and characterization of all critical areas, wetlands, water bodies, and buffers adjacent to the proposed project area;

(e) An assessment of the probable cumulative impacts to critical areas resulting from the proposed development of the site;

(f) An analysis of site development alternatives;

(g) A description of reasonable efforts made to apply mitigation sequencing to avoid, minimize, and mitigate impacts to critical areas;

(h) A mitigation plan (11.01 B. 3. h.), as needed, in accordance with the mitigation requirements of this chapter, including, but not limited to:

(1) The impacts of any proposed development within or adjacent to a critical area or buffer on the critical area; and

(2) The impacts of any proposed alteration of a critical area or buffer on the development proposal, other properties and the environment;

(i) A discussion of the performance standards applicable to the critical area and proposed activity;

(j) Financial guarantees to ensure compliance; and

(k) Any additional information required for specific critical areas as listed in subsequent sections of this chapter.

v. The administrator may request any other information reasonably deemed necessary to understand impacts to critical areas.

11.01 B. 3. e. Vegetation. A general representation of the width, location, and character of vegetation found on the site

11.01 B. 3. f. Structures. The dimensions and locations of all *existing* and *proposed* structures and improvements including but not limited to; buildings, paved or graveled areas, roads, utilities, septic tanks and drainfields, material stockpiles or surcharge, and stormwater management facilities.

11.01 B. 3. g. Landscaping plans. Where applicable, a landscaping plan for the project.

11.01 B. 3. h. Mitigation plans. Where applicable, plans for development of areas on or off the site as mitigation for impacts associated with the proposed project shall be included and contain information consistent with the requirements as follows.

11.01 B. 3. h. 1) Mitigation Requirements. The applicant shall avoid all impacts that degrade the functions and values of critical areas. If alteration is unavoidable, all adverse impacts to critical areas and buffers resulting from the proposal shall be mitigated in accordance with an approved critical areas report and SEPA documents. Mitigation shall be on-site, when possible, and sufficient to maintain the functions and values of the critical area, and to prevent risk from a hazard posed by a critical area.

i. Mitigation sequencing. Applicants shall demonstrate that all reasonable efforts have been examined with the intent to avoid and minimize impacts to critical areas. When an alteration to a critical area is proposed, such alteration shall be avoided, minimized, or compensated for in the following order of preference:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action;

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;

(c) Rectifying the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by repairing, rehabilitating, or restoring the affected environment to the historical conditions or the conditions existing at the time of the initiation of the project;

(d) Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineered or other methods;

(e) Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;

(f) Compensating for the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by replacing, enhancing, or providing substitute resources or environments; and

(g) Monitoring the hazard or other required mitigation and taking remedial action when necessary.

ii. Mitigation plan. When mitigation is required, the applicant shall submit for approval a mitigation plan as part of the critical area report. The mitigation plan shall include:

(a) A written report identifying mitigation objectives, including:

(1) A description of the anticipated impacts to the critical areas and the mitigating actions proposed and the purposes of the compensation measures, including the site selection criteria; identification of compensation objectives; identification of critical area functions and values; and dates for beginning and completion of site compensation construction activities;

(2) A review of the best available science supporting the proposed mitigation and a description of the report authors experience to date in critical areas mitigation; and

(3) An analysis of the likelihood of success of the compensation project.

(b) Measurable criteria for evaluating whether or not the objectives of the mitigation plan have been successfully attained and whether or not the requirements of this chapter have been met.

(c) Written specifications and descriptions of the mitigation proposed, including, but not limited to:

(1) The proposed construction sequence, timing, and duration;

(2) Grading and excavation details;

(3) Erosion and sediment control features;

(4) A planting plan specifying plant species, quantities, locations, size, spacing, and density; and

(5) Measures to protect and maintain plants until established.

(d) A program for monitoring construction of the compensation project, and for assessing the completed project and its effectiveness over time. The program shall include a schedule for site monitoring and methods to be used in evaluating whether performance standards are being met. A monitoring report shall be submitted as needed to document milestones,

successes, problems, and contingency actions of the compensation project. The compensation project shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than five (5) years.

(e) Identify potential courses of action, and any corrective measures to be taken if monitoring or evaluation indicates project performance standards are not being met.

11.01 B. 3. i. Fill Specifications. Quantity, source and composition of any fill material that is placed on the site whether temporary or permanent.

11.01 B. 3. j. Dredge material. Quantity, composition and destination of any excavated or dredged material.

11.01 B. 3. k. Views. Where applicable, photographs taken from various vantages that depict the current quality of views from surrounding uses and public areas, including photographs taken of the shoreline from the water's edge and across the water body where feasible and appropriate.

11.01 B. 3. l. Area of Variance. On all variance applications the plans shall clearly indicate where development could occur without approval of a variance, the physical features and circumstances on the property that provide a basis for the request, and the location of adjacent structures and uses.

11.01 B. 4. Shoreline permits shall be applied for on forms provided by the jurisdiction.

11.01 B. 5. Critical areas reports and mitigation management plan(s) as required pursuant to other applicable sections of this program.

11.01 B. 6. Where applicable, accompanying critical area mitigation plans in accordance with Section 11.01 B. 3. d.

11.01 B. 7. A list of all property owners and their mailing addresses within 300 ft of the proposed development boundaries.

Pre-application Conference

11.02 A. Prior to filing a permit application for a shoreline exemption, substantial development permit, variance or conditional use permit decision, the applicant shall contact the jurisdiction to schedule a pre-application conference which shall be held prior to filing the application, provided that such meetings shall not be required for development activities associated with shoreline restoration projects, agriculture, commercial forestry, or the construction of a single family residence.

11.02 B. The purpose of the pre-application conference is to review and discuss the application requirements with the prospective applicant and provide initial comments on the development proposal. The pre-application conference shall be scheduled by the jurisdiction, at the request of an applicant, and shall be held in a timely manner, within thirty (30) days from the date of the applicant's request. Pre-application meetings may take place via telephone or through email contact. If either of the later methods are used, the administrator shall print the correspondences and/or document the meeting in a memo or staff report to be place in the project file

11.02 C. Information presented at or required as a result of the pre-application conference shall be valid for a period of one-hundred-eighty (180) days following the pre-application conference. An applicant wishing to submit a permit application more than one-hundred-eighty (180) days following a pre-application for the same permit application may be required to schedule another pre-application conference at the discretion of the administrator. If changes in physical or biological conditions or regulatory environment changes have been implemented, another pre-application meeting should be requested by the administrator.

11.02 D. At or subsequent to a pre-application conference, the jurisdiction may issue a preliminary determination that a proposed development is not permissible under applicable policies or regulatory enactments. In that event, the applicant shall have the option to appeal the preliminary determination to the appropriate hearing body as provided for in the administrative procedures code for the town.

11.03 Plan Review

11.03 A. A plan review shall be conducted to determine if the application is complete. Plan review shall determine if adequate information is provided in or with the application in order to begin processing the application and that all required information and materials have been supplied in sufficient detail to begin the application review process. All information and materials required by the application form must be submitted. All studies supporting the application or information that addresses anticipated impacts of the proposed development must be submitted. A notice of completion of incompletion shall be prepared and submitted to applicant within 28 days of receipt of materials.

11.03 B. The purpose of the plan review is to ensure adequate information is contained in the application materials to demonstrate consistency with this Program, applicable comprehensive plans, development regulations and other applicable regulations. Town staff will coordinate the involvement of agencies responsible for the review of the proposed development.

11.04 Application Vesting

11.04. A. An application shall become vested on the date a determination of completeness is made and all fees have been paid. Thereafter, the application shall be reviewed under the codes, regulations and other laws in effect on the date of vesting; provided, in the event an

applicant substantially changes his/her proposed development after a determination of completeness, as determined by the administrator, the application shall not be considered vested until a new determination of completeness on the changes is made.

11.04. B. Construction activities shall be commenced or, where no construction activities are involved, the use or activity shall be commenced within two years of the effective date of a substantial development permit. However, local government may authorize a single extension of a period not to exceed one year based on reasonable factors, if a request for extension has been filed before the expiration date and notice of the proposed extension is given to parties for record on the substantial development permit and to the department.

11.04. C. Authorization to conduct development activities shall terminate five years after the effective date of a substantial development permit. However, local government may authorize a single extension for a period not to exceed one year based on reasonable factors, if a request for extension has been filed before the expiration date and notice of the proposed extension is given to parties of record and to the department.

11.04. D. The effective date of a substantial development permit shall be the date of filing as provided in RCW 90.58.140(6). The permit time periods in subsections (2) and (3) of this section do not include the time during which a use or activity was not actually pursued due to the pendency of administrative appeals or legal actions or due to the need to obtain any other government permits and approvals for the development that authorize the development to proceed including all reasonable related administrative or legal actions on any such permits or approvals.

11.04. E. Revisions to permits under WAC 173-27-100 may be authorized after original permit authorization has expired: Provided, that this procedure shall not be used to extend the original permit time requirements or to authorize substantial development after the time limits of the original permit.

11.04. F. Local government shall notify the department in writing of any change to the effective date of a permit, as authorized by this section, with an explanation of the basis for approval of the change. Any change to the time limits of a permit other than those authorized by RCW 90.58.143 as amended shall require a new permit application.

11.05 Notice of Application

11.05 A. Within fourteen days after issuing a determination of completeness, the administrator shall issue a notice of application. The notice shall include, but not be limited to the following:

11.05 A. 1. A description of the proposed project action, a list of permits required for the application, and if applicable, a list of any studies requested;

11.05 A. 2. The identification of other required permits not included in the application, to the extent known by the Administrator;

11.05 A. 3. The identification of existing environmental documents which evaluate the proposed development and the location where the application and any studies can be reviewed;

11.05 A. 4. A statement of the public comment period, which shall be thirty days following the date of the notice of application, and a statement of the right of any person to comment on the application, receive notice of and participate in any hearings, and request a copy of the decision once made, and a statement of any appeal rights;

11.05 A. 5. The date, time, location and type of hearing, if applicable and scheduled at the date of the notice of application;

11.05 A. 6. Any other information determined by the administrator to be appropriate.

11.05 B. Informing the public

11.05 B. 1. The notice of application shall be mailed to the latest recorded real property owners as shown by the records of the county assessor within at least three hundred feet of the boundary of the property upon which the development is proposed;

11.05 B. 2. In addition to mailing the notice of application, the Administrator may require the notice to be posted on the subject property for the duration of the public comment period, where the Administrator finds that such additional notice may be of benefit for the public. The applicant shall be responsible for posting and maintaining the posting throughout the entire public comment period. The applicant shall obtain the notice of application sign(s) from the Administrator upon payment of all applicable fees. The sign location and condition shall be the responsibility of the applicant until the sign(s) are returned to the Administrator. After the public comment period, the applicant shall sign an affidavit of posting before a notary public, using the form adopted by the city or town, and file the affidavit of posting with the Administrator, together with a photograph of the notice of application sign(s) posted at the site. Any necessary replacement of the notice of application sign(s) and post(s) shall be the sole responsibility of the applicant.

11.05 C. The notice of application is not a substitute for any required notice of a public hearing.

11.05 D. A State Environmental Policy Act (SEPA) threshold determination may be issued for a proposal concurrent with the notice of application.

11.05 E. Notice of application and SEPA determination will be published in the local official newspaper of record.

11.06 Limited Administrative Review

11.06 A. Limited administrative review shall be used when the proposed development is subject to clear, objective and nondiscretionary standards that require the exercise of professional judgment about technical issues and the proposed development is exempt from the State Environmental Policy Act (SEPA). Included within this type of review are single-family building permits accessory dwelling units and other appurtenant development. The Administrator may approve, approve with conditions, or deny the application after the date the application is accepted as complete, without public notice. The decision of the Administrator is final. There is no administrative appeal of a limited administrative review decision.

11.07 Full Administrative Review

11.07 A. Full administrative review shall be used when the proposed development is subject to objective and subjective standards that require the exercise of limited discretion about non-technical issues and about which there may be limited public interest. The proposed development may or may not be subject to SEPA review. Included within this type of review are applications for, shoreline exemptions which require a letter of exemption, administrative shoreline substantial development permits, administrative shoreline conditional use permits, short subdivisions, multifamily, commercial, and industrial and/or office building permits.

11.07 B. This review procedure under full administrative review shall be as follows:

11.07 B. 1. Upon the completion of the public comment period and the comment period required by SEPA, if applicable, the Administrator may approve, approve with conditions, or deny the application. The Administrator shall mail the notice of decision to the applicant and all parties of record. The decision shall include:

11.07 B. 1. a. A statement of the applicable criteria and standards in the development codes and other applicable law;

11.07 B. 1. b. A statement of the findings of the review authority, stating the application's compliance or noncompliance with each applicable criterion, and assurance of compliance with applicable standards;

11.07 B. 1. c. The decision to approve or deny the application and, if approved, conditions of approval necessary to ensure the proposed development will comply with all applicable laws;

11.07 B. 1. d. A statement that the decision is final unless appealed as provided in 11.15 (A) of this Program. The appeal closing date shall be listed. The statement shall describe how a party may appeal the decision.

11.07 B. 1. e. A statement that the complete application file including findings, conclusions and conditions of approval, if any, is available for inspection. The notice shall list the name and telephone number of the Administrator's representative to contact to arrange inspection.

11.07 B. 2. The decision may be appealed to the Board of Adjustment or Town Council pursuant to the process established in 11.15(A) of this Program.

11.08 Quasi-judicial review of applications

11.08 A. Quasi-judicial review shall be used when the development or use proposed under the application requires a public hearing before the Board of Adjustment. This type of review shall be used for shoreline conditional use permits, shoreline variances, shoreline substantial development permits[1] and other similar applications.

11.08 B. The review procedure under quasi-judicial review shall be as follows:

11.08 B. 1. A quasi-judicial review process requires an open record public hearing before the Board of Adjustment.

11.08 B. 2. The public hearing shall be held after the completion of the public comment period and the comment period required by SEPA, if applicable.

11.08 B. 3. At least ten days before the date of a public hearing the Administrator shall issue public notice of the date, time, location and purpose of the hearing.

11.08 B. 4. At least ten days before the date of the public hearing, the Administrator shall issue a written staff report, integrating the SEPA review and threshold determination and recommendation regarding the application(s), shall make available to the public a copy of the staff report for review and inspection, and shall mail a copy of the staff report and recommendation to the applicant or the applicant's designated representative. The Administrator shall make available a copy of the staff report, subject to payment of a reasonable charge, to other parties who request it.

11.08 B. 5. Public hearings shall be conducted in accordance with the rules of procedure adopted by the Board of Adjustment. A public hearing shall be recorded. If for any reason, the hearing cannot be completed on the date set in the public notice, it may be continued during the public hearing to a specified date, time and location, without further public notice required.

11.08 B. 6. Within ten working days after the Board of Adjustment adopts their final decision, the Board shall issue a written decision regarding the application(s).

11.08 B. 7. The hearing body may approve, approve with conditions or deny the application and shall mail the notice of its decision to the Administrator, Ecology, applicant, the applicant's designated representative, the property owner(s), and any other parties of record. The decision shall include:

11.08 B. 7. a. A statement of the applicable criteria, standards and law;

11.08 B. 7. b. A statement of the findings of fact the hearing body made showing the proposal does or does not comply with each applicable approval criterion and assurance of compliance with applicable standards;

1 - hearing is only required when Administrator determines that the public interest would be served, e.g. large projects affecting shorelines of state-wide significance.

11.08 B. 7. c. A statement that the decision is final unless appealed pursuant to section 11.16 (A) of this Program. The appeal closing date shall be listed;

11.09 Legislative review of applications

11.09 A. Legislative review shall be used to review and amend this master program.

11.09 B. Legislative review shall be conducted as follows:

11.09 B. 1. Legislative review requires at least one public hearing before the planning commission and one public meeting before the Town Council.

11.09 B. 2. The application shall contain all information and material requirements required by the appropriate application form.

11.09 B. 3. At least ten days before the date of the first planning commission hearing the Administrator shall issue public notice of the date, time, location and purpose of the hearing. The notice shall include notice of the SEPA threshold determination issued by the Administrator.

11.09 B. 4. At least ten days prior to the hearing the Administrator shall issue a written staff report, integrating the SEPA review and threshold determination and recommendation regarding the application(s), shall make available to the public a copy of the staff report for review and inspection, and shall mail a copy of the staff report and recommendation to the applicant or the applicant's designated representative, and planning commission members. The Administrator shall make available a copy of the staff report, subject to a reasonable charge, to other persons who request it.

11.09 B. 5. Following the public hearing and in accordance with RCW 36.70.630, the recommendation of the planning commission shall be forwarded to Town Council. Upon receiving the recommendation from the planning commission, the Town Council shall set a public meeting to consider the proposal, at which the Council may either accept or reject the recommendation.

11.09 B. 6. The Town Council must hold a public hearing to consider any changes to the recommendation of the planning commission. The Town Council may approve, approve with conditions, deny or remand the proposal back to the planning commission for further review after such public hearing. The final decision of the legislative authority shall be adopted by resolution.

11.09 B. 7. The final decision of the Town Council shall be in writing and include:

11.09 B. 7. a. A statement of the applicable criteria and law;

11.09 B. 7. b. A statement of the findings indicating the application's or proposed development's compliance or noncompliance with each applicable approval criterion;

11.09 B. 7. c. The decision to approve, condition or reject the planning commission recommendation or remand for further review;

11.09 B. 7. d. A statement that the decision is final unless appealed pursuant to the process in Section 11.15 of this Chapter. The appeal closing date shall be listed.

11.09 B. 7. e. A statement that the complete application file including findings, conclusions and conditions of approval, if any, is available for inspection. The notice shall state the name and telephone number of the town representative to contact.

11.10 Notice of final decision

11.10 A. A notice of final decision on an application shall be issued within one hundred twenty days after the date of the declaration of completeness, unless additional time is required due to environmental review, agency consultations or is needed to complete required studies or reports. In determining the number of days that have elapsed, the following periods shall be excluded:

11.10 A. 1. Any period during which the applicant has been requested by the Administrator to correct plans, perform required studies, or provide additional information or materials. The period shall be calculated from the date the Administrator issues the request to the applicant to, the earlier of, the date the Administrator determines whether the additional information satisfies its request or fourteen days after the date the information has been received by the town;

11.10 A. 2. If the Administrator determines the information submitted by the applicant under 11.01 of this Section is insufficient, it shall again notify the applicant of deficiencies, and the procedures of this Section shall apply to the request for information;

11.10 A. 3. Any period during which an environmental impact statement (EIS) is being prepared following a determination of significance pursuant to RCW 43.21C;

11.10 A. 4. Any period for administrative appeals.

11.10 A. 5. Any extension of time mutually agreed upon by the applicant and the Administrator.

11.10 B. The time limit by which the jurisdiction must issue a notice of final decision does not apply if an application:

11.10 B. 1. Requires an amendment to a comprehensive plan or development regulation;

11.10 B. 2. Is substantially revised by the applicant after a determination of completeness has been issued, in which case the time period shall start from the date on which the revised project application is determined to be complete.

11.10 C. If the Administrator is unable to issue its final decision within the time limits provided for in this Chapter, it shall provide written notice of this fact to the applicant. The notice shall include a statement of reasons why the time limits have not been met and an estimated date for issuance of the notice of final decision.

11.10 D. In accordance with state law, the local jurisdiction is not liable for damages which may result from the failure to issue a timely notice of final decision.

11.10 E. The Town shall file the final decision with the Department of Ecology in accordance with WAC 173-27-130, as amended.

11.11 Shoreline Substantial Development Permits

11.11 A. A Shoreline Substantial Development Permit shall be required for all development of shorelines, unless the proposal is specifically exempt per Section 11.12 (B).

11.11 B. In order to be approved, the decision maker must find that the proposal is consistent with the following criteria:

11.11 B. 1. All regulations of this Program appropriate to the shoreline designation and the type of use or development proposed shall be met, except those bulk and dimensional standards that have been modified by approval of a shoreline variance under Section 11.14.

11.11 B. 2. All policies of this Program appropriate to the shoreline area designation and the type of use or development activity proposed shall be considered and substantial compliance demonstrated.

11.11 B. 3. For projects located on shorelines of statewide significance, the policies of Chapter 5 shall be also be adhered to.

11.11 C. The Town may attach conditions to the approval of permits as necessary to assure consistency of the project with the Act and this SMP.

11.11 D. Construction activities shall be commenced or, where no construction activities are involved, the use or activity shall be commenced within two years of the effective date of a substantial development permit. However, local government may authorize a single extension of a period not to exceed one year based on reasonable factors, if a request for extension has been filed before the expiration date and notice of the proposed extension is given to parties for record on the substantial development permit and to the department.

11.11 E. Authorization to conduct development activities shall terminate five years after the effective date of a substantial development permit. However, local government may authorize a single extension for a period not to exceed one year based on reasonable factors, if a request for extension has been filed before the expiration date and notice of the proposed extension is given to parties of record and to the department.

11.11 F. The effective date of a substantial development permit shall be the date of filing as provided in RCW 90.58.140(6). The permit time periods in subsections (2) and (3) of this section do not include the time during which a use or activity was not actually pursued due to the pendency of administrative appeals or legal actions or due to the need to obtain any other government permits and approvals for the development that authorize the development to proceed including all

reasonable related administrative or legal actions on any such permits or approvals.

11.11 G. Revisions to permits under WAC 173-27-100 may be authorized after original permit authorization has expired: Provided, that this procedure shall not be used to extend the original permit time requirements or to authorize substantial development after the time limits of the original permit.

11.11 H. The Town shall notify the department in writing of any change to the effective date of a permit, as authorized by this section, with an explanation of the basis for approval of the change. Any change to the time limits of a permit other than those authorized by RCW 90.58.143 as amended shall require a new permit application.

11.12 Exemptions from Shoreline Substantial Development Permit Process

11.12 A. Application and Interpretation

11.12 A. 1. An exemption from the substantial development permit process is not an exemption from compliance with the Act or this Program, or from any other regulatory requirements. To be authorized, all uses and developments must be consistent with the policies and regulatory provisions of this Program and the Act. A statement of exemption shall be obtained for exempt activities consistent with the provisions of this section.

11.12 A. 2. Exemptions shall be construed narrowly. Only those developments that meet the precise terms of one or more of the listed exemptions may be granted exemptions from the substantial development permit process.

11.12 A. 3. The burden of proof that a development or use is exempt is on the applicant/proponent of the exempt development action.

11.12 A. 4. If any part of a proposed development is not eligible for exemption, then a substantial development permit is required for the entire project.

11.12 A. 5. A development or use that is listed as a conditional use pursuant to this Program or is an unlisted use, must obtain a conditional use permit even if the development or use does not require a substantial development permit.

11.12 A. 6. When a development or use is proposed that does not comply with the bulk, dimensional and/or performance standards of the Program, such development or use shall only be authorized by approval of a shoreline variance even if the development or use does not require a substantial development permit.

11.12 A. 7. All permits or statements of exemption issued for development or use within shoreline jurisdiction shall include written findings prepared by the Administrator, including compliance with bulk and dimensional standards and policies and regulations of this Program. The Administrator may attach conditions to the approval of exempt developments and/or uses as necessary to assure consistency of the project with the Act and the Program.

11.12 B. Exemptions Listed

11.12 B. 1. Any development of which the total cost or fair market value, whichever is higher, does not exceed five thousand seven hundred eighteen dollars ($5,718) or as amended by the state office of financial management, if such development does not materially interfere with the normal public use of the water or shorelines of the state. For the purposes of determining whether or not a permit is required, the total cost or fair market value shall be based on the value of development that is occurring on shorelines of the state as defined in RCW 90.58.030(2)(c). The total cost or fair market value of the development shall include the fair market value of any donated, contributed or found labor, equipment or materials.

11.12 B. 2. Normal maintenance or repair of existing structures or developments, including damage by accident, fire or elements. Normal maintenance includes those usual acts to prevent a decline, lapse or cessation from a lawfully established condition. Normal repair means to restore a development to a state comparable to its original condition within a reasonable period after decay or partial destruction except where repair causes substantial adverse effects to the shoreline resource or environment. Replacement of a structure or development may be authorized as repair where such replacement is the common method of repair for the type of structure or development and the replacement structure or development is comparable to the original structure or development including but not limited to its size, shape, configuration, location and external appearance and the replacement does not cause substantial adverse effects to shoreline resources or the environment.

11.12 B. 3. Construction of the normal protective bulkhead common to single family residences. A normal protective bulkhead includes those structural and nonstructural developments installed at or near, and parallel to, the ordinary high water mark for the sole purpose of protecting an existing single family residence and appurtenant structures from loss or damage by erosion. A normal protective bulkhead is not exempt if constructed for the purpose of creating dry land. When a vertical or near vertical wall is being constructed or reconstructed, not more than one (1) cubic yard of fill per one (1) foot of wall may be used for backfill. When an existing bulkhead is being repaired by construction of a vertical wall fronting the existing wall, it shall be constructed no further waterward of the existing bulkhead than is necessary for construction of new footings. When a bulkhead has deteriorated such that an ordinary high water mark has been established by the presence and action of water landward of the bulkhead then the replacement bulkhead must be located at or near the actual ordinary high water mark. Beach nourishment and bioengineered erosion control projects may be considered a normal protective bulkhead when any structural elements are consistent with the above requirements and when the project has been approved by the Washington Department of Fish and Wildlife.

11.12 B. 4. Emergency construction necessary to protect property from damage by the elements. An emergency is an unanticipated and imminent threat to public health, safety or the environment that requires immediate action within a time too short to allow full compliance with this Program. Emergency construction does not include development of new permanent protective structures where none previously existed. Where new protective structures are deemed by the Administrator to be the appropriate means to address the emergency situation, upon abatement of the emergency situation the new structure shall be removed or any permit that would have been required, absent an emergency, pursuant to RCW 90.58, WAC 173-27 or this Program, shall be obtained. All emergency construction shall be consistent with the policies of RCW 90.58 and this Program. As a general matter, flooding or other seasonal events that can be anticipated and may occur but that are not imminent are not an emergency.

11.12 B. 5. Construction and practices normal or necessary for farming, irrigation, and ranching activities, including agricultural service roads and utilities, construction of a barn or similar agricultural structure, and the construction and maintenance of irrigation structures including, but not limited to, head gates, pumping facilities, and irrigation channels and pipes; provided, that this exemption shall not apply to agricultural activities proposed on land not in agricultural use on December 17, 2003, and further provided that a feedlot of any size, all processing plants, other activities of a commercial nature, alteration of the contour of the shorelands by leveling or filling other than that which results from normal cultivation, shall not be considered normal or necessary farming or ranching activities. A feedlot shall be an enclosure or facility used or capable of being used for feeding livestock hay, grain, silage, or other livestock feed, but shall not include land for growing crops or vegetation for livestock feeding and/or grazing, nor shall it include normal livestock wintering operations.

11.12 B. 6. Construction or modification, by or under the authority of the Coast Guard or a designated port management authority, of navigational aids such as channel markers and anchor buoys.

11.12 B. 7. Construction on shorelands by an owner, lessee, or contract purchaser of a single family residence for their own use or for the use of their family, which residence does not exceed a height of 35 feet above average grade level and that meets all requirements of the State agency or local government having jurisdiction thereof. Single family residence means a detached dwelling designed for and occupied by one (1) family including those structures and developments within a contiguous ownership which are a normal appurtenance as defined in Chapter 2 of this program.

11.12 B. 8. Construction of a dock, including a community dock, designed for pleasure craft only, for the private noncommercial use of the owner, lessee, or contract purchaser of single-family and multiple-family residences. A dock is a landing and moorage facility for watercraft and does not include recreational decks, storage facilities or other appurtenances. This exception applies if in fresh waters the fair market value of the dock does not exceed ten thousand dollars ($10,000), but if subsequent construction having a fair market value exceeding two thousand five hundred dollars ($2,500) occurs within five years of completion of the prior construction, the subsequent construction shall be considered a substantial development for the purpose of this Shoreline Master Program.

11.12 B. 9. Operation, maintenance, or construction of canals, waterways, drains, reservoirs, or other facilities that now exist or are hereafter created or developed as a part of an irrigation system for the primary purpose of making use of system waters, including return flow and artificially stored ground water from the irrigation of lands;

11.12 B. 10. The marking of property lines or corners on state-owned lands, when such marking does not significantly interfere with normal public use of the surface of the water;

11.12 B. 11. Operation and maintenance of any system of dikes, ditches, drains, or other facilities existing on September 8, 1975, which were created, developed or utilized primarily as a part of an agricultural drainage or diking system;

11.12 B. 12. Any project with a certification from the governor pursuant to chapter 80.50 RCW, Energy Facilities -Site Locations;

11.12 B. 13. Site exploration and investigation activities that are prerequisite to preparation of an application for development authorization under this chapter, if:

11.12 B. 13. a. The activity does not interfere with the normal public use of the surface waters;

11.12 B. 13. b. The activity will have no significant adverse impact on the environment including but not limited to fish, wildlife, fish or wildlife habitat, water quality, and aesthetic values;

11.12 B. 13. c. The activity does not involve the installation of any structure, and upon completion of the activity the vegetation and land configuration of the site are restored to conditions existing before the activity;

11.12 B. 13. d. A private entity seeking development authorization under this section first posts a performance bond or provides other evidence of financial responsibility to the responsible local government to ensure that the site is restored to preexisting conditions; and

11.12 B. 13. e. The activity is not subject to the permit requirements of RCW 90.58.550, Oil or natural gas exploration in marine waters;

11.12 B. 14. The process of removing or controlling aquatic noxious weeds, as defined in RCW 17.26.020, through the use of an herbicide or other treatment methods applicable to weed control that are recommended by the department of agriculture or the department of ecology jointly with other state agencies under chapter 43.21C RCW;

11.12 B. 15. Watershed restoration projects as defined below. The Town shall review the projects for consistency with the Shoreline Master Program in an expeditious manner and shall issue its decision along with any conditions within forty-five days of receiving all materials necessary to review the request for exemption from the applicant. No fee may be charged for accepting and processing requests for exemptions for watershed restoration projects as used in this section.

11.12 B. 15. a. "Watershed restoration project" means a public or private project authorized by the sponsor of a watershed restoration plan that implements the plan or a part of the plan and consists of one or more of the following activities:

11.12 B. 15. a. 1) A project that involves less than ten (10) miles of stream reach, in which less than twenty-five (25) cubic yards of sand, gravel, or soil is removed, imported, disturbed or discharged, and in which no existing vegetation is removed except as minimally necessary to facilitate additional plantings;

11.12 B. 15. a. 2) A project for the restoration of an eroded or unstable stream bank that employs the principles of bioengineering, including limited use of rock as a stabilization only at the toe of the bank, and with primary emphasis on using native vegetation to control the erosive forces of flowing water; or

11.12 B. 15. a. 3) A project primarily designed to improve fish and wildlife habitat, remove or reduce impediments to migration of fish, or enhance the fishery resource available for use by all of the citizens of the state, provided that any structure, other than a bridge or culvert or instream habitat enhancement structure associated with the project, is less than two hundred square feet in floor area and is located above the OHWM of the stream.

11.12 B. 15. b. "Watershed restoration plan" means a plan developed or sponsored by the Washington Departments of Fish and Wildlife, Ecology, or Transportation; a federally recognized Indian tribe acting within and pursuant to its authority; a city; a county; or a conservation district that provides a general program and implementation measures or actions for the preservation, restoration, re-creation, or enhancement of the natural resources, character, and ecology of a stream, stream segment, drainage area, or watershed for which agency and public review has been conducted pursuant to chapter 43.21C RCW, the State Environmental Policy Act

11.12 B. 16. A public or private project that is designed to improve fish or wildlife habitat or fish passage, when all of the following apply:

11.12 B. 16. a. The project has been approved in writing by the State of Washington department of Fish and wildlife;

11.12 B. 16. b. The project has received hydraulic project approval by the State of Washington Department of Fish and Wildlife pursuant to chapter 77.55 RCW; and

11.12 B. 16. c. The Town has determined that the project is substantially consistent with the local shoreline master program. The local government shall make such determination in a timely manner and provide it by letter to the project proponent. Fish habitat enhancement projects that conform to the provisions of RCW 77.55.181 are determined to be consistent with local shoreline master programs.

11.12 C. Letters of Exemption

11.12 C. 1. Letters of exemption shall be issued whenever a development is determined to be exempt from the substantial development permit requirements pursuant to WAC 173-27-040 and the development is subject to one or more of the following federal permit requirements:

11.12 C. 1. a. A U.S. Army Corps of Engineers section 10 permit under the Rivers and Harbors Act of 1899; (The provisions of section 10 of the Rivers and Harbors Act generally apply to any project occurring on or over navigable waters. Specific applicability information should be obtained from the Corps of Engineers.) or

11.12 C. 1. b. A section 404 permit under the Federal Water Pollution Control Act of 1972. (The provisions of section 404 of the Federal Water Pollution Control Act generally apply to any project which may involve discharge of dredge or fill material to any water or wetland area. Specific applicability information should be obtained from the Corps of Engineers.)

11.12 C. 1. c. The letter shall indicate the specific exemption provision from WAC 173-27-040 that is being applied to the development and provide a summary of the analysis of the consistency of the project with the master program and the act.

11.12 C. 1. d. Exemptions may be conditioned to ensure compliance with the requirements of the SMP

11.13 Conditional Use Permits

11.13 A. Uses specifically classified or set forth in this Shoreline Master Program as conditional uses shall be subject to review and condition by the responsible local government.

11.13 B. Other uses which are not classified or set forth in this SMP may be authorized as conditional uses provided the applicant can demonstrate consistency with the requirements of this Section and the requirements for conditional uses contained in this SMP.

11.13 C. Uses which are specifically prohibited by the master program may not be authorized pursuant to either subsection (1) or (2) of this section.

11.13 D. Conditional Use Permit Review Criteria

11.13. D. 1. The purpose of a conditional use permit is to provide a system within the master program which allows flexibility in the application of use regulations in a manner consistent with the policies of RCW 90.58.020. In authorizing a conditional use, special conditions may be attached to the permit by local government or the department to prevent undesirable effects of the proposed use and/or to assure consistency of the project with the act and the local master program.

11.13. D. 2. Uses which are classified or set forth in the applicable master program as conditional uses may be authorized provided that the applicant demonstrates all of the following:

11.13 D. 2. a. That the proposed use is consistent with the policies of RCW 90.58.020 and the master program;

11.13 D. 2. b. That the proposed use will not interfere with the normal public use of public shorelines;

11.13 D. 2. c. That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program;

11.13 D. 2. d. That the proposed use will cause no significant adverse effects to the shoreline environment in which it is to be located; and

11.13 D. 2. e. That the public interest suffers no substantial detrimental effect.

11.13 E. In the granting of all Conditional Use Permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example, if Conditional Use Permits were granted for other developments in the area where similar circumstances exist, the total of the conditional uses shall also remain consistent with the policies of RCW 90.58.020 and shall not produce substantial adverse effects to the shoreline environment.

11.14 Variance Review Criteria

11.14 A. The purpose of a variance is to grant relief to specific bulk or dimensional requirements set forth in this Program and any associated standards appended to this Program such as critical areas buffer requirements where there are extraordinary or unique circumstances relating to the property and/or surrounding properties such that the strict implementation of this Program would impose unnecessary hardships on the applicant/proponent or thwart the policy set forth in RCW 90.58.020. Use restrictions may not be varied.

11.14 B. Variance permits should be granted in circumstances where denial of the permit would result in a thwarting of the policy enumerated in RCW 90.58.020. In all instances the applicant must demonstrate that extraordinary circumstances shall be shown and the public interest shall suffer no substantial detrimental effect.

11.14 C. Variance permits for development and/or uses that will be located landward of the ordinary high water mark (OHWM), as defined in RCW 90.58.030 (2)(b), and/or landward of any wetland as defined in RCW 90.58.030 (2)(h), may be authorized provided the applicant can demonstrate all of the following:

11.14. C. 1. That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes, or significantly interferes with, reasonable use of the property;

11.14. C. 2. That the hardship described in (11.14 C. 1.) of this subsection is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features and the application of the master program, and not, for example, from deed restrictions or the applicant's own actions;

11.14. C. 3. That the design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program and will not cause adverse impacts to the shoreline environment;

11.14. C. 4. That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area;

11.14. C. 5. That the variance requested is the minimum necessary to afford relief; and

11.14. C. 6. That the public interest will suffer no substantial detrimental effect.

11.12 D. Variance permits for development and/or uses that will be located waterward of the ordinary high water mark (OHWM), as defined in RCW 90.58.030 (2)(b), or within any wetland as defined in RCW 90.58.030 (2)(h), may be authorized provided the applicant can demonstrate all of the following:

11.14. D. 1. That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes all reasonable use of the property;

11.14. D. 2. That the proposal is consistent with the criteria established under Section 11.14 C 1 through 6; and

11.14. D. 3. That the public rights of navigation and use of the shorelines will not be adversely affected.

11.14 E. In the granting of all variance permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example if variances were granted to other developments and/or uses in the area where similar circumstances exist the total of the variances shall also remain consistent with the policies of RCW 90.58.020 and shall not cause substantial adverse effects to the shoreline environment.

11.14 F. Variances from the use regulations of the master program are prohibited.

11.15 Appeals

11.15 A. Appeals of Shoreline Administrative Decisions

11.15. A. 1. Administrative review decisions by the Administrator, based on a provision of this SMP, may be the subject of an appeal to the Board of Adjustment by any aggrieved person. Such appeals shall be an open record hearing before the Board of Adjustment. Where the responsible local government does not have a Board of Adjustment, the Town Council shall hold an open record hearing appeal. Appeals must be submitted within twenty one (21) days after the date of decision or written interpretation together with the applicable appeal fee. Appeals submitted by the applicant or aggrieved person shall contain:

11.15 A. 1. a. The decision being appealed;

11.15 A. 1. b. The name and address of the appellant and his/her interest(s) in the application or proposed development;

11.15 A. 1. c. The specific reasons why the appellant believes the decision to be erroneous, including identification of each finding of fact, each conclusion, and each condition or action ordered which the appellant alleges is erroneous. The appellant shall have the burden of proving the decision is erroneous;

11.15 A. 1. d. The specific relief sought by the appellant; and

11.15 A. 1. e. The appeal fee established by the responsible local government.

11.15 B. Appeals to the Shorelines Hearing Board

11.15. B. 1. Appeals to the Shoreline Hearings Board of a decision on a Shoreline Substantial Development Permit, Shoreline Variance, Shoreline Conditional Use Permit, or a decision on an appeal of an administrative action, may be filed by the applicant or any aggrieved party pursuant to RCW 90.58.180 within twenty-one (21) days of filing the final decision by the responsible the Town with Ecology.

11.16 Reasonable Use Exception

11.16. A. Where project proponents would seek a "Reasonable Use" exception to their proposal, they shall seek exception process and relief through the RSMP Conditional Use or Variance Permit process.

11.17 Non-Conforming Structures

11.17 A. Structures that were legally established and are used for a use conforming at the time of establishment, but which are nonconforming with regard to setbacks, buffers or yards; area; bulk; height or density established in this SMP may be maintained and repaired and may be enlarged or expanded provided that said enlargement does not increase the extent of nonconformity by further encroaching upon or extending into areas where construction or use would not be allowed for new development or uses.

11.17 B. A structure for which a Variance has been issued shall be considered a legal nonconforming structure and the requirements of this section shall apply as they apply to preexisting nonconformities.

11.17 C. A nonconforming structure which is moved any distance on the same parcel provided it does not increase the nonconforming aspects of the structure (such as further encroaching upon or extending into areas where construction or use would not be allowed for new development or uses).

11.17 D. If a nonconforming development is damaged, it may be reconstructed provided the resulting configuration does not increase the nonconformity as it existed immediately prior to the time the development was damaged. An application shall be made for permits necessary to restore the development within one year of the date the damage occurred, all permits are obtained, and the restoration is completed within two years of permit issuance unless otherwise extended.

11.17 E. Nothing in this section shall be deemed to prevent the normal maintenance and repair of a nonconforming structure or its restoration to a safe condition when declared to be unsafe by any official charged with protecting the public safety.

11.18 Non-Conforming Uses

11.18 A. Uses and developments that were legally established and are nonconforming with regard to the use regulations of the SMP may continue as legal nonconforming uses. Such uses shall not be enlarged or expanded, except that nonconforming single-family residences and water related commercial uses that are located landward of the OHWM may be enlarged or expanded in conformance with applicable bulk and dimensional standards by the addition of space to the main structure or by the addition of normal appurtenances as defined in Chapter 8 upon approval of a Conditional Use Permit.

11.18 B. A use which is listed as a conditional use, but which existed prior to adoption of the SMP or any relevant amendment and for which a Conditional Use Permit has not been obtained, shall be considered a legal nonconforming use.

11.18 C. A structure which is being or has been used for a nonconforming use may be used for a different nonconforming use only upon the approval of a Conditional Use Permit. A Conditional Use Permit may be approved only upon a finding that:

11.18 C. 1. The proposed use will be at least as consistent with the policies and provisions of the Act and the SMP and as compatible with the uses in the area as the preexisting use. In addition, such conditions may be attached to the permit as are deemed necessary to assure compliance with the above findings, the requirements of the SMP and the Act, and to assure that the use will not become a nuisance or a hazard.

11.18 D. If a nonconforming use is discontinued for twelve consecutive months or for twelve months during any two-year period, the nonconforming rights shall expire and any subsequent use shall be conforming. A use authorized pursuant to 11.16 of this Section shall be considered a conforming use for purposes of this section.

11.19 Non-Conforming Lots

11.19 A. An undeveloped lot, tract, parcel, site, or division of land located landward of the OHWM which was established in accordance with local and state subdivision requirements prior to the effective date of this SMP, but which does not conform to the present lot size standards, may be developed, if permitted by other land use regulations of the responsible local government and so long as such development conforms to all other requirements of this SMP and the Act.

11.20 11.20 Enforcement, Violations, and Penalties

11.20 A. Authority and purpose. This part is adopted under RCW 90.58.200 and 90.58.210 to implement the enforcement responsibilities of the department and the town under the Shoreline Management Act. The act calls for a cooperative program between local government and the state. It provides for a variety of means of enforcement, including civil and criminal penalties, orders to cease and desist, orders to take corrective action, and permit rescission. The following should be used in addition to other mechanisms already in place at the local level and does not preclude other means of enforcement.
[Statutory Authority: RCW 90.58.140(3) and [90.58].200. 96-20-075 (Order 95-17), § 173-27-240, filed 9/30/96, effective 10/31/96.]

11.20 B. Definitions. The definitions contained in WAC 173-27-030 shall apply in this part also except that the following shall apply when used in this part of the regulations:

11.20 B. 1. "Permit" means any form of permission required under the act prior to undertaking activity on shorelines of the state, including substantial development permits, variances, conditional use permits, permits for oil or natural gas exploration activities, permission which may be required for selective commercial timber harvesting, and shoreline exemptions; and

11.20 B. 2. "Exemption" means authorization from the city which establishes that an activity is exempt from substantial development permit requirements under WAC 173-27-040, but subject to regulations of the act and the local master program.
[Statutory Authority: RCW 90.58.140(3) and [90.58].200. 96-20-075 (Order 95-17), § 173-27-250, filed 9/30/96, effective 10/31/96.]

11.20 C. Policy. These regulations should be used by the town in carrying out enforcement responsibilities under the act, unless the town adopts separate rules to implement the act's enforcement provision.

Enforcement action by the department or the town may be taken whenever a person has violated any provision of the act or any master program or other regulation promulgated under the act. The choice of enforcement action and the severity of any penalty should be based on the nature of the violation, the damage or risk to the public or to public resources, and/or the existence or degree of bad faith of the persons subject to the enforcement action.
[Statutory Authority: RCW 90.58.140(3) and [90.58].200. 96-20-075 (Order 95-17), § 173-27-260, filed 9/30/96, effective 10/31/96.]

11.20 D. Order to Cease and Desist. The Town and/or the department of Ecology shall have the authority to serve upon a person a cease and desist order if an activity being undertaken on shorelines of the state is in violation of chapter 90.58 RCW or the local master program.

11.20 D. 1. Content of order. The order shall set forth and contain:

11.20 E. 1. a. A description of the specific nature, extent, and time of violation and the damage or potential damage; and

11.20 E. 2. b. A notice that the violation or the potential violation cease and desist or, in appropriate cases, the specific corrective action to be taken within a given time. A civil penalty under WAC 173-27-280 may be issued with the order.

11.20 D. 2. Effective date. The cease and desist order issued under this section shall become effective immediately upon receipt by the person to whom the order is directed.

11.20 D. 3. Compliance. Failure to comply with the terms of a cease and desist order can result in enforcement actions including, but not limited to, the issuance of a civil penalty.
[Statutory Authority: RCW 90.58.140(3) and [90.58].200. 96-20-075 (Order 95-17), § 173-27-270, filed 9/30/96, effective 10/31/96.]

11.20 E Civil Penalty.

11.20 E. 1. A person who fails to conform to the terms of a substantial development permit, conditional use permit or variance issued under RCW 90.58.140, who undertakes a development or use on shorelines of the state without first obtaining a permit, or who fails to comply with a cease and desist order issued under these regulations may be subject to a civil penalty by the Town. The department may impose a penalty jointly with the Town, or alone only upon an additional finding that a person:

11.20 E. 1. a. Has previously been subject to an enforcement action for the same or similar type of violation of the same statute or rule; or

11.20 E. 2. b. Has been given previous notice of the same or similar type of violation of the same statute or rule; or

11.20 E. 3. c. The violation has a probability of placing a person in danger of death or bodily harm; or

11.20 E. 4. d. Has a probability of causing more than minor environmental harm; or

11.20 E. 5. e. Has a probability of causing physical damage to the property of another in an amount exceeding one thousand dollars.

11.20 E. 2. In the alternative, a penalty may be issued to a person by the department alone, or jointly with the Town for violations which do not meet the criteria of subsection (1)(a) through (e) of this section, after the following information has been provided in writing to a person through a technical assistance visit or a notice of correction:

11.20 E. 2. a. A description of the condition that is not in compliance and a specific citation to the applicable law or rule;

11.20 E. 2. b. A statement of what is required to achieve compliance;

11.20 E. 2. c. The date by which the agency requires compliance to be achieved;

11.20 E. 2. d. Notice of the means to contact any technical assistance services provided by the agency or others; and

11.20 E. 2. e. Notice of when, where, and to whom a request to extend the time to achieve compliance for good cause may be filed with the agency.

Furthermore, no penalty shall be issued by the department until the individual or business has been given a reasonable time to correct the violation and has not done so.

11.20 E. 3. Amount of penalty. The penalty shall not exceed one thousand dollars for each violation. Each day of violation shall constitute a separate violation.

11.20 E. 4. Aiding or abetting. Any person who, through an act of commission or omission procures, aids or abets in the violation shall be considered to have committed a violation for the purposes of the civil penalty.

11.20 E. 5. Notice of penalty. A civil penalty shall be imposed by a notice in writing, either by certified mail with return receipt requested or by personal service, to the person incurring the same from the department and/or the local government, or from both jointly. The notice shall describe the violation, approximate the date(s) of violation, and shall order the acts constituting the violation to cease and desist, or, in appropriate cases, require necessary corrective action within a specific time.

11.20 E. 6. Application for remission or mitigation. Any person incurring a penalty may apply in writing within thirty days of receipt of the penalty to the department or the Town for remission or mitigation of such penalty. Upon receipt of the application, the department or the Town may remit or mitigate the penalty only upon a

demonstration of extraordinary circumstances, such as the presence of information or factors not considered in setting the original penalty.

When a penalty is imposed jointly by the department and local government, it may be remitted or mitigated only upon such terms as both the department and the Town agree. [Statutory Authority: RCW 90.58.140(3) and [90.58].200. 96-20-075 (Order 95-17), § 173-27-280, filed 9/30/96, effective 10/31/96.]

11.20 F. Appeal of Civil Penalty

11.20 F. 1. Right of appeal. Persons incurring a penalty imposed by the department or imposed jointly by the department and the Town may appeal the same to the shorelines hearings board. Appeals to the shorelines hearings board are adjudicatory proceedings subject to the provisions of chapter 34.05 RCW. Persons incurring a penalty imposed by the Town may appeal the same to the Twisp Town Council.

11.20 F. 2. Timing of appeal. Appeals shall be filed within thirty days of receipt of notice of penalty unless an application for remission or mitigation is made to the department or local government. If such application is made, appeals shall be filed within thirty days of receipt of the Town's and/or the department's decision regarding the remission or mitigation.

11.20 G. Penalties due.

11.20 G. 1. Penalties imposed under this section shall become due and payable thirty days after receipt of notice imposing the same unless application for remission or mitigation is made or an appeal is filed. Whenever an application for remission or mitigation is made, penalties shall become due and payable thirty days after receipt of local government's and/or the department's decision regarding the remission or mitigation. Whenever an appeal of a penalty is filed, the penalty shall become due and payable upon completion of all review proceedings and upon the issuance of a final decision confirming the penalty in whole or in part.

11.20 G. 2. If the amount of a penalty owed the department is not paid within thirty days after it becomes due and payable, the attorney general, upon request of the department, shall bring an action in the name of the state of Washington to recover such penalty. If the amount of a penalty owed the Town is not paid within thirty days after it becomes due and payable, the Town may take actions necessary to recover such penalty.

11.20 H. Penalty recovered. Penalties recovered by the department shall be paid to the state treasurer. Penalties recovered by the Town shall be paid to the Twisp treasury. Penalties recovered jointly by the department and the Town shall be divided equally between the department and the local government unless otherwise stipulated in the order. Statutory Authority: RCW 90.58.140(3) and [90.58].200. 96-20-075 (Order 95-17), § 173-

27-290, filed 9/30/96, effective 10/31/96.]

11.20 I. Criminal Penalty. The procedures for criminal penalties shall be governed by RCW 90.58.220.

11.20 J. Prosecution. Any person violating any of the provisions of this Master Program or the Shoreline Management Act of 1971 shall be guilty of a gross misdemeanor, and shall be punishable by a fine of not less than $25.00 nor more than $1,000, or by imprisonment in the county jail for not more than 90 days, or by both such fine and imprisonment, and each day's violation shall constitute a separate punishable offense. Provided, that the fine for the third and all subsequent violations in any five (5) year period shall not be less than $500.00 nor more than $10,000.00.

11.20 K. Injunction. The Town Attorney may bring such injunctive, declaratory or other actions as are necessary to insure that no uses are made of the shorelines of the State within the Town's jurisdiction which are in conflict with the provisions and programs of this Master Program or the Shoreline Management Act of 1971, and to otherwise enforce provisions of this Section and the Shoreline Management Act of 1971.

11.20 L. Violators Liable for Damages. Any person subject to the regulatory program of this Master Program who violates any provision of this Master Program or the provisions of a permit issued pursuant thereto shall be liable for all damages to public or private property arising from such violation, including the cost of restoring the affected area to its condition prior to such violation. The Town Attorney may bring suit for damages under this subsection on behalf of the Town. Private persons shall have the right to bring suit for damages under this subsection on their own behalf and on behalf of all persons similarly situated. If liability has been established for the cost of restoring an area affected by violation, the Court shall make provision to assure that restoration will be accomplished within a reasonable time at the expense of the violator. In addition to such relief, including monetary damages, the Court in its discretion may award attorney's fees and costs of the suit to the prevailing party.

Appendix A.1
Okanogan County
Shoreline Characterization

Prepared for
Okanogan County

Prepared by
ENTRIX, Inc
148 Rogers St. NW
Olympia, WA 98502

November 20, 2008

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1 INTRODUCTION

1.1 Purpose

There are three basic policy areas to the Shoreline Management Act (SMA, 1971, Chapter 90.58 RCW, as amended): shoreline use, environmental protection and public access. The SMA emphasizes accommodation of reasonable and appropriate uses, protection of shoreline environmental resources and protection of the public's right to access and use the shorelines *(see RCW 90.58.020).* ENTRIX has performed the following shoreline characterization analysis to deliver key technical products necessary to update the Okanogan Shoreline Master Program (SMP). The methodology of this analysis follows the guidance provided by the Washington Department of Ecology (http://www.ecy.wa.gov/programs/sea/sma/guidelines/index.html) for development of SMPs. The shoreline characterization will be the basis for assigning environment designations; developing policies, regulations; a use chart; development standards; writing a restoration plan; and conducting a cumulative impact analysis. Designation is a process that is informed by analysis products through planning processes and public involvement and is purposefully distinct from the objective characterization of streams, lakes and watersheds described here. Potential uses of analytical results are presented in concept and example but are not intended to direct or in any way limit decisions made in designation processes or ultimate policy decisions.

1.2 Shoreline Jurisdictional Area

1.2.1 Streams

This analysis addresses streams with a mean annual flow (MAF) of 20 cubic feet per second (cfs) or greater, and lakes 20 acres or greater within Okanogan County as specified in the SMA. See Appendix A.3, Table 2 for coordinates/datum and elevations. (ft) Determinations for the 20 cfs MAF points were derived from the United States Geological Survey (USGS) (1998) publication for northeastern Washington streams.

1.2.2 Stream Shorelines of Statewide Significance

There are six rivers of statewide significance in Okanogan County. Five are subject to the provisions of this SMP; the sixth, the Pasayten River, is not. That portion of the Pasayten River that is within the United States is located within the boundary of the Okanogan National Forest on land administered by the U.S. Forest Service and is not subject to the provisions of this SMP.

Part of the West Fork of the Sanpoil River is a river of statewide significance. However, that part is located in Ferry County. The stretch of the West Fork of the Sanpoil River that is located in Okanogan County has a mean annual flow of less than 20 cfs.

Rivers of statewide significance subject to the provisions of this SMP are:

- Chewuch—from the Okanogan National Forest (NF) boundary downstream to the Chewuch River's confluence with the Methow River
- Methow—from the Okanogan NF boundary downstream to the Methow River's confluence with the Columbia River (Lake Pateros)

- Okanogan—from the Canadian border to the Okanogan River's confluence with the Columbia River (Lake Pateros—the entire length of the Okanogan River within the United States)
- Similkameen—from the Canadian border to the Similkameen River's confluence with the Okanogan River (the entire length of the Similkameen River within the United States)
- Twisp—from the Okanogan NF boundary downstream to the Twisp River's confluence with the Methow River

1.2.3 Columbia River Impoundments

The shorelines of the Columbia River are shorelines of state-wide significance. There are three impoundments on the Columbia River that are partially located within Okanogan County. One, Lake Pateros, is subject to the provisions of this SMP; the other two are not, as explained below. Columbia River impoundments that are not subject to the provisions of this SMP:

- Franklin D. Roosevelt Lake—Franklin D. Roosevelt Lake is that portion of the Columbia River that is impounded behind Coulee Dam. The lake forms the boundary between Okanogan County to the north and Grant and Lincoln counties to the south. That portion of the shoreline of Franklin D. Roosevelt Lake that is located within Okanogan County is also located within the boundary of the Colville Indian Reservation and so is not subject to the provisions of this SMP.
- Rufus Woods Lake—Rufus Woods Lake is the portion of the Columbia River that is impounded behind Chief Joseph Dam. The lake forms a portion of the boundary between Okanogan County to the north and Douglas County to the south. The portion of the shoreline of Rufus Woods Lake that is located within Okanogan County is also located within the boundary of the Colville Indian Reservation and so is not subject to the provisions of this SMP.

1.2.4 Lakes

Lakes were identified using existing GIS data on file with Okanogan County and proofed for accuracy by knowledgeable local experts. The requirements of the SMA apply to private projects on privately owned lands, and to private, local government, and state government actions on local or state government lands. Shorelines on federal and tribal lands are not included in this analysis.

1.2.5 Lake Shorelines of Statewide Significance

There are three lakes of statewide significance in Okanogan County. Two are subject to the provisions of this SMP. The third, Omak Lake, is located within the boundary of the Colville Indian Reservation and is not subject to the provisions of this SMP. Lakes of statewide significance subject to the provisions of this SMP are:

- Lake Osoyoos
- Palmer Lake

2 REGIONAL SETTING

2.1 Climate

Okanogan County's climate is arid to semiarid, characterized by hot, dry summers and cold winters. The county is located directly east of the crest of the Cascade Range, a major mountain range extending from southern British Columbia to northern California. The range acts as a barrier to marine air moving eastward from the Pacific Ocean. It also exerts a rain-shadow effect, resulting in heavy precipitation at high elevations. Precipitation rates throughout the county are a function of elevation and of distance from the Cascade crest, and vary widely, from less than 10 inches along the Columbia River to 80-100 inches or more in the Cascades.

Most of the land subject to this SMP is at relatively low elevation; precipitation ranges from 8 to 35 inches per year, on average, with most falling from October through March. However, many of the county's rivers, streams, and lakes are fed by runoff from higher elevations, where much of the annual precipitation is retained as snowpack and released during the spring and summer months.

2.2 Topography

Okanogan County topography ranges from mountainous alpine and sub-alpine terrain to gently sloping valleys. Elevation varies from over 8,500 feet in the Cascade Range to approximately 750 feet where the Columbia River crosses the County line south of Pateros.

The landscape below 5,000 feet was sculpted by glaciers about 10,000 years ago. Large areas remain covered with rocks and other sediments deposited by glaciers or by rivers and lakes that formed when the glaciers began to melt. While most soils are coarsely textured and fast draining, volcanic ash and fine-textured sediments have contributed to less permeable soils in some places.

Where impermeable soil layers occur, they have sometimes created perched aquifers—areas of groundwater that are not connected to rivers and streams. However, in most parts of Okanogan County, groundwater is connected to rivers and streams. Groundwater flows into those water bodies during periods when soil moisture is high (generally during the spring snow-melt season). When moisture levels are low, water moves out of rivers and streams to replenish groundwater.

Because soils are generally coarse (which means water moves through them quickly and easily), and because most water is available for a short period every year, river and stream levels tend to fluctuate a great deal, rising and even overtopping streambanks in the spring, and dropping so low in the summer and fall that some stream segments become completely dry. Healthy riparian areas can help retain water so that it is more available during the dry season. Water that is held in floodplains and wetlands can seep into soils far from streams and lakes, helping to keep wells productive year round, as well as feeding the water bodies themselves.

2.2.1 Hydrology

The *Soil Survey of Okanogan County Area* provides a good introduction to Okanogan County's hydrology:

> [Okanogan County] is drained by two principal streams—the Okanogan river and the Methow River. All the drainage water ultimately flows into the Columbia River. The Okanogan is a slow flowing, meandering stream that drains the eastern part of the Area. A considerable part of its flow originates in Canada. The Methow River is a clear, fast flowing stream that drains the western part of the Area…. Okanogan County is well supplied with lakes at all elevations.

As noted above, river and stream flows and some lake levels vary seasonally. Flow rates are highest in the spring when snow is melting fast. Snow melt continues to supply rivers and streams with water through much of the year. (Even after most of the snow is gone, melted snow continues to percolate through the soil to the groundwater and perched aquifers, supplying rivers, streams, lakes, and wells with water.)

Shoreline ecological health is very important because it determines how much water stays in local watersheds and for how long. Shoreline vegetation and wetlands help hold water and allow it to seep gradually into water bodies.

Because Okanogan County is arid, availability of water is very important. Both the economy and the ecosystem are dependent on water resources. Agriculture, an important component of the local economy, depends on irrigation. Sources of irrigation water include groundwater, rivers and streams, and lakes and impoundments.

2.3 Vegetation

Okanogan County is generally forested at higher elevations, with shrub-steppe habitat dominating the landscape at lower elevations. Shoreline areas and other wet areas support riparian and wetland vegetation.

As noted above, most of the land subject to this SMP is at relatively low elevation; however, this SMP does apply to some forested areas. In those areas, ponderosa pine (*Pinus ponderosa*) generally dominates at lower elevations, where annual precipitation ranges from 14-16"; Douglas-fir (*Pseudotsuga menziesii*) is dominant in areas with higher levels of precipitation.

Forested areas are subject to fire, and years of fire suppression have resulted in heavy fuel loads. Severe fires have been relatively common in recent years. Forest fires affect runoff and sedimentation patterns and may have significant effects on shoreline areas.

Sagebrush, rabbitbrush, and bitterbrush are the dominant native plant species in much of the county's shrub steppe. In the driest areas, where annual precipitation is below 15", grasses (including Idaho fescue, bluebunch wheatgrass, and wild rye) become more important.

Trees common to riparian areas are cottonwood, aspen, water birch, and alder; shrubs include willows, dogwood, spirea, hawthorne, rose, and snowberry. Grasses, forbs, and other herbaceous plants (cattails, for instance) dominate many wetlands. Wetland and riparian vegetation is often quite dense; it helps to retain water in shoreline areas and provides food and cover for wildlife.

Invasive plant species are a problem in some areas, competing with native species and diminishing habitat value.

2.4 Wildlife

Okanogan County is home to several hundred species of amphibians, birds, fish, mammals, and reptiles, as well as numerous invertebrates (animals without backbones, such as insects and spiders).

Some of the animals found in the county are listed below:

- Amphibians: frogs, newts, salamanders, and toads.
- Birds: migratory and resident species include marine species, herons, waterfowl, hawks, falcons, eagles, corvids, upland game birds, cranes, shorebirds, owls, woodpeckers, hummingbirds, and perching birds (e.g., sparrows, orioles, grosbeaks).
- Fish: anadromous and resident, including three federally-listed species: spring Chinook, summer steelhead, and bull trout. Many lakes and streams also support introduced species that compete with native fish.
- Invertebrates: butterflies, beetles, mollusks, spiders, ticks, and benthic macroinvertebrates (stream-dwelling animals that are important food sources for fish).
- Mammals: ungulates, including deer, moose, elk, mountain goat, and bighorn sheep; carnivores such as cougar, lynx, wolf, coyote, bobcat, bear, wolverine, and ermine; rodents, including squirrels, gophers, moles, voles, and mice; lagomorphs (rabbits and hares), including snowshoe hare; shrews; and bats. The Methow subbasin is home to the State's largest migratory mule deer herd.
- Reptiles: lizards, turtles, snakes

Game species, especially deer, are very important to the local economy.

The biotic structure and composition of shorelines (including aquatic, riparian, and nearby wetland areas) depend largely on the hydrologic regime. The annual variation in hydrology is essential to many species life-cycle and necessary to sustain biodiversity and plays a role in population dynamics (Mitsch and Gosselink, 2000). Most animals use these shoreline areas and some spend their entire lives there. Wetlands and other shoreline areas provide important habitat for migratory birds, including those that nest and raise young in the county and those that pass through en route to and from more northerly nesting grounds.

Okanogan County's wildlife population includes a number of species designated by the Washington Department of Fish and wildlife as priority species—those that "require protective measures for their perpetuation due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority species include State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations considered vulnerable; and those species of recreational, commercial, or tribal importance that are vulnerable." The County's land base also includes priority habitats—"those habitat types or elements with unique or significant value to a diverse assemblage of species. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element."

The hydroelectric facilities on the Columbia River have had very significant impacts on fish and wildlife, particularly on anadromous salmonids, several species of which breed and rear young in Okanogan County streams.

2.5 Geology

The geology of the area is complex, developed from marine invasions, volcanic deposits, and glaciations. The area consists of four differing geologic provinces. The Cascade Range, to the west, was created by ancient seabed uplift. Both the Okanogan highlands on the east and the Columbia basalt plateau to the south were created by volcanic activity. Finally, the oldest is the ridge of ancient seabed rocks that were folded and then carved by erosion into its present forms. During the ice age, ice spread over these dissimilar landforms and when receded, left valleys, canyons, waterfalls, benches, and cliffs (Widel, 1973).

2.6 Land Uses

Okanogan County is the largest county in Washington, comprising 5,821 square miles—almost 8% of the state's land mass. Development in Okanogan County is concentrated in the Methow and Okanogan valleys and along the Columbia River. The mountainous areas to the west of the Methow valley and between the Methow and Okanogan valleys are mostly federally-owned. Mining, forestry, agriculture, and recreation are the major land-use activities. Residential development is also significant. Much of that development is attributable to non-resident landowners building vacation houses, and so is not reflected in population statistics.

3 ANALYSIS METHODS

3.1 Analysis Overview

A characterization framework that incorporates and properly applies current knowledge of ecological processes can help to identify how and to what extent different shoreline areas are functioning at their natural capacity. A conceptual model developed by Thom *et al.* (2004) provides a means of estimating the impairment to ecological function in a cost-effective way using existing data (Figure 1). This model states that small scale controlling factors, such as hydrology and water quality, create larger scale habitat structure, habitat processes, and ultimately ecosystem functions. Stressor impacts to controlling factors, caused mainly by human disturbance, are used to assess the potential impacts to ecological function in each unit as well as at the watershed level.

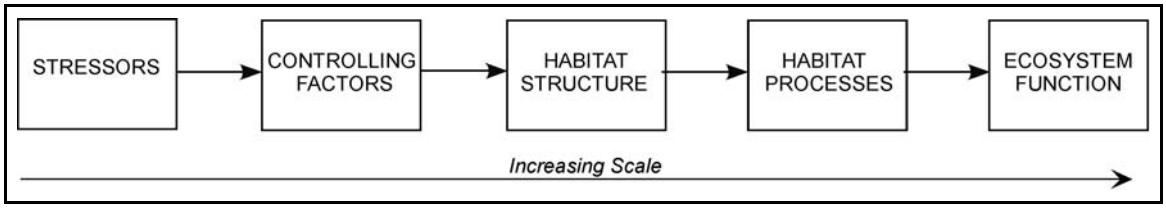


Figure 1: Conceptual Model of Inputs to Ecosystem Function

The conceptual model (Thom et al. 2004; Evans et al. 2006) was modified slightly to create a list of controlling factors used for this characterization framework. The factors are listed below and individual stressors are described later in this document.

- Hydrology
- Floodplain connectivity
- Water quality
- Physical disturbance
- Riparian buffer

This shoreline assessment is largely a GIS-based analysis. Data inventoried was compiled from existing geo-referenced sources. Data calculations were performed in Excel to derive scores which were re-linked to the geographical analysis units in GIS for a visible display of the characterization of shoreline units. The data and scores can further be analyzed in a geospatial context.

3.2 Site-Scale Analysis

3.2.1 Define Analysis Units

Stratification of applicable shoreline areas into geomorphic site analysis units provides the capability to group site units with similar physical processes. The structure and variability of streams and their shorelines is a function of channel slope, which is determined largely by topography (Montgomery 1999). Rivers generally decrease in gradient with longitudinal distance downstream. In addition to changes in linear physical

characteristics, some biological characteristics are also predictable (Vannote et al. 1980). Since slope is a controlling factor on channel morphology and physical habitat, slope was used as one of the primary variables to classify Aus within Okanogan County.

The concept here is that analysis units of similar geomorphology (e.g., broad valley bottoms with extensive floodplains) attract specific types of development within shoreline areas that are likely to require similar designations under the SMA. By stratifying the shoreline areas into relatively homogenous analysis units, resulting characterizations are most meaningful and consistent and a ready link between science and policy is provided for public input and discussion. While data are not available at this time to provide a comprehensive geomorphic classification of each site, three variables are used to provide a useful geomorphic context for the definition of analysis unit (AU) boundaries of the County's SMP jurisdictional rivers: slope classes, stream order, and stream sinuosity. As noted above, shorelines within Okanogan County that are on federal or tribal lands are not included in this analysis.

The Aus in this analysis are based on interpretations from a low-resolution digital elevation models (DEM) and general, published geologic maps. ENTRIX or its employees are not responsible for specific delineation boundaries in any way unless and until a thorough analysis that includes higher resolution mapping, photogrammetric interpretation, and field calibration is accomplished. Provision of such a rigorous analysis for delineation of Aus was beyond the scope and budget of this project. Analysis units are provided as a general guide to channel conditions based on available information and are not intended for use in other jurisdictional delineations.

Slope classes were based on slope gradients that can be estimated from DEMs. These classes were broken into categories of 0 to 2 percent, 2 to 4, and over 4 percent. Stream order is a measure of the relative size of streams that range from the smallest (first-order), to the largest (twelfth-order). In Okanogan County, the shoreline jurisdiction encompasses stream orders from third-order to fifth-order.

Stream sinuosity is a river's tendency to move back and forth across the floodplain, in an S-shaped pattern, over time (Leopold, 1994). The variation of steam sinuosity is characterized by a number within the range of 0 to 1, with 0 representing no sinuosity and 1 representing high sinuosity. All the characteristics were based on re-projected, filled 10-meter DEMs of Okanogan County. Data on hillshade, flow direction, flow accumulation, streams, stream order and slope were all derived from these DEMs.

Lakes of 20 acres or more were analyzed as individual units. Lakes greater than 200 acres were subdivided longitudinally into separate Aus and by bathymetry. Large lakes and reservoirs were then divided lengthwise based on the knowledge that shorelines on either side of large water bodies may be dissimilar. Bathymetry provides an indication of shallow shorelines where emergent vegetation would grow verses shorelines with deeper water.

Shorelands are under the Jurisdiction of the SMA and are defined in relation to geographic proximity to stream and lake shorelines (WAC 173-22-040). All Aus were

then given a 200 foot buffer to include shorelands extending landward above the ordinary high water mark (OHWM). All wetlands within or associated with the 200 foot buffer are considered jurisdictional and are included in the Aus.

Associated wetlands beyond the 200 foot buffer were included in the SMA because significant amounts of water are exchanged laterally (saturated sediments beneath the stream channel) with saturated sediments surrounding the stream and riparian areas. This process has been defined as the hyporehic zone but only recently been researched as to the importance both chemically and biologically (Brunke and Gonser, 1997; Findlay, 1995).

3.2.2 Shoreline Function Calculations

For each AU, two estimates of shoreline function were calculated; an aggregate condition index and an aggregate resource index. The following steps were taken to calculate the aggregate condition index:

- Step 1: Identification of AU Stressors
- Step 2: Scoring of AU Stressors
- Step 3: Weighting of AU Stressors
- Step 4: Calculation of AU Condition Index

Much in the same way as the calculation index, the following steps were taken to calculate the aggregate resource index:

- Step 1: Identification of AU Resources
- Step 2: Scoring of AU Resources
- Step 3: Weighting of AU Resources
- Step 4: Calculation of AU Resource Index

The details of each of these steps and examples are provided in the text below.

3.2.3 Aggregate Condition Index

Step 1: Identification of AU Stressors

An evaluation of the main ecological impacts, or stressors, was performed in order to assess the ecological condition of each AU. The stressor data used in this analysis were drawn from a pool of potential stressors to shoreline function. Ideally, important and influential stressors would be readily available and represented in extant data sets. However, through the process of data inventory, a set of potential stressors was identified that provide a direct linkage to, or index of, factors that are controlling or likely to significantly affect ecological function.

Bank Hardening. Bank hardening (e.g., riprap) stresses the shoreline by limiting riparian function, disconnecting the floodplain and limiting the lateral movement of the river channel. To prevent stream bank erosion, riprap, has been used for over a century.

Most of these activities were unregulated prior to the recognition of potential environmental impact of bank hardening activities (Fischenich, 2003). Data on bank hardening, specifically riprap, were provided by Golder and Associates (Golder 2007), who completed a field survey of man-made structures along the mainstem of Okanogan River for Okanogan County. Aus with insufficient data on bank hardening were not analyzed for this stressor.

Levees. Levees also stress the shoreline by limiting riparian function, disconnecting the floodplain and limiting the lateral movement of the river channel. Data on levees were provided by Golder and Associates, who completed a field survey of man-made structures along the mainstem of Okanogan River for Okanogan County. Additionally, further levee dimensions were provided in digital form from Highland Associates based on local knowledge. Aus with insufficient data on levees were not analyzed for this variable.

Water Quality. The Washington Department of Ecology has compiled and assessed available water quality data on a statewide basis and generated a GIS layer entitled *2004 Washington Water Quality Assessment/303(d) List*. The streams and waterbodies contained within this GIS layer are the result of the assessment submitted to the Environmental Protection Agency (EPA) as an "integrated report" to satisfy federal Clean Water Act requirements of sections 303(d) and 305(b). Category 5 of the Assessment is the list of known polluted waters in the state, sometimes referred to as the 303(d) list. Contaminants identified in the 303(d) list for Washington are temperature, fecal coliform, nutrients, toxic substances, erosion, and organic waste. All sites were evaluated for inclusion of waterways listed on the 303(d) list of contaminated waterbodies as required by the Clean Water Act.

Permitted Facilities. This data layer was also obtained from the Washington State Department of Ecology and includes all Ecology permitted sites. Facilities identified in this layer are locations or operations of interest that have an active or potential impact on the environment. These sites include state cleanup sites, federal superfund sites, hazardous waste generators, solid waste facilities, and underground storage tanks.

Agricultural Development. Agricultural development is sub-categorized into dispersed agriculture and intensive agriculture due to the different impacts these activities produce. Dispersed agricultural activity, specifically grazing, can impact riparian health and function. Intensive agriculture has a greater impact on riparian function and can also involve agricultural runoff of pesticides, impairing water quality. The GIS layer used for this analysis was created by Okanogan County.

Residential Development. Residential development, typically small parcels dominated by site modifications for residential structures and appurtenances, can cause a significant localized effect to riparian and upland functions. The GIS layer used for this analysis was created by Okanogan County.

Industrial Development. Industrial development was sub-categorized into light industry and heavy industry due to the different impacts these activities produce. Light industrial

development can result in significant modifications to natural conditions, where as heavy industrial development can produce near-total modification of the natural environment. The GIS layer used for this analysis was created by Okanogan County.

Bridges. Bridges have a localized effect on ecosystem function based on abutments and constriction of stream flow. They also negatively affect sediment routing and instream aquatic habitats, interrupting the natural flow regime. Data for analysis of this stressor were obtained from Okanogan County.

Overwater Structures. Overwater structures, specifically docks and piers, cause seasonal disturbance to aquatic and riparian wildlife. These structures modify instream habitats and provide cover for aquatic predators. Information on motorized boat launch facilities was provided the Washington State Recreation and Conservation Office and Okanogan County.

Rail. Rail line and right of way management interrupts riparian and floodplain connectivity and is associated with longstanding and sustained use of herbicides. The GIS data for railroads were provided by Okanogan County. .

Roads. Like rail lines, road and right of way management interrupts riparian and floodplain connectivity. Key ecological processes, such as the transport of sediment and water along with the distribution of organisms, are modified by roads (Trombulak and Frissell, 2000). In addition, assessing biotic impacts of roads can be difficult since the affect covers a broad range of spatial and temporal scales (Angermeier et al., 2004). Along with common use of pesticides, roads concentrate and transport stormwater runoff into adjacent waterways, affecting water quality and aquatic species health. The GIS data layer was provided by Okanogan County.

Culverts. Culverts can cause seasonal fish transport problems and interrupt the flow of energy and material through the aquatic system (e.g. wood and sediment transport). Information on this stressor was obtained through a visual inspection of aerial photos within Okanogan County.

Geologically Hazardous Areas. This stressor variable indexes slope instability by identifying slopes greater than 30 percent. Under natural conditions, these areas are sources of sediment and large woody debris (LWD). Under developed conditions, the volume and frequency of slope failure increases, and there is the potential for catastrophic modifications of riparian and floodplain functions. Data for this stressor were obtained from the Natural Resource and Conservation Service (NRDS) soil survey geographic database. Aus with insufficient data on geologically hazardous areas were not analyzed for this stressor.

Boat Launches. Boat ramps are localized shoreline modifications associated with recreational development. Boat ramp use creates a concentration of seasonal disturbance to aquatic and riparian wildlife as well as water quality impacts due to periodic oil discharge. Information on motorized boat launch facilities was provided the Washington State Recreation and Conservation Office and Okanogan County.

Mines. Mines provide a broad range of potential effect depending upon mine type and proximity to active channels. Surface mining of gravel provides the potential for channel avulsion and unnatural evolution of floodplain riparian area. Mine data originated from the U.S. Geological Survey and the Interior Columbia Basin Ecosystem Management Project.

Step 2: Scoring AU Stressors

Scores for each stressor ranged from 0, which indicates no ecological impact to the AU, to 1, which indicates a strong ecological impact. Continuous coverage data were quantified by area percentages for the stressor variables listed below:

- Agricultural development – dispersed
- Agricultural development – intensive
- Residential development
- Industrial development – light
- Industrial development – heavy
- Geologically hazardous areas

All scores for the above variables ranged from 0 to 1 based on the area percentage. For example, an AU with land use composed of 70% dispersed agricultural development was assigned a score of 0.70 for the *agricultural development – dispersed* stressor variable.

To assign scores to the point and line data, such as bridges and roads, Aus were originally divided into 3 class sizes to account to account for data skewing due to varying unit size. Class 1 AU size ranged from 0 to 100 acres (145 Aus); class 2 sizes ranged from 101 to 250 acres (58 Aus); and class 3 was composed of Aus greater than 250 acres (30 Aus). However, variance among different-sized Aus was not observed to be significant. Comparison and review of the data distributions were performed through the evaluation of histograms for each variable and size class. Individual variables were scored on a scale between 0 and 1. A score of 0 indicated that the AU contained none of the specific variable. The remaining scores were based on a low (0.25), medium (0.50) and high (0.75) scale. Roads and rail were calculated by dividing the total length of road or rail in feet by the square footage of land in each AU, and then scored. Bridges and permitted facilities were scored based on the number of these points within each AU, as shown in Table 1.

Mines, levees, riprap, culverts, boat launches, and overwater structures were assessed by presence (1) / absence (0) within each AU based on available data. In certain areas, no data were available for levees and bank hardening, and so these variables were left out of the final condition index calculation. The Aus that were not analyzed for levees and/or bank hardening are specified as “no data” under the raw scores listings of the AU results catalog located in Appendix A.2.

Finally, water quality was scored in the following way: Aus were given a score of 1 if a 303(d) listed waterbody was present within its boundary, regardless of the contaminant; Aus with 50% or less listed as a 303(d)-listed waterbody or unit containing a confluence with a 303(d)-listed stream were scored a value of 0.5; if no 303(d) listed waterbody was present, a score of 0 was assigned. The scoring approach for each stressor variable is provided in Table 1.

AU Example

The analysis unit identified as S OKA 08, located on Okanogan River, was 15.3 acres in size. As can be seen in the AU report page in Appendix A.2, potential stressors were identified as water quality, residential development, intensive agriculture, and geologically hazardous areas. Analysis of the other potential stressors resulted in raw data sets of zero, indicating that these stressors were not present in the unit.

The identified stressors were scored in the following way (see Table 1):

- *Water quality: 1 (the entire stream in the unit was 303(d) listed);*
- *Residential development: 0.14 (14% of the land use was residential);*
- *Intensive agriculture: 0.31 (31% of the land use for intensive agriculture);*
- *Geologically hazardous areas: 0.04 (4% of the land within the analysis unit had slopes greater than 30%).*

Table 1: Analysis Unit Stressor Scoring and Weighting

AU Stressor	Score	Scoring	Weight
Agricultural dev-dispersed	0 to 1	Percentage of disperse agricultural land in unit	25
Agricultural dev-Intensive	0 to 1	Percentage of intensive agricultural land in unit	50
Residential dev	0 to 1	Percentage of residential area in unit	75
Industrial dev-light	0 to 1	Percentage of disperse light industrial activity area in unit	50
Industrial dev-heavy	0 to 1	Percentage of disperse heavy industrial activity area in unit	75
Mines	0	No mines	25
	1	I or more mines in unit	-
Levees	0	No levees	75
	1	Has levees in unit	-
Riprap	0	No riprap	75
	1	Has riprap in unit	-
Culverts	0	No culverts in unit	50
	1	I or more culverts in unit	-
Boat launches	0	No boat launches in unit	25
	1	I or more boat launches in unit	-
Overwater structures	0	No overwater structures in unit	25
	1	I or more overwater structures in unit	-
Water quality class	0	No 303(d)-listed waterbodies	75
	0.5	50% or less listed as a 303(d)-listed waterbody or unit containing a confluence with a 303(d)-listed stream	
	1	Entire unit 303(d)-listed	
Facilities – Permitting	0.00	No permitted facilities in unit	25
	0.25	1 to 5 facilities in unit	-
	0.50	6 to 10 facilities in unit	-
	0.75	11 or more in unit	-
Bridges	0.00	No bridges in unit	25
	0.25	1 bridge in unit	-
	0.50	Up to 3 bridges in unit	-
	0.75	4 or more bridges in unit	-
Rail	0.00	No rail (Rail evaluated by feet of rail per square footage of land in AU)	75
	0.25	up to 0.0005	-
	0.50	up to 0.0010	-
	0.75	0.0011 or more	-
Roads	0.00	No roads (Roads evaluated by feet of road per square footage of land in AU)	75
	0.25	up to 0.0005	-
	0.50	up to 0.0010	-
	0.75	0.0011 or more	-

Step 3: Weighting of AU Stressors

A relative weight (based on impacts to the shorelines ecological function) was given to each stressor variable based on the relative percentage of estimated impact. The weights were divided into low (.25), medium (.50), and high value (.75) categories. The development of these weighting factors for stressors and resources involved literature review, consultation with local experts, and professional opinion. The weighting categories are summarized below:

High Impact (0.75):

- Water quality
- Rail
- Roads
- Levees
- Bank hardening
- Industrial development – heavy
- Residential development

Medium Impact (0.50):

- Culverts
- Agricultural development – intensive
- Industrial development – light

Low Impact (0.25):

- Agricultural development – dispersed
- Facilities – permitting
- Bridges
- Overwater structures
- Mines
- Boat launches

For each AU, index weights were calculated by dividing the weight of each identified potential stressor by the summed weight of all stressors, causing the summed stressor weight for each AU to equal 1. For an AU with data gaps such as lack of information on levees and riprap, the weighting was redistributed among the other variables, so that all stressor index weights totaled to 1 as exemplified in Table 2.

AU Example

The analysis unit identified as S OKA 08 (AU # 153), previously scored, was weighted as described above. Data were available on the Okanogan River for levees and riprap and so index weights provided in the third column of Table 2 were used to weigh each of the four identified stressors for this unit.

- *Water quality: 1.0 x 0.085714 = 0.086*
- *Residential development: 0.14 x 0.085714 = 0.012*

- *Intensive agriculture: 0.31 x 0.057143 = 0.018*
- *Geologically hazardous areas: 0.04 x 0.057143 = 0.002*

Table 2: Example of Variation in Index Weighting Based on Data Availability

Stressor Variables	Stream Aus with Levee Data		Stream Aus without Levee and Riprap Data	
	Weight	Index Weights	Weight	Index Weights
Water quality	0.75	0.085714	0.75	0.10345
Permitted facilities	0.25	0.028571	0.25	0.03448
Bridges	0.25	0.028571	0.25	0.03448
Overwater structures	0.25	0.028571	0.25	0.03448
Mines	0.25	0.028571	0.25	0.03448
Culverts	0.50	0.057143	0.50	0.06897
Boat launches	0.25	0.028571	0.25	0.03448
Rail	0.75	0.085714	0.75	0.10345
Roads	0.75	0.085714	0.75	0.10345
Levees	0.75	0.085714	**NA**	0
Riprap	0.75	0.085714	**NA**	0
Geologically hazardous areas	0.50	0.057143	0.50	0.06897
Agricultural dev-Intensive	0.50	0.057143	0.50	0.06897
Agricultural dev – Dispersed	0.25	0.028571	0.25	0.03448
Residential dev	0.75	0.085714	0.75	0.10345
Industrial dev – Light	0.50	0.057143	0.50	0.06897
Industrial dev – Heavy	0.75	0.085714	0.75	0.10345
TOTAL		***1.000***		***1.000***

NA – Not analyzed

Step 4: Calculation of AU Condition Index

For each AU, the stressor scores were multiplied by the index weight values and added. The result was a stressor index value for each AU that ranged from 0 to 1. The condition index value for each AU was then calculated by subtracting the combined stressor score from 1. This inverted the ranking of sites from higher values signifying greater impacts to higher values signifying greater overall condition health. In this way, higher condition values indicate a less altered condition, while lower condition values indicate a more altered condition.

AU Example

The analysis unit identified as S OKA 08 (AU # 153), previously scored and weighted, had a stressor index value calculated by adding the products of the scores and index weights: 0.086 (water quality) + 0.012 (residential development) + 0.018 (intensive agriculture) + 0.002 (geologically hazardous areas) = 0.118. The condition index value was calculated by subtracting the stressor index value from 1: 1 – 0.118 =0.88.

3.2.4 Aggregate Resource Index

Step 1: Identification of AU Resources

The resource data identified for use in this analysis were chosen for their indication of the relative ecological function of the shoreline. County wide coverage was the basis for selecting variables and datasets to the extent possible. These data were the most comprehensive public data available at the time of analysis. Individual variables are described below.

Species. Species of Concern in Washington, as identified by the Washington Department of Fish and Wildlife (WDFG), include all State Endangered, Threatened, Sensitive, and Candidate species as well as Federal Endangered, Threatened, and Candidate species. Additionally, Priority Species listed by WDFW includes the above species as well as game species and organisms crucial to tribal cultural values. Some species distribution data could not be obtained, due either to data gaps or absence of the species within the SMP study area. The number of distributions of these aquatic, riparian, and upland species were totaled for each AU. Certain species were assigned to more than one habitat. Data for the species distributions were obtained from NOAA Fisheries, the Washington GAP Project created by Washington Cooperative Fish and Wildlife Research Unit, the StreamNet Project, and the Priority and Species Database and Wildlife Heritage Database created by WDFG. A complete list of species used in this analysis is provided in Table 3.

Table 3: Species Included in AU Resource Scoring

Common Name	Scientific Name	Animal Type	Federal Status	State Status	WA Priority Sp. Status	Habitat
Aquatic Species						
AMERICAN WHITE PELICAN	*Pelecanus erythrorhynchos*	Bird	none	SE	y	a
BARROW'S GOLDENEYE	*Bucephala islandica*	Bird	None	none	y	a,r
BULL TROUT	*Salvelinus confluentus*	Fish	FT	SC	y	a
COLUMBIA SPOTTED FROG	*Rana luteiventris*	Amphibian	none	SC	y	a,r
COMMON LOON	*Gavia immer*	Bird	none	SS	y	a,r
GIANT COLUMBIA RIVER LIMPET	*Fisherola nuttalli*	Mollusk	none	SC	y	a
GREAT BLUE HERON	*Ardea herodias*	Bird	None	none	y	a,r
GREAT COLUMBIA SPIRE SNAIL	*Fluminicola columbiana*	Mollusk	Fco	SC	y	a
HARLEQUIN DUCK	*Histrionicus histrionicus*	Bird	None	none	y	a,r
LARGEMOUTH BASS	*Micropterus salmoides*	Fish	None	none	y	a
OREGON SPOTTED FROG	*Rana pretiosa*	Amphibian	FC	SE	y	a,r
PYGMY WHITEFISH	*Prosopium coulteri*	Fish	Fco	SS	y	a
SMALLMOUTH BASS	*Micropterus dolomieui*	Fish			y	a
SOCKEYE SALMON OR KOKANEE	*Oncorhynchus nerka*	Fish	FE	SC	y	a
UMATILLA DACE	*Rhinichthys umatilla*	Fish	none	SC	y	a
WALLEYE	*Stizostedion vitreum*	Fish	none	none	y	a
WESTERN GREBE	*Aechmophorus occidentalis*	Bird	none	SC	y	a,r
WESTERN TOAD	*Bufo boreas*	Amphibian	Fco	SC	y	a,r
WESTSLOPE CUTTHROAT	*Oncorhynchus clarki lewisi*	Fish	none	none	y	a
WHITE STURGEON	*Acipenser transmontanus*	Fish	None	none	y	a
Riparian Species						
BALD EAGLE	*Haliaeetus leucocephalus*	Bird	Fco	ST	y	u,r
BARROW'S GOLDENEYE	*Bucephala islandica*	Bird	None	none	y	a,r
COLUMBIA SPOTTED FROG	*Rana luteiventris*	Amphibian	none	SC	y	a,r
COMMON LOON	*Gavia immer*	Bird	none	SS	y	a,r
GREAT BLUE HERON	*Ardea herodias*	Bird	none	none	y	a,r
HARLEQUIN DUCK	*Histrionicus histrionicus*	Bird	none	none	y	a,r
OREGON SPOTTED FROG	*Rana pretiosa*	Amphibian	FC	SE	y	a,r

WESTERN GREBE	*Aechmophorus occidentalis*	Bird	none	SC		a,r
WESTERN TOAD	*Bufo boreas*	Amphibian	Fco	SC	y	a,r
Upland Species						
BALD EAGLE	*Haliaeetus leucocephalus*	Bird	Fco	ST	y	u,r
BURROWING OWL	*Athene cunicularia*	Bird	Fco	SC	y	u
FISHER	*Martes pennanti*	Mammal	FC	SE	y	u
FLAMMULATED OWL	*Otus flammeolus*	Bird	none	SC	y	u
GOLDEN EAGLE	*Aquila chrysaetos*	Bird	none	SC	y	u
GRAY WOLF	*Canis lupus*	Mammal	FE	SE	y	u
GRIZZLY BEAR	*Ursus arctos*	Mammal	FT	SE	y	u
LEWIS' WOODPECKER	*Melanerpes lewis*	Bird	none	SC	y	u
LOGGERHEAD SHRIKE	*Lanius ludovicianus*	Bird	Fco	SC	y	u
LYNX	*Lynx canadensis*	Mammal	FT	ST	y	u
MARTEN	*Martes americana*	Mammal	none	none	y	u
MOOSE	*Alces alces*	Mammal	none	none	y	u
NORTHERN GOSHAWK	Accipiter gentilis	Bird	Fco	SC	y	u
PILEATED WOODPECKER	*Dryocopus pileatus*	Bird	none	SC	y	u
SAGE SPARROW	*Amphispiza belli*	Bird	none	SC	y	u
SAGE THRASHER	*Oreoscoptes montanus*	Bird	none	SC	y	u
SAGEBRUSH LIZARD	*Sceloporus graciosus*	Reptile	Fco	SC	y	u
SHARP-TAILED GROUSE	*Tympanuchus phasianellus*	Bird	Fco	ST	y	u
SPOTTED OWL	*Strix occidentalis*	Bird	FT	SE	y	u
TOWNSEND'S BIG-EARED BAT	*Corynorhinus townsendii*	Mammal	Fco	SC	y	u
VAUX'S SWIFT	*Chaetura vauxi*	Bird	none	SC	y	u
WESTERN GRAY SQUIRREL	*Sciurus griseus*	Mammal	Fco	ST	y	u
WHITE-TAILED JACKRABBIT	*Lepus townsendii*	Mammal	none	SC	y	u
WILD TURKEY	*Meleagris gallopavo*	Bird			y	u
WOLVERINE	*Gulo gulo*	Mammal	Fco	SC	y	u

Key: a= aquatic, u= upland, r=riparian

Status Codes:

FE: Federal Endangered

FT: Federal Threatened

FC: Federal Candidate

Fco: Federal Species of Concern

SE: State Endangered

ST: State Threatened

SC: State Candidate

SS: State Sensitive

Salmon Spawning and Rearing Habitat. It has been argued that biological diversity, in relation to large-scale ecological processes versus just a mix of species, should focus on keystone species (focal) or those essential for ecosystem resilience. Salmonids have been used as focal species in several local watershed planning documents for the area (NPCC, 2004a; NPCC, 2004b). Therefore, for this shoreline characterization analysis, Aus containing salmonid habitat represent vital areas.

Habitat loss and change are among the major factors determining the current status of salmonid populations. Salmonids depend on diverse habitats with connections among those habitats for their life history cycle from rearing to spawning. Data for this analysis were provided the National Oceanic and Atmospheric Administration (NOAA), Streamnet, and WDFW. Lake Aus were not analyzed for this variable.

ESA Salmon Critical Habitat. NOAA fisheries Northwest Region critical habitat designations include habitat for Chinook salmon and rainbow trout/steelhead species within Okanogan County. These are specific areas that have been found to be critical to conservation of salmonid species, and include not only spawning and rearing habitat but also important migration habitat. Loss of this habitat reduces the diversity in salmon and steelhead life histories, which influences the ability of these fish to adapt to natural and man-made change. Critical habitat designation data were provided by NOAA. Lake Aus were not analyzed for this variable.

Riparian Vegetation. Riparian habitat is especially important in the western United States due to the presence of water and vegetation, typically surrounded by harsher, drier, less productive environments (Chaney et al., 1990). Riparian vegetation provides several benefits to shorelines. Tree roots uptake nutrients along with other pollutants that ordinate from the land and are stored in leaves, limbs, and roots. Riparian vegetation stabilizes the soil along shorelines, reduces the risk of flooding, and provides large woody debris to the aquatic environment. The canopy provides shade that keeps water cool and retains more dissolved oxygen both of which are needed for many of the life stages of aquatic species. The score was based on the percentage of riparian vegetation within each AU and was calculated from the U.S. Geological Survey (USGS) Land Cover GIS data layer.

Wetlands. Wetlands are essential in assisting in flood control as they can store water and also filter pollutants and retain sediments. Many species depend on wetlands for some part of their life cycle (breeding, nesting, feeding, shelter). Data were obtained from the National Wetland Inventory which provides information on the characteristics, extent, and status of US wetlands and deepwater habitats. The National Wetland Inventory created by WDFG was accessed to provide the location and extent of wetlands in Okanogan County.

Potential Migration Zones. The area where the stream channel is most likely to move across the floodplain, over time, has the ability to reduce flood hazards and create habitat for a wide range of species. This area is commonly referred to as the channel migration zone but, for this analysis this zone is referred to as the Potential Migration Zone (PMZ). The PMZ layer was created based on interpretations from a low-resolution digital

elevation models (DEM) and general published geologic maps. ENTRIX or its employees are not responsible for specific delineation boundaries in any way unless and until a thorough analysis that includes higher resolution mapping, photogrammetric interpretation, and field calibration is accomplished. Provision of such a rigorous analysis for delineation of lateral channel movement was beyond the scope and budget of this project. The PMZ is provided as a general guide to channel conditions based on available information and is not intended for use in other jurisdictional delineations. This PMZ can be considered some index of the potential for a channel to migrate, but cannot be directly interpreted as the defined probability of lateral channel movements. Lake Aus were not analyzed for this variable.

Step 2: Scoring of AU Resources

Scores for resources range from 0, which estimates an absence of identified resources, to 1, which estimates a strong presence of identified resources (Table 4). In this way, higher scores indicate a relatively higher value of resources in an analysis unit, while lower scores indicate a lower value of resources.

Continuous coverage data were quantified by area percentages for the stressor variables listed below:

- Wetlands
- Riparian vegetation
- Potential migration zone

All scores for the above variables ranged from 0 to 1 based on the area percentage. For example, an AU composed of 30% riparian vegetation was assigned a score of 0.30 for the *riparian vegetation* resource variable.

To assign scores to the aquatic, riparian, and upland species distributions data, Aus were originally divided into 3 class sizes to account to account for data skewing due to varying unit size as described above. However, variance among different-sized Aus were not observed to be significant, and so class sizes were eliminated from the analysis. Individual variables were scored on a scale between 0 and 1. The scores were based on a low (0.25), medium (0.50) and high (0.75) number of species found within each AU as described in Table 5.

Finally, due to the nature of the data used in this analysis, the following variables were assessed based on presence (1)/ absence (0) within each AU:

- Salmon spawning / rearing habitat
- NOAA critical habitat

Table 4: Analysis Unit Resource Scoring and Weighting

AU Resource	Score	Scoring	Weight
Riparian vegetation	0 to 1	Percentage of riparian vegetation in unit	75
Wetlands	0 to 1	Percentage of wetlands in unit	75
Potential migration zone	0 to 1	Percentage of potential migration zone in unit	50
Salmon spawning/rearing	0	None in unit	75
habitat	1	Unit contains spawning/rearing habitat	-
NOAA critical habitat	0	None in unit	75
	1	Unit contains NOAA critical habitat	-
Aquatic species	0.00	None in unit	75
	0.25	Up to 3 aquatic species in unit	-
	0.50	Up to 6 aquatic species in unit	-
	0.75	7 or more aquatic species in unit	-
Riparian species	0.00	None in unit	75
	0.25	1 riparian species in unit	-
	0.50	Up to 3 riparian species in unit	-
	0.75	4 or more riparian species in unit	-
Upland species	0.00	None in unit	25
	0.25	Up to 5 upland species in unit	-
	0.50	Up to 10 upland species in unit	-
	0.75	11 or more upland species in unit	-

AU Example

As seen before, the analysis unit identified as S OKA 08 (AU #153), located on Okanogan River was 15.3 acres in size. Identified potential resources were identified as aquatic, riparian, and upland species, salmon spawning and rearing habitat, NOAA critical habitat, riparian vegetation, wetlands, and potential migration zone. The identified resources were scored in the following way (see Table 5):

- *Aquatic species: 0.75 (data on 10 species distributions in unit);*
- *Riparian species: 0.50 (data on 3 species distributions in unit);*
- *Upland species: 0.75 (data on 15 species distributions in unit)*
- *Salmon spawning/rearing habitat: 1.0 (present in unit);*
- *NOAA critical habitat: 1.0 (present in unit);*
- *Riparian vegetation: 0.30 (30% of the land within unit had riparian vegetation);*
- *Wetlands: 0.074 (7.4% of the land within unit was composed of wetlands);*
- *Potential migration zone: 1.0 (100% of the AU within the potential migration zone)*

Step 3: Weighting of AU Resources

A relative weight (based on the value of each resource to shoreline ecological function) was given to each resource variable. The score was multiplied by this weighting factor based on the relative percentage of estimated value. The weights were divided into low (.25), medium (.50), and high value (.75) categories. The development of these weighting factors for resources involved literature review, consultation with local experts, and professional opinion. The weighting categories are summarized below:

High Resource Value (0.75):

- Aquatic species
- Riparian species
- Salmon spawning / rearing habitat
- NOAA critical habitat
- Wetlands
- Riparian vegetation

Medium Resource Value (0.50):

- Potential migration zones

Low Resource Value (0.25):

- Upland species

Resource index weights were calculated by dividing the weight of each analyzed resource by the summed weight of all analyzed resources in each unit, causing the summed resource weights for each AU to equal 1. The resource scores were then multiplied by

the index weight values. Lake and stream Aus were analyzed for a different number of total resource variables due to the applicability of these variables. Lake Aus were not analyzed for salmon spawning and rearing habitat, NOAA critical habitat, or potential migration zones. Examples of index weighting for stream Aus verses lake Aus is provided in Table 5.

AU Example

The analysis unit identified as S OKA 08 (AU # 153), previously scored, was weighted as described above. This AU was located on a stream and so index weights provided in the third column of Table 6 were used to weigh each of the identified resource variables for this unit.

- *Aquatic species: 0.75 x 0.142857 = 0.11;*
- *Riparian species: 0.50 x 0.142857 = 0.071;*
- *Upland species: 0.75 x 0.047619 = 0.036;*
- *Salmon spawning/rearing habitat: 1.0 x 0.142857 = 0.14;*
- *NOAA critical habitat: 1.0 x 0.142857 = 0.14;*
- *Riparian vegetation: 0.30 x 0.142857 = 0.043;*
- *Wetlands: 0.074 x 0.142857 = 0.011;*
- *Potential migration zone: 1.0 x 0.095238 = 0.095.*

Step 4: Calculation of AU Resource Index

The combined resource score for each AU was calculated by adding the individual weighted resource scores. The result, a resource index score for each AU that ranged from 0 to 1, was used to assess the relative ecological health of each shoreline unit.

AU Example

The analysis unit identified as S OKA 08 (AU # 153), previously scored and weighted, had a resource index value calculated by adding the products of the scores and index weights: 0.11 (aquatic species) + 0.071 (riparian species) + 0.036 (upland species) + 0.14 (salmon spawning/rearing habitat) + 0.14 (NOAA critical habitat) + 0.043 (riparian vegetation) + 0.011 (wetlands) + 0.095 (potential migration zone) = 0.65.

Table 5: Weighting of Lake and Stream AUs

Resource Variables	Stream AUs		Lake AUs	
	Start Weights	Index Weights	Start Weights	Index Weights
Aquatic species	0.75	0.142857	0.75	0.230769
Riparian species	0.75	0.142857	0.75	0.230769
Upland species	0.25	0.047619	0.25	0.076923
Salmon spawning/ rearing habitat	0.75	0.142857	**NA**	0
NOAA critical habitat	0.75	0.142857	**NA**	0
Wetlands	0.75	0.142857	0.75	0.230769
Riparian vegetation	0.75	0.142857	0.75	0.230769
Potential migration zone (PMZ)	0.50	0.095238	**NA**	0
TOTAL		1.000		1.000

NA – Not analyzed

3.2.5 AU Characterization Quadrant Analysis

Resource indices can be plotted against condition indices for each AU and the results interpreted in a general way. A simple approach to interpretation that facilitates discussions about designation is to divide a scatter plot of AU scores into quadrants to give an indication of types of potential future SMA actions that might be taken for each grouping of units (see Figure 2).

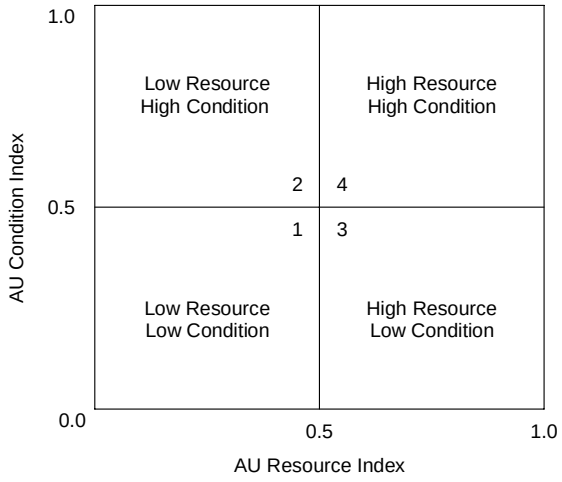


Figure 2: Conceptual Interpretation of Quadrant Assignments; Analysis Unit Condition Index vs. Resource Index

Quadrants characterization can be described further as the potential for successful future planning efforts to maintain shoreline ecological functions. For example, quadrant 3, with high resource and low condition index, shows that these units may represent AUs with higher levels of existing natural resources, such as containing viable populations of Species of Concern, but, also having a lower shoreline condition. These AUs will benefit from planning activities that increase or enhance those limiting ecological functions associated with the AU shoreline condition. An example would be to minimize certain types of shoreline development or emphasize specific designations for these areas in order to improve ecosystem processes and functions which will preserve existing high resource condition. However, in quadrant 2, with low resource and high condition index, these AUs are recognized as relatively intact shoreline condition but relatively lower inherent resources. In this case, the AU in quadrant 2 may benefit from planning efforts geared toward resource enhancement activities. These AUs may naturally contain fewer resources (e.g. no Chinook salmon critical habitat or wetlands) while still being less impacted by human activities.

3.3 Watershed-Scale Analysis

The purpose of this broader scale analysis is to place analysis units in context with watershed processes. In contrast to the AU scale analysis detailed above, the watershed analysis considers near stream and upslope conditions without constraint of parcel and

ownership inclusion in the shoreline management jurisdiction. The primary value of watershed scale analysis is the identification of AUs and stressor functions that might be used to identify restoration actions as well as to evaluate the relative intactness of AUs within each watershed. This analysis will be a part of the final report.

The method to highlight watershed key processes and describe the effects of land use on those key processes will be modified from Ecology's 2005 document, available at: http://www.ecy.wa.gov/biblio/0506027.html. The goal is to identity and map areas important to sustain shoreline functions and to determine degree of alteration to key processes. The following is a list of the three key watershed process and likely indicators that will be used to evaluate them:

- Sediment supply and erosion - soil erodibility index, dams, mass wasting areas;
- Riparian inputs (heat/light) - riparian vegetation, fire history;
- Hydrology - precipitation, recharge areas, soil permeability (PCMZ).

Indicators of alteration that may be used are, roads 100' of streams, dams, urban land cover, non-forest cover 100' of streams, agriculture cover, urban cover on high soil permeability, and impervious surfaces. The indictors of key processes and indicators of alteration will be overlaid spatially in order to highlight minimally altered areas and impaired areas within each watershed.

3.3.1 Watershed Boundaries

In general terms, watersheds are an area of land that drains water, sediment and dissolved materials to a common receiving body or outlet. Watersheds vary from the largest river basins to just acres or less in size. Watershed delineations have been completed for the Methow and Okanogan Subbasin plans and limiting factor analysis (ENTRIX and Golder 2002, MWG et al. 1995; NPCC 2004a, NPCC 2004b). However, these were created under a different set of goals where, for example, the project focused on focal salmonid distributions. This watershed analysis used boundaries were meaningful descriptions of upslope factors (vegetation, wetlands, land use etc.) interact to describe the AU shoreline zone. This characterization framework used best professional judgment in defining watersheds.

Watershed boundaries were primarily determined by utilizing the USGS 5th Field Hydrologic Unit (HUC 10) which represent major watershed delineations (i.e., large tributaries and HUC 12. The watersheds evaluated within Okanogan County are:

Upper Methow Watershed

Mazama Watershed

Lower Chewuch Watershed

Middle Methow River Watershed

Beaver Watershed

Twisp Watershed

Lower Methow River Watershed

Upper Columbia/Swamp Creek Watershed
Sinlahekin Watershed
Lower Similkameen River Watershed
Upper Okanogan River Watershed
Okanogan River watershed
Bonaparte Watershed
Okanogan River/ Omak Watershed
Salmon Watershed
Lower Okanogan Watershed
Myers Watershed
Toroda Watershed
West Fork Sanpoil Watershed

4 CHARACTERIZATION RESULTS

4.1 Introduction

The results of site-scale analyses of the shoreline area of Okanogan County are presented in the AU characterization summary reports located in Technical Appendix A.2. Maps depicting the relative locations of each AU within Okanogan County are provided in the Map Portfolio (Appendix A.4). Tables summarizing the lakes and streams evaluated in this characterization are located in Technical Appendix A.3, Tables 1 and 2. Tables providing a complete catalog list of all AUs for lakes and streams that serve as a roadmap for the AU characterization results catalog can be found in Technical Appendix A.3, Tables 3 and 4. Appendix A.3, Table 5 lists the descriptive statistics for each analysis variable. Appendix A.3 Table 6 provides a list of data sources used in this analysis.

4.2 AU Characterization Results Catalog

Each of the 233 analysis units have an individual one-page report that identifies information unique to each AU such as AU number, AU code, latitude and longitude of each AU center point, waterbody name, and watershed. Along with this identifying information, both raw and final scores are presented for each variable, the aggregate condition and resource indices for each AU, and quadrant results. Maps of Watersheds and AUs are included as a companion to the AU catalog (Map Portfolio).

4.3 Characterization Quadrant Analysis Results

The AU condition index values were plotted against the AU resource index values as specified in the Methods section (Section 3.2.6). The data points are arrayed within four quadrants that give further guidance on planning approaches for the AUs. The layout provides a means for assessing continuity of ecological function within each AU, which may be a factor in assigning shoreline environment designations of points. The distribution of points also supports identification of the most effective restoration options.

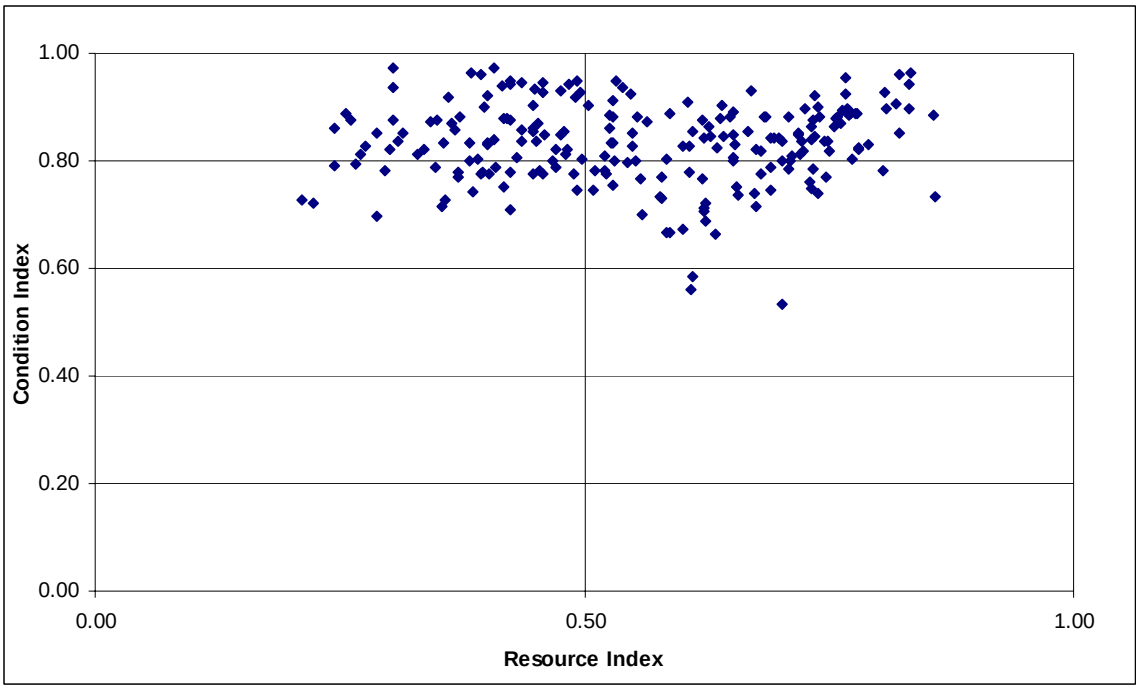


Figure 3: Plot of AU Condition and Resource Indices, Okanogan County, WA (n=233)

A scatter plot of AU condition and resource indices is provided in Figure 3 and 4. Condition indices of all AUs ranged from 0.53 to 0.97. Resource indices for all AUs ranged from 0.21 to 0.86. As can be seen in Figure 3, this caused all of the values to be located in the upper half of the scatter plot.

Figure 5 shows the distribution of AUs within each quadrant. Quadrant results by AU are located in Technical Appendix A.3, Table 4.

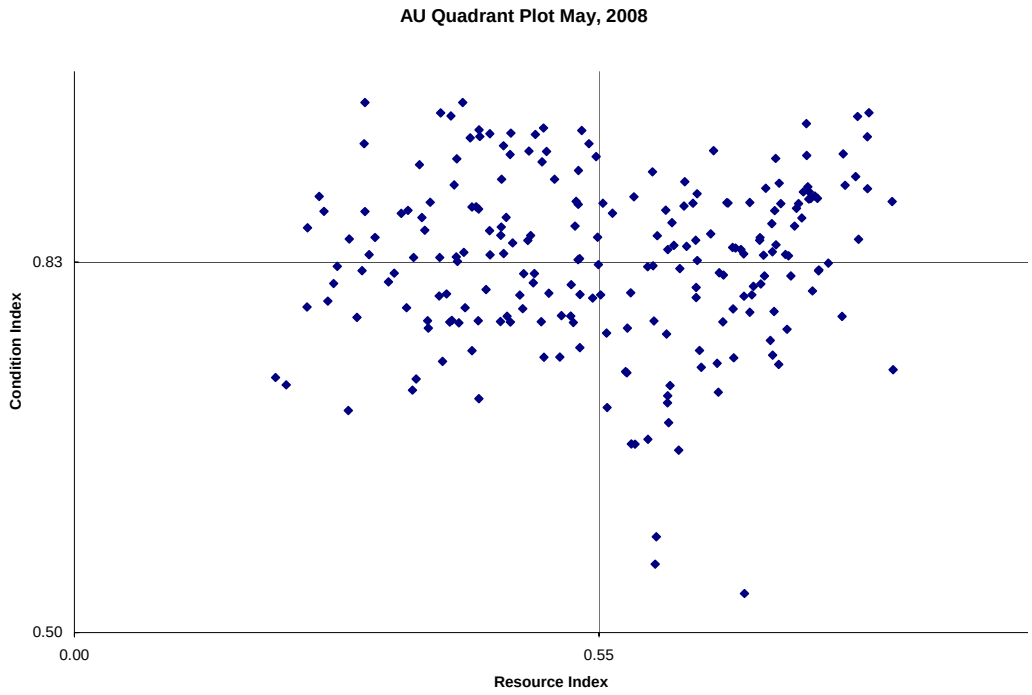


Figure 4: Modified AU condition and resource Indices' Plot Showing Approximate Location of Quadrant Boundaries for Characterization Results

The total numbers of AUs within each quadrant are the following:

1. *Low Condition , Low Resource (*lower left quadrant*)* – 43 AUs
2. *High Condition, Low Resource* (upper left quadrant) – 56 AUs
3. *Low Condition, High Resource* (lower right quadrant) – 51 AUs
4. *High Condition, High Resource* (upper right quadrant) – 83 AUs

A brief summary highlighting trends in the quadrant analysis results is provided below. For the Sanpoil River, most all AUs fall within the quadrant 2 with a higher level of existing shoreline environmental functions, but they also have a low resource index. For the Twisp River, 4 out of 6 AUs were located in quadrant 4, high condition and high resources. The Similkameen River has 8 out of 10 AUs in quadrant 1, low condition, low resources. Forty-five percent of the lake AUs in Okanogan County fell in quadrant 1, 30% quadrant two, 10% quadrant 3, and 13 % of lake AUs in quadrant 4. Figure 5 presents a visual example of AUs, within the middle Methow River, by quadrant assignment.

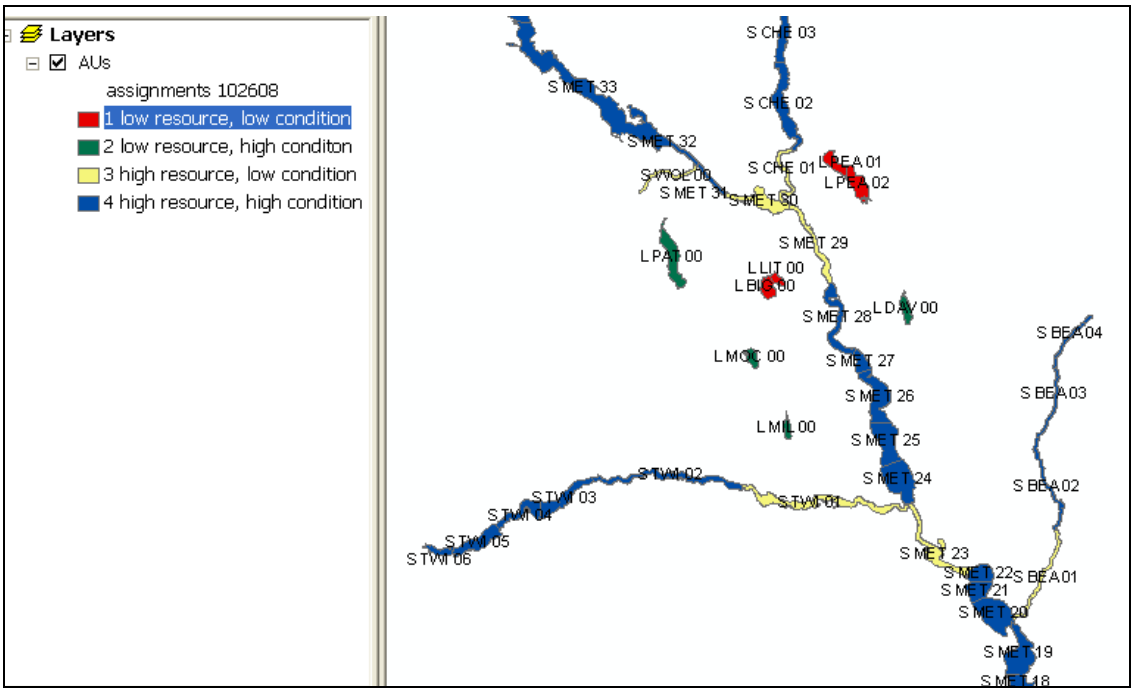


Figure 5: Graphic Example Representing AUs near the Middle Methow River by Quadrant Assignment

4.4 Potential Use of Quadrant Analysis

The grouping of analysis units into characterization quadrants provides an initial approach for planners to explore the large body of data that supports the process of environmental designation. For example, an AU with a high condition value and a high resource value might be conserved and preserved. These units likely represent AUs with high levels of function and significant natural resource and human values of significance. Planning through the SMA might, for example, minimize shoreline development or emphasize specific designations for these areas in order to keep the high quality ecosystem processes and functions intact. Units with a high condition index and a lower resource index (upper left quadrant) might be maintained and conserved to recognize their ecosystem value of relatively intact condition but relatively lower inherent natural and resources. It is possible that these regions may naturally contain fewer resources while still being less impacted by human activities. Regions with higher resource values located in areas with a lower condition index (lower right quadrant) may present opportunities for restoration by minimizing or removing the environmental impacts. Moreover, these units may be a starting point for the identification of types and sites for restoration activities. Finally, for analysis units showing both low condition and low resource values, an effort to recover shoreline elements might be considered. The term *recovery* is used here to indicate that remaining functions are low and likely missing key elements necessary to provide human and natural values when considered in a context relative to some historic condition.

4.5 Summary

The methodology developed by ENTRIX for characterizing shoreline functions in Okanogan County resulted in the identification of 233 analysis units. These analysis units are distributed across nineteen watersheds. Analyses of characterization results are focused on the presentation and grouping of results by watershed and by descriptive statistical and narrative treatments to assist subsequent planning efforts. A complete catalog of analysis units and attributes for Okanogan County is provided as appendices.

5 CONTINUED SCIENCE SUPPORT FOR SMP UPDATE

5.1 Environmental Designation Determination

The data provided in the AU characterization reports will be used as a road map to identify appropriate environmental designations of each reach of shoreline within the County. The ENTRIX science team will coordinate with the planning team to preserve the ecological function of the shoreline area and ensure that no net loss of ecological function occurs.

5.2 Cumulative Effects

The cumulative effects analysis will address the effects of all reasonably foreseeable future development on the Okanogan shoreline area. The overall purpose for cumulative impact analysis is to assess the commonly occurring and foreseeable impacts of development that would be allowed and determine whether the net effect of shoreline planning will be to address legislative intent by preventing net loss of shoreline ecological functions and other beneficial uses.

5.3 Restoration Plan

The characterization of AU sites suggests shorelines that might be considered as sites for restoration efforts. These opportunities will be explored in the final SMP document.

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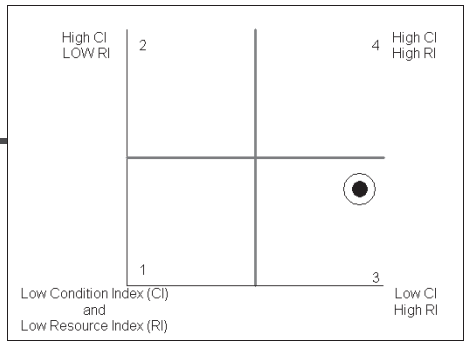
ENTRIX
ENVIRONMENTAL CONSULTANTS

Unique ID	128
Analysis Unit Code	S MET 23
River / Lake Name	METHOW RIVER
Coordinates Lat, Long	48.3476437-120.102637
Acres of SMP land	227.42103
length water feet	14666.2742317

General Quadrant Results for AU

Quad #: 3

General placement of AU within Quad



AU Stressor	Raw Data		Score	weight	FINAL SCORES
Bank hardening	no data	#	0	0.000	0.000
Levees	no data	Mi.	0	0.000	0.000
Permitted facilities	14	#	0.75	0.034	0.026
Agricultural- intensive	0.03	%	0.03	0.069	0.002
Agricultural dispersed	0.04	%	0.04	0.034	0.002
Water quality	0.50	%	0.5	0.103	0.052
Residential development	0.36	%	0.36	0.103	0.037
Industrial development-heavy	0.00	%	0.00	0.103	0.000
Industrial development-light	0.00	%	0.00	0.069	0.000
Bridges	1	#	0.25	0.034	0.009
Overwater structures	0	#	0.00	0.034	0.000
Rail	0	Mi.	0.00	0.103	0.000
Roads	2.30	Mi.	0.75	0.103	0.078
Culverts	0	#	0.00	0.069	0.000
Geologically hazardous areas	0.101842	%	0.10	0.069	0.007
Boat ramps	0	#	0.00	0.034	0.000
Mines	0	#	0	0.034	0.000
			Aggregate Condition Index		0.79

Resources	Raw Data		Score	Weight	FINAL SCORES
Aquatic Species	8	#	0.75	0.143	0.107
Riparian Species	4	#	0.75	0.143	0.107
Upland Species	9	#	0.50	0.048	0.024
Salmon spawning/rearing habitat	1		1	0.143	0.143
Steelhead/ Chinook Critical habitat	1		1	0.14286	0.143
Wetlands	0.16	%	0.16	0.143	0.023
Potential migration zones	.873516	%		0.095	0.083
Riparian vegetation	0.67	%	0.67	0.143	0.096
			Aggregate Resource Index		0.73

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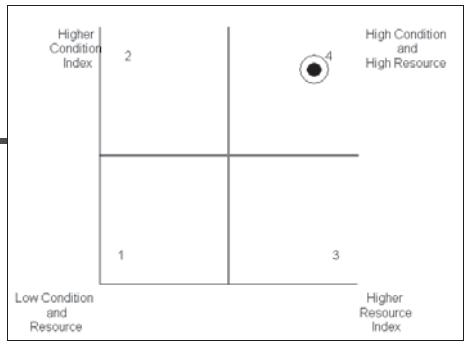
ENTRIX
ENVIRONMENTAL CONSULTANTS

Unique ID	129
Analysis Unit Code	S MET 24
River / Lake Name	METHOW RIVER
Coordinates Lat, Long	48.3786748 -120.124547
Acres of SMP land	344.81432
length water feet	8750.03776756

General Quadrant Results for AU

Quad #: 4

General placement of AU within Quad



AU Stressor	Raw Data		Score	weight	FINAL SCORES
Bank hardening	no data	#	0	0.000	0.000
Levees	no data	Mi.	0	0.000	0.000
Permitted facilities	4	#	0.25	0.034	0.009
Agricultural- intensive	0.21	%	0.21	0.069	0.014
Agricultural dispersed	0.06	%	0.06	0.034	0.002
Water quality	0.00	%	0.0	0.103	0.000
Residential development	0.20	%	0.20	0.103	0.020
Industrial development-heavy	0.00	%	0.00	0.103	0.000
Industrial development-light	0.00	%	0.00	0.069	0.000
Bridges	0	#	0.00	0.034	0.000
Overwater structures	0	#	0.00	0.034	0.000
Rail	0	Mi.	0.00	0.103	0.000
Roads	1.51	Mi.	0.50	0.103	0.052
Culverts	0	#	0.00	0.069	0.000
Geologically hazardous areas	0.0265473	%	0.03	0.069	0.002
Boat ramps	0	#	0.00	0.034	0.000
Mines	0	#	0	0.034	0.000
			Aggregate Condition Index		0.90

Resources	Raw Data		Score	Weight	FINAL SCORES
Aquatic Species	8	#	0.75	0.143	0.107
Riparian Species	4	#	0.75	0.143	0.107
Upland Species	9	#	0.50	0.048	0.024
Salmon spawning/rearing habitat	1		1	0.143	0.143
Steelhead/ Chinook Critical habitat	1		1	0.14286	0.143
Wetlands	0.25	%	0.25	0.143	0.036
Potential migration zones	0.9335	%		0.095	0.089
Riparian vegetation	0.81	%	0.81	0.143	0.115
			Aggregate Resource Index		0.76

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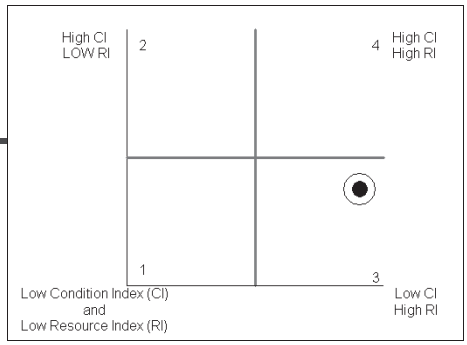
ENTRIX
ENVIRONMENTAL CONSULTANTS

Unique ID	227
Analysis Unit Code	S TWI 01
River / Lake Name	TWISP RIVER
Coordinates Lat, Long	48.3697851-120.163877
Acres of SMP land	388.00728
length water feet	26810.9656744

General Quadrant Results for AU

Quad #: 3

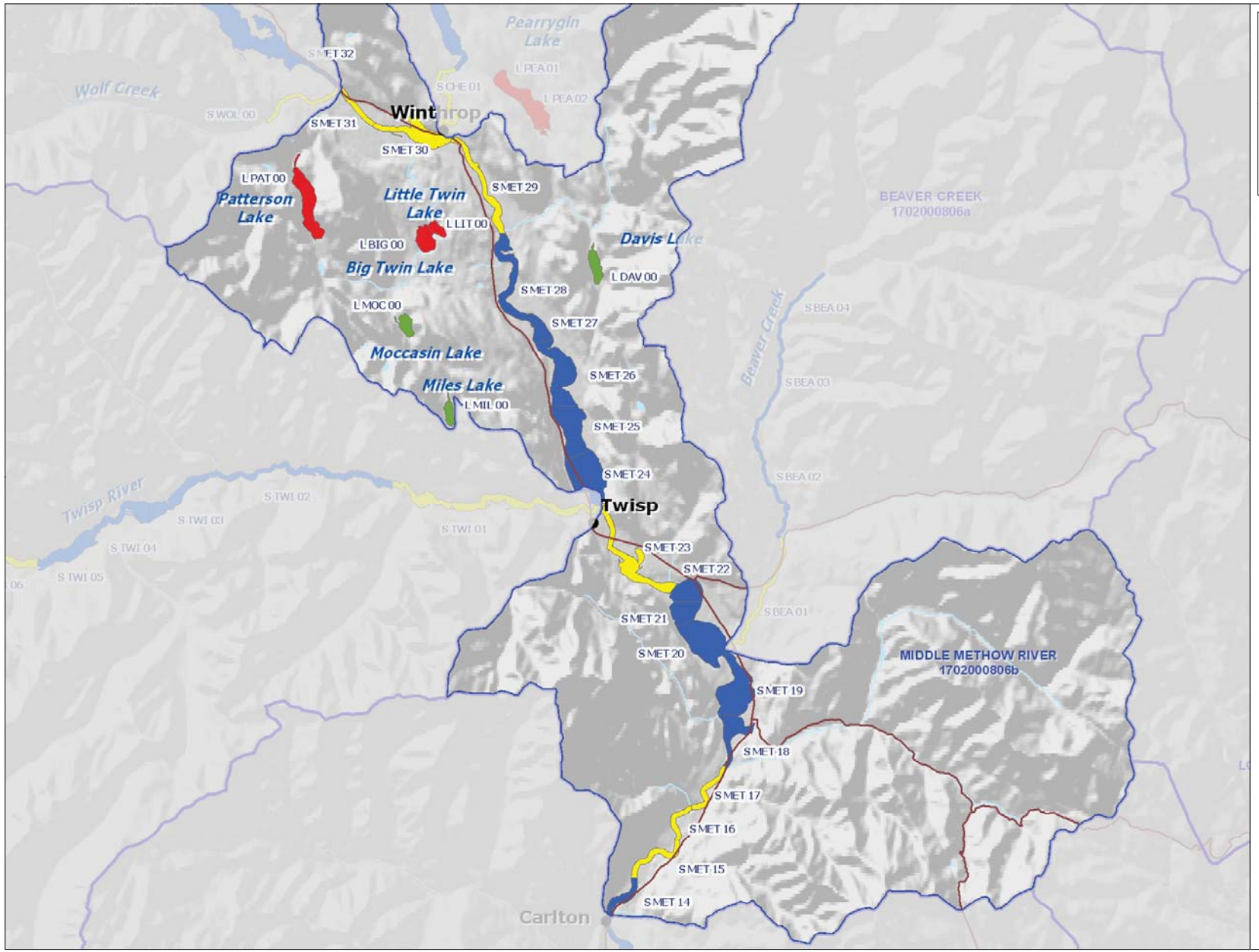
General placement of AU within Quad

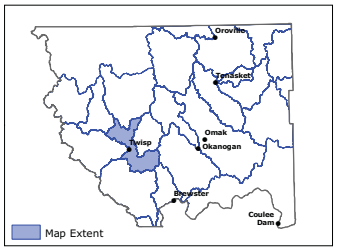


AU Stressor	Raw Data		Score	weight	FINAL SCORES
Bank hardening	no data	#	0	0.000	0.000
Levees	one	Mi.	1	0.000	0.000
Permitted facilities	6	#	0.50	0.034	0.017
Agricultural- intensive	0.24	%	0.24	0.069	0.016
Agricultural dispersed	0.07	%	0.07	0.034	0.002
Water quality	0.50	%	0.5	0.103	0.052
Residential development	0.39	%	0.39	0.103	0.040
Industrial development-heavy	0.00	%	0.00	0.103	0.000
Industrial development-light	0.00	%	0.00	0.069	0.000
Bridges	3	#	0.50	0.034	0.017
Overwater structures	0	#	0.00	0.034	0.000
Rail	0	Mi.	0.00	0.103	0.000
Roads	1.98	Mi.	0.50	0.103	0.052
Culverts	0	#	0.00	0.069	0.000
Geologically hazardous areas	0.185283	%	0.19	0.069	0.013
Boat ramps	0	#	0.00	0.034	0.000
Mines	0	#	0	0.034	0.000
			Aggregate Condition Index		0.79

Resources	Raw Data		Score	Weight	FINAL SCORES
Aquatic Species	9	#	0.75	0.143	0.107
Riparian Species	5	#	0.75	0.143	0.107
Upland Species	13	#	0.75	0.048	0.036
Salmon spawning/rearing habitat	1		1	0.143	0.143
Steelhead/ Chinook Critical habitat	1		1	0.14286	0.143
Wetlands	0.32	%	0.32	0.143	0.046
Potential migration zones	.98579	%		0.095	0.094
Riparian vegetation	0.90	%	0.90	0.143	0.129
			Aggregate Resource Index		0.81

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Legend

- Community
- Watershed Boundary
- Major Road

Analysis Units

Quadrant Assignment

- 1 Low CI, Low RI
- 2 High CI, Low RI
- 3 Low CI, High RI
- 4 High CI, High RI

Shoreline jurisdiction boundaries depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/verify information shown on this map.

N W E S

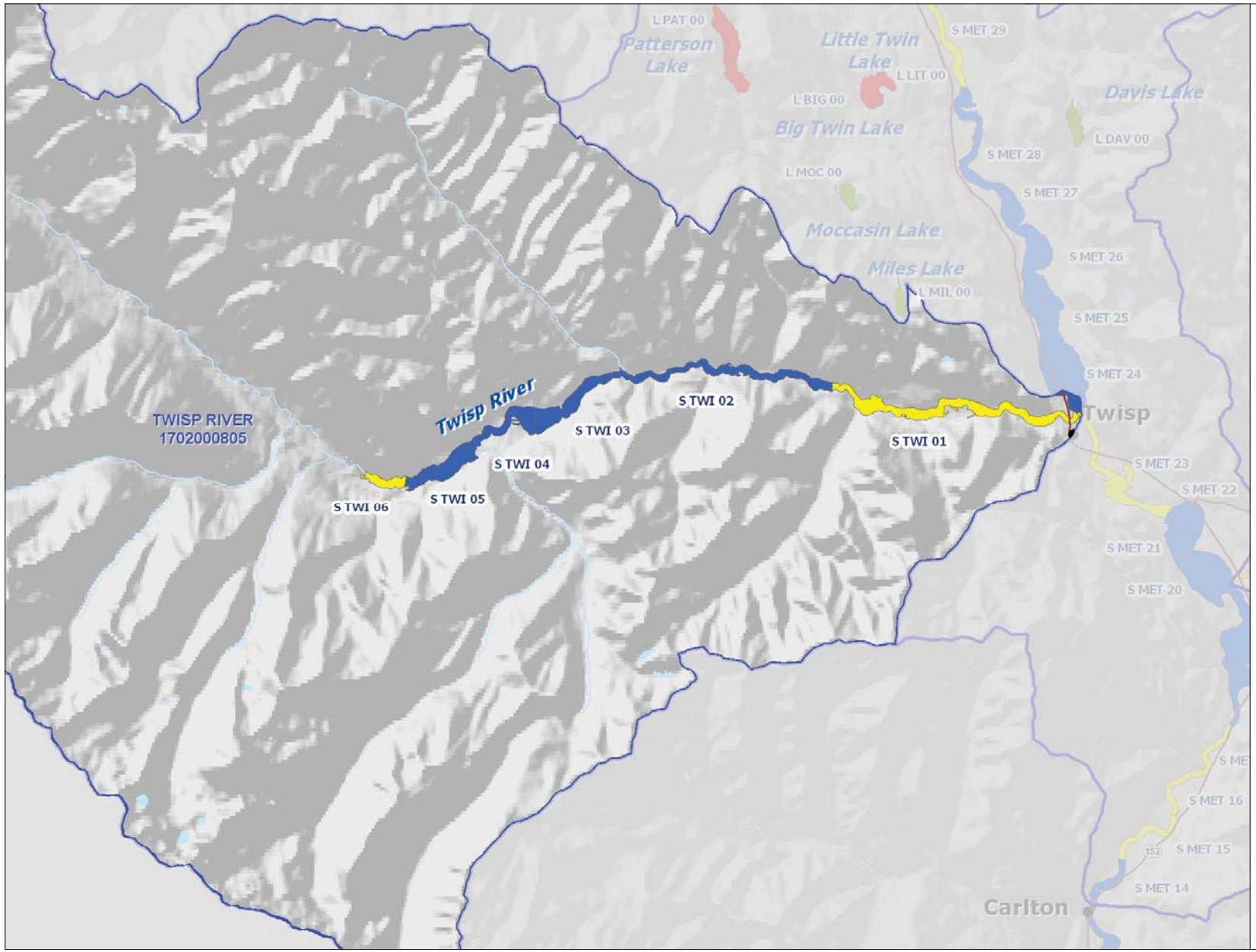
0 1 2 3 Miles

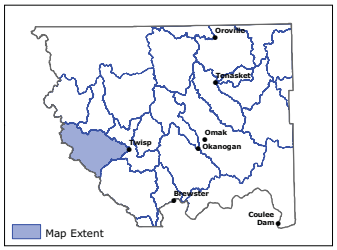
Okanogan County Shoreline Master Plan

Figure 9
Analysis Units in the Middle Methow River Watershed

ENTRIX

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Legend

- Community
- Watershed Boundary
- Major Road

Analysis Units

Quadrant Assignment

- 1 Low CI, Low RI
- 2 High CI, Low RI
- 3 Low CI, High RI
- 4 High CI, High RI

Shoreline jurisdiction boundaries depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/verify information shown on this map.

N W E S

0 1 2 3 Miles

Okanogan County Shoreline Master Plan

Figure 15
Analysis Units in the Twisp River Watershed

ENTRIX

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Technical Appendix A.3

Tables

Table 1: SMP Lake Summary

Lake Name	Acres of Water	# Analysis Units
AENEAS LAKE	52.63	1
ALBRIGHT LAKE (PENINSULA LAKE)	23.49	1
ALKALI LAKE	62.36	1
ALTA LAKE	194.38	1
BIG TWIN LAKE	64.47	1
BLUE LAKE	127.81	1
BLUE LAKE (SINLAHEKIN)	181.88	2
BONAPARTE LAKE	163.45	3
BOOHER LAKE	20.56	1
BROWN LAKE	60.91	1
CHOPAKA LAKE	142.78	1
CONCONULLY RESERVOIR	389.59	2
CRAWFISH LAKE	78.74	1
DAVIS LAKE	41.04	1
DUCK LAKE	38.66	1
EVANS LAKE	26.64	1
FANCHER DAM RES	27.64	1
FIELDS LAKE	29.76	1
FISH LAKE	98.68	1
GREEN LAKE	44.27	1
HORSESHOE LAKE	40.88	1
LEADER LAKE	142.77	1
LEMANASKI LAKE	64.71	1
LITTLE TWIN LAKE	19.86	1
MEDICINE LAKE	43.27	1
MILES LAKE	21.5	1
MOCCASIN LAKE	31.91	1
MOLSON LAKE	20.82	1
MUSKRAT LAKE	81.87	1
OSOYOOS LAKE	2064.7	4
PALMER LAKE	2070.63	4
PATTERSON LAKE	152.9	1
PEARRYGIN LAKE	182.06	2
RAT LAKE	58.75	1
ROBERTS LAKE	23.62	1
SALMON LAKE (CONCONULLY LAKE)	295.81	2
SIDLEY LAKE	108.69	1
SPECTACLE LAKE	357.74	6
TALKIRE LAKE	33.65	1
WALKER LAKE	42.56	1
WANNACUT LAKE	450.13	4
WHITESTONE LAKE	162.54	3

Table 2: SMP Stream Summary

Stream Name	Length of Stream (Miles)	# Analysis Units	X	Y	Elevation
ANTOINE CREEK	4.94	3	2380842	669149	964.72
BEAVER CREEK	9.11	4	2197375	524558	837.50
BONAPARTE CREEK	19.51	8	2431930	664549	1083.38
CHEWUCK RIVER	13.98	9	2163281	592972	656.65
COLUMBIA RIVER	12.86	5	2238583	391352	237.40
EARLY WINTERS CREEK	1.08	2	2091318	581555	692.31
GOLD CREEK	4.53	2	2164787	435473	526.60
LOST CREEK	7.97	6	2438053	544724	938.33
METHOW RIVER	76.85	42	2073441	604519	742.61
OKANOGAN RIVER	81.95	41	2331188	597385	299.50
PALMER CREEK	1.86	1	2283451	704131	349.87
SALMON CREEK	16.87	6	2263334	562683	696.31
SANPOIL RIVER	11.71	12	2271909	730855	359.23
SIMILKAMEEN RIVER	25.37	10	2276594	621831	505.36
SINLAHEKIN RIVER	17.27	7	2263841	676181	824.91
TOATS COULEE CREEK	6.79	2	2469985	685643	743.87
TORODA CREEK	6.03	2	2111384	494569	718.48
TWISP RIVER	15.62	6	2427616	579134	790.25
WOLF CREEK	1.87	1	2138565	540786	635.68

Table 3: Analysis Unit Catalog Summary

Unique No.	Size Class	Code	TYPE (Lake or Stream)	Total Acres of Land in AU	Total Acres of Water in AU	Length of Water Centerline (feet)	Acres of SMP Land in AU	Watershed
1	1.00	L AEN 00	Lake	31.95	52.63	2478.30	31.95	UPPER OKANOGAN
2	1.00	L ALB 00	Lake	29.76	23.49	2502.91	29.76	OKANOGAN RIVER/OMAK CREEK
3	1.00	L ALK 00	Lake	45.29	62.36	3905.41	45.29	OKANOGAN RIVER/OMAK CREEK
4	1.00	L ALT 00	Lake	75.64	194.38	7088.53	49.75	LOWER METHOW RIVER
5	1.00	L BIG 00	Lake	38.24	64.47	2803.96	38.24	MIDDLE METHOW RIVER
6	1.00	L BLS 01	Lake	47.59	122.68	4297.56	47.59	SINLAHEKIN CREEK
7	1.00	L BLS 02	Lake	49.02	59.20	5155.48	49.02	SINLAHEKIN CREEK
8	1.00	L BLU 00	Lake	56.54	127.81	4942.42	56.54	UPPER OKANOGAN RIVER
9	1.00	L BON 01	Lake	38.80	47.42	3627.38	8.87	BONAPARTE CREEK
10	1.00	L BON 02	Lake	39.16	107.21	3674.37	4.40	BONAPARTE CREEK
11	1.00	L BON 03	Lake	18.62	8.82	2280.56	9.75	BONAPARTE CREEK
12	1.00	L BOO 00	Lake	30.66	20.56	2672.41	30.65	OKANOGAN RIVER/OMAK CREEK
13	1.00	L BRO 00	Lake	54.52	60.91	4856.61	54.52	OKANOGAN RIVER/OMAK CREEK
14	1.00	L CHO 00	Lake	108.34	142.78	11180.95	63.47	SINLAHEKIN CREEK
15	1.00	L CON 01	Lake	20.556	72.068	3749.800	19.163	SALMON CREEK
16	1.00	L CON 02	Lake	26.239	147.086	3654.469	13.886	SALMON CREEK
17	1.00	L CON 03	Lake	27.488	108.004	3654.469	4.211	SALMON CREEK
18	1.00	L CON 04	Lake	19.225	62.434	3749.800	9.876	SALMON CREEK
19	1.00	L CRA 00	Lake	40.19	78.74	3584.53	8.29	WEST FORK SANPOIL
20	1.00	L DAV 00	Lake	40.77	41.04	4474.29	35.82	MIDDLE METHOW RIVER
21	1.00	L DUC 00	Lake	34.89	38.66	2644.45	34.25	OKANOGAN RIVER/OMAK CREEK
22	1.00	L EVA 00	Lake	27.83	26.64	2589.78	27.83	OKANOGAN RIVER/OMAK CREEK
23	1.00	L FAN 00	Lake	39.55	27.64	4464.62	39.55	UPPER OKANOGAN RIVER
24	1.00	L FIE 00	Lake	44.72	29.76	2864.35	44.72	MYERS
25	1.00	L FIS 00	Lake	76.10	98.68	7272.54	64.42	OKANOGAN RIVER/OMAK CREEK
26	1.00	L GRE 00	Lake	53.85	44.27	5793.11	53.85	SALMON CREEK
27	1.00	L HOR 00	Lake	33.65	40.88	2903.42	33.65	OKANOGAN RIVER/OMAK CREEK
28	1.00	L LEA 00	Lake	77.16	142.77	6277.10	77.16	LOWER OKANOGAN RIVER
29	1.00	L LEM 00	Lake	43.64	64.71	3608.65	43.64	OKANOGAN RIVER/OMAK CREEK
30	1.00	L LIT 00	Lake	23.53	19.86	2003.62	23.53	MIDDLE METHOW RIVER
31	1.00	L MED 00	Lake	30.57	43.27	2764.46	30.57	OKANOGAN RIVER/OMAK CREEK
32	1.00	L MIL 00	Lake	28.41	21.50	3569.88	28.41	MIDDLE METHOW RIVER
33	1.00	L MOC 00	Lake	31.87	31.91	2595.16	31.87	MIDDLE METHOW RIVER
34	1.00	L MOL 00	Lake	27.32	20.82	2364.78	27.32	MYERS
35	1.00	L MUS 00	Lake	57.72	81.87	3459.63	57.72	UPPER OKANOGAN RIVER
36	1.00	L OSO 01	Lake	61.556	326.139	9036.719	61.556	UPPER OKANOGAN RIVER
37	1.00	L OSO 02	Lake	67.887	651.397	9875.823	67.887	UPPER OKANOGAN RIVER
38	1.00	L OSO 03	Lake	45.977	545.972	9875.823	45.977	UPPER OKANOGAN RIVER
39	1.00	L OSO 04	Lake	70.577	541.194	9036.719	70.577	UPPER OKANOGAN RIVER

Unique No.	Size Class	Code	TYPE (Lake or Stream)	Total Acres of Land in AU	Total Acres of Water in AU	Length of Water Centerline (feet)	Acres of SMP Land in AU	Watershed
40	1.00	L PAL 01	Lake	60.669	466.700	7776.080	60.669	SINLAHEKIN CREEK
41	1.00	L PAL 02	Lake	83.678	734.832	10968.844	64.482	SINLAHEKIN CREEK
42	1.00	L PAL 03	Lake	49.683	400.593	10968.844	36.619	SINLAHEKIN CREEK
43	1.00	L PAL 04	Lake	120.259	468.503	7776.080	66.499	SINLAHEKIN CREEK
44	1.00	L PAT 00	Lake	91.39	152.90	9816.04	91.39	MIDDLE METHOW RIVER
5	1.00	L PEA 01	Lake	42.54	66.89	3727.49	42.54	LOWER CHEWUCH RIVER
46	1.00	L PEA 02	Lake	59.88	115.17	4782.26	59.88	LOWER CHEWUCH RIVER
47	1.00	L RAT 00	Lake	48.61	58.75	4626.05	31.26	UPPER COLUMBIA/SWAMP CREEK
48	1.00	L ROB 00	Lake	29.71	23.62	2539.62	29.71	SALMON CREEK
49	1.00	L SAL 01	Lake	25.175	57.219	4636.270	4.077	SALMON CREEK
50	1.00	L SAL 04	Lake	22.312	55.469	4636.270	1.568	SALMON CREEK
51	1.00	L SID 00	Lake	63.06	108.69	5744.71	63.06	MYERS
52	1.00	L SPE 01	Lake	17.500	27.837	3460.933	15.291	UPPER OKANOGAN RIVER
53	1.00	L SPE 02	Lake	40.904	104.038	8417.511	28.349	UPPER OKANOGAN RIVER
54	1.00	L SPE 03	Lake	21.044	36.680	4402.300	13.521	UPPER OKANOGAN RIVER
55	1.00	L SPE 04	Lake	23.581	32.642	4402.300	18.200	UPPER OKANOGAN RIVER
56	1.00	L SPE 05	Lake	42.897	120.274	8417.511	42.897	UPPER OKANOGAN RIVER
57	1.00	L SPE 06	Lake	23.559	36.266	3460.933	18.119	UPPER OKANOGAN RIVER
58	1.00	L TAL 00	Lake	86.98	33.65	7064.22	86.98	UPPER OKANOGAN
59	1.00	L WAL 00	Lake	32.27	42.56	2568.50	32.27	TORODA
60	1.00	L WAN 01	Lake	33.558	111.315	5282.116	33.558	UPPER OKANOGAN RIVER
61	1.00	L WAN 02	Lake	36.422	115.469	6766.189	36.422	UPPER OKANOGAN RIVER
62	1.00	L WAN 03	Lake	39.622	115.021	6766.189	39.622	UPPER OKANOGAN RIVER
63	1.00	L WAN 04	Lake	60.240	108.325	5282.116	60.240	UPPER OKANOGAN RIVER
64	2.00	L WHI 01	Lake	123.50	67.47	11905.44	123.50	UPPER OKANOGAN RIVER
65	1.00	L WHI 02	Lake	36.626	46.044	5341.175	36.626	UPPER OKANOGAN RIVER
66	1.00	L WHI 03	Lake	27.105	49.021	5341.175	27.105	UPPER OKANOGAN RIVER
67	2.00	S ANT 01	Stream	169.87	0.00	17717.48	169.87	UPPER OKANOGAN RIVER
68	1.00	S ANT 02	Stream	44.78	0.00	4880.86	44.78	UPPER OKANOGAN RIVER
69	1.00	S ANT 03	Stream	33.22	0.00	3462.53	33.22	UPPER OKANOGAN RIVER
70	2.00	S BEA 01	Stream	133.75	0.00	14637.40	133.75	BEAVER CREEK
71	2.00	S BEA 02	Stream	140.86	0.00	14137.31	140.86	BEAVER CREEK
72	1.00	S BEA 03	Stream	107.46	0.00	11571.65	96.04	BEAVER CREEK
73	1.00	S BEA 04	Stream	70.89	0.00	7761.57	63.96	BEAVER CREEK
74	1.00	S BON 01	Stream	29.90	0.00	3257.04	29.90	BONAPARTE CREEK
75	2.00	S BON 02	Stream	244.74	0.00	26747.08	244.74	BONAPARTE CREEK
76	1.00	S BON 03	Stream	77.04	0.00	8372.62	77.04	BONAPARTE CREEK
77	1.00	S BON 04	Stream	93.81	0.00	10467.47	93.81	BONAPARTE CREEK
78	1.00	S BON 05	Stream	65.81	0.00	7244.71	65.81	BONAPARTE CREEK
79	1.00	S BON 06	Stream	78.14	0.00	7230.74	78.14	BONAPARTE CREEK
80	2.00	S BON 07	Stream	110.51	0.00	5130.40	110.51	BONAPARTE CREEK
81	2.00	S BON 08	Stream	211.95	0.00	8917.58	185.32	BONAPARTE CREEK
82	2.00	S BON 09	Stream	239.71	0.00	25623.77	239.71	BONAPARTE CREEK
83	1.00	S CHE 01	Stream	103.76	18.64	11074.01	99.46	LOWER CHEWUCH RIVER
84	3.00	S CHE 02	Stream	297.49	56.85	15834.61	297.49	LOWER CHEWUCH RIVER
85	2.00	S CHE 03	Stream	167.94	25.58	8576.44	167.94	LOWER CHEWUCH RIVER

Unique No.	Size Class	Code	TYPE (Lake or Stream)	Total Acres of Land in AU	Total Acres of Water in AU	Length of Water Centerline (feet)	Acres of SMP Land in AU	Watershed
86	2.00	S CHE 04	Stream	157.00	22.56	9548.38	153.94	LOWER CHEWUCH RIVER
87	1.00	S CHE 05	Stream	39.58	9.77	3182.95	20.58	LOWER CHEWUCH RIVER
88	1.00	S CHE 06	Stream	62.81	16.83	5562.83	48.70	LOWER CHEWUCH RIVER
89	1.00	S CHE 07	Stream	60.13	14.66	6576.90	15.44	LOWER CHEWUCH RIVER
90	1.00	S CHE 08	Stream	127.07	35.98	11788.84	74.62	LOWER CHEWUCH RIVER
91	2.00	S COL 01	Stream	131.27	703.15	26547.61	114.28	UPPER COLUMBIA/SWAMP CREEK
92	1.00	S COL 02	Stream	49.88	200.67	9687.66	49.88	UPPER COLUMBIA/SWAMP CREEK
93	1.00	S COL 03	Stream	82.22	382.94	19128.92	82.22	UPPER COLUMBIA/SWAMP CREEK
94	1.00	S COL 04	Stream	95.20	497.05	16860.28	95.20	UPPER COLUMBIA/SWAMP CREEK
95	1.00	S COL 05	Stream	132.47	1025.46	31269.17	98.29	UPPER COLUMBIA/SWAMP CREEK
96	1.00	S EAR 01	Stream	95.09	0.00	2897.35	59.26	UPPER METHOW RIVER
97	1.00	S EAR 02	Stream	38.67	0.00	2830.84	10.01	UPPER METHOW RIVER
98	1.00	S GOL 01	Stream	47.86	0.00	5206.29	47.86	LOWER METHOW RIVER
99	2.00	S GOL 02	Stream	179.46	0.00	18694.69	135.68	LOWER METHOW RIVER
100	1.00	S LOS 01	Stream	26.80	0.00	2995.15	18.11	WEST FORK SANPOIL
101	1.00	S LOS 02	Stream	69.95	0.00	6666.08	24.49	WEST FORK SANPOIL
102	1.00	S LOS 03	Stream	49.87	0.00	5819.39	8.86	WEST FORK SANPOIL
103	1.00	S LOS 04	Stream	57.27	0.00	5753.17	34.97	WEST FORK SANPOIL
104	1.00	S LOS 06	Stream	89.15	0.00	9870.41	8.58	WEST FORK SANPOIL
105	1.00	S LOS 07	Stream	58.00	0.00	6306.36	32.44	WEST FORK SANPOIL
106	1.00	S MET 01	Stream	22.89	22.48	1913.86	22.89	LOWER METHOW RIVER
107	1.00	S MET 02	Stream	54.61	58.97	4505.53	53.73	LOWER METHOW RIVER
108	3.00	S MET 03	Stream	382.00	110.53	33943.32	346.00	LOWER METHOW RIVER
109	1.00	S MET 04	Stream	46.89	16.75	4969.63	29.35	LOWER METHOW RIVER
110	3.00	S MET 05	Stream	280.02	93.66	26883.78	262.05	LOWER METHOW RIVER
111	2.00	S MET 06	Stream	136.32	48.74	13585.17	136.32	LOWER METHOW RIVER
112	1.00	S MET 07	Stream	88.69	29.74	8850.96	88.69	LOWER METHOW RIVER
113	1.00	S MET 08	Stream	57.49	22.48	6196.80	50.87	LOWER METHOW RIVER
114	2.00	S MET 09	Stream	136.11	38.66	12092.70	136.11	LOWER METHOW RIVER
115	2.00	S MET 10	Stream	241.22	76.92	18379.64	241.22	LOWER METHOW RIVER
116	1.00	S MET 11	Stream	63.79	15.10	3429.61	63.79	LOWER METHOW RIVER
117	1.00	S MET 12	Stream	45.72	14.54	4028.77	41.37	LOWER METHOW RIVER
118	2.00	S MET 13	Stream	133.59	42.27	10771.36	124.01	LOWER METHOW RIVER
119	1.00	S MET 14	Stream	61.51	21.40	5237.63	61.51	MIDDLE METHOW RIVER
120	1.00	S MET 15	Stream	74.35	28.74	7756.32	74.35	MIDDLE METHOW RIVER
121	1.00	S MET 16	Stream	45.10	16.28	4829.71	45.10	MIDDLE METHOW RIVER
122	1.00	S MET 17	Stream	61.47	20.94	6731.72	61.47	MIDDLE METHOW RIVER
123	2.00	S MET 18	Stream	156.30	19.94	5769.49	156.30	MIDDLE METHOW RIVER
124	3.00	S MET 19	Stream	309.37	53.38	9161.27	309.37	MIDDLE METHOW RIVER
125	3.00	S MET 20	Stream	335.11	34.38	6655.28	335.11	MIDDLE METHOW RIVER
126	2.00	S MET 21	Stream	130.69	11.82	2169.43	130.69	MIDDLE METHOW RIVER
127	2.00	S MET 22	Stream	131.69	23.82	5047.13	131.69	MIDDLE METHOW RIVER
128	2.00	S MET 23	Stream	227.42	57.46	14666.27	227.42	MIDDLE METHOW RIVER
129	3.00	S MET 24	Stream	344.81	33.40	8750.04	344.81	MIDDLE METHOW RIVER

Unique No.	Size Class	Code	TYPE (Lake or Stream)	Total Acres of Land in AU	Total Acres of Water in AU	Length of Water Centerline (feet)	Acres of SMP Land in AU	Watershed
130	3.00	S MET 25	Stream	274.68	25.54	6013.33	274.68	MIDDLE METHOW RIVER
131	3.00	S MET 26	Stream	294.88	36.08	10980.72	294.88	MIDDLE METHOW RIVER
132	1.00	S MET 27	Stream	86.89	13.42	3194.82	86.89	MIDDLE METHOW RIVER
133	2.00	S MET 28	Stream	193.33	50.80	13968.40	193.33	MIDDLE METHOW RIVER
134	2.00	S MET 29	Stream	140.21	36.13	12394.58	140.21	MIDDLE METHOW RIVER
135	2.00	S MET 30	Stream	211.12	30.47	9698.36	182.25	MIDDLE METHOW RIVER
136	1.00	S MET 31	Stream	51.28	13.59	5565.66	51.28	MIDDLE METHOW RIVER
137	2.00	S MET 32	Stream	101.45	20.99	6717.58	101.45	MAZAMA
138	3.00	S MET 33	Stream	1004.51	102.78	30433.39	898.49	MAZAMA
139	2.00	S MET 34	Stream	184.68	18.34	6752.18	178.35	MAZAMA
140	2.00	S MET 35	Stream	244.52	18.65	7929.42	244.52	MAZAMA
141	2.00	S MET 36	Stream	249.77	20.08	8187.75	235.49	MAZAMA
142	3.00	S MET 37	Stream	357.07	66.02	20840.32	340.42	MAZAMA
143	3.00	S MET 38	Stream	640.27	142.83	27567.75	512.01	UPPER METHOW RIVER
144	1.00	S MET 39	Stream	55.98	21.09	3632.33	32.78	UPPER METHOW RIVER
145	1.00	S MET 40	Stream	69.69	21.01	5539.90	10.92	UPPER METHOW RIVER
146	1.00	S OKA 01	Stream	42.48	45.43	3710.02	16.79	LOWER OKANOGAN RIVER
147	1.00	S OKA 02	Stream	53.40	82.63	5293.77	24.83	LOWER OKANOGAN RIVER
148	1.00	S OKA 03	Stream	186.72	357.76	18492.20	97.96	LOWER OKANOGAN RIVER
149	1.00	S OKA 04	Stream	110.93	79.30	9557.60	46.33	LOWER OKANOGAN RIVER
150	1.00	S OKA 05	Stream	124.33	85.50	11682.74	69.10	LOWER OKANOGAN RIVER
151	1.00	S OKA 06	Stream	155.56	77.95	10491.75	65.97	LOWER OKANOGAN RIVER
152	2.00	S OKA 07	Stream	213.88	105.39	17118.79	107.44	LOWER OKANOGAN RIVER
153	1.00	S OKA 08	Stream	28.81	18.41	2602.86	15.38	LOWER OKANOGAN RIVER
154	2.00	S OKA 09	Stream	226.68	55.36	7318.53	114.96	LOWER OKANOGAN RIVER
155	2.00	S OKA 10	Stream	213.80	90.70	13193.57	142.23	LOWER OKANOGAN RIVER
156	2.00	S OKA 11	Stream	211.39	97.21	14562.22	124.79	LOWER OKANOGAN RIVER
157	1.00	S OKA 12	Stream	44.12	15.59	2882.35	20.64	LOWER OKANOGAN RIVER
158	1.00	S OKA 13	Stream	16.15	7.01	1213.20	7.09	LOWER OKANOGAN RIVER
159	2.00	S OKA 14	Stream	296.46	94.81	14813.44	199.88	LOWER OKANOGAN RIVER
160	1.00	S OKA 15	Stream	151.74	51.73	8777.03	88.09	OKANOGAN RIVER/OMAK CREEK
161	2.00	S OKA 16	Stream	134.32	42.08	5123.63	110.39	OKANOGAN RIVER/OMAK CREEK
162	1.00	S OKA 17	Stream	228.26	68.27	7987.64	82.96	OKANOGAN RIVER/OMAK CREEK
163	1.00	S OKA 18	Stream	171.00	82.30	11664.86	85.94	OKANOGAN RIVER/OMAK CREEK
164	2.00	S OKA 19	Stream	241.00	124.10	15264.21	144.91	OKANOGAN RIVER/OMAK CREEK
165	1.00	S OKA 20	Stream	91.18	37.00	5091.93	25.88	OKANOGAN RIVER/OMAK CREEK
166	3.00	S OKA 21	Stream	436.86	214.46	24516.62	298.78	OKANOGAN RIVER/OMAK CREEK
167	2.00	S OKA 22	Stream	233.93	42.30	5792.92	233.93	OKANOGAN RIVER/OMAK CREEK
168	3.00	S OKA 23	Stream	356.04	116.76	18007.80	356.04	OKANOGAN RIVER/OMAK CREEK
169	3.00	S OKA 24	Stream	365.20	170.53	19905.90	355.02	UPPER OKANOGAN

Unique No.	Size Class	Code	TYPE (Lake or Stream)	Total Acres of Land in AU	Total Acres of Water in AU	Length of Water Centerline (feet)	Acres of SMP Land in AU	Watershed
170	2.00	S OKA 25	Stream	223.92	113.26	10296.88	217.21	UPPER OKANOGAN
171	2.00	S OKA 26	Stream	126.92	57.15	8241.27	124.34	UPPER OKANOGAN
172	1.00	S OKA 27	Stream	83.82	33.29	4622.80	83.82	UPPER OKANOGAN
173	1.00	S OKA 28	Stream	38.40	9.75	1623.80	38.40	UPPER OKANOGAN
174	2.00	S OKA 29	Stream	169.33	68.31	9148.71	169.33	UPPER OKANOGAN
175	2.00	S OKA 30	Stream	177.24	77.09	9451.60	177.24	UPPER OKANOGAN
176	1.00	S OKA 31	Stream	72.05	18.80	3641.89	71.67	UPPER OKANOGAN
177	3.00	S OKA 32	Stream	490.78	132.00	19613.96	485.78	UPPER OKANOGAN RIVER
178	3.00	S OKA 33	Stream	259.37	41.26	6930.22	252.41	UPPER OKANOGAN RIVER
179	3.00	S OKA 34	Stream	1196.05	249.39	28993.20	1050.77	UPPER OKANOGAN RIVER
180	2.00	S OKA 35	Stream	315.01	51.41	5184.44	249.47	UPPER OKANOGAN RIVER
181	3.00	S OKA 36	Stream	562.56	194.13	10136.19	499.07	UPPER OKANOGAN RIVER
182	3.00	S OKA 37	Stream	699.39	133.53	14942.78	440.32	UPPER OKANOGAN RIVER
183	2.00	S OKA 38	Stream	216.55	53.76	7555.92	216.55	UPPER OKANOGAN RIVER
184	3.00	S OKA 39	Stream	624.22	138.84	23139.63	519.65	UPPER OKANOGAN RIVER
185	3.00	S OKA 40	Stream	329.57	38.01	7652.43	329.57	UPPER OKANOGAN RIVER
186	2.00	S OKA 41	Stream	117.62	64.46	6477.48	117.62	UPPER OKANOGAN RIVER
187	3.00	S PAL 00	Stream	502.95	76.09	9824.49	502.95	SINLAHEKIN CREEK
188	2.00	S SAL 01	Stream	137.65	0.00	15058.45	137.65	SALMON CREEK
189	1.00	S SAL 02	Stream	117.65	0.00	13029.78	92.78	SALMON CREEK
190	2.00	S SAL 03	Stream	180.12	0.00	18778.72	168.49	SALMON CREEK
191	1.00	S SAL 04	Stream	94.88	0.00	10489.05	85.73	SALMON CREEK
192	1.00	S SAL 05	Stream	144.08	0.00	15762.03	98.14	SALMON CREEK
193	1.00	S SAL 06	Stream	150.06	0.00	15972.34	36.02	SALMON CREEK
194	1.00	S SAN 01	Stream	41.86	0.00	6654.90	28.23	WEST FORK SANPOIL
195	1.00	S SAN 02	Stream	82.96	0.00	6063.87	82.96	WEST FORK SANPOIL
196	1.00	S SAN 03	Stream	38.05	0.00	4198.08	37.05	WEST FORK SANPOIL
197	1.00	S SAN 04	Stream	89.21	0.00	4047.39	89.21	WEST FORK SANPOIL
198	1.00	S SAN 05	Stream	23.86	0.00	2007.20	23.86	WEST FORK SANPOIL
199	1.00	S SAN 06	Stream	85.91	0.00	6145.09	85.91	WEST FORK SANPOIL
200	1.00	S SAN 07	Stream	97.31	0.00	9739.92	97.31	WEST FORK SANPOIL
201	1.00	S SAN 08	Stream	15.91	0.00	1748.41	15.91	WEST FORK SANPOIL
202	1.00	S SAN 09	Stream	27.65	0.00	3017.61	27.65	WEST FORK SANPOIL
203	1.00	S SAN 10	Stream	76.59	0.00	6048.11	76.59	WEST FORK SANPOIL
204	1.00	S SAN 11	Stream	59.73	0.00	5492.69	59.73	WEST FORK SANPOIL
205	2.00	S SAN 12	Stream	105.35	0.00	6657.89	105.35	WEST FORK SANPOIL
206	1.00	S SIM 01	Stream	113.11	54.84	4835.38	89.84	UPPER OKANOGAN RIVER
207	2.00	S SIM 02	Stream	124.34	55.43	9584.10	123.70	LOWER SILKAMEEN RIVER
208	1.00	S SIM 03	Stream	128.50	54.81	12981.34	46.19	LOWER SILKAMEEN RIVER
209	1.00	S SIM 04	Stream	130.69	77.38	13317.12	10.08	LOWER SILKAMEEN RIVER
210	1.00	S SIM 05	Stream	113.90	62.99	11876.50	21.72	LOWER SILKAMEEN RIVER
211	1.00	S SIM 06	Stream	150.75	70.34	14809.63	92.31	LOWER SILKAMEEN RIVER
212	2.00	S SIM 07	Stream	179.98	94.69	17070.37	157.78	LOWER SILKAMEEN RIVER
213	3.00	S SIM 08	Stream	631.92	867.26	21505.21	618.08	SINLAHEKIN CREEK
214	3.00	S SIM 09	Stream	492.28	333.29	7674.83	488.86	LOWER SILKAMEEN RIVER
215	3.00	S SIM 10	Stream	939.06	646.75	20161.82	911.32	LOWER SILKAMEEN RIVER
216	3.00	S SIN 01	Stream	677.74	0.00	17453.02	677.50	SINLAHEKIN CREEK

Unique No.	Size Class	Code	TYPE (Lake or Stream)	Total Acres of Land in AU	Total Acres of Water in AU	Length of Water Centerline (feet)	Acres of SMP Land in AU	Watershed
217	2.00	S SIN 02	Stream	225.72	0.00	6354.39	224.48	SINLAHEKIN CREEK
218	3.00	S SIN 03	Stream	337.92	0.00	20296.15	337.92	SINLAHEKIN CREEK
219	2.00	S SIN 04	Stream	185.57	0.00	19547.20	185.57	SINLAHEKIN CREEK
220	3.00	S SIN 05	Stream	289.92	24.21	8405.03	289.92	SINLAHEKIN CREEK
221	3.00	S SIN 06	Stream	297.69	22.42	12037.61	297.69	SINLAHEKIN CREEK
222	2.00	S SIN 07	Stream	125.66	0.00	7101.82	125.66	SINLAHEKIN CREEK
223	2.00	S TOA 01	Stream	209.29	0.00	22834.21	208.06	SINLAHEKIN CREEK
224	2.00	S TOA 02	Stream	119.11	0.00	13034.53	119.11	SINLAHEKIN CREEK
225	2.00	S TOR 01	Stream	136.77	0.00	13785.55	136.77	TORODA
226	2.00	S TOR 02	Stream	184.14	0.00	18046.61	184.14	TORODA
227	3.00	S TWI 01	Stream	388.01	43.60	26810.97	388.01	TWISP RIVER
228	2.00	S TWI 02	Stream	282.14	34.43	23017.19	243.88	TWISP RIVER
229	2.00	S TWI 03	Stream	204.16	18.73	9561.01	161.97	TWISP RIVER
230	2.00	S TWI 04	Stream	154.30	16.84	9869.33	109.01	TWISP RIVER
231	2.00	S TWI 05	Stream	179.98	34.78	8814.44	162.22	TWISP RIVER
232	1.00	S TWI 06	Stream	53.95	14.16	4425.49	48.09	TWISP RIVER
233	1.00	S WOL 00	Stream	90.44	0.00	9878.34	90.16	MAZAMA

Table 4: Quadrant Results by AU

ID	AU Code	Quadrant	Watershed
1	L AEN 00	1	UPPER OKANOGAN
4	L ALT 00	1	LOWER METHOW RIVER
5	L BIG 00	1	MIDDLE METHOW RIVER
13	L BRO 00	1	OKANOGAN RIVER/OMAK CREEK
15	L CON 01	1	SALMON CREEK
17	L CON 03	1	SALMON CREEK
18	L CON 04	1	SALMON CREEK
21	L DUC 00	1	OKANOGAN RIVER/OMAK CREEK
23	L FAN 00	1	UPPER OKANOGAN RIVER
29	L LEM 00	1	OKANOGAN RIVER/OMAK CREEK
30	L LIT 00	1	MIDDLE METHOW RIVER
35	L MUS 00	1	UPPER OKANOGAN RIVER
37	L OSO 02	1	UPPER OKANOGAN RIVER
39	L OSO 04	1	UPPER OKANOGAN RIVER
41	L PAL 02	1	SINLAHEKIN CREEK
45	L PEA 01	1	LOWER CHEWUCH RIVER
46	L PEA 02	1	LOWER CHEWUCH RIVER
49	L SAL 01	1	SALMON CREEK
52	L SPE 01	1	UPPER OKANOGAN RIVER
53	L SPE 02	1	UPPER OKANOGAN RIVER
54	L SPE 03	1	UPPER OKANOGAN RIVER
55	L SPE 04	1	UPPER OKANOGAN RIVER
56	L SPE 05	1	UPPER OKANOGAN RIVER
57	L SPE 06	1	UPPER OKANOGAN RIVER
60	L WAN 01	1	UPPER OKANOGAN RIVER
61	L WAN 02	1	UPPER OKANOGAN RIVER
62	L WAN 03	1	UPPER OKANOGAN RIVER
64	L WHI 01	1	UPPER OKANOGAN RIVER
65	L WHI 02	1	UPPER OKANOGAN RIVER
66	L WHI 03	1	UPPER OKANOGAN RIVER
69	S ANT 03	1	UPPER OKANOGAN RIVER
74	S BON 01	1	BONAPARTE CREEK
75	S BON 02	1	BONAPARTE CREEK
78	S BON 05	1	BONAPARTE CREEK
147	S OKA 02	1	LOWER OKANOGAN RIVER
148	S OKA 03	1	LOWER OKANOGAN RIVER
200	S SAN 07	1	WEST FORK SANPOIL
208	S SIM 03	1	LOWER SILKAMEEN RIVER
212	S SIM 07	1	LOWER SILKAMEEN RIVER
217	S SIN 02	1	SINLAHEKIN CREEK
220	S SIN 05	1	SINLAHEKIN CREEK
2	L ALB 00	2	OKANOGAN RIVER/OMAK CREEK
3	L ALK 00	2	OKANOGAN RIVER/OMAK CREEK
6	L BLS 01	2	SINLAHEKIN CREEK
7	L BLS 02	2	SINLAHEKIN CREEK
12	L BOO 00	2	OKANOGAN RIVER/OMAK CREEK
16	L CON 02	2	SALMON CREEK

ID	AU Code	Quadrant	Watershed
19	L CRA 00	2	WEST FORK SANPOIL
20	L DAV 00	2	MIDDLE METHOW RIVER
22	L EVA 00	2	OKANOGAN RIVER/OMAK CREEK
25	L FIS 00	2	OKANOGAN RIVER/OMAK CREEK
26	L GRE 00	2	SALMON CREEK
27	L HOR 00	2	OKANOGAN RIVER/OMAK CREEK
31	L MED 00	2	OKANOGAN RIVER/OMAK CREEK
32	L MIL 00	2	MIDDLE METHOW RIVER
33	L MOC 00	2	MIDDLE METHOW RIVER
38	L OSO 03	1	UPPER OKANOGAN RIVER
44	L PAT 00	1	MIDDLE METHOW RIVER
47	L RAT 00	2	UPPER COLUMBIA/SWAMP CREEK
48	L ROB 00	2	SALMON CREEK
50	L SAL 04	2	SALMON CREEK
68	S ANT 02	2	UPPER OKANOGAN RIVER
76	S BON 03	2	BONAPARTE CREEK
77	S BON 04	2	BONAPARTE CREEK
79	S BON 06	2	BONAPARTE CREEK
80	S BON 07	2	BONAPARTE CREEK
81	S BON 08	2	BONAPARTE CREEK
82	S BON 09	2	BONAPARTE CREEK
100	S LOS 01	2	WEST FORK SANPOIL
101	S LOS 02	2	WEST FORK SANPOIL
102	S LOS 03	2	WEST FORK SANPOIL
103	S LOS 04	2	WEST FORK SANPOIL
104	S LOS 06	2	WEST FORK SANPOIL
105	S LOS 07	2	WEST FORK SANPOIL
106	S MET 01	2	LOWER METHOW RIVER
146	S OKA 01	2	LOWER OKANOGAN RIVER
150	S OKA 05	2	LOWER OKANOGAN RIVER
151	S OKA 06	2	LOWER OKANOGAN RIVER
196	S SAN 03	2	WEST FORK SANPOIL
198	S SAN 05	2	WEST FORK SANPOIL
199	S SAN 06	2	WEST FORK SANPOIL
201	S SAN 08	2	WEST FORK SANPOIL
202	S SAN 09	2	WEST FORK SANPOIL
203	S SAN 10	2	WEST FORK SANPOIL
204	S SAN 11	2	WEST FORK SANPOIL
209	S SIM 04	2	LOWER SILKAMEEN RIVER
210	S SIM 05	2	LOWER SILKAMEEN RIVER
211	S SIM 06	2	LOWER SILKAMEEN RIVER
213	S SIM 08	2	SINLAHEKIN CREEK
215	S SIM 10	2	LOWER SILKAMEEN RIVER
216	S SIN 01	2	SINLAHEKIN CREEK
218	S SIN 03	2	SINLAHEKIN CREEK
219	S SIN 04	2	SINLAHEKIN CREEK
221	S SIN 06	2	SINLAHEKIN CREEK
222	S SIN 07	2	SINLAHEKIN CREEK

ID	AU Code	Quadrant	Watershed
223	S TOA 01	2	SINLAHEKIN CREEK
224	S TOA 02	2	SINLAHEKIN CREEK
225	S TOR 01	2	TORODA
226	S TOR 02	2	TORODA
9	L BON 01	3	BONAPARTE CREEK
24	L FIE 00	3	MYERS
28	L LEA 00	3	LOWER OKANOGAN RIVER
34	L MOL 00	3	MYERS
36	L OSO 01	3	UPPER OKANOGAN RIVER
51	L SID 00	3	MYERS
63	L WAN 04	3	UPPER OKANOGAN RIVER
67	S ANT 01	3	UPPER OKANOGAN RIVER
70	S BEA 01	3	BEAVER CREEK
83	S CHE 01	3	LOWER CHEWUCH RIVER
86	S CHE 04	3	LOWER CHEWUCH RIVER
88	S CHE 06	3	LOWER CHEWUCH RIVER
91	S COL 01	3	UPPER COLUMBIA/SWAMP CREEK
93	S COL 03	3	UPPER COLUMBIA/SWAMP CREEK
94	S COL 04	3	UPPER COLUMBIA/SWAMP CREEK
95	S COL 05	3	UPPER COLUMBIA/SWAMP CREEK
98	S GOL 01	3	LOWER METHOW RIVER
99	S GOL 02	3	LOWER METHOW RIVER
107	S MET 02	3	LOWER METHOW RIVER
108	S MET 03	3	LOWER METHOW RIVER
120	S MET 15	3	MIDDLE METHOW RIVER
121	S MET 16	3	MIDDLE METHOW RIVER
122	S MET 17	3	MIDDLE METHOW RIVER
128	S MET 23	3	MIDDLE METHOW RIVER
134	S MET 29	3	MIDDLE METHOW RIVER
135	S MET 30	3	MIDDLE METHOW RIVER
144	S MET 39	3	UPPER METHOW RIVER
149	S OKA 04	3	LOWER OKANOGAN RIVER
155	S OKA 10	3	LOWER OKANOGAN RIVER
159	S OKA 14	3	LOWER OKANOGAN RIVER
160	S OKA 15	3	OKANOGAN RIVER/OMAK CREEK
162	S OKA 17	3	OKANOGAN RIVER/OMAK CREEK
163	S OKA 18	3	OKANOGAN RIVER/OMAK CREEK
166	S OKA 21	3	OKANOGAN RIVER/OMAK CREEK
167	S OKA 22	3	OKANOGAN RIVER/OMAK CREEK
168	S OKA 23	3	OKANOGAN RIVER/OMAK CREEK
172	S OKA 27	3	UPPER OKANOGAN
175	S OKA 30	3	UPPER OKANOGAN
176	S OKA 31	3	UPPER OKANOGAN
177	S OKA 32	3	UPPER OKANOGAN RIVER
178	S OKA 33	3	UPPER OKANOGAN RIVER
179	S OKA 34	3	UPPER OKANOGAN RIVER
185	S OKA 40	3	UPPER OKANOGAN RIVER
186	S OKA 41	3	UPPER OKANOGAN RIVER

ID	AU Code	Quadrant	Watershed
187	S PAL 00	3	SINLAHEKIN CREEK
188	S SAL 01	3	SALMON CREEK
192	S SAL 05	3	SALMON CREEK
206	S SIM 01	3	UPPER OKANOGAN RIVER
207	S SIM 02	3	LOWER SILKAMEEN RIVER
227	S TWI 01	3	TWISP RIVER
233	S WOL 00	3	MAZAMA
8	L BLU 00	4	UPPER OKANOGAN RIVER
10	L BON 02	4	BONAPARTE CREEK
11	L BON 03	4	BONAPARTE CREEK
14	L CHO 00	4	SINLAHEKIN CREEK
40	L PAL 01	4	SINLAHEKIN CREEK
42	L PAL 03	4	SINLAHEKIN CREEK
43	L PAL 04	4	SINLAHEKIN CREEK
58	L TAL 00	4	UPPER OKANOGAN
59	L WAL 00	4	TORODA
71	S BEA 02	4	BEAVER CREEK
72	S BEA 03	4	BEAVER CREEK
73	S BEA 04	4	BEAVER CREEK
84	S CHE 02	4	LOWER CHEWUCH RIVER
85	S CHE 03	4	LOWER CHEWUCH RIVER
87	S CHE 05	4	LOWER CHEWUCH RIVER
89	S CHE 07	4	LOWER CHEWUCH RIVER
90	S CHE 08	4	LOWER CHEWUCH RIVER
92	S COL 02	4	UPPER COLUMBIA/SWAMP CREEK
96	S EAR 01	4	UPPER METHOW RIVER
97	S EAR 02	4	UPPER METHOW RIVER
109	S MET 04	4	LOWER METHOW RIVER
110	S MET 05	4	LOWER METHOW RIVER
111	S MET 06	4	LOWER METHOW RIVER
112	S MET 07	4	LOWER METHOW RIVER
113	S MET 08	4	LOWER METHOW RIVER
114	S MET 09	4	LOWER METHOW RIVER
115	S MET 10	4	LOWER METHOW RIVER
116	S MET 11	4	LOWER METHOW RIVER
117	S MET 12	4	LOWER METHOW RIVER
118	S MET 13	4	LOWER METHOW RIVER
119	S MET 14	4	MIDDLE METHOW RIVER
123	S MET 18	4	MIDDLE METHOW RIVER
124	S MET 19	4	MIDDLE METHOW RIVER
125	S MET 20	4	MIDDLE METHOW RIVER
126	S MET 21	4	MIDDLE METHOW RIVER
127	S MET 22	4	MIDDLE METHOW RIVER
129	S MET 24	4	MIDDLE METHOW RIVER
130	S MET 25	4	MIDDLE METHOW RIVER
131	S MET 26	4	MIDDLE METHOW RIVER
132	S MET 27	4	MIDDLE METHOW RIVER
133	S MET 28	4	MIDDLE METHOW RIVER

ID	AU Code	Quadrant	Watershed
136	S MET 31	4	MIDDLE METHOW RIVER
137	S MET 32	4	MAZAMA
138	S MET 33	4	MAZAMA
139	S MET 34	4	MAZAMA
140	S MET 35	4	MAZAMA
141	S MET 36	4	MAZAMA
142	S MET 37	4	MAZAMA
143	S MET 38	4	UPPER METHOW RIVER
145	S MET 40	4	UPPER METHOW RIVER
152	S OKA 07	4	LOWER OKANOGAN RIVER
153	S OKA 08	4	LOWER OKANOGAN RIVER
154	S OKA 09	4	LOWER OKANOGAN RIVER
156	S OKA 11	4	LOWER OKANOGAN RIVER
157	S OKA 12	4	LOWER OKANOGAN RIVER
158	S OKA 13	4	LOWER OKANOGAN RIVER
161	S OKA 16	4	OKANOGAN RIVER/OMAK CREEK
164	S OKA 19	4	OKANOGAN RIVER/OMAK CREEK
165	S OKA 20	4	OKANOGAN RIVER/OMAK CREEK
169	S OKA 24	4	UPPER OKANOGAN
170	S OKA 25	4	UPPER OKANOGAN
171	S OKA 26	4	UPPER OKANOGAN
173	S OKA 28	4	UPPER OKANOGAN
174	S OKA 29	4	UPPER OKANOGAN
180	S OKA 35	4	UPPER OKANOGAN RIVER
181	S OKA 36	4	UPPER OKANOGAN RIVER
182	S OKA 37	4	UPPER OKANOGAN RIVER
183	S OKA 38	4	UPPER OKANOGAN RIVER
184	S OKA 39	4	UPPER OKANOGAN RIVER
189	S SAL 02	4	SALMON CREEK
190	S SAL 03	4	SALMON CREEK
191	S SAL 04	4	SALMON CREEK
193	S SAL 06	4	SALMON CREEK
194	S SAN 01	4	WEST FORK SANPOIL
195	S SAN 02	4	WEST FORK SANPOIL
197	S SAN 04	4	WEST FORK SANPOIL
205	S SAN 12	4	WEST FORK SANPOIL
214	S SIM 09	4	LOWER SILKAMEEN RIVER
228	S TWI 02	4	TWISP RIVER
229	S TWI 03	4	TWISP RIVER
230	S TWI 04	4	TWISP RIVER
231	S TWI 05	4	TWISP RIVER
232	S TWI 06	4	TWISP RIVER

Table 5: Descriptive Statistics for all AUs by Variable

Stressors	Size Class 1	Size Class 2	Size Class 3	Total
Number of Bridges				
Minimum	0.00	0.00	0.00	0.00
Mean	0.22	0.55	0.40	1.17
Maximum	4.00	7.00	3.00	14.00
Number of Culverts				
Minimum	0.00	0.00	0.00	0.0
Mean	0.06	0.24	0.03	0.33
Maximum	2.00	6.00	1.00	9.0
Number of Overwater Structures				
Minimum	0.00	0.00	0.00	0.00
Mean	1.27	0.10	0.00	1.37
Maximum	29.00	6.00	0.00	35.00
Number of DOE Permitted Facilities				
Minimum	0.00	0.00	0.00	0.00
Mean	1.40	2.52	2.50	6.42
Maximum	31.00	14.00	16.00	61.00
Number of Boat Launches				
Minimum	0.00	0.00	0.00	0.00
Mean	0.44	0.07	0.13	0.64
Maximum	6.00	2.00	1.00	9.00
Number of Levees				
Minimum	0.00	0.00	0.00	0.00
Mean	0.50	0.44	0.45	1.39
Maximum	3.00	2.00	2.00	7.00
Riprap				
Minimum	0.00	0.00	0.00	0.00
Mean	0.53	0.33	1.20	2.06
Maximum	3.00	4.00	5.00	12.00
Road length by AU area ft per acre				
Minimum	41.157	42.014	22.695	
Mean	0.000	0.00	0.00	
Maximum	235.499	176.718	75.411	
Rail length by AU area ft per acre				
Minimum	3.506	4.839	4.763	
Mean	0.000	0.000	0.000	
Maximum	176.789	179.243	43.251	
Water Quality Score (303d waterbody)				
Minimum	0.00	0.00	0.00	
Mean	0.47	0.31	0.38	
Maximum	1.00	1.00	1.00	
Number of Active				

Stressors	Size Class 1	Size Class 2	Size Class 3	Total
Mines				
Minimum	0.00	0.00	0.00	
Mean	0.02	0.00	0.00	
Maximum	1.00	0.00	0.00	
Geologically Hazardous Area %		**(slopes greater than 30 %)**		
Minimum	0.00	0.00	0.00	
Mean	29.08	12.69	6.06	
Maximum	100.00	74.10	32.88	
Intensive Ag Percent				
Minimum	0.00	0.00	0.00	
Mean	0.25	0.36	0.47	
Maximum	1.00	1.00	0.87	
Disperse Ag Percent				
Minimum	0.00	0.00	0.00	
Mean	0.15	0.05	0.11	
Maximum	1.00	0.53	0.50	
Residential Percent				
Minimum	0.00	0.00	0.00	
Mean	0.16	0.21	0.10	
Maximum	1.00	0.78	0.39	
Industrial, Light Percent				
Minimum	0.00	0.00	0.00	
Mean	0.00	0.00	0.00	
Maximum	0.01	0.03	0.00	
Industrial, Heavy Percent				
Minimum	0.00	0.00	0.00	
Mean	0.00	0.00	0.01	
Maximum	0.01	0.02	0.19	

Assets	Size class 1	Size class 2	Size class 3	Total
Number of Riparian Species in AU				
Minimum	0.00	1.00	2.00	3.00
Mean	2.84	3.09	3.37	9.30
Maximum	6.00	5.00	5.00	16.00
Quartile 1, 25	2.00	3.00	3.00	8.00
Quartile 2, 50	3.00	3.00	3.00	9.00
Quartile 3, 75	4.00	4.00	4.00	12.00
Number of Upland Species in AU				
Minimum	1.00	2.00	3.00	6.00
Mean	9.20	9.97	8.63	27.80

Assets	**Size class 1**	**Size class 2**	**Size class 3**	**Total**
Maximum	21.00	19.00	15.00	55.00
Quartile 1, 25	7.00	8.00	6.00	21.00
Quartile 2, 50	9.00	9.00	9.00	27.00
Quartile 3, 75	11.00	12.75	10.75	34.50
Number of Aquatic Species in AU				
Minimum	1.00	2.00	3.00	6.00
Mean	4.93	6.62	7.20	18.75
Maximum	14.00	13.00	10.00	37.00
Quartile 1, 25	3.00	5.00	7.00	15.00
Quartile 2, 50	4.00	8.00	8.00	20.00
Quartile 3, 75	7.00	8.00	8.00	23.00
Percentage of AU that is Wetlands				
Minimum	0.00	0.00	0.01	
Mean	0.16	0.28	0.44	
Maximum	1.00	1.00	0.99	
Percentage of AU with Riparian Vegetation				
Minimum	0.01	0.01	0.29	
Mean	0.68	0.67	0.70	
Maximum	1.00	1.00	1.00	
Percentage of AU w/n PCMZ				
Minimum	0.06	0.36	0.66	
Mean	0.75	0.86	0.96	
Maximum	1.00	1.00	1.00	
Acres of Non-federal and Non-reservation Land in AU		**(scores are for these lands only)**		
Minimum	1.57	101.45	252.41	355.43
Mean	47.44	163.51	443.83	654.78
Maximum	99.46	249.47	1050.77	1399.7
Quartile 1, 25	27.65	125.01	301.43	454.09
Quartile 2, 50	44.72	155.12	350.51	550.35
Quartile 3, 75	65.97	191.39	501.98	759.34

Table 6: Data Sources

Keywords	Layer Name:	Title	Data Accessed from (e.g. URL)	Data Accessed Date	Brief Narrative Summary of the Data Set	Projection	Citation
bathymetry	lakebath_arc	Lake Bathymetry of Washington	http://www.ecy.wa.gov/services/gis/data/data.htm#lakebath	Feb-08	Bathymetric contours of selected freshwater lakes within Washington State	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602_Feet	Washington State Department of Ecology, 1995. Reconnaissance Data on Lakes in Washington. http://www.ecy.wa.gov/services/gis/data [Accessed 2/2008] (shapefile)
levee	FloodHazardData.mdb\FloodHazardZoneComponents\fhcLevee	Okanogan and Lower Similkameen River Flood Hazard Assessment Zone Components and Zones	data provided to ENTRIX by Okanogan County	n/a	Levee linear locations on the Okanogan and Lower Similkameen Rivers	NAD_1983_StatePlane_ Washington_North_FIPS _4601_Feet	Golder Associates, 2007. Okanogan and Lower Similkameen River Flood Hazard Assessment Zone Components and Zones: Levees. FloodHazardData.mdb. (GeoDatabase).
riprap	FloodHazardData.mdb\FloodHazardZoneComponents\fhcManMadeFeature_pnt	Okanogan and Lower Similkameen River Flood Hazard Assessment Zone Components and Zones	data provided to ENTRIX by Okanogan County	n/a	Man made features on the Okanogan and Lower Similkameen (includes rip-rap point locations)	NAD_1983_StatePlane_ Washington_North_FIPS _4601_Feet	Golder Associates, 2007. Okanogan and Lower Similkameen River Flood Hazard Assessment Zone Components and Zones: Man-Made Features. FloodHazardData.mdb. (GeoDatabase).
mine	bvwclmd	Mining Claim Density – Washington	http://www.icbemp.gov/	Jan-08	Number of mining claims per section polygon.	NAD_1927_Albers	Interior Columbia Basin Ecosystem Management Project (ICBEMP), 1995. Mining Claim Density – Washington. Available at: http://www.icbemp.gov/ [Accessed 1/2008] (ArcInfo Coverage)
mine	bvbils	Mineral Industry Locator System	http://www.icbemp.gov/	Mar-08	Point locations of mines and prospects	Clarke_1866_Albers	Interior Columbia Basin Ecosystem Management Project (ICBEMP), 1995. Mineral Industry Locator System. Available at: http://www.icbemp.gov/ [Accessed 3/2008] (ArcInfo Coverage)

Keywords	Layer Name:	Title	Data Accessed from (e.g. URL)	Data Accessed Date	Brief Narrative Summary of the Data Set	Projection	Citation
critical habitat	ckucs_chf1.shp	Critical Habitat for the Upper Columbia River Spring-run Chinook Salmon ESU	n/a	n/a	Streams containing Critical Habitat for the Upper Columbia River Spring-run Chinook Salmon ESU	NAD_1927_Albers	NOAA Fisheries, 2005. Critical Habitat for the Upper Columbia River Spring-run Chinook Salmon ESU. (shapefile)
critical habitat	stucr_chf1.shp	Critical Habitat for the Upper Columbia River Steelhead ESU	n/a	n/a	Streams containing Critical Habitat for the Upper Columbia River Steelhead ESU	NAD_1927_Albers	NOAA Fisheries, 2005. Critical Habitat for the Upper Columbia River Steelhead ESU. (shapefile)
species	ckucs_hab1.shp	Habitat Areas for the Upper Columbia River Spring-run Chinook Salmon ESU	n/a	n/a	Streams containing Habitat for the Upper Columbia River Spring-run Chinook Salmon ESU.	NAD_1927_Albers	NOAA Fisheries, 2005. Habitat Areas for the Upper Columbia River Spring-run Chinook Salmon ESU. (shapefile)
species	stucr_hab1.shp	Habitat Areas for the Upper Columbia River Steelhead ESU	n/a	n/a	Streams containing Habitat for the Upper Columbia River Steelhead ESU	NAD_1927_Albers	NOAA Fisheries, 2005. Habitat Areas for the Upper Columbia River Steelhead ESU. (shapefile)
bridges	county bridges.shp	County Bridges	data provided to ENTRIX by Okanogan County	n/a	Bridge point locations on county roads	NAD_1927_StatePlane_ Washington_North_FIPS _4601	Okanogan County GIS, 2006? County Bridges. (shapefile)
shorelines	final_merge_wetland_shorelines_fema_region.shp	final_merge_ wetland_shorelines_fema_region	data provided to ENTRIX by Okanogan County	n/a	Preliminary analysis unit boundary file. (Shoreline boundaries merged with associated FEMA 100 year floodplain and NWI wetland polygons)	NAD_1927_StatePlane_ Washington_North_FIPS _4602	Okanogan County GIS, 2007? final_merge_wetland_shorelines_fema_region (shapefile)
shorelines	shorelines.shp	Shorelines	data provided to ENTRIX by Okanogan County	n/a	Waterbody and 200 ft shoreline buffer polygons	NAD_1927_StatePlane_ Washington_North_FIPS _4603	Okanogan County GIS, 2007? Shorelines (shapefile)
fire	condclass	Fire Condition Class	data provided to ENTRIX by Okanogan County	n/a	Grid file containing fire condition class areas 1-3 in Okanogan County.	NAD_1927_StatePlane_ Washington_North_FIPS _4602	Okanogan County GIS, 2006? Fire Condition Class. (GRID)

Keywords	Layer Name:	Title	Data Accessed from (e.g. URL)	Data Accessed Date	Brief Narrative Summary of the Data Set	Projection	Citation
bridges	infrastructure.shp	Infrastructure	data provided to ENTRIX by Okanogan County	n/a	Point file containing bridges and other infrastructure locations.	NAD_1927_StatePlane_Washington_North_FIPS_4603	Okanogan County GIS, 2006? Infrastructure. (shapefile)
landuse	landuse 020508.shp	Landuse	http://okanogancounty.org/planning/gis.htm	Feb-08	County assessor parcel polygons including ownership information and DOR landuse codes.	NAD_1927_StatePlane_Washington_North_FIPS_4604	Okanogan County GIS, 2008. Landuse. (shapefile)
boat launch	recreation.shp	Recreation	data provided to ENTRIX by Okanogan County	n/a	Recreation point locations including boat launches	NAD_1927_StatePlane_Washington_North_FIPS_4605	Okanogan County GIS, 2006? Recreation. (shapefile)
roads	roads.shp	Roads	data provided to ENTRIX by Okanogan County	n/a	Road centerlines including attributes for name, manager and surface type	NAD_1927_StatePlane_Washington_North_FIPS_4606	Okanogan County GIS, 2007. Roads. (shapefile)
geological hazards	647soils(genecode).shp	Soils WA 647	data provided to ENTRIX by Okanogan County	n/a	NRCS SSURGO soil polygons	NAD_1927_StatePlane_Washington_North_FIPS_4607	Okanogan County GIS, 2003. 647soils. (shapefile)
geological hazards	648soils(genecode).shp	Soils WA 648	data provided to ENTRIX by Okanogan County	n/a	NRCS SSURGO soil polygons	NAD_1927_StatePlane_Washington_North_FIPS_4608	Okanogan County GIS, 2003. 648soils. (shapefile)
geological hazards	soilmu_a_wa749.shp	Soils WA 749: Soil Survey Geographic (SSURGO) database for Okanogan-Methow Highlands Area, Washington	http://SoilDataMart.nrcs.usda.gov	Feb-08	NRCS SSURGO soil polygons	NAD_1983_StatePlane_Washington_North_FIPS_4601	Natural Resource and Conservation Service, 2008. Soil Survey Geographic Database for Okanogan-Methow (wa749). Available at:http://SoilDataMart.nrcs.usda.gov [Accessed 3/2008] (shapefile)
watershed	reohucv13	Hydrologic Unit Boundaries for Oregon, Washington, and California	http://www.reo.gov/gis/data/gisdata/index.htm	Feb-08	Hydrologic unit polygons (HUC12 subwatersheds).	NAD_1927_UTM_Zone_10N	Regional Ecosystem Office, 2002. Hydrologic Unit Boundaries for Oregon, Washington, and California. Available at: http://www.reo.gov/gis/data/gisdata/index.htm [Accessed 2/2008] (ArcInfo coverage)

Keywords	Layer Name:	Title	Data Accessed from (e.g. URL)	Data Accessed Date	Brief Narrative Summary of the Data Set	Projection	Citation
species	anadrear.shp	Anadromous Rearing	n/a	n/a	Streams containing rearing habitat for anadromous fish	NAD_1927_StatePlane_Washington_North_FIPS_4601	StreamNet Project, 2000. Anadromous Rearing. (shapefile)
species	anadspwn.shp	Anadromous Spawning	n/a	n/a	Streams containing spawning habitat for anadromous fish	NAD_1927_StatePlane_Washington_North_FIPS_4602	StreamNet Project, 2000. Anadromous Spawning. (shapefile)
species	sp1498_BullTrout_lcc.shp	Bull Trout Distribution, Pacific Northwest (updated March, 2006)	n/a	n/a	Streams containing bull trout distribution	NAD_1927_Lambert_Conformal_Conic	StreamNet Project, 2006. Bull Trout Distribution, Pacific Northwest (updated March, 2006). (shapefile)
species	FishD_sp0103_ChinookFall_lcc.shp	Fall Chinook Distribution, Pacific Northwest (updated June, 2005)	n/a	n/a	Streams containing fall chinook distribution	NAD_1927_Lambert_Conformal_Conic	StreamNet Project, 2005. Fall Chinook Distribution, Pacific Northwest (updated June, 2005). (shapefile)
species	FishD_sp0998_RainbowTrout_lcc.shp	Rainbow Trout Distribution, Pacific Northwest (updated June, 2005)	n/a	n/a	Streams containing rainbow trout distribution	NAD_1927_Lambert_Conformal_Conic	StreamNet Project, 2005. Rainbow Trout Distribution, Pacific Northwest (updated June, 2005). (shapefile)

Keywords	Layer Name:	Title	Data Accessed from (e.g. URL)	Data Accessed Date	Brief Narrative Summary of the Data Set	Projection	Citation
species	FishD_sp0498_SockeyeSalmon_lcc.shp	Sockeye Salmon Distribution, Pacific Northwest (updated June, 2005)	n/a	n/a	Streams containing sockeye salmon distribution	NAD_1927_Lambert_Conformal_Conic	StreamNet Project, 2005. Sockeye Salmon Distribution, Pacific Northwest (updated June, 2005). (shapefile)
species	FishD_sp0101_ChinookSpring_lcc.shp	Spring Chinook Distribution, Pacific Northwest (updated June, 2005)	n/a	n/a	Streams containing spring chinook distribution	NAD_1927_Lambert_Conformal_Conic	StreamNet Project, 2005. Spring Chinook Distribution, Pacific Northwest (updated June, 2005). (shapefile)
species	FishD_sp0102_ChinookSummer_lcc.shp	Summer Chinook Distribution, Pacific Northwest (updated June, 2005)	n/a	n/a	Streams containing summer chinook distribution	NAD_1927_Lambert_Conformal_Conic	StreamNet Project, 2005. Summer Chinook Distribution, Pacific Northwest (updated June, 2005). (shapefile)
species	Birds.shp	Washington Gap Project Breeding Bird Distribution Models	n/a	n/a	Predicted bird distribution polygons	NAD_1927_StatePlane_Washington_South_FIPS_4602	Washington Cooperative Fish and Wildlife Research Unit, 1997. Washington Gap Project Breeding Bird Distribution Models. (shapefile)
species	Mammals.shp	Washington Gap Project Mammal Distribution Models	n/a	n/a	Predicted mammal distribution polygons	NAD_1927_StatePlane_Washington_South_FIPS_4602	Washington Cooperative Fish and Wildlife Research Unit, 1997. Washington Gap Project Mammal Distribution Models. (shapefile)
species	Reptiles.shp	Washington Gap Project Reptile Distribution Models	n/a	n/a	Predicted reptile distribution polygons	NAD_1927_StatePlane_Washington_South_FIPS_4602	Washington Cooperative Fish and Wildlife Research Unit, 1997. Washington Gap Project Reptile Distribution Models. (shapefile)
water quality	facility.shp	Facility/Site Database	http://www.ecy.wa.gov/services/gis/data	Jan-08	Point locations of DOE regulated facilities	NAD_1983_HARN_StatePlane_Washington_South_FIPS_4602_Feet	Washington State Department of Ecology, 2003. Facility/Site Database. http://www.ecy.wa.gov/services/gis/data [Accessed 1/2008] (shapefile)

Keywords	Layer Name:	Title	Data Accessed from (e.g. URL)	Data Accessed Date	Brief Narrative Summary of the Data Set	Projection	Citation
water quality	303d_polys.shp	2004 Washington Water Quality Assessment/303d List.	http://www.ecy.wa.gov/services/gis/data	Jan-08	303d listed waterbody polygons	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602_Feet	Washington State Department of Ecology, 2005. 2004 Washington Water Quality Assessment/303d List. http://www.ecy.wa.gov/services/gis/data [Accessed 1/2008] (shapefile)
shorelines	sma.shp	Shoreline Management Act	http://www.ecy.wa.gov/services/gis/data	Jan-08	Points denote the stream location where flow reaches 20 cfs. (these are proposed sma jurisdictional points that have not been officially adopted)	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602_Feet	Washington State Department of Ecology, 1998. Shoreline Management Act. http://www.ecy.wa.gov/services/gis/data [Accessed 1/2008] (shapefile)
shorelines	sma_pnts.shp	Shoreline Management Act - Points	http://www.ecy.wa.gov/services/gis/data	Jan-08	Points where shoreline jurisdiction begins or where the streams crosses a county or state boundaries.	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602_Feet	Washington State Department of Ecology, 2001. Shoreline Management Act Points. http://www.ecy.wa.gov/services/gis/data [Accessed 1/2008] (shapefile)
shorelines	sma_strm.shp	Shoreline Management Act, Streams	http://www.ecy.wa.gov/services/gis/data	Jan-08	Streams in WA that fall under the Shoreline Management Act	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602_Feet	Washington State Department of Ecology, 1994. Shoreline Management Act, Streams. http://www.ecy.wa.gov/services/gis/data [Accessed 1/2008] (shapefile)
species	phspoly.shp	Priority Habitats and Species Database	http://wdfw.wa.gov/hab/phspage.htm	Dec-07	Polygon data for fish, wildlife, and habitats mapped as priority habitats and species at Washington Department of Fish and Wildlife.	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602_Feet	Washington State Department of Fish and Wildlife, 2007. Priority Habitats and Species Database. Available at: http://wdfw.wa.gov/hab/phspage.htm. [Accessed 12/2007] (shapefile)

Keywords	Layer Name:	Title	Data Accessed from (e.g. URL)	Data Accessed Date	Brief Narrative Summary of the Data Set	Projection	Citation
species	halebuf.shp	Bald Eagle Management Nests and Communal Roost Buffer	http://wdfw.wa.gov/hab/phspage.htm	Dec-07	Buffers (management zones) around bald eagle nests, communal roosts, and shorelines.	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602	Washington State Department of Fish and Wildlife, 2007. Wildlife Heritage Database: Bald Eagle Management Nests and Communal Roost Buffer. Available at: http://wdfw.wa.gov/hab/phspage.htm. [Accessed 12/2007] (shapefile)
species	hrtgpts.shp	Wildlife Heritage Sites	http://wdfw.wa.gov/hab/phspage.htm	Dec-07	documented point occurrences of non-game species of concern, state and federal species including those designated as endangered, threatened, sensitive, candidate, and monitor	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602	Washington State Department of Fish and Wildlife, 2007. Wildlife Heritage Database: Wildlife Heritage Sites Available at: http://wdfw.wa.gov/hab/phspage.htm. [Accessed 12/2007] (shapefile)
species	fishdist.shp	Fish Distribution	http://wdfw.wa.gov/hab/phspage.htm	Dec-07	Priority fish species distribution	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602	Washington State Department of Fish and Wildlife, 2007. Washington Lakes and Rivers Information System Database: Fish Distribution. Available at: : http://wdfw.wa.gov/hab/phspage.htm [Accessed 12/2007]. (shapefile)
landuse	ndmpl.shp	Washington Sate Non-DNR Major Public Lands	http://www3.wadnr.gov/dnrapp6/dataweb/dmmatrix.html	Mar-08	Ownership parcels for Federal, State (excluding WA DNR), County and City lands	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602	Washington State Department of Natural Resources, 2007. Washington Sate Non-DNR Major Public Lands. Available at: http://www3.wadnr.gov/dnrapp6/dataweb/dmmatrix.html [Accessed 3/2008]. (shapefile)

Keywords	Layer Name:	Title	Data Accessed from (e.g. URL)	Data Accessed Date	Brief Narrative Summary of the Data Set	Projection	Citation
landuse	parcel.shp	Cadastre.Parcel	http://www3.wadnr.gov/dnrapp6/dataweb/dmmatrix.html	Mar-08	DNR parcels	NAD_1983_HARN_State Plane_Washington_South _FIPS_4603	Washington State Department of Natural Resources, 2007. Cadastre.Parcel. Available at: http://www3.wadnr.gov/dnrapp6/dataweb/dmmatrix.html [Accessed 3/2008]. (shapefile)
boat launch	n/a	Motorized Boat Launch Facilities in Washington State	http://www.rco.wa.gov	Mar-08	Boat launch locations (file viewed via interactive website)	n/a	Washington State Recreation and Conservation Office, 2003. Motorized Boat Launch Facilities in Washington State. http://www.rco.wa.gov [Accessed 3/2008] (shapefile)
wetlands	NWI_Poly2	National Wetland Inventory polygons	http://www.fws.gov/nwi/	n/a	Wetland polygons	NAD_1983_HARN_State Plane_Washington_South _FIPS_4602_Feet	U.S. Department of Fish and Wildlife, 2005. National Wetlands Inventory. Available at: http://www.fws.gov/nwi/ (shapefile)
mine	mineplant-f53047.shp	Active Mines and Mineral Processing Plants in the United States in 2003	http://mrdata.usgs.gov/	Mar-08	Active mine locations	NAD27 (Geographic)	U.S. Geological Survey, 2003. Active Mines and Mineral Processing Plants in the United States in 2003. (shapefile)
landcover	65337757.tif	National Land Cover Database 2001: Zone 08 Land Cover Layer	http://www.mrlc.gov/mrlc2k_nlcd.asp	Aug-07	Land cover remote-sensing imagery. Includes various vegetation type and development intensity categories.	USA_Contiguous_Albers _Equal_Area_Conic_USGS_version	U.S Geological Survey, 2003. National Land Cover Database 2001: Zone 08 Land Cover Layer. Available at http://www.mrlc.gov/mrlc2k_nlcd.asp [Accessed 8/2007] (remote-sensing image)
topos	f47120e1.tif, etc.	1:100,000 Scale Digital Raster Graphics	http://wagda.lib.washington.edu/data/type/	Jan-08	USGS topographic maps	NAD_1927_UTM_Zone_11N	U.S. Geological Survey, 2005. 1:100,000 Scale Digital Raster Graphics (DRG).
aerials	naip_1-1_1n_s_wa047_2006_1.sid	National Agricultural Imagery Program, 2006	http://datagateway.nrcs.usda.gov/	Jan-08	2006 aerial photo of Okanogan County	NAD_1983_UTM_Zone_11N	U.S.D.A. Farm Service Agency, 2006. National Agricultural Imagery Program (NAIP).

Keywords	Layer Name:	Title	Data Accessed from (e.g. URL)	Data Accessed Date	Brief Narrative Summary of the Data Set	Projection	Citation
vegetation	wacurhab.zip	Washington Current Wildlife-Habitat Types	http://www.nwhi.org	Jun-08	The Washington Current Wildlife-Habitat Types grid was created by the Northwest Habitat Institute and the Washington Department of Fish and Wildlife Habitat Program. Wildlife-Habitat types were mapped for all land and coastal areas of Washington state. Landsat TM data was used with ancillary data and extensive field mapping to create this 1:100,000 scale grid.	NAD_1927_StatePlane_Washington_South_FIPS_4602	Wildlife-Habitat Relationships in Oregon and Washington (Johnson, D. H. and T. A. O'Neil. Oregon State University Press. 2001)

Analyzing Planning Factors for Characterization of Okanogan County's Shorelines

Supplemental Methodology Report to Accompany the Shoreline Master Program
Prepared by Highlands Associates
June 23, 2008

Introduction and Rationale

Shorelines throughout Okanogan County reflect both biophysical and human influences. To accurately characterize shoreline environments, the Shoreline Master Program Guidelines (Chapter 173-26 of WAC) require SMPs to "identify and assemble the most current, accurate, and complete scientific and technical information available that is applicable to the issues of concern."

The Okanogan Regional SMP is based on inventories and evaluations of biophysical and human influences. This report described the use of technical information that pertains to man-made patterns across the landscape that shape the overall shoreline uses. Referred to here as ***planning factors***, these influences provide information that can be used to inform future development decisions as well as explain why or how certain shoreline conditions have occurred. A separate report, the *Okanogan County Shoreline Ecological Characterization* (Appendix A) written by ENTRIX, Inc. ("ENTRIX"), discusses the use of biophysical data and the influence of ***science factors***. By integrating the planning factors with the science factors an overall picture of the shorelines can be created. The characterization provided in Chapter 4 for each shoreline zone reflects the accumulation of science and planning factors across multiple analysis units. The characterization was used to assign shoreline environment designations. The designation process is described in *Chapter 10: Shoreline Environment Designations* in the SMP.

The treatment of planning factors for this SMP differ from the methods used to analyze the scientific analysis in two primary ways. First, planning factors were neither viewed as positive or negative attributes to a given shoreline. While some planning factors were quantified and reported in terms of percentages or sums, each planning factor was treated objectively to provide a qualitative description that could be used to understand the built elements the landscape. Second, because planning factors were used qualitatively they were not weighted. That is, an individual factor did not uniformly influence the final environmental designation process. However, at the individual analysis unit scale certain planning factors often exhibited more influence than others. When this occurred, that planning factor often directed the decision process for designation. For instance, an analysis unit might have a high density of lot subdivision and therefore exhibits an exiting or anticipated pattern of land development, whereas the current *land use* (DOR code) still read as agricultural. In this case, the parcel size and density (planning factor) would influence the character and designation of the shoreline more than its current land use, as it is assumed the land use is in the process of change.

The purpose of this paper is to provide a clear and concise representation of the planning factors used to characterize the shorelines of Okanogan County. This paper also describes the sources of information inventoried and the methods used to evaluate the planning factors.

Planning Factors, Data Sources, and Methods

The planning factors listed below were inventoried and evaluated alongside science factors to derive a characterization of Okanogan County's shoreline areas (found in Chapter 4). Each planning factor was evaluated spatially by displaying the information on maps to inform the characterization and eventual designation process. Planning factor data were collected from a variety of sources; types of data used are listed in the subsection headings below. Similarly, certain planning factors were tabulated and summarized at analysis unit (AU) scale and were entered into the Characterization Database housed at the County. A list of the planning factors evaluated for this SMP follows:

a. Relative Parcel size and density
b. Current land use
c. Building Setbacks and Number of Structures
d. Public Access
e. Transportation facilities
f. Current Comprehensive Plans and Zoning maps
g. Local Knowledge (input from SAG and TAG + staff and consultants)
h. Ownership Patterns
i. Other built elements (Over-water Structures, levees, dikes).

Relative Parcel Size and Density

Parcel size and density of subdivision reveals patterns of land development across the landscape that can be used to understand growth patterns and future land uses. For shoreline designations, legally established lot patterns can and should be considered in the process (Stewart, J."*The Art and Science of Environmental Designation*". DOE: http://www.ecy.wa.gov/programs/sea/sma/st_guide/SMP/download/ArtandScience.pdf accessed June 2007.) Okanogan County is expected to continue to experience a growth in real estate development Therefore, its shoreline and associated river valleys and lakefronts will likely see continued development pressure. The current (amended 1987) SMP that regulates shoreline development in Okanogan County does not allow for subdivision in shorelines that fall under the "Conservancy", "Natural" or "Rural" designation. This has resulted in a moratorium on subdivision along the vast majority of county's shorelines and a pattern of minimal development along waterways has emerged. The moratorium on subdivision, however, has not halted development of shoreline parcels that have stayed intact.

The size of parcel relates directly to Comprehensive Land Use designation, Zoning designation, associated land uses, and Okanogan County Health District requirements for water availability and sewage disposal. Agricultural land parcels, for example, are

typically larger than rural residential parcels. The term "relative" is used here to refer to a comparison of parcel sizes within and among analysis units. Therefore, relative sizes of parcels in an analysis unit were viewed alongside other factors such as comp plan designations, zoning, proximity in or to UGAs and LAMIRDs, and land use codes to estimate the likelihood of future development in a reach. This estimation is reflected in both the recommendations found in the *Chapter 4: Characterization* as well as within the final designations (*Chapter 7*). Similarly, parcel density is related to size. The smaller the parcels, the denser the development pattern and the likelihood of certain uses can be assumed.

Method:

Okanogan County's GIS provided a parcel database that was used to visually display the level of subdivision and parcel size throughout the shoreline environment. This parcel database served as source layer for information regarding land use, shoreline permits, shoreline exemptions, parcel size, and ownership patterns. The parcel layer was clipped to represent all parcels that intersect the shoreline boundaries. Okanogan County GIS personnel produced and provided the parcel layer used as the source data for all analyses.

Current land use

Okanogan County uses DOR (Department of Revenue) codes to identify current land uses on a parcel level. DOR codes were used to quantify land uses in shoreline parcels for every analysis unit. For the purpose of this SMP analysis, new land use categories were produced to simplify the analysis and depict land uses that would include water-oriented uses. Okanogan County's DOR categories were consolidated and amended as follows:

Okanogan County DOR Categories	**Okanogan SMP Land Use Categories**
Residential	Residential
Manufacturing Transportation Communication Utilities	Industrial
Trade Services (exceptions marked with * below)	Commercial
Cultural Entertainment Recreational	Public Use
Agricultural Resource Production and Extraction Open Space (exceptions marked with ** below)	Agricultural
Undeveloped Lands (exceptions marked with *** below)	Undeveloped
*Resorts, Group Camps, Dude Ranches	Resort

** Pits, Mines	Mining
***Water	Water

Method:

The number of parcels in each Land Use category was calculated for each analysis unit. The resulting percentages thus show the number of parcels dedicated to a given land use, rather than the percentage of the total area dedicated to that use. The rationale for tabulating land uses by number of parcels rather than area is twofold: land use zoning follows parcel boundaries (rather than other geographic boundaries); and by using parcels rather than acreage we captured the context of neighboring land uses.

Building Setbacks and Number of Structures

Average setbacks were used to characterize the building patterns along the shorelines for two primary purposes. First, by understanding the current pattern of building setbacks, consistent and fair requirements can be adopted in this SMP. Second, setback requirements and standards can be carefully tailored to consider aesthetic and environmental impacts along shorelines by knowing current setbacks and visual impacts.

The unincorporated and unclassified portions of Okanogan County's shorelines exhibit a wide range of building types for various uses ranging from agricultural production facilities to vacation cabins. Setbacks for buildings also range depending on the type and use. Current building codes require 50 foot minimum setback for residential structures from the ordinary high water mark (OHWM) in unincorporated portions of the county (cite comp ordinance or SMP). Discussion of conflict with flooding etc

Agricultural, commercial, and industrial buildings in the county are subject to setback standards. Small structures (less the 400 sq ft) such as picnic shelters and sheds are currently unregulated in the shoreline areas and non-permanent structures such as trailers and tent platforms are also unregulated. These small structures, over time, have the potential to alter sensitive shoreline environments, impede riverine processes, or contribute waste materials during high flows. Most importantly their placement and value can create an incentive for owners to permanently modify shorelines by placing riprap or modifying vegetation.

Method:

Aerial photography from the 2007 National Aerial Photo Program (NAIP) was provided by Okanogan County for location and measurement of structures within and adjacent to the shoreline boundaries. A GIS system was used to measure every building setback visible in the NAPP photos that fell within or adjacent to shoreline areas. However, tree canopy cover obscured visibility in highly vegetated riparian areas making an accurate count and measurement for every building in the shoreline environment nearly impossible. The types of small structures mentioned above were particularly difficult to locate. Therefore, the average setback calculations provided in this analysis should be used as a general guide, not a statistically accurate measure. Nonetheless, the setbacks

and structure count do provide a wealth of information regarding the built elements within the shorelines of Okanogan County, which can be used to describe, characterize, designate, and establish regulations for shoreline areas.

Public Access and Recreation

SMA prioritizes seven preferred uses of shorelines in Washington State in RCW 90.58.020. The SMA identifies public access and the development and expansion of recreational facilities along shorelines as the 5th and 6th priorities, respectively. Furthermore, Shorelines of Statewide Significance carry increased priority for protection of the shoreline in a natural state, increased public access, and increased recreational opportunities. The vast majority of Okanogan County's major river systems are declared Shorelines of Statewide Significance and therefore warrant such provisions.

Method:

An inventory of existing public access sites was compiled by ENTRIX and Highlands Associates. Locations of access points were gathered from printed maps, state and agency websites, and local knowledge. Access points consisted of boat ramps, launches, parks, fishing access areas, public docks and public lands along shorelines. These sites were then digitized in a GIS to create a point shapefile. The number of public access points was then summed for each analysis unit.

In addition to the above existing public access sites, potential access site were identified and digitized into GIS by Highlands Associates. Criteria to identify potential sites consisted of the following:

- publicly owned shorelines (including PUD lands)
- dead end streets that terminate at shorelines
- rights of way and bridge crossings
- large undeveloped areas adjacent to UGAs

A level of service area analysis to determine the density and frequency of a public access to rivers and lakes was not developed for the Okanogan Regional SMP. However, such a report would add needed information to the county's existing outdoor recreation plan.

Existing plans for expansion of recreational plans for the county's shorelines and waterbodies can be found the *Okanogan County Outdoor Recreation Plan* (March, 2004). The *Outdoor Recreation Plan* Demand/Need Analysis identified "a significant desire for improved and expanded access to water bodies including identified "river trails" in the County as well as improvements to those accesses which already exist." Similarly, the plan identified specific projects that have the potential to include connector trails or new recreation access to rivers and lakes that may be located in shoreline areas. These include but are not limited to: Silvernail Lake to Similkameen River trail, BLM lands along the Similkameen, Douglas County PUD lands along the Columbia River, Okanogan County Enloe Dam project, Winthrop to Twisp Trail, Okanogan River in the vicinity of McLaughlin and Keystone Canyons, Okanogan to Omak Greenway, Chief Tonasket Riverfront Park Development, Riverfront Trail Completion in Brewster. The capital

improvement plan of the *Okanogan County Recreation Plan* calls for development of increased river and lake access to begin in 2006.

Transportation/Circulation (existing roads and rail/AU)

Current Comprehensive Plans and Zoning (1964 Comprehensive Plan)

Comprehensive plans describe future land use goals for communities and set forth local vision as to how a community will look and operate in the future. Okanogan County is currently in the process of updating its 1964 comprehensive plan. Therefore, concurrency between the Okanogan Regional SMP and the County's Comprehensive Plan is a difficult requirement to fulfill as the goals, visions, and zoning that will accompany the comprehensive plan will not be clearly articulated before completion of the SMP. Despite this conflict, the county is committed to developing and adopting shoreline designations, regulations, and development standards that are consistent with anticipated land use needs and development patterns. This will likely be achieved through the application as (of?) zoning overlays in shoreline areas to concur with the comprehensive plan (Huston, Perry, Planning Director, direct communication Planning Summit June 11, 2008).

Land use categories expressed in the 1964 comprehensive plan include intensive agriculture areas, suburban residential areas, recreational residential areas, tourist commercial areas, industrial areas, and unclassified (Timber, Grazing , and Dryland Agriculture) areas. There are three (?) sub areas called out in the 1964 plan and subsequent amendments that designate special land use categories. They include the Barnholt Residential Agricultural District, Hwy 97 North of Oroville, both of which (?) include agricultural residential, suburban residential, and commercial areas; and the upper Methow Valley (School District 350?) which includes a wider array of land use areas. The remainder of the county is zoned Minimum Requirement District which has no prohibited uses and requires no planned development standards for any land use proposal. The Methow Valley has an updated comprehensive plan known as *Upper Methow Valley Comprehensive Plan* (March, 2006) (also known as the Sub-Unit A plan) which more rigidly defines land uses and zoning for those portions of planning sub unit A. The county's comprehensive planning process (underway as of June, 2008) seeks to provide a common language and code system to serve all areas of the county including those portions of sub unit A, Barnholt, and Oroville.

Methods:

The vast majority of the shorelines fall within the Minimum Requirement District zone of the 1964 plan. Therefore, little guidance was provided by reviewing the comprehensive plan and zoning (?) in these areas. Those areas in the Barnholt, Methow, and Oroville zones were reviewed for logical consistency between draft designations and zoning.

Incorporated towns within the county also have comprehensive plans. The planning factors analysis included a review of current comprehensive plans and zoning district boundaries within incorporated towns. AU boundaries and designations were adjusted to logically align with existing land use designations in those plans and regulations.

Ownership (public/private/PUD)

Ownership information was gathered from the Okanogan County parcel database (part of the County's GIS). Ownership patterns in Okanogan County are closely tied to topographic patterns. Private ownership is largely consolidated in the lower elevations along river valleys, whereas most publicly-owned land is in large tracts at mid to high elevations. ___% of the shorelines of in Okanogan County are within private ownership, whereas __% fall in public ownership.

The Douglas County PUD holds a significant amount of land (amount in miles) along the Wells Pool (Columbia River) shoreline. This unique ownership pattern places a large portion of undeveloped shorelines into public (? Semi? Quasi?) ownership.

Methods:

The percentage of parcels in each type of ownership was summed for each analysis unit. For instance, if an analysis unit had 9/10 parcels in private ownership, the characterization would read 90% private ownership. Ownership was characterized by number of parcels rather than areal extent because shoreline environment boundaries will lie along property lines. Ownership by area was calculated by ENTRIX in the science factors characterization report.

Local Knowledge (input from SAG and TAG)

The public participation portion of this SMP provided the opportunity to gain insight and knowledge from local caucus representatives and technical staff. Throughout the process, local information was openly accepted to help inform the characterization. Although there was no formal protocol to elicit feedback, issues of interest and concern were openly expressed and were recorded at meetings. When appropriate, stakeholder input was used to inform the characterization. This was especially useful with regards to towns' and cities' ambitions for riverfront developments that are currently being proposed or underway.

Other Built Elements in the Shorelines

Structures sited and located in shoreline environments represent a cultural (and economic?) value as well as a potential ecological stressor.

Overwater structures include docks, piers, ramps, and floats. These elements were inventoried using aerial photographs and digitized in GIS. ENTRIX staff used this information to characterize shoreline conditions, and listed overwater structures as a stressor in their analysis. As a planning factor, overwater structures present information about the relative intensity of use of the shoreline and the types of uses in a given

Analysis Unit. By knowing the number of structures within an analysis unit, conclusions can be drawn about the level of development along a shoreline.

Levees and dikes in the shorelines of Okanogan County consist of Army Corps of Engineers approved levees and un-approved levees. The presence of levees greatly alters the shoreline character and neighboring uses. Areas that were once frequently flooded are now protected and have undergone vast land transformation as land previously considered undevelopable has been made "safe." Neighborhoods and agricultural lands protected by levees and dikes exhibit land development patterns that are a direct result of the presence of these structures. In most instances areas protected by Army Corps of Engineers flood control levees are located within or near population centers and can expect to continue to see development.

Other small structures such as pipeline crossings, bridges, pedestrian bridges, pulleys, gaging stations, and irrigation diversions were noted, where known, to inform the characterization. However, the effect of such structures on shoreline character at the scale of this an entire analysis are typically small, localized influences. The placement of future small structures will be addressed in the designation regulations.

Synthesizing Ecological and Planning Factors for Characterization and Draft Environmental Designations

The shoreline characterization (Chapter 4) is a collection of descriptive elements (? Summaries?) for the shoreline zones in Okanogan County. The characterization report provided by ENTRIX delineated ---# of analysis units. The analysis units provided a detailed unit of assessment that could be inventoried and analyzed to arrive at ecological determinations at the AU scale. However, the number of analysis units made analyzing planning factors a difficult task. Planning factors, on the other hand, are meaningful at scales that show patterns independent of biophysical parameters, such as ownership and zoning. Therefore, a more inclusive unit, the character zone, was established to describe and characterize zones of the shorelines.

Character Zones

The purpose of the character zones is provide a concise and user-friendly description of the shorelines throughout Okanogan County. Character zones were delineated based on geographic and topographic (and jurisdictional?) boundaries to establish units of description for this characterization. The zones are purely descriptive and provide a boundary for mapping units as well as descriptive information. No analysis was done within the zones (at the zone scale? I think this means that there was no analysis of the group of AUs that constitute a zone, but the sentence isn't entirely clear to me.). Each character zone includes a number of analysis units whose associated ecological and planning factors are summarized and presented as part of the characterization in Chapter 4: Shoreline Inventory and Characterization. This information can be used as a reference to understand the final environment designations found in Chapter 10. Similarly, the zones can be used as an index tool for SMP administrators and plan users.

From Characterization to Designation

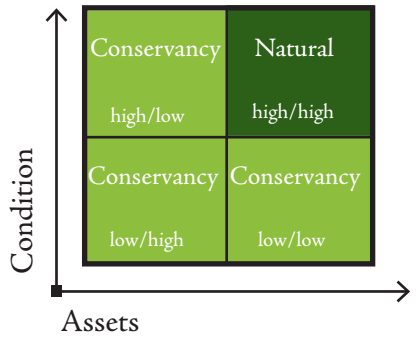
Environment designations may vary within zones, as the designations are based on multiple factors. Designations reflect the combined information from the ecological characterization, cumulative impacts assessment, and planning factors.

Okanogan County SMP Environmental Designation Process

developed by Highlands Associates

STEP 1: ASSIGN PRELIMINARY DESIGNATION

Assign each Analysis Unit (AU) a preliminary designation of ***Natural*** or ***Conservancy*** based on ecological condition and asset score derived from the Characterization



STEP 2: ASSIGN NATIONAL FOREST PRELIMINARY DESIGNATIONS

Assign AUs in National Forest a ***Natural Designation*** if inaccessible by roads,
Assign AUs in National Forest ***Conservancy Designation*** if roaded or partially developed

STEP 3: EVALUATE PRELIMINARY DESIGNATIONS AGAINST CURRENT SMP

Overlay curre nt SMP designations (1975) with new preliminary designations (step 1) and look for matches to see where new Natural or Conservancy AU fall. Retain designation if current SMP is the same as preliminary, ie no change in designation. See examples below:

Current
Preliminary

match or no match

Conservancy
Conservancy

match
Designate: ***Conservancy***

Rural
Conservancy

no match
go to STEP 4

Suburban
Natural

no match
go to STEP 4

STEP 4: ASSIGN POSSIBLE DRAFT DESIGNATION BASED ON ABOVE COMBINATIONS AS PER TABLE

CURRENT	NATURAL	CONSERVANCY
NATURAL	match: Natural	Riverine, Conservancy
RURAL	Natural, Riverine, Rural Conservancy or Conservancy	Rural Conservancy, Riverine, Conservancy, Shoreline Residential, Shoreline Recreation
CONSERVANCY	Natural, Riverine or Conservancy	match: Conservancy
SUBURBAN	Urban Conservancy, Shoreline Residential	Urban Conservancy, Shoreline Residential, High Intensity
URBAN	Urban Conservancy	Urban Conservancy, Shoreline Residential, High Intensity

STEP 5: REVIEW CURRENT LAND USE PATTERNS, FLOOD PLAIN EXTENT, BANK STEEPNESS, OWNERSHIP, AND CRITERIA OF SMA TO GUIDE FINAL DESIGNATION

- Land use patterns: review level of subdivision, comp plan and sub-area land use designations, anticipated development (known applications or plats), number and type of structures in AU, setbacks, current uses (based on DOR use codes), and zoning (within UGAs).
- Flood plain extent: if river exhibits wide flood plain or channel migration is possible, assign Riverine, Natural, or Conservancy
- Bank Steepness: if river is incised and erosion potential low, assign Conservancy, Rural Conservancy, Shoreline Recreation or Shoreline Residential
- Ownership: if AU falls primarily in public ownership, including the PUD, assign Conservancy or Shoreline Recreation
- Criteria: check criteria of SMA Designations for consistency

Appendix C. Critical Areas Regulations for Shoreline Areas

Intent. These regulations are to accompany the Shoreline Master Program and protect critical areas within shorelands as part of comprehensive development regulations. Local critical areas regulations that have been updated and adopted under Growth Management shall apply to shoreline areas pursuant to EHB 1563 signed into legislation on March 18, 2010 until adoption of this SMP or an SMP amendment approvable by Department of Ecology.

Critical Areas Definitions

Wetlands

"Wetlands" means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands.

Aquifer recharge areas are those areas that, due to the presence of certain soils, geology, and surface water, act to recharge ground water by percolation.

Fish and Wildlife Habitat Conservation Areas are areas necessary for maintaining species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created as designated by WAC 365-190-080(5). These areas include:

A. Areas with which state or federally designated endangered, threatened, and sensitive species have a primary association;

B. Habitats of local importance, including but not limited to areas designated as priority habitat by the Washington Department of Fish and Wildlife;

C. Commercial and recreational shellfish areas;

D. Kelp and eelgrass beds;

E. Herring and smelt spawning areas;

F. Naturally occurring ponds under twenty (20) acres and their submerged aquatic beds that provide fish or wildlife habitat, including those artificial ponds intentionally created from dry areas in order to mitigate impacts to ponds;

G. Waters of the state, including lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington;

H. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;

I. State natural area preserves and natural resource conservation areas; and

Flood Hazard Areas include ***Frequently Flooded Areas*** and areas within the 100-year flood plain as delineated on FEMA FIRM maps. They are lands in the floodplain subject to a one percent (1%) or greater chance of flooding in any given year and those lands that provide important flood storage, conveyance, and attenuation functions, in accordance with WAC 365-190-080(3). Frequently flooded areas perform important hydrologic functions and may present a risk to persons and property. Frequently flooded areas include, at a minimum, the 100-year floodplain designations of the Federal Emergency Management Agency and the National Flood Insurance Program.

Geologically Hazardous Areas are areas that may not be suited for development consistent with public health, safety, or environmental standards, because of their susceptibility to erosion, sliding, earthquake, or other geological events as designated by WAC 365-190-080(4). Types of geologically hazardous areas include: channel migration zones (CMZ), erosion, landslide, seismic, mine, and volcanic hazard**s**

Critical Area Regulations for Critical Areas within Shoreline Jurisdiction

1. Critical areas information shall be available to shoreline property owners by the administrator or appointed City or Town official. Current maps shall be available for the general public use and viewing.
2. Any known or suspected critical area in the shoreline shall be disclosed by applicant.
3. The administrator shall review all shoreline application for the presence of critical areas.
4. A Critical Areas report may be required for any new development or substantial development in a suspected or known critical area in the shorelines. Critical Areas reports are subject to administrative approval prior to allowance of use or development. The report must be performed by a qualified professional approved by the administrator and the cost of such report will be borne by the applicant.
5. Critical areas in the shorelines shall be protected from new development impacts through the following standards and requirements:

Aquifer recharge areas

All uses and activities within designated aquifer recharge areas shall

i. Commercial and industrial uses involving the processing, use, storage, or production of hazardous, toxic, or dangerous materials shall meet applicable federal, state, and local regulations within critical aquifer recharge areas because of the potential for introduction of those materials to ground water.

ii. Agricultural and forest practices shall adhere to all applicable local, state, and federal laws regarding feedlots, pesticide and fertilizer application, forest conversions, and shall be conducted in a manner so as to limit introduction of contaminants to ground water.

iii. All proposed activities within aquifer recharge areas must comply with the water source protection requirements of the federal Environmental Protection Agency, state Department of Health and the Okanogan County Health District.

iv. The County Health District shall comply with any state or federally required well-head protection program for the city and town's public water supplies.

v. Any application for a city or town permit for a use that utilizes or generates hazardous or toxic materials, shall be required to comply with state and federal regulations (the Clean Drinking Water Act and the Clean Water Act) that pertain to hazardous or toxic materials.

vi. All household hazardous waste shall be disposed of according to Okanogan County Comprehensive Solid Waste Management Plan.

vii. All new development activity shall comply with the minimum lot coverage required in that zone. When no minimum lot coverage is specified, and the proposed development is in an area identified as a critical aquifer recharge area, then a minimum of 50% of the land area within the boundaries of the aquifer recharge area shall be maintained in pervious surfaces. This allows for the continued recharging of the aquifer.

Geologically Hazardous Areas

All uses and developments within designated geologically hazardous areas (including channel migration zones (CMZ), erosion, landslide, seismic, mine, and volcanic hazards) shall not increase the hazard risk. Geologically hazardous steep slopes must meet the local jurisdictions determination of steep slopes in their current Critical Areas Ordinance.

i. New development in the CMZ shall not be developed if it is demonstrated through a technical analysis performed by qualified engineer or geologist, licensed in the state of Washington, that development would likely require shoreline structural modification to avoid the risk posed by the hazard, such that if the analysis

recommends a foreseeable need for present or future shoreline stabilization for the benefit of safety to the structure and inhabitants, it shall be prohibited, provided;

1. measures to reduce shoreline erosion are allowed for existing development, provided that it is demonstrated that the erosion rate exceeds that which would normally occur in a natural condition and verified by a qualified geo-morphologist,
2. that the measure does not interfere with fluvial hydrological and geomorphological processes normally acting in natural conditions, and
3. that the measure includes appropriate mitigation of impacts to ecological functions associated with the river or stream.

A setback or design standards shall be developed for the structure on or next to a geologically hazardous area on a case by case basis and shall conform to the setback requirements listed in Table 8.1 unless otherwise approved through an approved variance and it is shown that deviation from the normal setback is required to ensure safety and prevent additional hazards. Setback from geo-hazards such as steep slopes, erosion potential areas, landslide areas or any other geologlically unstable surface in the shoreline shall be established through a technical Critical Areas report, approved by the administrator, and in no instances shall compromise the normal standard shoreline buffer requirements set forth in Table 8.1.

ii. Pre-existing structures that are non-conforming to current setbacks in geologically hazardous areas shall be allowed to continue provided the expansion of any existing use or structure shall meet structural standards that ensure the safety of the structure and will not exasperate the hazard potential such as increase potential for erosion, run-off, sluffing further increasing the geological hazard.

iii. A stormwater management plan may be required of anyone proposing to develop in a geologically hazardous area.

iv. A geotechnical report and mitigation plan may be required to ensure no net loss of ecological function. See Section 8.03(E) – Shoreline Stabilization

Seismic hazards

Insert provisions from local seismic plans

Wetlands

Wetland buffers in shoreline areas shall be as follows:

i. The Administrator may waive the typing requirement if the use or

structure is greater than 300 feet away from the OHWM of the wetland.

ii. Alternative I - Shoreline uses with buffers of at least these widths shall not require functional analysis, providing the wetland has been delineated and categorized/typed by a qualified professional.

Table i(a)

Category of Wetland	**Widths of Buffers**
IV	50 ft
III	150 ft
II	200 ft
I	

iii. Alternative II - Applicants may apply the buffer widths to width listed in Table iii(a) below based on intensity of land use listed in table iii(b), providing the wetland is delineated and typed by a qualified professional:

Table iii(a)

Category of Wetland	Buffer Width Based on Land Use Impact		
	Low	Medium	High
I	125	190	250
II	100	150	200
III	75	110	150
IV	25	40	50

Level of Impact from Proposed Change in Land Use	**Types of Land Use Based on Zoning Designations**
High	• Commercial • Urban • Industrial • Institutional • Retail sales • Residential (more than 1 unit/acre) • Conversion to high-intensity agriculture (dairies, nurseries, greenhouses, growing and harvesting crops requiring annual

	tilling and raising and maintaining animals, etc.) • High-intensity recreation (golf courses, ball fields, etc.) • Hobby farms
Moderate	• Residential (1 unit/acre or less) • Moderate-intensity open space (parks with biking, jogging, etc.) • Conversion to moderate-intensity agriculture (orchards, hay fields, etc.) • Paved trails • Building of logging roads • Utility corridor or right-of-way shared by several utilities and including access/maintenance road
Low	• Forestry (cutting of trees only) • Low-intensity open space (hiking, bird-watching, preservation of natural resources, etc.) • Unimproved trails • Utility corridor without a maintenance road and little or no vegetation management.

iv. Alternative III - The applicants may alternatively determine the wetland buffer width based on intensity of the impacts, wetland function, or special characteristics located in the tables below, while implementing protection measures. This method requires a wetland rating and delineation to be performed. A critical areas report and mitigation management plan that shows that such a reduction will result in no net loss of wetland function will be required. Such report and plan must be prepared by a qualified professional and be based on the best available science and site specific conditions and analysis.

Table . Width of buffers needed to protect Category I wetlands

Wetland Characteristics	**Buffer Widths by Impact of Proposed Land Use (apply most protective if more than one criterion is met)**	**Other Measures Recommended for Protection**
Natural Heritage Wetlands	Low - 125 ft Moderate – 190 ft High – 250 ft	No additional surface discharges to wetland or its tributaries No septic systems within 300 ft Restore degraded parts of buffer

Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use (apply most protective if more than one criterion is met)	Other Measures Recommended for Protection
Bogs	Low - 125 ft Moderate – 190 ft High – 250 ft	No additional surface discharges to wetland or its tributaries Restore degraded parts of buffer
Forested	Buffer size to be based on score for habitat functions or water quality functions	If forested wetland scores high for habitat, need to maintain connectivity to other natural areas Restore degraded parts of buffer
Alkali	Low – 100 ft Moderate – 150 ft High – 200 ft	No additional surface discharges to wetland or its tributaries Restore degraded parts of buffer
High level of function for habitat (score for habitat 29 - 36 points)	Low – 100 ft Moderate – 150 ft High – 200 ft	Maintain connections to other habitat areas Restore degraded parts of buffer
Moderate level of function for habitat (score for habitat 20 - 28 points)	Low – 75 ft Moderate – 110 ft High – 150 ft	No recommendations at this time1
High level of function for water quality improvement (24 – 32 points) and low for habitat (less than 20 points)	Low – 50 ft Moderate – 75 ft High – 100 ft	No additional surface discharges of untreated runoff
Not meeting any of the above characteristics	Low – 50 ft Moderate – 75 ft High – 100 ft	No recommendations at this time[3]

Table **Width of buffers needed to protect Category II wetlands**

Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use (apply most protective if more than one criterion is met)	Other Measures Recommended for Protection

Wetland Characteristics	**Buffer Widths by Impact of Proposed Land Use (apply most protective if more than one criterion is met)**	**Other Measures Recommended for Protection**
High level of function for habitat (score for habitat 29 - 36 points)	Low - 100 ft Moderate – 150 ft High – 200 ft	Maintain connections to other habitat areas
Moderate level of function for habitat (score for habitat 20 - 28 points)	Low - 75 ft Moderate – 110 ft High – 150 ft	No recommendations at this time2
High level of function for water quality improvement and low for habitat (score for water quality 24 - 32 points; habitat less than 20 points)	Low - 50 ft Moderate – 75 ft High – 100 ft	No additional surface discharges of untreated runoff
Vernal pool	Low - 100 ft Moderate – 150 ft High – 200 ft OR Develop a regional plan to protect the most important vernal pool complexes – buffers of vernal pools outside protection zones can then be reduced to: Low - 40 ft Moderate – 60 ft High – 80 ft	No intensive grazing or tilling in the wetland
Riparian forest	Buffer width to be based on score for habitat functions or water quality functions	Riparian forest wetlands need to be protected at a watershed or sub-basin scale (protection of the water regime in the watershed) Other protection based on needs to protect habitat and/or water quality functions

Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use (apply most protective if more than one criterion is met)	Other Measures Recommended for Protection
Not meeting above characteristics	Low - 50 ft Moderate – 75 ft High – 100 ft	No recommendations at this time[2]

Table Width of buffers needed to protect Category III

Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use	Other Measures Recommended for Protection
Moderate level of function for habitat (score for habitat 20 - 28 points)	Low - 75 ft Moderate – 110 ft High – 150 ft	No recommendations at this time[1]
Not meeting above characteristic	Low - 40 ft Moderate – 60 ft High – 80 ft	No recommendations at this time[1]

Table Width of buffers needed to protect Category IV wetlands

Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use	Other Measures Recommended for Protection
Score for all 3 basic functions is less than 30 points	Low - 25 ft Moderate – 40 ft High – 50 ft	No recommendations at this time3

Administrative Reduction of Standard Wetland Buffer Area Width:

The Administrator shall have the authority to reduce buffer widths established through Alternative I, II or III on a case-by-case basis for single family dwelling units which would be placed on existing legal lots of record in place at the time of adoption of this Program; provided that the general standards for avoidance and minimization per Section XX.YY shall apply, and when the applicant demonstrates to the satisfaction of the Administrator that all of the following criteria have been met:

- The buffer reduction shall not result in a net loss of functions of the habitat conservation area or buffer.
- The maximum buffer width reduction allowed shall not exceed twenty-five (25) percent total required buffer established in Chapter 8 for Zone 1 & 2.

- The buffer width reduction is contingent upon the submittal and approval of a fish and wildlife habitat conservation area management and mitigation plan in conformance with Chapter 11.
- Sites which have had buffer widths reduced or modified, by any prior action administered by local jurisdiction are not eligible for the provisions of this section. Sites which utilize this provision are not eligible for any future buffer width reductions, under any provision of this Program, except as administered under Chapter 11, Variances, of this Program.

Buffer Integrity. Except as otherwise specified, wetland buffer zones shall be retained in their natural condition. Where buffer disturbance has occurred during construction, revegetation with native vegetation shall ~~may~~ be required at a 1:1 mitigation ratio (area based ratio – 1sq ft removal: 1sq ft mitigation).

Permitted Uses in a Wetland Buffer Zone. Activities shall not be allowed in a buffer zone except for the following:

- Activities having minimal adverse impacts on buffers and no adverse impacts on regulated wetlands. These may include but are not limited to: low intensity, passive recreational activities such as trails, wildlife watching blinds, short term scientific or educational activities, and sports fishing or hunting;
- With respect to Category III and IV wetlands, stormwater management facilities having no reasonable alternative on-site location; or
- Existing agricultural activities, normal or necessary to general farming conducted according to best management practices including the raising of crops or grazing of livestock.

Fish and Wildlife Habitat Conservation Areas

Areas meeting the definition of Critical Fish and Wildlife Habitat Areas must be identified in all shoreline permit reviews and protected through the following:

a. An approved Fish and Wildlife Habitiat Management Plan and/or
b. Mitigation Management Plan and/or
c. SMP buffer requirements

ii. All buffer requirements developed in this SMP shall satisfy as protective measures for known aquatic, wetland, and riparian habitats as identified by federal and state agencies.

iii. Upland habitats identified in the shoreline jurisdiction as priority habitat shall be protected through a habitat management plan in coordination with the local SMP administrator and Department of Fish and Wildlife as part of any shoreline permit, including statement of exemptions. Upland habitats limited to Zone 1 of the Vegetative Buffer shall be protected through standard buffer regulations and may be conditioned for further protection based on administrative review and agency consultation.

Flood Hazard Reduction

Flood Hazard Areas include ***Frequently Flooded Areas*** and areas within the 100-year flood plain as delineated on FEMA FIRM maps. They are lands in the floodplain subject to a one percent (1%) or greater chance of flooding in any given year and those lands that provide important flood storage, conveyance, and attenuation functions, in accordance with WAC 365-190-080(3). Frequently flooded areas perform important hydrologic functions and may present a risk to persons and property. Frequently flooded areas include, at a minimum, the 100-year floodplain designations of the Federal Emergency Management Agency and the National Flood Insurance Program.

1. Normal and routine repair and maintenance of flood control structures[4] in existence on the date of adoption of this SMP shall be allowed

Cumulative Impact Analysis
Okanogan County SMP
Prepared by Highlands Associates

Purpose

This section describes the general State requirements for cumulative impact analysis and discusses the methodology for analyzing potential impacts to Okanogan County shorelines**.** The draft Shoreline Master Program (SMP) proposes changes to the development regulations that encourage shoreline protection and avoidance, minimization and mitigation activities that would cause adverse impacts to shoreline functions and processes. The cumulative impact analysis for the Okanogan County SMP will incorporate the effects of past, present, and future actions within the County's watersheds.

The Shoreline Management Act guidelines require shoreline master programs to regulate new development and to maintain no net loss of shoreline ecological functions. While some impacts are immediate and can be directly addressed through avoidance and mitigation, other impacts are cumulative in nature. The composite of many similar actions over time may lead to a significant cumulative impact to the ecosystem. For example, a small area of impervious surface may have only a negligible impact on the environment. On the other hand, numerous impervious surfaces throughout a watershed over time could lead to significant impacts, such as: channel erosion, water quality degradation, and decreased vegetation.

Key components of the SMP are the development of regulations and mitigation requirements. These requirements are important to achieving no net loss of shoreline ecological functions, but they cannot achieve this goal on their own. Even with mitigation provided, one hundred percent replacement of lost function is difficult if not impossible to achieve. As a result, restoration programs are a key component of achieving no net loss of ecological function.

Assumptions

This analysis is looking at foreseeable impacts over time. These impacts are being looked at by a group of Analysis Units (AUs) that represent a stream or lake reach. This method is consistent with the SMP Shoreline Characterization Report. The analysis focused on areas where greater development and land use change is expected. Site specific impacts are also expected to be addressed on a case-by-case basis during individual future project reviews.

Methodology

The following steps were used to conduct the cumulative impact analysis for no net loss.

Step 1. Group AU's on a common stream or lakeshore

Analysis Units were grouped by a common stream or lakeshore for the no net loss analysis at the scale of a single stream or lake. A total of 233 AUs were identified along Okanogan County shorelines. These were organized into 87 groups. General descriptions

of the 87 AU groups are described in Attachment 2. Table 1 and Table 2 provide a listing of AUs within each lake or stream group.

Table 1 Lake groups with associated AUs and the number of parcels analyzed per group

Lake Group Name	AU code	# parcels
AENEAS LAKE	L AEN 00	20
ALBRIGHT LAKE	L ALB 00	6
ALKALI LAKE	L ALK 00	31
ALTA LAKE	L ALT 00	75
BIG TWIN LAKE	L BIG 00	35
BLUE LAKE	L BLU 00	33
BLUE LAKE (SIN)	L BLS 01	13
	L BLS 02	
BONAPARTE LAKE	L BON 01	11
	L BON 02	
	L BON 03	
BOOHER LAKE	L BOO 00	3
BROWN LAKE	L BRO 00	18
CHOPAKA LAKE	L CHO 00	12
CRAWFISH LAKE	L CRA 00	32
DAVIS LAKE	L DAV 00	26
DUCK LAKE	L DUC 00	13
EAST OSOYOOS	L OSO 03	130
	L OSO 04	
EVANS LAKE	L EVA 00	4
FANCHER DAM RES	L FAN 00	7
FIELDS LAKE	L FIE 00	1
FISH LAKE	L FIS 00	7
GREEN LAKE	L GRE 00	7
HORSESHOE LAKE	L HOR 00	10
CONCONULLY LAKE	L CON 01	35
	L CON 02	
	L CON 03	
	L CON 04	
SALMON/ CONCONULLY LAKE	L SAL 01	23
	L SAL 04	
LEADER LAKE	L LEA 00	17
LEMANASKI LAKE	L LEM 00	10
LITTLE TWIN LAKE	L LIT 00	14
MEDICINE LAKE	L MED 00	4
MOCCASIN LAKE	L MOC 00	1
MOLSON LAKE	L MOL 00	10
MUSKRAT LAKE	L MUS 00	9
PALMER LAKE	L PAL 01	108
	L PAL 02	
	L PAL 03	
	L PAL 04	
PATTERSON LAKE	L PAT 00	45
PEARRYGIN LAKE	L PEA 01	43
	L PEA 02	
RAT LAKE	L RAT 00	9
ROBERTS LAKE	L ROB 00	6
SIDLEY LAKE	L SID 00	50
SPECTACLE LAKE	L SPE 01	109
	L SPE 02	
	L SPE 03	
	L SPE 04	
	L SPE 05	
	L SPE 06	
TALKIRE LAKE	L TAL 00	8
WALKER LAKE	L WAL 00	3
WANNACUT LAKE	L WAN 01	171
	L WAN 02	
	L WAN 03	
	L WAN 04	
LOWER WELLS POOL	S COL 01	62
	S COL 02	
WEST OSOYOOS	L OSO 01	215
	L OSO 02	
WHITESTONE LAKE	L WHI 01	29
	L WHI 02	
	L WHI 03	

MILES LAKE	L MIL 00	9

Table 2 Stream groups with associated AUs and the number of parcels analyzed per group

Stream Group Name	# parcels	AU Code
ANTOINE CREEK	34	S ANT 01
		S ANT 02
		S ANT 03
BEAVER CREEK	77	S BEA 01
		S BEA 02
		S BEA 03
		S BEA 04
BONAPARTE CREEK	186	S BON 02
		S BON 03
		S BON 04
		S BON 05
		S BON 06
		S BON 07
		S BON 08
		S BON 09
BREWSTER	338	S COL 04
		S COL 05
		S OKA 01
CARLTON LAMIRD	60	S MET 13
CHEWACK RIVER	253	S CHE 02
		S CHE 03
		S CHE 04
		S CHE 05
		S CHE 06
		S CHE 07
		S CHE 08
GOLD CREEK	47	S GOL 01
		S GOL 02
LAKE PATEROS	158	S COL 03
		S MET 01
		S MET 02
LOST CREEK	22	S LOS 01
		S LOS 02
		S LOS 03
		S LOS 04
		S LOS 06
		S LOS 07
LOWER SINLAHEKIN	28	S SIN 01
		S SIN 02
LOWER SIMILKAMEEN	49	S SIM 03
LOWER OKANOGAN	201	S OKA 09
MALOTT LAMIRD	48	S OKA 10
LOWER METHOW	129	S MET 03

Stream Group Name	# parcels	AU Code
		S MET 04
METHOW - CARLTON	308	S MET 06
		S MET 07
		S MET 08
		S MET 09
		S MET 10
		S MET 11
		S MET 12
CARLTON - TWISP	291	S MET 14
		S MET 15
		S MET 16
		S MET 17
		S MET 18
		S MET 19
		S MET 20
		S MET 21
		S MET 22
MAZAMA	302	S MET 31
		S MET 32
		S MET 33
		S MET 34
		S MET 35
		S MET 36
		S WOL 00
WINTHROP TOWN	398	S CHE 01
		S MET 29
		S MET 30
METHOW LAMIRD	137	S MET 05
MIDDLE SINLAHEKIN RIVER	44	S SIN 03
		S SIN 04
MIDDLE METHOW	159	S MET 25
		S MET 26
		S MET 27
		S MET 28
MIDDLE SIMILKAMEEN	120	S SIM 04
		S SIM 05
		S SIM 06
		S SIM 07
LOWER OKANOGAN	201	S OKA 02
		S OKA 03
		S OKA 04
		S OKA 05
		S OKA 06
		S OKA 07
		S OKA 08
MIDDLE OKANOGAN	65	S OKA 11
		S OKA 12

Stream Group Name	# parcels	AU Code
		S OKA 13
OMAK - RIVERSIDE	12	S OKA 20
KEYSTONE CANYON	143	S OKA 23
		S OKA 24
		S OKA 25
		S OKA 26
KEYSTONE - TONASKET	140	S OKA 27
		S OKA 28
		S OKA 29
UPPER OKANOGAN	402	S OKA 33
		S OKA 34
		S OKA 35
		S OKA 36
		S OKA 37
		S OKA 38
		S OKA 39
OKANOGAN CITY	266	S OKA 14
		S OKA 15
		S OKA 16
OMAK CITY	273	S OKA 17
		S OKA 18
		S OKA 19
OROVILLE CITY	288	S OKA 40
		S OKA 41
		S SIM 01
		S SIM 02
PALMER CREEK CONFLUENCE	99	S PAL 00
		S SIM 08
RIVERSIDE TOWN	137	S OKA 21
		S OKA 22
		S SAL 03
		S SAL 04
		S SAL 05
		S SAL 06
LOWER SALMON	27	S SAL 01
		S SAL 02
SINLAHEKIN HEADWATER	23	S SIN 05
		S SIN 06
		S SIN 07
WEST SANPOIL RIVER	100	S SAN 01
		S SAN 02
		S SAN 03
		S SAN 04
		S SAN 05
		S SAN 06
		S SAN 07
		S SAN 08

Stream Group Name	# parcels	AU Code
		S SAN 09
		S SAN 10
		S SAN 11
		S SAN 12
TOATS COULEE	33	S TOA 01
		S TOA 02
TONASKET CITY	265	S BON 01
		S OKA 30
		S OKA 31
		S OKA 32
TORODA CREEK	52	S TOR 01
		S TOR 02
TWISP TOWN	359	S MET 23
		S MET 24
		S TWI 01
TWISP RIVER	258	S TWI 02
		S TWI 03
		S TWI 04
		S TWI 05
		S TWI 06
UPPER METHOW	316	S EAR 01
		S EAR 02
		S MET 37
		S MET 38
		S MET 39
		S MET 40
UPPER SIMILKAMEEN	55	S SIM 09
		S SIM 10

Step 2. Existing Shoreline Conditions

As part of the County's Shoreline Master Program process, a shoreline inventory and characterization report was completed which assessed the degree to which ecological functions and processes in the shoreline jurisdiction have been altered. In general, the majority of Okanogan County shorelines are in a relatively unaltered condition. Since ratings were identified for individual AUs, the following steps describe the method to determine ratings for each stream and lake group.

1) The resource and condition indices for each AU were disaggregated into component parameters which were combined to create the index. For detailed methods, see Section 3 of the Shoreline Characterization Report.
2) For each stressor and resource parameter, scoring curves based on histograms were subdivided into ranges that reflect severity of effects, following a simple "high/medium/low" division.
3) Parameter scores were sorted by each stream and lake group and the results plotted using GIS to indicate where high, medium and low trends occurred within each group. Parameter trends were summarized for each group to

represent current impact to the existing shoreline condition. Data is presented in the summary table (Attachment 2) of potential cumulative impacts associated with the proposed Shoreline Master Program.

4) Existing shoreline conditions were mapped in terms of ecosystem-wide processes and functions based on SMP characterization. The method to highlight ecosystem key processes was based on Ecology's guidance, Chapter 17. This analysis identified and mapped areas important to sustain shoreline functions and determined the degree of alteration to key processes. Table 2 lists the indicators used to evaluate impacts to key ecosystem processes.

Table 3 Indicators to evaluate impacts to key ecosystem processes

Ecosystem processes	**Key areas**	**Alterations**
Sediment delivery and supply	Floodplains (slopes <4%) (movement, storage); lakes (storage); landslide hazard areas; highly erodible steep slopes (mass wasting delivery)	Roads within 200ft of shorelines; non-forested land cover on erodible slopes; non-forest land cover on mass wasting areas; roads within mass wasting areas; urban land cover
Water movement and storage	High permeability areas (sub-surface movement); low gradient floodplains (<4%) (storage, movement); high precipitation areas (delivery); lakes (storage)	Non-forested land cover on high permeable soils; impervious surfaces
Riparian inputs	Mass wasting areas directly upslope (delivery LWD); windthrow potential (delivery LWD within 75' of shoreline); unconfined channels (<4% slope) (storage)	Non-forested land cover in floodplains within 75ft of shoreline; non-forested land on mass wasting areas
Nutrient key delivery	Steep slopes with highly erodible soils	Agriculture and urban land cover

The indictors of key processes were overlaid spatially to highlight minimally altered areas and impaired areas. The results are presented both spatially and in summary form (Attachment 2 and 3).

Step 3. Identify and map proposed shoreline designations and Projected build-out and Reasonable Foreseeable Future Actions (RFFAs)

Allowable activities and protection requirements under proposed shoreline regulations are summarized and compared. Okanogan County proposed to use ten designations to regulate uses and modifications within the shoreline zones: Aquatic, Natural, Riverine/Lacustrine, Conservancy, Rural Resource, Rural Residential, Shoreline Recreation, Urban Conservancy, Shoreline Residential, and High Intensity. Potential

cumulative impacts to the Aquatic, Natural, and Riverine/Lacustrine designation are qualitatively discussed in this analysis.

RFFAs are based on shoreline designations (see Chapter 8 for details). RFFAs for each AU group were derived by analyzing data at the parcel scale and then calculating percent of each type at the stream and lake scale. A count of the total number of parcels per RFFA was calculated for each group. Next, the area percentage of total parcels assigned to the RFFA was calculated per group. For example, Aeneas Lake Group had 13 parcels assigned as medium intensity residential for a potential future land use, totaling an area of 14.66 acres. This area was divided by the total area of the Aeneas Lake group to calculate this RFFA type which was 26.5 percent of the entire group. This same process was calculated for all RFFAs. Those RFFAs with the highest percent per group was used to determine projected major types of development likely to affect shoreline condition. See Attachment 4 for data tables.

Due to spatial differences between the parcel and AU group data layers, those parcels that were split between two groups were placed into the group that contained greater than 25 percent of the entire parcel. For this reason, the RFFA area percents do not add up to 100 percent as represented in the data tables provided with this analysis.

Step 4. Illustrate the projected future under the proposed Program.
The timeframe is a maximum buildout potential based on an assumed future buildout according to proposed shoreline designations and associated development standards. The development of this analysis was to generally identify the extent of shorelines within each group that may be at risk from future development and to help guide restoration/enhancement efforts. Impervious surface was chosen to reflect an assumed future, factoring in required setbacks, buffers, and percent lot coverage. The maximum lot coverage per parcel (based on proposed shoreline designation type) was used as an estimate of potential future cumulative impact. Lot coverage is the percentage of the parcel within shoreline jurisdiction, less the required vegetation and use buffers (as outlined in Chapter 8) to be covered with impervious surfaces.

Other alterations that affect ecological processes and function are also correlated with impervious surfaces (e.g. vegetation removal, land clearing, and soil compaction). Impervious surfaces were chosen for this analysis because the concept has been a good indicator of cumulative impacts on the landscape (May et al. 1997, Stanley et al. 2005).

Step 5. Cumulative impact analysis for each group under proposed regulations.
This analysis determined which shorelines may be at risk from future developments. Only parcels that are located within the shoreline jurisdiction boundary are included. Existing impervious and potential future impervious surfaces were determined for shoreline parcels and the setback buffers associated with each parcel's shoreline designation. The National Land Cover Dataset (NLCD 2001) was used to determine impervious surface percent per AU group. Detailed GIS methods used to perform the impervious analysis are provided in Attachment 5.

Current impervious surface percent per group were compared to a hypothesized worst case scenario of possible future impacts (the maximum potential increase in impervious surface within the shoreline jurisdiction). To measure the difference between current and potential future conditions, a comparison of the percentage of impervious surface area per group was performed. The difference between scores revealed the potential positive or negative changes in shoreline conditions. Attachment 1 contains the Summary table.

Conclusions

This scenario shows a potential increase in the percent impervious surface for shoreline areas. Cumulative impacts to the shoreline may result from a wide range of possible actions. The focus of foreseeable development is on those actions that have been identified as potential impacts to the shoreline and that are or would be foreseeable based on past development patterns and shoreline regulations.

The Okanogan shoreline is unlikely to experience much more development, as much of the property in public ownership is currently buildout. Under the maximum future buildout, several AU groups show an increase in development along their shoreline. Focus on permit mitigations should be a major part to protect these shorelines from future impacts and achieve no net loss of functions. Net loss in one stream or lake will not be offset by mitigation/enhancement in another. Mitigation must be carried out within the same stream or lake. Under the current program two main types of permits exist to mitigate changes to shorelines, the Shoreline Substantial Development Permit and the Shoreline Conditional Use Permit. All activities and uses must comply with the current SMP provisions. Those that are not stated in Section 8 may be allowed (with a permit) and subject to approval.

The greatest percent of the shorelines are designated as Conservancy, River/Lacustrine, Aquatic, and Rural Residential. The designations with greatest development intensity (Shoreline Recreation, Shoreline Residential, and High Intensity) are concentrated within currently developed areas within the County.

Net increase in impervious surface, per group, shows the amount, in acres, that has the potential to be developed. This represents the worst case scenario or a 100 percent maximum buildout potential. Due to data inconsistencies, 13 AU groups could not be addressed in the impervious analysis. They are addressed qualitatively in Attachment 1, the summary of potential cumulative impacts. However, the bulk of the shorelines were analyzed. This data provides detailed information on where, spatially, potential future development may occur within the County's shorelines. When combined with the potential future land use designation, the County could further verify the amount of potential future development on a site-specific scale (e.g. at the parcel scale for program permits).

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Attachment 1. Summary of potential cumulative impacts associated with the proposed Shoreline Master Program

Attachment 2. General descriptions of AU stream and lake groups used to analyze potential cumulative impacts.

AENEAS LAKE Aeneas Lake is located in Section 25 T37N R26E. The lake measures 52.6 acres and is banded by a narrow strip of vegetation. An intermittent creek provides inflow, but there is no outflow. The lake is surrounded by some residential development and undeveloped lands within a matrix of agriculture, orchards, and range lands. A public access boat launch is operated by WDFW in the SE corner of the Lake and a common open space exists in the NE corner adjacent to a short plat.

ALBRIGHT LAKE Albright Lake, also known as Peninsula Lake, is located in Section 7 of T35N R26E with an area of 21.4 acres. The lake is undeveloped and surrounded by WDFW lands to the southwest and private range lands to northeast. There is a developed access point located in the SW corner on WDFW property. Vegetation around lake is limited and the alkaline water chemistry cannot support fish life.

ALKALI LAKE Alkali Lake is located in Section 22 of T35N R26E. Alkali Lake is a kettle lake with an area of 63.8 and a shoreline perimeter measuring 2 miles. The lake is surrounded by private land that is roughly 1/3 developed amidst undeveloped lands. No developed Public access is available on the lake. The water in Alkali Lake is considered alkaline, displaying a greenish blue tinge and its water chemistry cannot support fish.

ALTA LAKE Alta Lake is located in Section 15, T29N R23E. Alta Lake is 219.6 acres and measures about two miles long and half mile wide. The lake sits in a coulee at the base of steep forested and shrub steppe terrain. The lake contains no inflow or outflow. The north and eastern shoreline houses Alta Lake State Park, where a campground and trails provide visual and direct access to the lakeside including two boat launch ramps. Residential development for seasonal and full time homes exists along the western, northeastern and southern shores. The USFS owns a large portion of the east and west shorelines at the south end of the lake. Alta Lake is used for fishing, motor boating, and swimming.

ANTOINE CREEK Antoine Creek joins the mainstem of the Okanogan River at RM 61.2. The Antoine Creek group reaches approximately 5 miles and is oriented in an east-west direction. The creek drains a dry landscape of shrub and rangelands, with some irrigated fields through a narrow, steep-sided canyon noted for erosive gullies exacerbated by hoof sear. Management issues include bank erosion, noxious weeds, and heavy grazing.

BEAVER CREEK The Beaver Creek group includes those shorelines below the 20 cfs point in the lower 9 miles of the Beaver Creek. Beaver Creek is a high-moderate gradient, north/south creek draining mountainous terrain and undulating range lands. The creek enters the Methow River at RM 35. The shorelines are privately owned with the exception of the middle and upper reaches that lie within Department of Fish and Wildlife and Okanogan National Forest ownerships. Land uses along Beaver Creek are dominated by open range grazing; some irrigated fields and dispersed rural residences.

There is no public access to the creek within the lower 7 miles except for that provided at bridge crossings.

BIG TWIN LAKE Big Twin Lake is located in Section 15 T34N R21E. A kettle lake, Big Twin Lake is a deep depression lined by steep slopes to the SW, S, and East, while the Northern shoreline is a more gradual slope. It is fed by groundwater and supports a trout fishery. The lake measures 65.4 acres with a perimeter of 2 miles. WDFW owns a large portion of shoreline in the SW corner for fishing access as well as a boat launch in the NE corner of the lake. The surrounding land uses are rural residential and a private RV campground.

BLUE LAKE Blue Lake is located in 22 of T39N R27E. This kettle lake measures 205 acres. The lake is surrounded by private land with only one structure on the shoreline to date. There is a WDFW access point at the SW corner of the lake. The water in Blue Lake is considered alkaline, displaying a greenish blue tinge and its water chemistry cannot support fish.

BLUE LAKE (SIN) Blue Lake is located in Section 22 T37N R25E. The lake measures 205 acres in area. It is an artificial reservoir composed of a series of smaller natural lakes along the Sinlakehin River into one feature. The entire shoreline is owned by WDFW and there are four public access points, three with trailer launch ramps, and one with a hand launch site along the eastern shoreline.

BONAPARTE CREEK Bonaparte Creek drains roughly 98,738 (HUC 10) – 102,120 acres of sparsely developed range lands. This 4th order stream flows 24 miles from its headwaters in the east and winds westward to meet the Okanogan River at the city of Tonasket at Okanogan RM 56.7. The creek begins at a gentle gradient supporting a variable width of riparian vegetation and wetlands in its upper reaches. A complex wetland/riparian band can be found at its confluence with Peony Creek. The creek then flows through steeper terrain into a narrow canyon eventually cascading over a natural fall at river mile 1.0– just east of the city. This is where the Bonaparte Creek group ends. The falls create a natural barrier to fish migration, though resident trout and sculpin can be found above the falls. The entire creek is surrounded by private land, primarily used for agricultural grazing. The canyon section holds high potential for wildlife in a relatively undeveloped environment although issues related to winter grazing, hoof sheer erosion, lack of cover and invasive species were noted in the Sub Basin Plan. No known public access exists along its shorelines although the canyon is visible in the vicinity of the falls via an unofficial overlook at the Hwy 20 Bridge.

BONAPARTE LAKE Bonaparte Lake is located in Section 17 T38N R30E at an altitude of 3550 ft. It measures 151.7 acres. The lake is connected to a chain of small ponds and wetlands that serve as the headwaters of Bonaparte Creek. The shoreline is forested and owned mostly by Okanogan National Forest with exception of the SE corner that is owned by the state. A campground and boat launch in the southern tip is managed by ONF. There is also a small resort with lake access and one dock is located at a Boy Scout camp along the northern shoreline.

BOOHER LAKE Booher Lake is located at T35N R26E. The surface area of the lake is variable depending on hydrologic fluctuations, with a range of 18 – 29 acres. The lake is surrounded by private agricultural range lands with no structures in the shoreline to date. Pine Creek, and intermittent creek provides inflow to the lake; no outflow exists. No public access exists on the lake.

BREWSTER Shorelines in the Brewster Group include the banks of the Columbia River along the Wells Pools running from RM 527-536 as well as upstream along the Okanogan River where it meets the Columbia. These shorelines are within the city of Brewster and are characterized by tree fruit agriculture, residential and commercial uses. The majority of the waterfront shoreline area is owned by the Douglas County PUD. Access can be found at the city park, including two docks and a launch, and along the river walk in downtown Brewster. The shoreline along this portion has been greatly modified as part of the development of the Wells Dam impoundment. The entire shoreline has been stabilized with rip rap and supports a narrow band of riparian species in some areas. Fluctuations of the pool create variable habitat zones along the water's edge, and some side bar islands and wetlands do exist; however, the shoreline has been greatly simplified and is more reflective of lakeside environments than river systems.

The southern portion of this group encompasses the shoreline area parallel to US 97 and the BNSF rail road along the Columbia River between Brewster and Indian Dan Canyon, RM 529- 527. It is almost entirely owned by the Douglas County PUD. Those portions not owned by the PUD are composed of residential subdivisions near Brewster and some orchards and industrial uses related to agriculture and transportation. The shoreline through this section has been highly altered from hydroelectric development and includes heavy armoring to support and protect this vital transportation corridor for the railroad and highway. There is one developed access point operated by the PUD near RM 529.

BROWN LAKE Brown Lake is located in Section 7 T34N R26E. The lake measures 61.5 acres. It is a very shallow bottomed lake (14 ft max. depth) that emerges at the confluence of two unnamed creeks. Outflow is into Johnson Creek, a tributary to the Okanogan River. Little to no riparian vegetation exists, but the lake does support emergent aquatic vegetation along its edge. The lake is surrounded by open range land, with no formal public access.

CARLTON - TWISP The Carlton-Twisp group of the Methow River extends south from Twisp near the Hwy 20 Junction to Carlton -- RM 37.5 – 27.6. The upper portion of this group meanders through a wide, active channel, creating large gravel bars and mid-channel islands. As the river approaches Carlton the stream channel narrows and is surrounded by steep erosive bluffs. Riparian vegetation can be found along stable banks and wide bars. Bank stabilization has occurred throughout this group for road and land protection. There is no developed public access within this group. An informal public access exists between RM 33-34 on WDFW property. The surrounding land uses include rural residential and agriculture.

CARLTON LAMIRD The Carlton LAMIRD (Limited Area of More Intense Rural Development) group includes a 1 mile reach of river that encompasses the population center of Carlton centered on RM 27. Carlton houses a post office, RV park, motel, restaurant, general store and fire station, and shoreline uses include public access and dispersed rural residential development. A WDFW fishing access site serves this area adequately for access. It is a popular launch site for commercial and private float trips with a great swimming beach that brings in visitors to Carlton.

CHEWACK RIVER The Chewack (Chewuch) River group flows southwest from high elevations in the Pasayten Wilderness on USFS land through sparsely populated residential and agricultural lands until it meets the Methow River in the town of Winthrop. The Lower Chewack Watershed (HUC 10), which encompasses all shorelines designated in this SMP, drains nearly 200,000 acres of mountainous terrain through a surrounding landscape of forested slopes with patches of meadows in the highlands and shrub-steppe terraced hillsides in the lower reaches. Riparian cover is relatively continuous throughout the reach. There are 5 diversions for irrigation and extensive portions of the river's banks, including the alluvial fans of receiving streams have been rip-rapped for flood control. Public access along the Chewack is plentiful above RM 35 where various developed campgrounds and day use sites are managed by the USFS and WDFW. Informal and undeveloped access sites also exist. A new park, "Sa Teekh Wa", in the Town of Winthrop also provides shoreline access via a pedestrian bridge and riverfront trail. Limited access exists in the more heavily developed areas between RM 28 and 35, with the exception of one WDFW non-motorized (walk-in) location and a scattering of privately owned community open spaces. The Okanogan County Outdoor Recreation Plan identifies "river trails" as a high priority and this lower portion of the Chewack River has no trail system.

CHOPAKA LAKE Chopaka Lake is located in Section 4 T39N R25E. The lake measures 68 acres. It sits in a narrow trough with a north-south orientation and surrounded by steep forested slopes. The lake flows out into Chopaka Creek, a tributary of Sinlahekin River. The southwestern 1/3 is privately owned, but the remainder of the shoreline is publicly owned with one WDFW access and a BLM campground and access along the western shoreline.

CONCONULLY LAKE Conconully Reservoir is located in Section 18 T35N R25E. The reservoir is an artificial lake impounded by a USBOR dam built just below the confluence of the West and North Forks of Salmon Creek in 1910. Used for irrigation storage, the lake now supports broad recreational and residential uses. Surrounding land uses include open range, agriculture, urbanization and forest lands. Most of the land around the lake is owned by the federal Bureau of Reclamation with much of the north and western shorelines leased to the owners of private cabins and several small resorts. Public access is found along the NE corner at Conconully State Park, as well as at the southern shoreline at the dam.

CRAWFISH LAKE Crawfish Lake is located in Section 35 T35N R29E. The lake is 80 acres in area. The lake sits in a shallow basin amidst a forested landscape of gentle

slopes. About 1/3 of the shoreline is privately developed with recreational cabins, including some docks. Approximately half of the shoreline lies within the bounds of the Colville Indian Reservation. Public access is available at the northeast corner in USFS campground.

DAVIS LAKEDavis Lake is located in Section 20 T34N R22E. The lake, 39.8 acres in area, is fed by an unnamed creek the flows in from the east; no outflow exists, though the lake does terminate to the north in a wetland. There is a public boat launch operated by WDFW at the northern tip of the lake and the southwestern quarter of the lake is owned by the federal government. A small RV park occupies the eastern shoreline. Otherwise, the lake is privately owned and surrounded by open range lands characterized by shrub-steppe habitat.

DUCK LAKE Duck Lake is located in Section 10 of T34N R26E. The lake is in a closed basin with no outflow. However it is fed by Johnson and Salmon Creeks as well as supplemented by irrigation diversions. The water is used for irrigation. Surrounding land uses included limited residential development and open range land. The margins of the shoreline support some woody vegetation. There is no public access.

EAST OSOYOOS The East Osoyoos group is differentiated from West Osoyoos based on its relative lower level of development. While there are some undeveloped portions of the shoreline, the shoreline still remains primarily in agricultural use. In recent years there has been an emerging resort development as agricultural lands are converted. Access is on this side of the lake to private parcels and resorts. The entire lake is within the city of Oroville with much of the existing development served by city water and a growing number of sewer connections.

EVANS LAKE Evan Lake is located in Section 28 of T35N R26E. It is a silt bottomed alkaline lake measuring 32.7 acres. The shoreline is entirely privately owned with no public access or road for access. Surrounding land uses include open space rangeland and one seasonal cabin.

FANCHER DAM RES Fancher Dam Reservoir is located in Section 35 T39N R28E. The lake is 26 acres in area. The reservoir is impounded by a dam built in 1923 at the headwaters of Antoine Creek for livestock watering. The southern shoreline and outflow area is heavily forested. There are no public access sites, as the shoreline is entirely privately owned.

FIELDS LAKE Fields Lake is located in Section 26 of T40N R29E. The lake measures 25 acres. The sinuous shoreline of the lake is lined by a narrow band of forested vegetation. The lake is fed by a perennial stream as part of the headwaters of Mary Ann Creek, a tributary to Myers Creek. The shoreline is owned by a single private ownership and has no public access.

FISH LAKE Fish Lake is located in Sect 22 T36N R25E. The lake measures 101.6 acres. The lake is fed by Gibson Creek and sits in a narrow coulee where the outflow

forms Coulee Creek. The northern shoreline is a steep, rocky slope with little vegetated cover. The southern and western shorelines support forested and wet meadows. Public access is provided via a road that circumscribes the lakeshore and campgrounds along the southern shore. The entire shoreline is owned by the USFS or WDFW.

GOLD CREEK Gold Creek drains a narrow valley of shrub-steppe and forested slopes in the Lower Methow Sub-watershed (HUC 10). The drainage flows west to east and empties into the Methow River at RM 22.7 and the group includes roughly 4 ½ miles of shoreline. The lower 3.5 miles of the creek has been channelized with rip rap, restricting lateral channel movement (Methow Subbasin Plan, 2004). This group is surrounded by rural residential property that supports grazing and timber harvest. There is no public access along the creek other than an undeveloped USFS site located just east of the Middle Fork Gold Creek Road.

GREEN LAKE Green Lake is located in Section 13 T34N R25E. The surface area measures 45 acres. The lake sits in a narrow forested valley and the lake is oriented north-south with an average width less than 500 ft. WDFW operates an access site on the eastern shoreline with a boat launch while the remaining shorelines are privately owned and undeveloped.

HORSESHOE LAKE Horseshoe Lake is located in Section 17, T36N R26E, just east of Albright (Peninsula) Lake. It is an alkaline kettle lake measuring 36 acres. The majority of the shoreline is surrounded by open rangeland, though the southern boundary has been subdivided for seasonal homes. There is no established public access; however, there is a large parcel of state-owned land in the northwest corner of lake.

KEYSTONE - TONASKET The Keystone-Tonasket Group extends south along the Okanogan River from the southern boundary of Tonasket at RM 56.1 – 52.3. This area occupies a broad floodplain with rural residential and agricultural uses. Residential and agricultural uses have minimized the extent of riparian vegetation as well as the complexity of the channel. The channel is primarily a single course though some mid-channel islands do exist, suggesting a degree of dynamism through this group. There are no developed public access points throughout this section.

KEYSTONE CANYON The Keystone Canyon group extends from the Janis Bridge at RM 52.3 to RM 41.7 just north of Riverside. The river is confined to a narrow, steep canyon through much of this group, limiting the extent of a natural floodplain. Where a floodplain does exist, agricultural fields occupy the landscape, confining the river to a single channel. Much of this reach lacks robust riparian vegetation or channel complexity due to natural topography and agricultural conversion. Public access does not exist outside of informal right of ways or bridge crossings.

LAKE PATEROS Shorelines in the Lake Pateros group include the banks of the Columbia River along the Wells Pool running downstream from RM 523 to the confluence with the Methow River and extending up the Methow to RM 1.7. It is characterized by the inundation zone of the Wells Pool along the Columbia and the

Methow within the urban growth boundary of Pateros. This area has been heavily altered by inundation and filling. The entire shoreline is composed of up to nine feet of fill and is therefore supported by continuous rip rap along the shoreline. The majority of the waterfront shoreline is owned by the Douglas County PUD. Native riparian vegetation can be found in portions of the Methow River where mid-channel islands, bars, and wetlands have been established for wildlife. The majority of the group, however, is dominated by residential lawns or parkland landscaping along the PUD lands. Residential and commercial development line the north bank of Lake Pateros and the Methow River while public access is provided in the at numerous PUD locations and city parks. WDFW operates 2 access sites in this reach, including a boat launch and fishing site. It is a popular site for all types of watercraft including rafts, kayaks, motorized boats and jet skis. The WDFW site on the south bank of the Methow across from Pateros is the primary take-out site for commercial float trips on the lower Methow River.

LEADER LAKE Leader Lake is located in Section 16 T33N R25E. The lake area measures 155 acres and the perimeter is 4 miles in length. The lake is a natural lake supplemented by diversions from Loup Loup Creek and artificially controlled by a dam built circa 1910, but would otherwise drain into Tallant Creek. The shoreline is surrounded by open range lands and sparsely forested hillsides. Approximated 1/3 of the western shoreline is publicly owned and operated by WDFW for fishing, boating, and camping access.

LEMANASKI LAKE Lemanaski Lake is located in Section 3 T37N R25E. The lake measures 20 acres. There is a private dam that impounds the lake to supplement water supply. The lake is privately owned with no public access other than informal ROW access along the western shoreline.

LITTLE TWIN LAKE Little Twin Lake is located in Section 14 T34N R21E. Similar to Big Twin Lake, the water is ground fed and sits in a steep basin. Little Twin Lakes shares a boat launch access site with Big Twin Lake and is otherwise surrounded by private community open space owned by the surrounding rural residents.

LOST CREEK Lost Creek flows in a northeast direction from T34N, R30E to T35N, R31E approximately 7 miles. The creek lies in a V-shaped basin and drains a gently sloping, forested landscape almost entirely owned by the ONF before it enters into the West Fork of the Sanpoil River. Surrounding land uses are forestry and open rangelands. No developed public access exists.

LOWER METHOW The Lower Methow Group extends from RM 12.8 beginning at the southern boundary of the population center known as Methow to the inundation zone of Lake Pateros at RM 1.7. This shoreline landscape is characterized by steep bluffs that form narrow reaches of canyon topped by wide benches that support rural residential development and orchards. Sandy point bar beaches are formed through wider reaches in this section and this group is popular for white water rafting. It is served by informal access points at HWY 153 bridge crossings at RM 5 and 6 and an access using County

road right of way at the Burma Road Bridge. USFS owns parcels along the shoreline between RM 9-10 which hold potential for access, however, only a single developed access point exists (A WDFW site) between Methow and the WDFW sites on Lake Pateros as the majority of this reach is privately owned.

LOWER METHOW The Lower Methow group extends from RM 12.8 beginning at the southern boundary of the population center known as Methow to the inundation zone of Lake Pateros at RM 1.7. This shoreline landscape is characterized by steep bluffs that form narrow reaches of canyon topped by wide benches that support rural residential development and orchards. Sandy point bar beaches are formed through wider reaches in this section and this group is popular for white water rafting. It is served by informal access points at HWY 153 bridge crossings at RM 5 and 6 and an access using County road right of way at the Burma Road Bridge. USFS owns parcels along the shoreline between RM 9-10 which hold potential for access, however, only a single developed access point exists (A WDFW site) between Methow and the WDFW sites on Lake Pateros as the majority of this reach is privately owned.

LOWER OKANOGAN The Lower Okanogan group extends from RM 16.7 of the mainstem of the Okanogan River, and the tributary, Loup Loup Creek, downstream to the confluence with the Columbia River at the northern boundary of Brewster. This reach of the river is impounded by Wells Dam on the Columbia River, creating a large, slow moving pool. The shoreline is dominated by agricultural uses, primarily orchards and hay fields. Riparian vegetation is stable due to the infrequent scour and flooding in this zone caused by the impoundment. The banks are silt and sand. The river divides Okanogan County shoreline jurisdiction from the Colville Confederate Tribe's jurisdiction on the eastern shoreline. Public access along the Lower Okanogan can be found at RM 0.5 at a WDFW fishing access and again at RM 4.5 at a PUD site. Between RM 4.5-16.7 no developed access exists. Informal access can be found along Monse River Road in the lower few miles, but otherwise this group has limited access. Loup Loup Creek contains native resident trout and steelhead but suffers from de-watering from irrigation diversions farther upstream. Eastern brook trout have likely out-competed native bull trout in the system. Anadromous fish cannot pass beyond RM 1 on Loup Loup Creek where a natural falls occurs.

LOWER SALMON The Lower Salmon group extends from approximately RM 4.3 at the Okanogan Irrigation Diversion Dam to the Confluence with the Okanogan River. This portion of Salmon Creek does not satisfy the 20 cfs minimum for inclusion in the SMP. However, restoration efforts by the Colville Confederated tribes are securing 10 cfs for Steelhead habitat.

LOWER SIMILKAMEEN The Lower Similkameen group includes those shorelines adjacent to the Similkameen River from RM 8.8 at the Enloe Dam downstream to the vicinity of the old rail trestle (RM 6.5). This is a turbulent section of river incised into a steep, sparely vegetated bedrock canyon.

LOWER SINLAHEKIN The Lower Sinlahekin group reaches from RM 10 on the Sinlahekin River at the confluence with Toats Coulee to RM 6.5 where the river empties into Palmer Lake. The river is highly sinuous and historically would have been multi-channeled. However, surrounding agricultural uses have restrained the river to a single channel. Nonetheless, at the Toats Coulee confluence, a wide wetland complex exists. No public access is found within this portion of the river.

LOWER WELLS POOL Shorelines in the Lower Wells Pool group include the banks of the Columbia River along the Wells Pool running from RM 517-522 just south of the confluence with the Methow River. The shoreline here has been greatly modified by inundation from hydroelectric development. Land uses through this group include agriculture and grazing and the shoreline is largely owned by the Douglas County PUD. One developed WDFW public access is located near RM 518.

MALOTT LAMIRD The Malott LAMIRD group includes those shorelines within this unincorporated community along the main stem of the Okanogan River. The Okanogan River shorelines in the LAMIRD contain residential and some limited commercial development. Shorelines in Malott support rural, low density residential and agricultural uses.

MAZAMA The Mazama group begins below where Early Winters Creek flows into the Methow River just upstream from the population center known as Mazama. This group extends downstream through a wide glacially carved valley to RM 50.9 just west of the Town of Winthrop. In addition to shorelines along the mainstem, this group also includes shorelines associated with Wolf Creek extending approximately 2 miles upstream to the 20 cfs mark. Major tributaries include Goat Creek, Fawn Creek, and Wolf Creek. The Methow River is very dynamic through this group, supporting a wide flood plain and channel migration zone with robust riparian forests, side channel habitats, and ox-bow wetlands. Despite the high level of ecologic integrity in this group, shoreline modifications have been made for highway and property protection. Surrounding land uses are characterized by irrigated hay fields, rural residences, seasonal homes, and small-scale resorts and rentals. Access to the river includes Big Valley Ranch, a WDFW property; the Community trail in Mazama; and Early Winters Campground at the confluence of Early Winters Creek and the Methow River. There is also informal access points along road right of ways and at private common areas created via short and long plats.

MEDICINE LAKE Medicine Lake is located in Section 5 T35N R26E. It is an alkaline, kettle lake measuring 43.1 acres. The shoreline is entirely privately owned with no public access and surrounded by open range land.

METHOW - CARLTON This group runs from the population center of Carlton downstream to the community of Methow, RM 26.7 – 13.3. This group is characterized by a narrowing of the valley floor and numerous steep, forested tributaries that empty in the mainstem of the Methow River, including Cow Creek, Libby Creek, Gold Creek, McFarland Creek, and French Creek. Irrigated pastures and cropland, orchards,

rangelands, and rural residential uses border the shorelines. Riparian vegetation is limited to narrow bands along the often steep banks, though some point bars do support vigorous groves of gallery forests. Highway modifications have hardened and confined the banks around most of the large meanders. There are only two developed public access points within this group, though many informal and common areas provide local access to residents. Public lands along the shoreline between RM 26-24 could hold potential for more access.

METHOW LAMIRD The Methow LAMIRD (Limited Area of More Intense Rural Development) group includes a ½ stretch of shoreline that falls within the small community known as Methow and centered around RM 13. Point bars support some riparian vegetation along the shoreline through this group, but much of the river is confined by steep banks in this section with little riparian cover. Shoreline ownership through this section is privately owned (except for a parcel owned by the Pateros School District - Methow Community Center) and primarily residential and agricultural in nature, although a private RV campground lines the north eastern shoreline. Resort and residential development is rapidly occurring in the vicinity of Methow which may cause an increase in demand for river access and services in Methow. The nearest public access is located at the French Creek Road junction where Hwy 153 crosses the river just north of the community.

MIDDLE METHOW The Middle Methow group extends from RM 47.5, just south of the town of Winthrop to the RM 41.9 to the Town of Twisp. This extremely active portion of river contains wide meanders and supports a dynamic channel with abandoned and active side channels and mid-channel islands. Riparian forests of mixed cottonwoods and Ponderosa pine line the variable sloped banks and gravel bars. The surrounding land uses are primarily irrigated alfalfa fields, small-scale row crops, and rural residential homes, though there is an airport and some industrial uses as well. Open spaces in this section of river valley support large numbers of mule deer. Public access is limited to informal access along highway right-of-ways, and common areas; that is, no developed public access exists within this group.

MIDDLE OKANOGAN The Middle Okanogan group extends downstream from RM 23 in the vicinity of Barnholt Loop to just below RM 20 north of Malott. The shoreline area is in transition from resource to residential uses and has some areas with extensive floodplain.

MIDDLE SIMILKAMEEN The Middle Similkameen River group runs northeast from the confluence with Palmer Creek at RM 19.5 then arcs downstream to the southeast where it ends at Enloe Dam. This portion of river sits in a relatively wide valley with a low gradient and supports an active floodplain. Surrounding slopes include shrub-steppe and forested habitats, while agricultural fields occupy first and second flood terraces. Abandoned mines and mill sites and small-scale gold dredge mining occurs within this reach of the river. It is believed that Salmon never reached this portion of the Similkameen. Riparian cover is limited by agricultural use. Public access occurs at

informal pull-outs along the Loomis-Oroville Rd with one primitive BLM campsite located at Similkameen Camp.

MIDDLE SINLAHEKIN RIVER The Middle Sinalhekin group runs north from RM 16.5 -10. It drains a forested valley and supports a flood plain. This group ends just below the confluence with Toats Coulee Creek. At the confluence and below, a wide wetland complex exists. Surrounding uses include agriculture, forestry, and open range as well as public access.

MILES LAKE Also known as Big Buck Lake, Miles Lake is fresh water lake located at T34N R21E. The outflow into an unnamed creek (Frost Creek) is completely diverted into irrigation canals that serve rural properties along the Twisp River valley. The lake is surrounded by range land and one residential unit. WDFW owns the southern 1/3 portion of the lake, while the remaining 2/3rd is privately owned.

MOCCASIN LAKE Moccasin Lake is located in Section 17 T34N R21E. This 32 acre lake is a privately owned lake with no public access but does have a private dock. The lake is surrounded by rangelands and protected via a private conservation easement.

MOLSON LAKE Molson Lake is located in Section 8 T40N R29E and is immediately SW of Sidley Lake where it separated by a road bed. The lake measures 20 acres. This is a shallow (maximum depth 20ft), silt bottomed lake that supports aquatic plants. The surrounding land use is open range land. There is no development along the shoreline. Public access is provided at NW corner of the lake at a WDFW site.

MUSKRAT LAKE Muskrat Lake is located in Section 15 T39N R29E. The lake measures 40-45 acres depending on water levels. This lake is an extremely shallow (maximum depth 6 ft), silt bottomed lake subject to de-watering. It is surrounded by private agricultural and range lands. There is little potential for public access given the water depth and quality, though options for habitat enhancement may exist.

OKANOGAN CITY The Okanogan City group includes those shorelines along the main stem of the Okanogan River near the City of Okanogan as well as lands downstream along the Okanogan River to the vicinity of Barnholt Loop. Salmon Creek is the major tributary for this section river. However, Salmon Creek does not meet the 20 cfs minimum required for designation of its shoreline due to irrigation withdrawal 4.3 miles upstream. The main stem of the Okanogan River through this group is confined to a single channel by channelization and armoring for levees and flood control. A narrow band of riparian vegetation exists throughout the group however, providing a green buffer. Land uses span the range of urban development from rural residential, commercial, educational, institutional and industrial uses throughout this group. Public Access exists at the Alma City Park, at the entrance to the Wastewater Treatment Plant and informal access points exist at Legion Park, at city owned property surrounding the treatment plant and along road rights-of-way and bridge crossings. Overall, access to the riverfront is limited within the City limits.

OMAK - RIVERSIDE The Omak-Riverside group extends from RM 40 – 35. This portion of river is primarily constrained to a single wide channel with very little channel complexity. There are two side channel islands located at RM 35 and 38 that support riparian vegetation. Shoreline riparian vegetation is limited by agricultural development throughout much of the group, however, much of the areas between the railroad and river along the eastern bank contains riparian vegetation. Land uses include rangelands, agriculture, industrial and rural residential. There is no developed public access although there are right of ways that are used as informal access points.

OMAK CITY The Omak City group runs from near the northern boundary of Omak downstream to the city of Okanogan's northern boundary. The river through Omak takes on a variety of characteristics ranging from free flowing and complex at the lower portion to Corps of Engineers built levees and steep bluffs abutting the river through the heart of the city. Along Aston Island side channels support active wetlands. This wilder portion gives way to a constrained portion where a levees line both sides of the shoreline through the downtown where uses include residential and commercial developments. The northern reaches through Omak and north support rural residential development amidst a unique landscape pocked by massive boulders in the floodplain. Riparian vegetation is typically established between the armored banks and the river throughout this reach. The Omak Eastside Park and Stampede Grounds is an important cultural site in this group. Public access exists at the Stampede Grounds as well as at Aston Island and Pioneer Park. The northern portion has limited public access.

OROVILLE CITY Shorelines within the Oroville City group include portions of the Similkameen and Okanogan Rivers upstream of their confluence and within the most heavily developed areas of Oroville. This group is urbanized, yet the river systems maintain a high degree of channel complexity, including wide meanders, wetlands, and side channels. Development along the rivers includes commercial, industrial, and residential uses. WDFW also holds large tracts of land south of the confluence on Okanogan River (Driscoll Island). River access is well provided for in the northern portion of this group on the Okanogan. The southern portion contains two WDFW access sites in the vicinity of the confluence. Lake Osoyoos State Park, located at the outlet of Lake Osoyoos into the Okanogan River provides a developed access and a variety of recreation improvements.

The Similkameen River portion of the group begins where the river emerges from the narrow canyon at the old rail trestle. The river is sinuous and levels out creating large meanders and a well developed floodplain associated with the confluence with the Okanogan River. Surrounding land uses include orchards, range lands, and rural – urban residential at Oroville. Public access is available at the 12th Street Bridge and sewer treatment plant in Oroville.

PALMER CREEK CONFLUENCE The Palmer Creek Confluence group encompasses the confluence of the Similkameen River and Palmer Creek which flows from Palmer Lake. This is area is very complex, sinuous wide floodplain that hosts a complex wetland system of active and abandoned meanders from the Similkameen and Palmer Creek.

Grazing has altered plant composition, but the confluence support a diverse assemblage of riparian and wetland habitat types. There are no public access areas within this group.

PALMER LAKE Palmer Lake is located in Sect 11 T39N R25E. Measuring at over 2,000 acres, this is a lake of Statewide Significance. The shoreline is both privately and publicly owned. The lake is a glacially carved trough fed by the Sinlahekin River. Outflow of the lake is via Palmer Creek which flows into the Similkameen River through a complex, braided wetland system. Surrounding land uses are primarily open range lands with some orchards to the east. The south and western shoreline is a steep, barren hillside with rock outcrops, whereas the north and eastern edges are more gradual and lined with vegetation. Private development along the eastern shoreline consists of permanent and seasonal residences and some private docks. There is a developed boat launch at the southern tip of the lake, a DNR campground and resort near the northern end and other public, undeveloped access points on the west and northern shorelines.

PATTERSON LAKE Patterson Lake is located in Section 19 of T34N R21E. The lake measures 160.3 acres. The lake is fed by Rader Creek and a small impoundment on the northern end maintains water levels where it empties into a series of beaver ponds and a single channel that eventually gets diverted for irrigation. The lake is heavily used for recreational fishing, non-motorized boating, swimming and hiking. There is a resort located on the northern shore with a common dock, as well as a launch site along the eastern shore that is operated by WDFW. Trails for hiking and mountain biking parallel the WDFW lands along the western shoreline while the southern end is privately owned and supports irrigated fields.

PEARRYGIN LAKE Pearrygin Lake is located in Section 36 of T35N R21E. The lake measures 182 acres. The lake is fed by two perennial streams, Pearrygin Creek and an unnamed creek. The outflow is captured for irrigation via canal. The glacially carved lake sits in a narrow valley where it abuts a forested slope to the south and open shrub-steppe habitat to the north. The majority of the shoreline is owned by Washington State Parks and the park is used heavily for watercraft, camping, hiking and fishing. WDFW owns the eastern shoreline, and there are some private in-holdings along the southwest corner of the lake.

RAT LAKE Rat Lake is located in Section 22 of T31N R24E. It is an artificial lake created by an old dam built prior to 1917 for irrigation at the headwaters of Whitestone Creek. Today, it is managed for flood control. Surface area measures 61.2 acres. The eastern shoreline is privately owned while the western shoreline is owned by the federal government. There is small boat launch, operated by WDFW, at the southern tip of the lake at the dam.

RIVERSIDE TOWN The Riverside Town group includes those shorelines along the Okanogan River within and to the south of the incorporated location of Riverside, RM 41.7 – RM 36, including the alluvial fan at the confluence of Johnson Creek. The Okanogan River takes a sweeping S-shaped bend through Riverside where the banks are armored with a levee for flood protection. Riparian vegetation waterward of the levee is

intact and robust, but limited to this narrow strip. The surrounding land uses include residential within the town proper and agriculture outside the town center. There are two developed public access sites within Riverside.

ROBERTS LAKE Roberts Lake is located in Section 9 T35N R25E. This shallow bottomed lake measures 34 acres and fluctuates greatly depending on water levels. The shoreline does not support woody riparian vegetation. The surrounding land is privately owned, and the uses are open range; there is no public access.

SALMON/CONCONULLY LAKE Salmon Lake is located in Section 6 T35N R25E. The surface are measures 292 acres. The lake is impounded by a dam along the western edge where an outlet releases water into the North Fork of Salmon Creek where it flows into Conconully Reservoir. The lake sits in a narrow valley trough at an east-west orientation, surrounded by steep forested hillsides. The lake is almost completely surrounded by public lands, including Forest Service and State lands. Land leases for cabins on BOR lands occur along the northern shoreline. Public access is found in the vicinity of the Dam and a WDFW launch site and resort on the northern shore.

SIDLEY LAKE Sidley Lake is located in Section 6 T40N R29E. The lake measures 104.8 acres. This high altitude lake sits a 3660 ft and has an average depth of 17 feet. The northern shoreline has been structurally modified to support Nine Mile Road. The west and SW shorelines have been platted and contain cabins and homes. Docks are present along private lands. Public access is available at the eastern shoreline where a WDFW launch site is shared with Molson Lake. No public beach exists.

SINLAHEKIN HEADWATER The Sinalhekin flows from Blue Lake T37N, R25E and travels northward through a series of ponded, shallow pools connects by a meandering channel of low gradient. This portion of the river is flanked by relatively steep forested banks, but occupies a flat valley that supports flooding and extensive shrub wetlands along the banks. There are numerous WDFW campsites along the river for fishing and camping.

SPECTACLE LAKE Spectacle Lake is located in Section 2 T38N R26E. The lake is 313 acres in area. The lake sits in a narrow valley trough with an orientation east-west. The northern shoreline supports orchards, small resorts and range land at the toe of gentle, bare slopes, whereas the southern shoreline is bordered by steep bluffs of undeveloped ONF land with scattered trees and forests.

TALKIRE LAKE Talkire Lake is located in Section 22 T36N R28E. The lake measures approximately 38 acres when full. The basin lies within Chewiliken Creek and this shallow bottomed basin is prone to de-watering to form more of a wetland. It is entirely surrounded by private, open range lands and has no public access.

TOATS COULEE Toats Coulee is a narrow stream channel draining steep slopes in T39N, R25E. The creek follows an easterly direction and is incised in a V-shaped channel where there is little to no floodplain. South facing slopes support open habitats

of grasslands and shrubs, whereas the northern aspects are forested. Most of the lower reaches of shoreline are privately owned, and undeveloped, whereas the State owns and manages portions of the upper reaches. No pubic access is developed along the creek.

TONASKET CITY The Tonasket City group includes those shorelines within Tonasket. At Tonasket, three tributaries, Bonaparte Creek, Siwash Creek, and Unnamed Creek, flow into the main stem, creating a wide shoreline jurisdiction. Uses include commercial, residential, and some industrial areas in the central group, while agricultural, orchards, and rural residential are found outside. Public access is developed at Lagoons City Park. Informal access exists History Park and at bridge crossings and ROWs, but otherwise is limited in town.

TORODA CREEK Toroda Creek is located in the far NE corner of the county in T39N, R31E. It is a tributary of the Kettle River in neighboring Ferry County. Toroda Creek drains a shrub steppe-forested landscape of gentle to steep slopes. The creek is of moderate gradient supporting a narrow floodplain occupied by agricultural fields and grazing lands. There is no public access along this portion of shoreline.

TWISP RIVER The Twisp River group begins at the Eagle Creek and flows east to a point a couple miles upstream from Twisp, approximately 12 miles. The Twisp River is a major tributary of the Methow River and support anadromous fish. Much of the river has been channelized through diking and riprap for property protection to support surrounding agricultural and residential uses. Despite this, riparian forests are still supported as is a narrow flood plain. The river meanders through a series of terraced benches where surrounding properties are rural residential and agricultural in nature. Public access can be found about 5 miles upstream at WDFW site and at ONF sites. However, the lower reaches are underserved for public access given the proximity to Twisp and the surrounding residential developments.

TWISP TOWN The shorelines in the Twisp Town group include those portions of the Twisp and Methow Rivers within Twisp. The Twisp River portion of this group begins about 2 miles upstream from the Town and is generally unconstrained. As the Twisp River reaches Town, it is stabilized by a flood levee on the southern bank. Where the Methow and Twisp rivers meet, a dynamic alluvial fan from the Twisp inputs large gravels, boulders and cobbles, creating large bars during low water. This area is heavily used by town residents and visitors for fishing, swimming, and beach combing. Surrounding land uses are primarily residential, open space and parks, and a large amount of former industrial and agricultural land. The mainstem of the Methow River is channelized through town and reinforced for bridge abutments at Highway 20. A narrow riparian forest of cottonwoods lines the otherwise steep banks. Public access on the Methow is provided as Twisp park, at the end of E. 2nd Avenue and informal access for foot traffic is found at the Highway 20 bridge. Access on the Twisp is found at the Methow Salmon Recovery Foundation property and at the county road bridge just west of the Town limits.

UPPER METHOW The Upper Methow group begins just upstream of where Lost River joins the Methow River. This portion of river is highly dynamic, draining a vast wilderness landscape of steep forested hills and snow and glacially covered peaks. The river flows in a south east direction where numerous small tributaries and streams contribute sediment and flows. Early Winters Creek enters the system at RM 67.5 creating an alluvial fan where the river meanders through large cobbles and sediments, creating a complex channel structure. This group is highly active with a wide floodplain that actively recruits new cottonwoods and riparian vegetation. Shorelines are largely forested and relatively undeveloped in this group although vacation and full time homes, including a few large track conservation properties and resorts, do occupy the surrounding lands. Public access is highly developed via a trail network for both summer and winter access to the river.

UPPER OKANOGAN The Upper Okanogan group begins at the confluence of the Similkameen River with where lake Osoyoos outflows and forms the Okanogan at Oroville and runs south 15 miles, RM 76 - 61. The river meanders southward through a wide floodplain that narrows as it approaches Tonasket at RM 58. The confluence area is a low gradient, complex channel with multiple wide meanders, side channels, wetlands, point bars, and islands. This portion supports seasonal grazing, but is otherwise free flowing and dynamic. As the floodplain begins to narrow near RM 64, orchards and intensive agriculture begin to dominate the surrounding landscape. No developed or established public access exists within this 15 mile stretch.

UPPER SIMILKAMEEN The Upper Similkameen begins at the Canadian border in T40N R25E to RM 22.3 where it adjoins the Palmer Creek, the outflow of Palmer Lake. This portion of river supports a wide floodplain with a robust complex channel, marked by side channel wetlands, abandoned oxbows and lush riparian vegetation. Land uses are primarily grazing and interspersed agriculture. Access to the Upper Similkameen is available at two WDFW sites located at RM 23.6, and RM 26.2, respectively.

WALKER LAKE Walker Lake is located in Section 27 T38N R30E. The lake is 40 acres in area. The lake is nearly circular in shape and shallow with a maximum depth of 32 feet. The lake bottom is sandy clay and the shoreline is lined by a sandy beach around its entire perimeter. The western shoreline is forested whereas the eastern shoreline is open rangeland. The shoreline is privately owned with no public access.

WANNACUT LAKE Wannacut Lake lies with T39N R26N in Section 24. The lake sits in a north/south trough surrounded by moderately forested hills. The shoreline measures approximate 5 miles in length. The eastern shoreline has been heavily subdivided for residential/vacation cabins, while the western shoreline is still intact and supports open range lands. There is one public access site in SW corner of the lake with a boat ramp.

WEST OSOYOOS The West Osoyoos group is located in Section 22 T40N R27E. Lake Osoyoos measures 2055 acres and therefore constitutes a shoreline of statewide significance. There are extensive gravel and sand beaches along the shoreline. West Osoyoos constitutes its own group based on its high level of residential development

including homes and docks. The entire lake is designated within the city of Oroville (and is served by public water and some sewer). Public access is found along the western shoreline at the City of Oroville Deep Bay with picnic, launch and swimming areas and numerous private campgrounds and small resorts that provide access.

WEST SANPOIL RIVER The West Fork of the Sanpoil River drains an area of nearly 200,000 acres. This portion of the Sanpoil runs in a SE direction from T36N, R30E to T35N, R31E for approximately 10 miles before it enters the mainstem of the Sanpoil. The surrounding landscape includes forested slopes and open rangelands. The West Fork of the Sanpoil sustains an actively floodplain with wide meanders that supports agriculture and grazing. Ownership includes private and Forest Service lands. No public access is documented.

WHITESTONE LAKE Whitestone Lake is located in Section 17 T38N R27E. The lake measures 147 acres. The lake is a natural, silt-bottomed lake but is supplemented by irrigation and detained by a small dam. The lake is used for recreation with several small resorts and irrigation storage. The northeastern shoreline has been stabilized for the Loomis-Oroville RD. A boat launch on State land provides access.

WINTHROP TOWN Shorelines in the Winthrop Town group include the Chewack River from about RM 0.5 downstream to the confluence with the Methow River, and the Methow River between RM 49-51. Where these rivers meet is a dynamic braided channel. Efforts to control channel movement have resulted in a flood control levee along the right bank of the Methow (which serves a ski trail in the winter) and extensive rip rap along the Chewack to protect riverfront businesses and two bridges. Nevertheless, this highly developed portion of the river still maintains a high level of ecological integrity and the Winthrop Park offers direct public access at the confluence for fishing, swimming and light boat craft launch. A pedestrian bridge at the north end of downtown provides access to a new park area along the Chewuch River and in south Winthrop, Heckendorn Park provides access to the Methow. Visual access to the river is an important feature to the town's identity as the riverfront properties command high real estate values. Recreation and commercial interests are a top priority for shorelines in this group.

Attachment 3. Watershed scale analysis to assess current condition of key process. There are two maps for each key process evaluated, the first showing key areas and the second alterations.

Attachment 4. RFFA data tables

Attachment 5. GIS methods specific to future impervious surface calculation

Create Setback

- GIS Erase difference land and Analysis Units to identify water - *AUWater*
- GIS Intersect *AUWater* and Shoreline Buildout parcels to determine overlap - *AUWaterSB*
- Calculate new field in *AUWaterSB* for setback (in feet) per designation
- Buffer *AUWaterSB* polygons by setback – *AUWaterSB_buffer*

Apply Setback *AUWaterSB_buffer* to Shoreline Buildout and AU Groups

- For Shoreline and AU Groups GIS Erase setback to create new files and add new field to recalculate acreages taking into account setback

Combine Setback Shoreline Buildout to NLCD Imperviousness

- GIS Identify to combine Shoreline Buildout to NLCD Imperviousness – *ShorelineBuildoutNLCDIdentify*

Combine *ShorelineBuildoutNLCDIdentify* to AU Groups

- GIS Identify to combine AU Groups *to ShorelineBuildoutNLCDIdentify* – Groups*ShorelineBuildoutNLCDIdentify*
- Recalculate acreage of Impervious acres per area
- Calculate SBMaxLot which is the Setback Shoreline Buildout Acres multiplied by the Maximum Lot Coverage per designation
- Calculate SBDifImp which is the difference between the Maximum acres of Shoreline Buildout and impervious cover in Shoreline Buildout
- Calculate PercSBDeve which is the percentage of developable land in the shoreline buildout area.

Group Name	Watershed (HUC10)	Watershed key processes areas						Present Level of Alteration & Current Shoreline Conditions			Current land use by percent[2]					Level of foreseeable Future development likely to affect shoreline condition[3]			Potential future impacts to shoreline processes[5]	Cumulative Impact		
		Sediment Delivery	Sediment alterations	Water Movement and storage	Water Alterations	Riparian Inputs	Riparian alterations	Parameters with High impact	Parameters with moderate to high impact	AU Quadrant[1]	Agriculture	Residential	Resource	Unknown/otl	Undeveloped	Summary of future impacts	Future Land use per group[4]			Current impervious %	Potential future impervious %	Difference
Aeneas Lake	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	residential, water quality 303(d) list, overwater structures, geohaz		1	3	9		83	6	Minimal changes due to existing buildout in place; possible due to potential	Low Int Rec	Med Int Res	% land use type per Group	0.00	25.49	-25.49
Albright Lake	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	water quality 303(d) list, road, geohaz		2			6	77	23	Minimal changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Rec	Low Int Ag	New or expanded development may impact conditions	0.00	0.00	0.00
Alkali Lake	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	residential, geohaz, wetland		2		12		62	26	Minimal to moderate changes possible due to the potential for new residences, recreation, and a limited number of new infrastructure due to development	Low Int Rec	Med Int Res	New or expanded development may impact conditions	0.00	94.42	-94.42
Alta Lake	Lower Methow	6%	0.7%	43%	3%	5%	0.5%	residential, water quality 303(d) list, road, overwater structures, geohaz, wetland, dispersed agriculture		1	1	6		93	1	Minimal changes due to high level of existing development; limited potential for new residences, recreation, and a limited number of new infrastructure due to development	Low Int Rec	Hi Int Resident	Expect conditions to remain the same or improve due to new higher standards for development	0.00	31.03	-31.03
Antoine Creek	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	wetland, potential migration zone, intensive agriculture, dispersed agriculture	bridge, culvert, geohaz	3	25		38	75		Minimal to moderate changes possible due to the potential for new residences, recreation, or agriculture use, and a limited number of new infrastructure due to development	Low Int Ag	Med Int Res/Ag	New or expanded development may impact conditions		N/A	N/A
Beaver Creek	Beaver Creek	3%	0.9%	34%	4%	5%	0.2%	geohaz, wetland	road, bridge, intensive agriculture	4		9	37	86	6	Minimal to moderate changes possible due to potential for new residences and agriculture uses limited number of new infrastructure due to development	Low Int Ag	Low Int Res/Ag	New or expanded development may impact conditions		N/A	N/A
Big Twin Lake	Middle Methow	8%	1.9%	64%	9%	9%	1.1%	water quality 303(d) list, geohaz, wetland		1		6		90	4	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place	Low Int Rec	Med Int Res	Expect conditions to remain the same or improve due to new higher standards for development	0.02	10.72	-10.70
Blue Lake	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	geohaz, dispersed agriculture		4		2		97	0	Minimal to moderate changes possible due to potential for new residences and agriculture uses limited number of new and a limited number of new infrastructure due to development	Low Int Ag	Low Int Res/Ag	New or expanded development may impact conditions	0.00	14.23	-14.23
Blue Lake (Sin)	Sinlahekin River	11%	0.8%	93%	8%	11%	2.0%		wetland	2				100		No major changes expected due to existing buildout in place	Low Int Rec	Med Int Rec	Expect conditions to remain the same or improve due to new higher standards for development		0.00	0.00
Bonaparte Creek	Bonaparte Creek	11%	0.8%	76%	10%	12%	0.9%	road, riparian vegetation, dispersed agriculture	residential, wetland, potential migration zone	2	8	14	41	68	10	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and agriculture uses	Low Int Ag	Med Int Res/Ag	New or expanded development may impact conditions		N/A	N/A
Bonaparte Lake	Bonaparte Creek	11%	0.8%	76%	10%	12%	0.9%	water quality 303(d) list, mine		4		0		100		No or only minimal changes expected due to forestry uses. Limited amount of new infrastructure for residential development may occur.	Low Int For		Agriculture or other land management activities may impact conditions. Very limited infrequent and localized impact to conditions	0.00	0.00	0.00
Booher Lake	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	water quality 303(d) list, dispersed agriculture		2				100		Minimal to moderate changes possible due to potential for new agriculture. Limited number of new infrastructure for agriculture activities may occur	Low Int Ag		Agriculture or other land management activities may impact conditions	0.00	0.00	0.00
Brewster	Columbia River	19%	0.9%	100%	14%	19%	4.5%	road, geohaz, wetland, riparian vegetation, potential migration zone	bridge, overwater structures, Ecology's permitted facilities	3	1	1	5	97	1	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place	Low Int Rec		Expect conditions to remain the same or improve due to new higher standards for development	4.04	131.18	-127.14

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Brown Lake	Salmon Creek	9%	1.4%	52%	7%	10%	1.2%	water quality 303(d) list, road, geohaz, dispersed agriculture		1				100		Minimal to moderate changes possible due to potential for new agriculture. Limited number of new infrastructure for agriculture activities may occur	Low Int Res/Ag	Low Int Ag	Agriculture or other land management activities may impact conditions	0.00	0.00	0.00
Carlton - Twisp	Middle Methow	8%	1.9%	64%	9%	9%	1.1%	residential, road, bridge, wetland, riparian vegetation, potential migration zone		4	2	21	17	64	13	Minimal to moderate changes possible due to the potential for new residences, recreation, and a limited number of new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	10.63	139.27	-128.64
Carlton Lamird	Lower Methow	6%	0.7%	43%	3%	5%	0.5%	residential, Ecology's permitted facilities	water quality 303(d) list, geohaz, wetland	4		13	23	83	4	Minimal to moderate changes possible due to the potential for new residences, recreation, and a limited number of new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	1.19	33.09	-31.90
Chewuck River	Lower Chewuch River	6%	0.6%	17%	4%	8%	0.6%		residential, geohaz	4		18	6	54	28	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	3.48	37.31	-33.83
Chopaka Lake	Sinlahekin River	11%	0.8%	93%	8%	11%	2.0%	water quality 303(d) list, overwater structures, dispersed agriculture		4	13			87		No or only minimal changes expected due to forestry/ agriculture uses.	Low Int Rec	Low Int For	New or expanded development may impact conditions, depends on recreation use	0.00	0.00	0.00
Conconully Lake	Salmon Creek	9%	1.4%	52%	7%	10%	1.2%	water quality 303(d) list, Ecology's permitted facilities, potential migration zone	road, geohaz, wetland	1		0	1	100		Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and recreation uses, and limited new infrastructure expected because of existing buildout in place	Low Int Rec	Hi Int Com	Expect conditions to remain the same or improve due to new higher standards for development	2.27	106.77	-104.50
Crawfish Lake	West Fork Sanpoil	7%	0.1%	27%	6%	8%	0.5%	residential, road, overwater structures, wetland		2		5		93	1	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and new infrastructure due to recreation development	Low Int Rec	Low Int For	New or expanded development may impact conditions	0.00	3.29	-3.29
Davis Lake	Middle Methow	8%	1.9%	64%	9%	9%	1.1%	residential, Ecology's permitted facilities, overwater structures, geohaz		2		22	1	50	28	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and new infrastructure due to development	Low Int Res/Ag	Low Int Rec	New or expanded development may impact conditions	0.59	141.07	-140.48
Duck Lake	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	water quality 303(d) list, geohaz, dispersed agriculture		1	1	5	7	54	41	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	0.28	46.36	-46.08
East Osoyoos	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	residential, water quality 303(d) list, road, overwater structures, Ecology's permitted facilities, riparian vegetation	wetland	1-2	0	3	1	93	4	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place.	Low Int Rec	Hi Int Resident	Expect conditions to remain the same or improve due to new higher standards for development	1.90	130.19	-128.29
Evans Lake	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	water quality 303(d) list, geohaz, wetland, dispersed agriculture		2		4		92	4	Minimal changes possible due to potential for new agriculture. Limited number of new infrastructure for agriculture activities may occur	Low Int Ag		Agriculture or other land management activities may impact conditions	0.00	0.00	0.00
Fancher Dam Res	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	water quality 303(d) list, Ecology's permitted facilities, geohaz, dispersed agriculture		1				100		Minimal changes possible due to potential for new agriculture. Limited number of new infrastructure for agriculture activities may occur	Low Int Ag		Agriculture or other land management activities may impact conditions	0.00	0.00	0.00
Fields Lake	Myers	6%	0.2%	71%	5%	8%	0.8%	water quality 303(d) list, road, geohaz, intensive agriculture		3			##	100		Minimal changes possible due to potential for new agriculture. Limited number of new infrastructure for agriculture activities may occur	Low Int Ag		Agriculture or other land management activities may impact conditions	0.00	0.00	0.00
Fish Lake	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	road, Ecology's permitted facilities, overwater structures, geohaz		2				100		No or only minimal changes expected due to forestry uses. Limited amount of new infrastructure for recreation development may occur	Low Int For		Agriculture or other land management activities may impact conditions. Very limited infrequent and localized impact to conditions		0.00	0.00

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Gold Creek	Lower Methow	6%	0.7%	43%	3%	5%	0.5%	water quality 303(d) list, road, bridge, geohaz, potential migration zone	residential, wetland	3		44	11	35	21	Minimal to moderate changes possible due to potential for new recreation, residential, and agriculture uses limited number of new infrastructure due to development	Low Int Res/Ag	Low Int For	New or expanded development may impact conditions		N/A	N/A
Green Lake	Salmon Creek	9%	1.4%	52%	7%	10%	1.2%	road, overwater structures, geohaz, wetland, dispersed agriculture		2				93	7	Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Rec	Low Int Ag	New or expanded development may impact conditions, depends on recreation use	0.00	7.11	-7.11
Horseshoe Lake	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	geohaz, wetland, dispersed agriculture		2		6	20	79	15	No or only minimal changes expected due to forestry uses. Limited amount of new infrastructure may occur	Low Int Ag	Low Int For	Agriculture or other land management activities may impact conditions	0.00	0.00	0.00
Keystone - Tonasket	Upper Okanogan	15%	0.4%	101%	14%	15%	0.3%	residential, rail, wetland, riparian vegetation	potential migration zone, intensive agriculture	4	11	17	18	60	11	Minimal to moderate changes possible due to the potential for new residences, recreation, and a limited number of new infrastructure due to development	Low Int Ag	Low Int Rec	New or expanded development may impact conditions	1.25	141.20	-139.95
Keystone Canyon	Upper Okanogan	15%	0.4%	101%	14%	15%	0.3%	rail, wetland, riparian vegetation, potential migration zone, dispersed agriculture	geohaz, intensive agriculture	4	2	1	19	96	1	Minimal to moderate changes possible due to the potential for new residences, recreation, and a limited number of new infrastructure due to development	Low Int Ag	Low Int Rec	New or expanded development may impact conditions	2.77	109.81	-107.04
Lake Pateros	Columbia River	19%	0.9%	100%	14%	19%	4.5%	road, overwater structures, Ecology's permitted facilities, overwater structures	residential, bridge, geohaz, potential migration zone	3	1	4	12	95	1	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place.	Low Int Rec		Expect conditions to remain the same or improve due to new higher standards for development	3.37	102.30	-98.93
Leader Lake	Lower Okanogan River	13%	1.0%	71%	13%	15%	1.5%	water quality 303(d) list, Ecology's permitted facilities, overwater structures, geohaz, intensive agriculture		3			11	57	43	Minimal changes possible due to potential for new agriculture. Limited number of new roads and other supporting infrastructure for agriculture activities may occur	Low Int Ag		Agriculture or other land management activities may impact conditions	0.60	0.00	0.60
Lemanaski Lake	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	water quality 303(d) list, road, geohaz, intensive agriculture		1	4	4	56	92		Minimal changes possible due to potential for new agriculture. Limited number of new roads and other supporting infrastructure for agriculture activities may occur	Low Int Ag		Agriculture or other land management activities may impact conditions	0.00	0.00	0.00
Little Twin Lake	Middle Methow	8%	1.9%	64%	9%	9%	1.1%	water quality 303(d) list, geohaz, wetland		1		7		29	63	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	0.07	10.16	-10.09
Lost Creek	West Fork Sanpoil	7%	0.1%	27%	6%	8%	0.5%		geohaz	2		8		88	4	No or only minimal changes expected due to forestry uses. Limited amount of new infrastructure for residential development may occur.	Low Int For		land management activities may impact conditions. Very limited infrequent and localized impact to conditions		N/A	N/A
Lower Methow	Lower Methow River	6%	0.7%	43%	3%	5%	0.5%	road, geohaz, wetland, riparian vegetation	potential migration zone, intensive agriculture	3	8	4	22	82	6	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	5.67	248.39	-242.72
Lower Okanogan	Lower Okanogan River	13%	1.0%	71%	13%	15%	1.5%	wetland, riparian vegetation			0	1	19	98	1	Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Rec	Med Int Res/Ag	New or expanded development may impact conditions, depends on recreation use	0.21	334.42	-334.21
Lower Salmon	Salmon Creek	9%	1.4%	52%	7%	10%	1.2%	residential, road, bridge, geohaz, wetland, riparian vegetation, potential migration zone		3	1	6	22	91	2	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and new infrastructure due to development	Med Int Res		New or expanded development may impact conditions		N/A	N/A

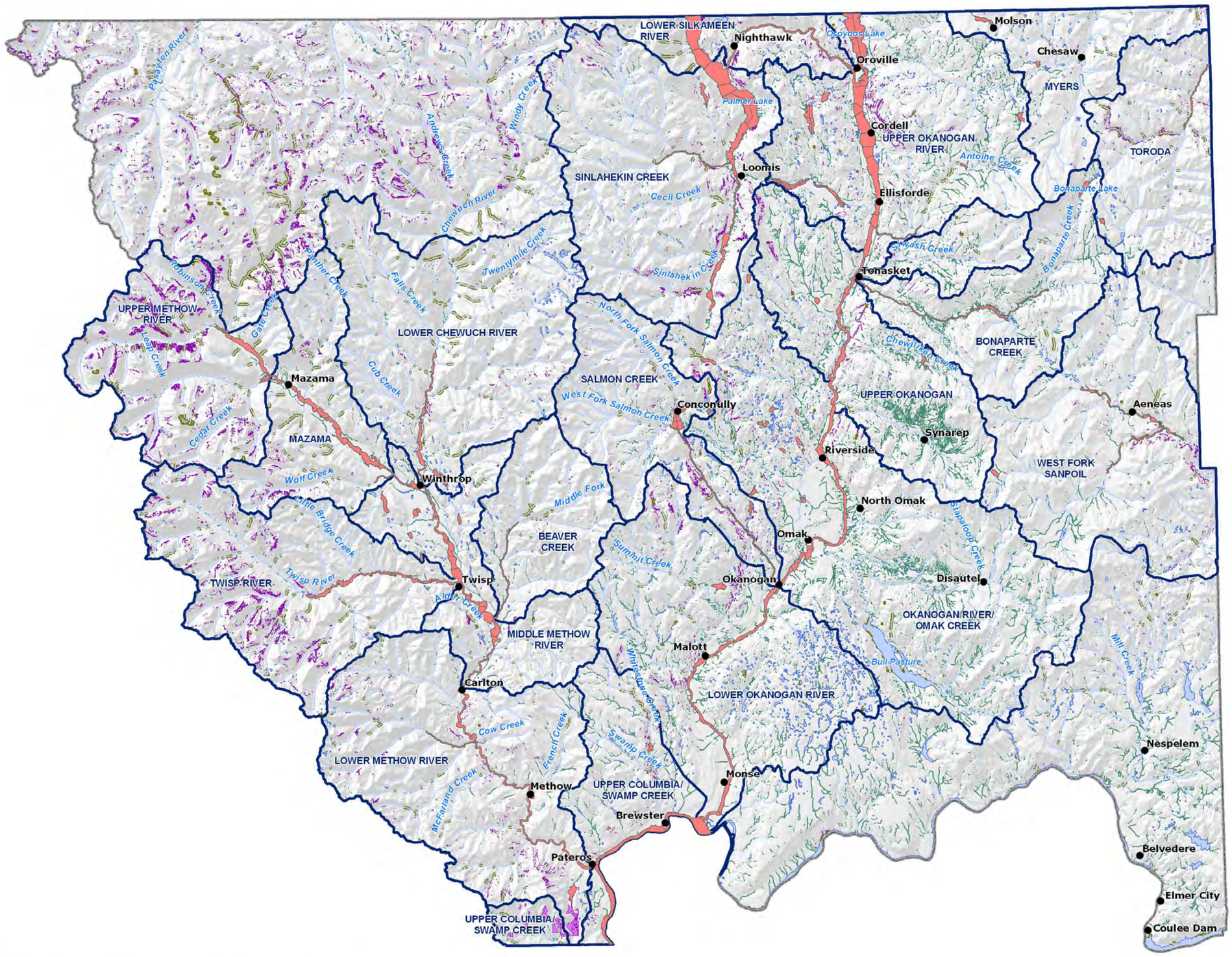
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Lower Similkameen	Lower Similkameen	13%	1.0%	109%	8%	9%	1.5%	water quality 303(d) list, bridge, Ecology's permitted facilities, geohaz, wetland, riparian vegetation, potential migration zone, intensive agriculture		1	4	1	12	69	27	Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Ag	Low Int Rec	New or expanded development may impact conditions, depends on recreation use	0.14	36.66	-36.52
Lower Sinlahekin	Sinlahekin River	11%	0.8%	93%	8%	11%	2.0%	water quality 303(d) list, riparian vegetation, intensive agriculture	dispersed agriculture	2			78	100	0	Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Ag	Low Int Res/Ag	New or expanded development may impact conditions, depends on recreation use		N/A	N/A
Lower Wells Pool	Columbia River	19%	0.9%	100%	14%	19%	4.5%	rail, wetland, , potential migration zone	road	3	0	0	7	99	1	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place.	Low Int Rec		Expect conditions to remain the same or improve due to new higher standards for development	0.51	73.19	-72.68
Malott Lamird	Lower Okanogan River	13%	1.0%	71%	13%	15%	1.5%	wetland, riparian vegetation	water quality 303(d) list	3	1	2	15	89	9	Minimal to moderate changes possible due to the potential for new residences, recreation, and a limited number of new infrastructure due to development	Low Int Rec	Med Int Res/Ag	New or expanded development may impact conditions	0.15	104.21	-104.06
Mazama	Mazama	6%	0.6%	22%	4%	6%	0.3%	residential	water quality 303(d) list, geohaz	4	0	13	19	63	25	Minimal to moderate changes possible due to the potential for new residences, recreation, and a limited number of new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	17.00	207.63	-190.63
Medicine Lake	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	water quality 303(d) list, geohaz, wetland, dispersed agriculture		2				100		Minimal changes possible due to potential for new agriculture. Limited number of new roads and other supporting infrastructure for agriculture activities may occur	Low Int Ag		Agriculture or other land management activities may impact conditions	0.00	0.00	0.00
Methow - Carlton	Lower Methow	6%	0.7%	43%	3%	5%	0.5%	road, geohaz, wetland	residential, bridge, Ecology's permitted facilities	4	5	12	17	76	7	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	23.46	706.01	-682.54
Methow Lamird	Lower Methow	6%	0.7%	43%	3%	5%	0.5%	road, bridge, geohaz, wetland, potential migration zone		4	6	7	15	84	3	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and new infrastructure due to development	Low Int Rec	Med Int Res/Ag	New or expanded development may impact conditions	3.29	156.98	-153.69
Middle Methow	Middle Methow	8%	1.9%	64%	9%	9%	1.1%		residential, intensive agriculture, dispersed agriculture	4	4	12	5	71	12	Minimal changes due to high level of existing development; limited potential for new residences, recreation, and a limited number of new infrastructure due to development	Med Int Res	Med Int Res/Ag	Expect conditions to remain the same or improve due to new higher standards for development	14.28	962.03	-947.75
Middle Okanogan	Lower Okanogan River	13%	1.0%	71%	13%	15%	1.5%	wetland, riparian vegetation	residential	4	3	7	13	90	0	Minimal changes due to high level of existing development; limited potential for new residences, recreation, and a limited number of new infrastructure due to development	Med Int Res/Ag	Low Int Rec	Expect conditions to remain the same or improve due to new higher standards for development	0.00	53.86	-53.86
Middle Similkameen	Lower Similkameen	13%	1.0%	109%	8%	9%	1.5%	water quality 303(d) list, geohaz, wetland, dispersed agriculture	riparian vegetation	1-2	7	3	3	72	18	Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Ag	Low Int Rec	New or expanded development may impact conditions	0.60	26.56	-25.95
Middle Sinlahekin River	Sinlahekin River	11%	0.8%	93%	8%	11%	2.0%	culvert	riparian vegetation, dispersed agriculture	2	1	0	22	98	0	Minimal to moderate changes possible due to potential for new residences and agriculture uses limited number of new infrastructure due to development	Low Int Ag	Low Int Rec	New or expanded development may impact conditions		N/A	N/A
Miles Lake	Middle Methow	8%	1.9%	64%	9%	9%	1.1%	Ecology's permitted facilities, geohaz, intensive agriculture		2				100		Minimal to moderate changes possible due to the potential for new residences, recreation, and a limited number of new infrastructure due to development	Low Int Ag	Low Int Res/Ag	New or expanded development may impact conditions	0.09	0.00	0.09

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Moccasin Lake	Middle Methow	8%	1.9%	64%	9%	9%	1.1%	Ecology's permitted facilities, geohaz, intensive agriculture		2				100		Minimal changes possible due to potential for new agriculture. Limited number of new roads and other supporting infrastructure for agriculture activities may occur.	Low Int Ag		Agriculture or other land management activities may impact conditions		0.00	0.00
Molson Lake	Myers	6%	0.2%	71%	5%	8%	0.8%	water quality 303(d) list, road, geohaz, wetland, dispersed agriculture		3			22	88	12	Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Ag	Low Int Rec	New or expanded development may impact conditions, depends on recreation use	0.00	306.63	-306.63
Muskrat Lake	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	water quality 303(d) list, intensive agriculture		1			76	100		Minimal changes possible due to potential for new agriculture. Limited number of new roads and other supporting infrastructure for agriculture activities may occur	Low Int Ag		Agriculture or other land management activities may impact conditions	0.00	0.00	0.00
Okanogan City	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	residential, Ecology's permitted facilities, wetland, riparian vegetation	water quality 303(d) list, bridge, levee, riprap	3-4	5	9	4	79	7	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place.	Low Int Rec	Hi Int Resident	Expect conditions to remain the same or improve due to new higher standards for development	4.04	64.86	-60.82
Omak - Riverside	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	geohaz, wetland, riparian vegetation, intensive agriculture		4		2	15	98	0	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit), recreation uses, and new infrastructure due to development	Low Int Rec	Low Int Res/Ag	New or expanded development may impact conditions	4.09	153.81	-149.73
Omak City	Okanogan River/ Omak	16%	0.9%	56%	14%	17%	1.9%	levee, wetland, riparian vegetation	residential, Ecology's permitted facilities, geohaz	3-4	1	5	10	88	6	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit), recreation uses, and new infrastructure due to development	Low Int Rec	Med Int Res	New or expanded development may impact conditions	0.02	0.00	0.02
Oroville City	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	water quality 303(d) list, bridge, Ecology's permitted facilities, levee, riparian vegetation	residential, road, wetland	3	11	8	16	76	5	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place	Low Int Rec	Hi Int Com	Expect conditions to remain the same or improve due to new higher standards for development	25.61	205.52	-179.91
Palmer Creek Confluence	Sinlahekin River	11%	0.8%	93%	8%	11%	2.0%	water quality 303(d) list, Ecology's permitted facilities, dispersed agriculture	intensive agriculture	2	5		50	94	1	Minimal changes possible due to potential for new agriculture. Limited number of new roads and other supporting infrastructure for agriculture activities may occur.	Low Int Ag	Low Int Rec	New or expanded development may impact conditions, depends on recreation use	0.00	8.68	-8.68
Palmer Lake	Sinlahekin River	11%	0.8%	93%	8%	11%	2.0%	water quality 303(d) list, dispersed agriculture	geohaz	4	1	1	2	98	0	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place.	Low Int Rec	Low Int Ag	Expect conditions to remain the same or improve due to new higher standards for development	3.15	113.73	-110.58
Patterson Lake	Middle Methow	8%	1.9%	64%	9%	9%	1.1%	road, Ecology's permitted facilities, overwater structures, geohaz		2			11	99	1	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and limited new infrastructure expected because of existing buildout in place	Low Int Rec	Med Int Res/Ag	Expect conditions to remain the same or improve due to new higher standards for development	6.20	238.29	-232.08
Pearrygin Lake	Lower Chewuch River	6%	0.6%	17%	4%	8%	0.6%	water quality 303(d) list, Ecology's permitted facilities, overwater structures, geohaz	road	1			1	90	10	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and recreation uses, limited new infrastructure expected because of existing buildout in place	Low Int Rec	Med Int Res	Expect conditions to remain the same or improve due to new higher standards for development	0.00	20.18	-20.18
Rat Lake	Lower Okanogan River	13%	1.0%	71%	13%	15%	1.5%	overwater structures, geohaz, wetland, dispersed agriculture		2	6			94		Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Rec	Low Int Ag	New or expanded development may impact conditions, depends on recreation use	0.74	0.00	0.74
Riverside Town	Okanogan River/Omak	16%	0.9%	56%	14%	17%	1.9%	levee, wetland, riparian vegetation	water quality 303(d) list, intensive agriculture, dispersed agriculture	3	12	3	14	85	1	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit), recreation uses, and new infrastructure due to development	Low Int Rec	Low Int Res/Ag	New or expanded development may impact conditions	4.00	80.79	-76.79
Roberts Lake	Salmon Creek	9%	1.4%	52%	7%	10%	1.2%	water quality 303(d) list, geohaz, wetland, dispersed agriculture		2				100		Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Ag	Low Int Rec	New or expanded development may impact conditions, depends on recreation use	0.00	0.00	0.00

Group Name	Watershed (HUC10)	Watershed key processes areas						Present Level of Alteration & Current Shoreline Conditions			Current land use by percent[2]					Level of foreseeable Future development likely to affect shoreline condition[3]			Potential future impacts to shoreline processes[5]	Cumulative Impact		
		Sediment Delivery	Sediment alterations	Water Movement and storage	Water Alterations	Riparian Inputs	Riparian alterations	Parameters with High impact	Parameters with moderate to high impact	AU Quadrant[1]	Agriculture	Residential	Resource	Unknown/ott	Undeveloped	Summary of future impacts	Future Land use per group[4]			Current impervious %	Potential future impervious %	Difference
Salmon/Conconully Lake	Salmon Creek	9%	1.4%	52%	7%	10%	1.2%	water quality 303(d) list, Ecology's permitted facilities, geohaz, wetland		1			22	92	8	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place.	Hi Int Resident	Low Int Rec	Expect conditions to remain the same or improve due to new higher standards for development		N/A	N/A
Sidley Lake	Myers	6%	0.2%	71%	5%	8%	0.8%	residential, water quality 303(d) list, road, overwater structures, geohaz		3	0	9	4	79	12	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place.	Low Int Rec	Hi Int Resident	Expect conditions to remain the same or improve due to new higher standards for development	0.00	145.23	-145.23
Sinlahekin Headwater	Sinlahekin River	11%	0.8%	93%	8%	11%	2.0%	Ecology's permitted facilities, potential migration zone,	overwater structures	2				100		Minimal changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Rec		New or expanded development may impact conditions, depends on recreation use		N/A	N/A
Spectacle Lake	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	water quality 303(d) list, wetland	road, overwater structures, Ecology's permitted facilities, geohaz, riparian vegetation	1	0	3	10	96	1	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit), recreation uses, and new infrastructure due to development	Hi Int Resident	Low Int Ag	New or expanded development may impact conditions	0.44	91.10	-90.66
Talkire Lake	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	intensive agriculture	dispersed agriculture, road	4	28		42	72		Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Ag		Agriculture or other land management activities may impact conditions	0.00	0.00	0.00
Toats Coulee	Sinlahekin River	11%	0.8%	93%	8%	11%	2.0%	wetland, potential migration zone,	road	2			24	82	18	No or only minimal changes expected due to forestry uses. Limited amount of new infrastructure for development	Low Int For		Agriculture or other land management activities may impact conditions. Very limited infrequent and localized impact to conditions		N/A	N/A
Tonasket City	Upper Okanogan	15%	0.4%	101%	14%	15%	0.3%	residential, Ecology's permitted facilities, riprap, riparian vegetation	water quality 303(d) list, rail, wetland	3	11	12	18	77	1	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit), recreation uses, and new infrastructure due to development	Med Int Res/Ag	Low Int Rec	New or expanded development may impact conditions	7.26	370.47	-363.21
Toroda Creek	Toroda Creek	5%	0.3%	51%	4%	6%	0.3%	intensive agriculture	residential	2	4	3	80	93	0	Minimal changes possible due to potential for new agriculture or forestry uses. Limited number of new roads and other supporting infrastructure for agriculture activities may occur.	Low Int Ag	Low Int For	Agriculture or other land management activities may impact conditions. Very limited infrequent and localized impact to conditions		N/A	N/A
Twisp River	Twisp River	9%	0.6%	17%	3%	5%	0.4%	residential	geohaz	4	1	33	16	53	14	Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Med Int Res	Low Int For	New or expanded development may impact conditions	10.21	256.90	-246.69
Twisp Town	Middle Methow	8%	1.9%	64%	9%	9%	1.1%	residential, Ecology's permitted facilities	water quality 303(d) list, road, bridge, geohaz, riparian vegetation	3	2	23	13	53	22	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit), recreation uses, and new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	31.56	580.00	-548.43
Upper Methow	Upper Methow	15%	1.0%	14%	2%	5%	0.8%	water quality 303(d) list	residential, road, wetland	4		17	7	47	36	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit), recreation uses, and new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	15.66	224.66	-209.01
Upper Okanogan	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	intensive agriculture	residential, riparian vegetation, dispersed agriculture	4	7	2	42	90	1	Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Ag	Low Int Rec	New or expanded development may impact conditions	2.07	166.56	-164.49
Upper Salmon	Salmon Creek	9%	1.4%	52%	7%	10%	1.2%	wetland, potential migration zone	residential, road, geohaz, intensive agriculture, dispersed agriculture	4	2	6	35	87	5	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit) and recreation uses, limited new infrastructure expected because of existing buildout in place	Low Int Ag	Low Int For	Expect conditions to remain the same or improve due to new higher standards for development		N/A	N/A
Upper Similkameen	Lower Similkameen	13%	1.0%	109%	8%	9%	1.5%	water quality 303(d) list	intensive agriculture, dispersed agriculture	2	2	0	39	78	20	Minimal changes possible due to potential for new agriculture. Limited number of new roads and other supporting infrastructure for agriculture activities may occur	Low Int Ag	Low Int Rec	New or expanded development may impact conditions	0.00	0.00	0.00

Group Name	Watershed (HUC10)	Watershed key processes areas						Present Level of Alteration & Current Shoreline Conditions			Current land use by percent[2]					Level of foreseeable Future development likely to affect shoreline condition[3]			Potential future impacts to shoreline processess[5]	Cumulative Impact		
		Sediment Delivery	Sediment alterations	Water Movement and storage	Water Alterations	Riparian Inputs	Riparian alterations	Parameters with High impact	Parameters with moderate to high impact	AU Quadrant[1]	Agriculture	Residential	Resource	Unknown/ott	Undeveloped	Summary of future impacts	Future Land use per group[4]			Current impervious %	Potential future impervious %	Difference
Walker Lake	Toroda Creek	5%	0.3%	51%	4%	6%	0.3%	wetland, intensive agriculture	dispersed agriculture	4			98	98	2	Minimal changes possible due to potential for new agriculture. Limited number of new roads and other supporting infrastructure for agriculture activities may occur	Low Int Ag		Agriculture or other land management activities may impact conditions. Very limited infrequent and localized impact to conditions	0.00	0.00	0.00
Wannacut Lake	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	water quality 303(d) list, geohaz	residential, road, overwater structures, intensive agriculture, dispersed agriculture	1		4	0	94	2	Minimal to moderate changes possible due to potential for new recreation and agriculture uses limited number of new infrastructure due to development	Low Int Rec	Med Int Res/Ag	New or expanded development may impact conditions	0.00	249.00	-249.00
West Osoyoos	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	residential, water quality 303(d) list, overwater structures, Ecology's permitted facilities	road, riparian vegetation	1-3	1	5	1	92	2	Minimal changes expected due to high level of existing development. Potential for new residences to be built in buffers (via permit), and limited new infrastructure expected because of existing buildout in place.	Low Int Rec	Hi Int Resident	Expect conditions to remain the same or improve due to new higher standards for development	6.86	117.83	-110.97
West Sanpoil River	West Fork Sanpoil	7%	0.1%	27%	6%	8%	0.5%		residential, potential migration zone, intensive agriculture	2-4	6	18	28	62	15	minor changes expected due to recreation and high intensity residential	Low Int Res/Ag	Low Int Ag	New or expanded development may impact conditions		N/A	N/A
Whitestone Lake	Upper Okanogan River	16%	0.5%	99%	14%	17%	2.6%	water quality 303(d) list, geohaz, dispersed agriculture	Ecology's permitted facilities	1	8		12	90	2	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit), recreation uses, and new infrastructure due to development	Low Int Ag	Low Int Res/Ag	New or expanded development may impact conditions	0.00	49.96	-49.96
Winthrop Town	Lower Chewuch River	6%	0.6%	17%	4%	8%	0.6%	residential, water quality 303(d) list, road, Ecology's permitted facilities	bridge, geohaz, wetland	3	0	19	16	68	13	Minimal to moderate changes possible due to the potential for new residences to be built in buffers (via permit), recreation uses, and new infrastructure due to development	Med Int Res	Low Int Rec	New or expanded development may impact conditions	5.54	83.07	-77.52

1 Current Shoreline Quality based on the Inventory and Characterization
2 DOR codes (only major types shown)
3 Summary of likely trend due to Shoreline Designation and RFFAs
4 RFFA Land use type. Those shown represent the greatest percentage of land use type under proposed designations (See attachment 4 for detailed summary of all potential land use types per group)
5 Summary of potential changes to watershed key processes: sediment, hydrology, LWD, and nutrients based on future trends to shoreline condition
6 N/A indicates stream group data not analyzed, data inconsistencies



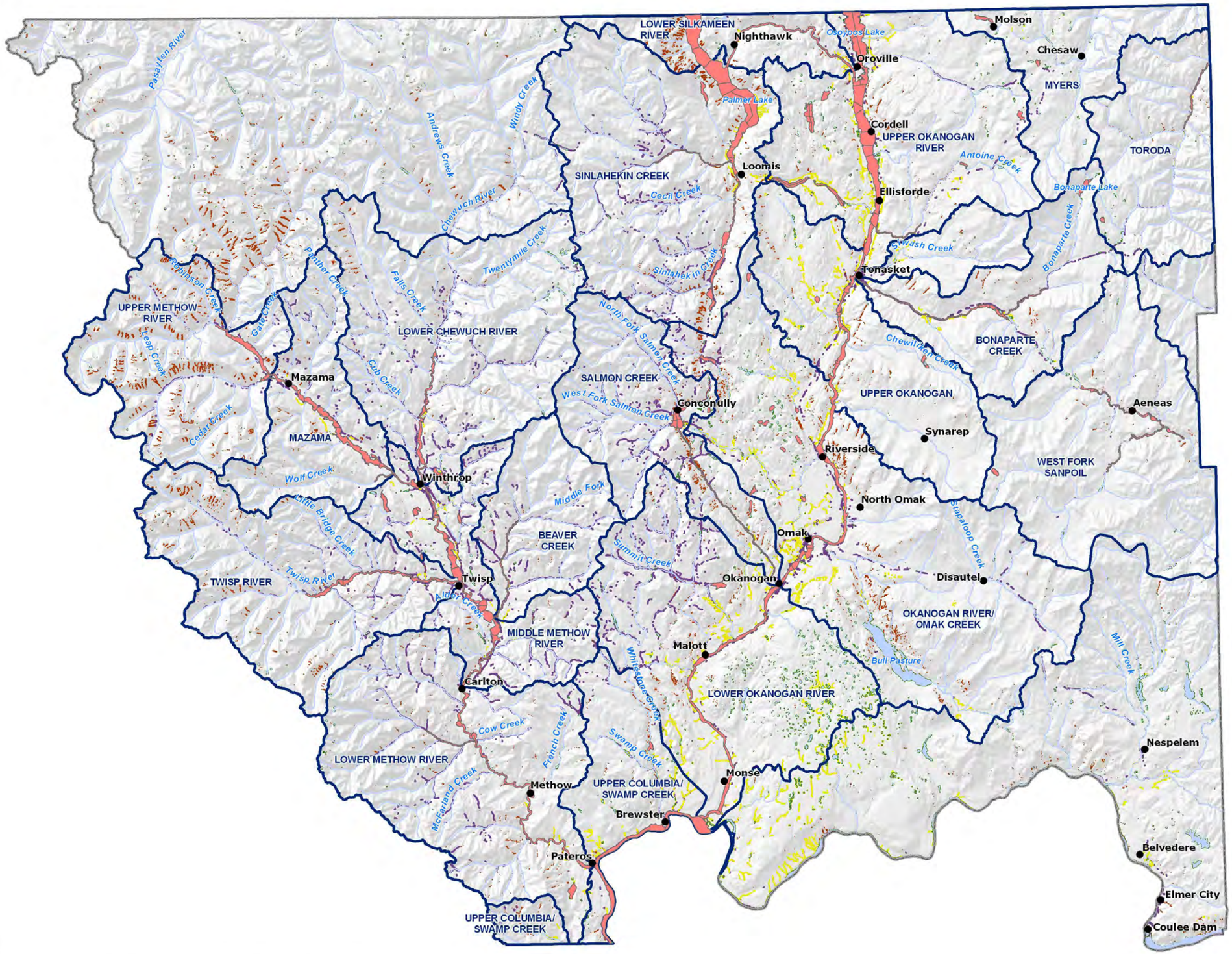
Okanogan County Shoreline Master Plan

Riparian Inputs - Nutrient Sources

Key Areas

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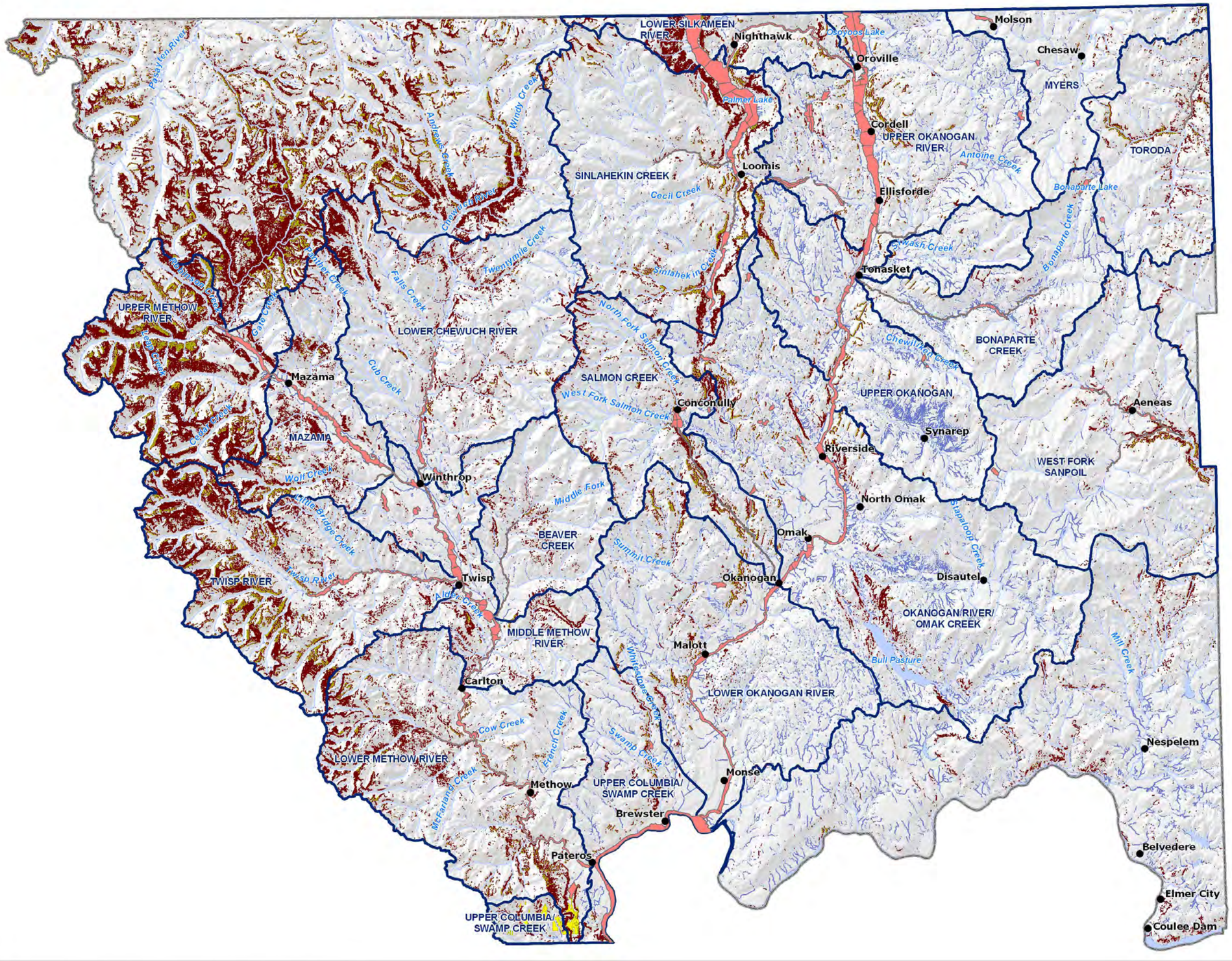
Okanogan County Shoreline Master Plan

Riparian Inputs - Nutrient Sources

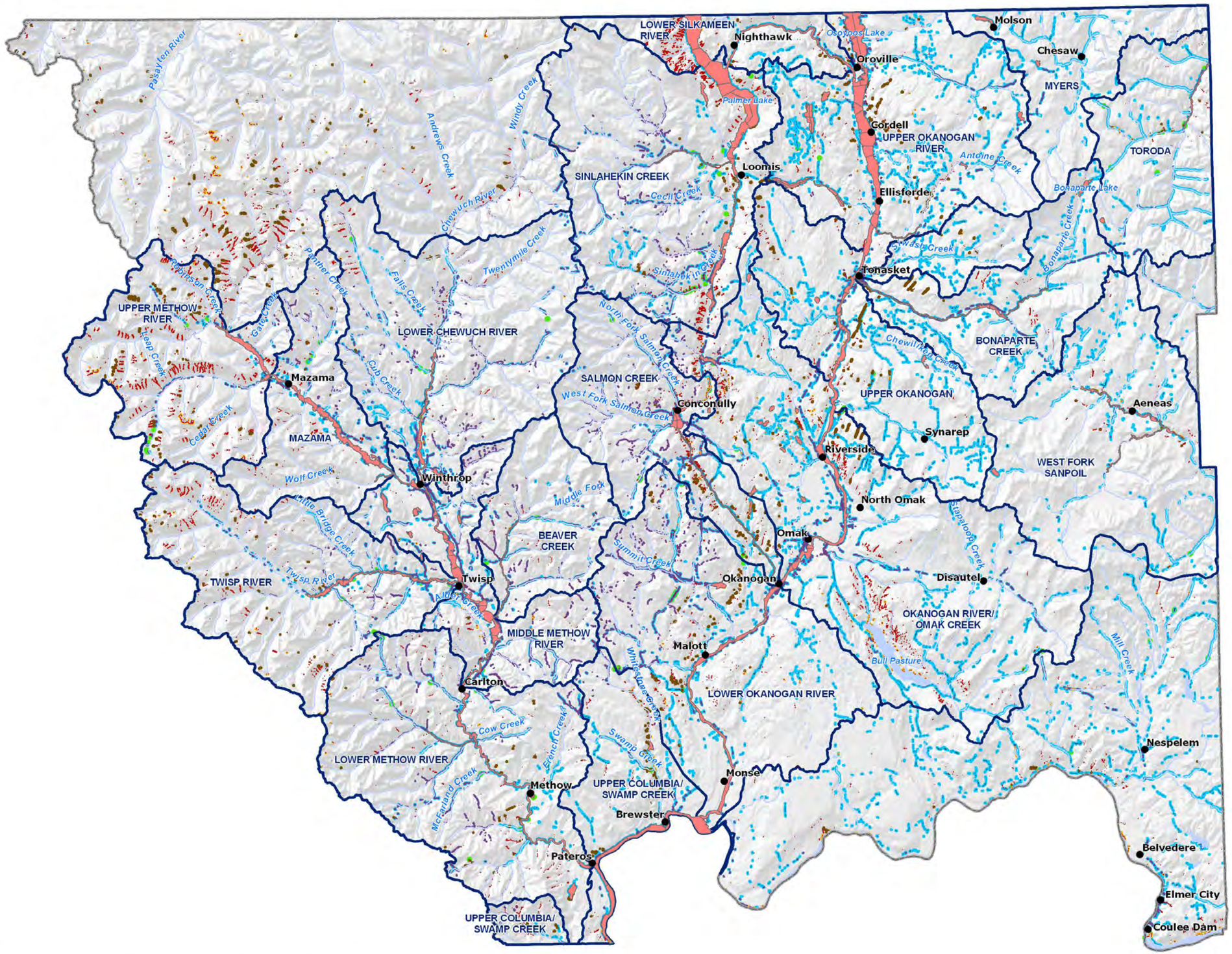
Alterations

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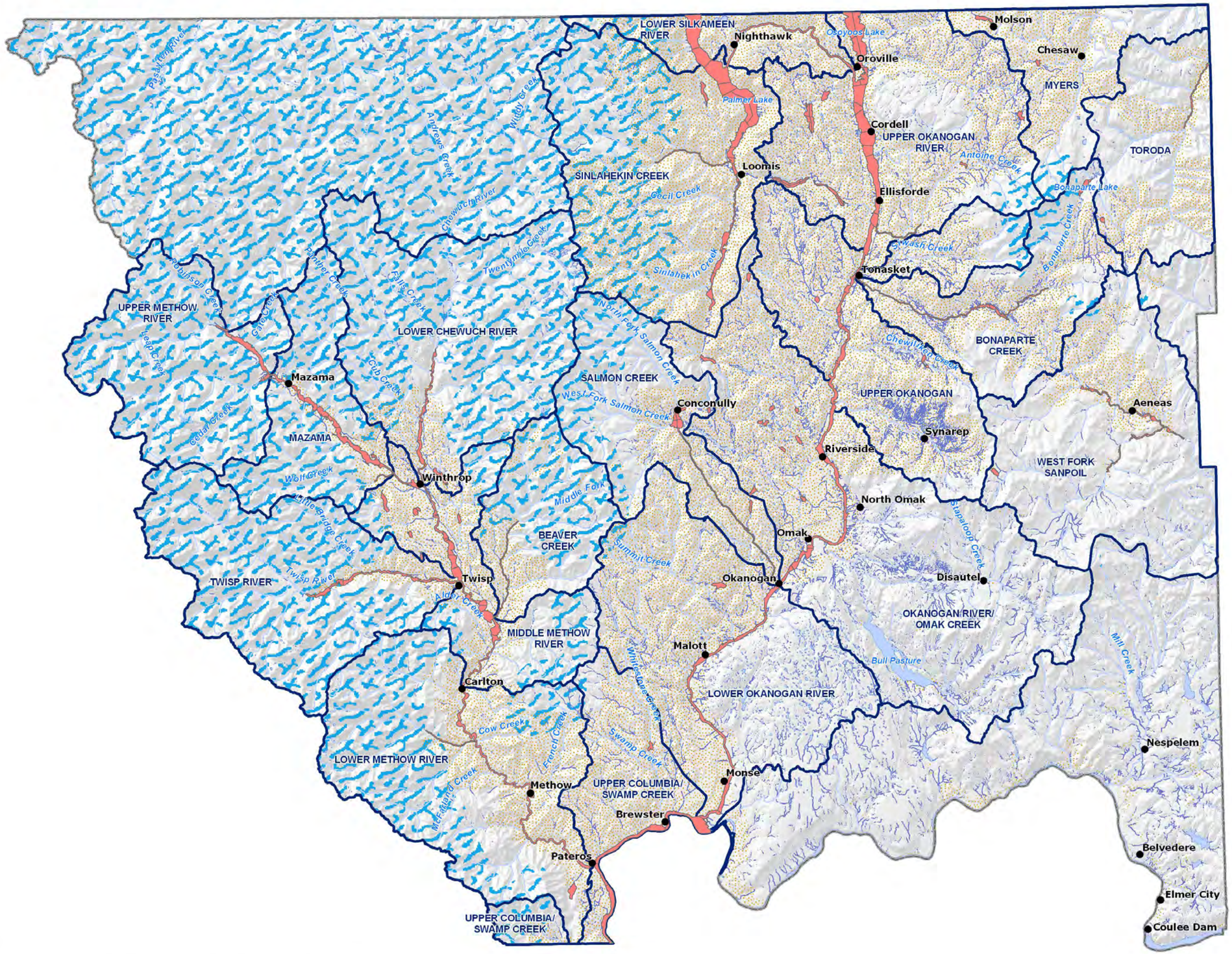
Okanogan County Shoreline Master Plan

Sediment Delivery and Supply

Alterations

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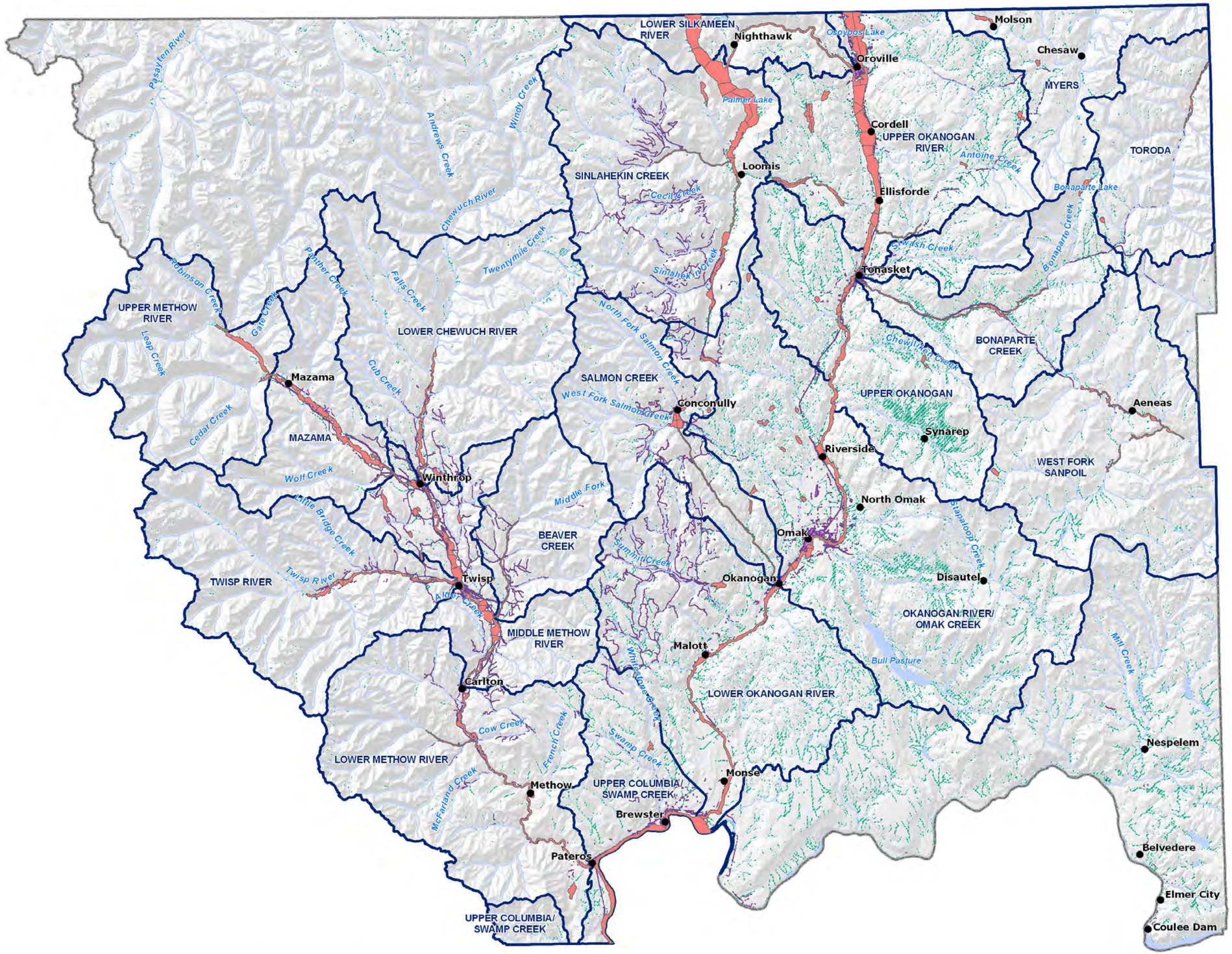
Okanogan County Shoreline Master Plan

Water Movement and Storage

Key Areas

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Okanogan County Native Plants List

Useful websites:

Okanogan Conservation District - http://okanogancd.org/plants.html

Methow Valley Native Plant assemblies - http://www.okanogan1.com/ecology/plantgeog.htm'

Okanogan County Washington State University Extension Office - http://okanogan.wsu.edu/mg/

http://okanogan.wsu.edu/mg/

Native Landscape Structure Plants

Okanogan County

	Scientific Name	*Common Name*	*Family*	*Type*
Conifer Shrubs(CS)				
	Juniperus communis	Mountain juniper	Cupressaceae	CS
	Taxus brevifolia	Western yew	Taxaceae	CS
	Tsuga mertensiana	Mountain hemlock	Pinaceae	CS
Decidous Shrubs (DS)				
	Amelanchier alnifolia	Serviceberry	Rosaceae	DS
	Amelanchier utahensis	Utah serviceberry	Rosaceae	DS
	Ceanothus sanguineus	Redstem ceanothus	Rhamnaceae	DS
	Ceanothus velutinus	Snowbrush	Rhamnaceae	DS
	Celtis reticulata	Hackberry	Ulmaceae	DS
	Cornus canadensis	Bunchberry	Cornaceae	DS
	Cornus nuttallii	Pacific dogwood	Cornaceae	DS
	Cornus stolonifera	Red-osier dogwood	Cornaceae	DS
	Crataegus chrysocarpa	Fireberry hawthorn	Rosaceae	DS
	Crataegus columbiana	Columbia hawthorn	Rosaceae	DS
	Crataegus douglasii	Black hawthorn	Rosaceae	DS
	Crataegus okennonii	Hawthorn	Rosaceae	DS
	Elaeagnus commutata	Silverberry	Elaeagnaceae	DS
	Kalmia microphylla	Alpine laurel	Ericaceae	DS
	Lonicera involucrata	Black twinberry	Caprifoliaceae	DS
	Lonicera utahensis	Utah honeysuckle	Caprifoliaceae	DS
	Philadelphus lewisii	Mock-orange	Hydrangeaceae	DS

Phyllodoce empetriformis	Red mountain heather	Ericaceae	DS
Phyllodoce glanduliflora	Yellow heather	Ericaceae	DS
Phyllodoce intermedia	Hybrid mountain heather	Ericaceae	DS
Physocarpus malvaceus	Mallow ninebark	Rosaceae	DS
Prunus emarginata	Bitter cherry	Rosaceae	DS
Prunus virginiana	Chokecherry	Rosaceae	DS
Rhamnus alnifolia	Alder buckthorn	Rhamnaceae	DS
Rhododendron albiflorum	White rhododendron	Ericaceae	DS
Rhus glabra	Sumac	Anacardiaceae	DS
Ribes cereum	Wax currant	Grossulariaceae	DS
Ribes howellii	Maple-leaf currant	Grossulariaceae	DS
Ribes lacustre	Prickly currant	Grossulariaceae	DS
Ribes oxyacanthoides	Northern gooseberry	Grossulariaceae	DS
Ribes viscosissimum	Sticky currant	Grossulariaceae	DS
Ribes watsonianum	Watson gooseberry	Grossulariaceae	DS
Rosa gymnocarpa	Baldhip rose	Rosaceae	DS
Shepherdia canadensis	Buffalo berry	Elaeagnaceae	DS
Spiraea betulifolia	Birch-leafed spirea	Rosaceae	DS
Spiraea densiflora	Rosy spirea	Rosaceae	DS
Spiraea douglasii	Hardhack	Rosaceae	DS
Spiraea pyramidata	Pyramid spiraea	Rosaceae	DS
Symphoricarpos albus	Common snowberry	Caprifoliaceae	DS
Symphoricarpos occidentalis	Western snowberry	Caprifoliaceae	DS
Symphoricarpos oreophilus	Mountain snowberry	Caprifoliaceae	DS

Evergreen Shrubs (ES)

Artemesia arbuscula	Low sagebrush	Asteraceae	ES
Artemesia biennis	Biennial wormwood	Asteraceae	ES
Artemesia campestris	Northern wormwood	Asteraceae	ES
Artemesia rigida	Stiff sagebrush	Asteraceae	ES
Artemesia tripartita	Three-tip sagebrush	Asteraceae	ES
Berberis aquifolium	Tall Oregongrape	Berberidaceae	ES
Berberis nervosa	Cascade Oregongrape	Berberidaceae	ES
Cassiope mertensiana	White mountain heather	Ericaceae	ES
Cassiope tetragona	Four-angled mountain heather	Ericaceae	ES
Pachistima myrsinites	Mountain box	Celastraceae	ES
Vaccinium deliciosum	Cascade huckleberry	Ericaceae	ES
Vaccinium membranaceum	Mountain huckleberry	Ericaceae	ES
Vaccinium myrtilloides	Velvet-leaf huckleberry	Ericaceae	ES

	Viburnum edule	Highbush cranberry	Caprifoliaceae	ES
Conifer Trees(CT)				
	Abies amabilis	Pacific silver fir	Pinaceae	CT
	Abies grandis	Grand fir	Pinaceae	CT
	Abies lasiocarpa	Sub-alpine fir	Pinaceae	CT
	Juniperus scopulorum	Rocky Mountain juniper	Cupressaceae	CT
	Larix lyallii	Subalpine larch	Pinaceae	CT
	Larix occidentalis	Western larch	Pinaceae	CT
	Picea engalmannii	Engelmann spruce	Pinaceae	CT
	Picea glauca	White spruce	Pinaceae	CT
	Pinus albicaulis	White-bark pine	Pinaceae	CT
	Pinus contorta	Lodgepole pine	Pinaceae	CT
	Pinus monticola	Western white pine	Pinaceae	CT
	Pinus ponderosa	Ponderosa pine	Pinaceae	CT
	Pseudotsuga menziesii	Douglas fir	Pinaceae	CT
	Thuja plicata	Western red cedar	Cupressaceae	CT, H
Decidous Trees (DT)				
	Acer glabrum	Douglas maple	Aceraceae	DT
	Acer macrophyllum	Big-leaf maple	Aceraceae	DT
	Alnus incana	Mountain alder	Betulaceae	DT
	Alnus sinuata	Sitka alder	Betulaceae	DT
	Betula glandulosa	Bog birch	Betulaceae	DT
	Betula occidentalis	Water birch	Betulaceae	DT
	Betula papyrifera	Paper birch	Betulaceae	DT
	Populus tremuloides	Quaking aspen	Salicaceae	DT
	Populus trichocarpa	Black cottonwood	Salicaceae	DT
	Sorbus scopulina	Cascade mountain-ash	Rosaceae	DT
	Sorbus sitchensis	Sitka mountain-ash	Rosaceae	DT
Ground Covers(GC)				
	Arctostaphylos nevadensis	Kinnikinnik	Ericaceae	GC
	Arctostaphylos uva-ursi	Bearberry	Ericaceae	GC
	Berberis repens	Creeping Oregongrape	Berberidaceae	GC
	Gaultheria humifusa	Alpine wintergreen	Ericaceae	GC
	Sedum divergens	Spreading stonecrop	Crassulaceae	GC
	Sedum lanceolatum	Lance-leaved stonecrop	Crassulaceae	GC
	Sedum roseum	King's crown	Crassulaceae	GC
	Sedum stenopetalum	Worm-leaf stonecrop	Crassulaceae	GC

Symphoricarpos mollis	Creeping snowberry	Caprifoliaceae	GC
Vaccinium caespitosum	Dwarf bilberry	Ericaceae	GC
Vaccinium myrtillus	Low bilberry	Ericaceae	GC

Native Landscape Detail Plants

Okanogan County

	Scientific Name	*Common Name*	*Family*	*Type*
Annuals(A)				
	Erysimum arenicola	Mountain wallflower	Brassicaceae	A
	Nemophila breviflora	Great Basin nemophila	Hydrophyllaceae	A
Bulbs (BU)				
	Anemone drummondii	Drummond's anemone	Ranunculaceae	BU
	Anemone multifida	Cliff anemone	Ranunculaceae	BU
	Anemone occidentalis	Mountain pasqueflower	Ranunculaceae	BU
	Anemone parviflora	Northern anemone	Ranunculaceae	BU
	Erythronium grandiflorum	Glacier lily	Liliaceae	BU
	Fritillaria lanceolata	Chocolate lily	Liliaceae	BU
	Fritillaria pudica	Yellow bell	Liliaceae	BU
	Lilium columbianum	Tiger lily	Liliaceae	BU
Edible Plants (ED)				
	Rubus acaulis	Nagoonberry	Rosaceae	ED
	Rubus idaeus	Red raspberry	Rosaceae	ED
	Rubus lasiococcus	Dwarf bramble	Rosaceae	ED
	Rubus leucodermis	Blackcap	Rosaceae	ED
	Rubus parviflorus	Thimbleberry	Rosaceae	ED
	Rubus pedatus	Strawberry bramble	Rosaceae	ED
	Rubus spectabilis	Salmonberry	Rosaceae	ED
Ground Covers (GC)				
	Fragaria vesca	Wild strawberry	Rosaceae	GC
	Fragaria virginiana	Woods strawberry	Rosaceae	GC
	Galium aparine	Cleavers	Rubiaceae	GC
	Galium bifolium	Low mountain bedstraw	Rubiaceae	GC
	Galium boreale	Northern bedstraw	Rubiaceae	GC
	Galium serpenticum	Intermountain bedstraw	Rubiaceae	GC
	Galium trifidum	Small bedstraw	Rubiaceae	GC

Galium triflorum	Fragrant bedstraw	Rubiaceae	GC
Physostegia parviflora	Purple dragon-head	Lamiaceae	GC
Veronica cusickii	Cusick's speedwell	Scrophulariaceae	GC
Veronica peregrina	Purslane speedwell	Scrophulariaceae	GC
Veronica scuttelata	Marsh speedwell	Scrophulariaceae	GC
Veronica serpyllifolia	Thyme-leaf speedwell	Scrophulariaceae	GC
Veronica wormskjoldii	Alpine speedwell	Scrophulariaceae	GC

Perennials (P)

Abronia umbellata	Pink sandverbena	Nyctaginaceae	P
Antennaria alpina	Alpine pussy-toes	Asteraceae	P
Antennaria anaphaloides	Tall pussy-toes	Asteraceae	P
Antennaria dimorpha	Low pussy-toes	Asteraceae	P
Antennaria flagellaris	Stolonous pussy-toes	Asteraceae	P
Antennaria lanata	Woolly pussy-toes	Asteraceae	P
Antennaria luzuloides	Woodrush pussy-toes	Asteraceae	P
Antennaria microphylla	Rosy pussy-toes	Asteraceae	P
Antennaria neglecta	Field pussy-toes	Asteraceae	P
Antennaria parvifolia	Nuttall's pussytoes	Asteraceae	P
Antennaria pulcherrima	Showy pussytoes	Asteraceae	P
Antennaria racemosa	Raceme pussy-toes	Asteraceae	P
Antennaria umbrinella	Umber pussy-toes	Asteraceae	P
Aquilegia flavescens	Golden columbine	Ranunculaceae	P
Aquilegia formosa	Red columbine	Ranunculaceae	P
Arabis divaricarpa	Spreadingpod rockcress	Brassicaceae	P
Arabis drummondii	Drummond's rockcress	Brassicaceae	P
Arabis hirsuta	Hairy rockcress	Brassicaceae	P
Arabis holboellii	Holboell's rockcress	Brassicaceae	P
Arabis lemmonii	Lemmon's rockcress	Brassicaceae	P
Arabis lyallii	Lyall's rockcress	Brassicaceae	P
Arabis microphylla	Small-leaf rockcress	Brassicaceae	P
Arabis nuttallii	Nuttall's rockcress	Brassicaceae	P
Arabis puberula	Hoary rockcress	Brassicaceae	P
Arabis sparsiflora	Sicklepod rockcress	Brassicaceae	P
Arenaria capillaris	Thread-leaved sandwort	Caryophyllaceae	P
Arenaria congesta	Dense-flowered sandwort	Caryophyllaceae	P
Arenaria franklinii	Franklin's sandwort	Caryophyllaceae	P
Arenaria laricifolia	Serpentine stichwort	Caryophyllaceae	P
Arenaria lateriflora	Bluntleaf sandwort	Caryophyllaceae	P
Arenaria macrophylla	Big-leaf sandwort	Caryophyllaceae	P

Arenaria obtusiloba	Arctic sandwort	Caryophyllaceae	P
Arenaria rubella	Reddish sandwort	Caryophyllaceae	P
Artemesia douglasiana	Douglas' sagewort	Asteraceae	P
Artemesia lindleyana	Columbia River mugwort	Asteraceae	P
Artemesia ludoviciana	Western mugwort	Asteraceae	P
Artemesia michauxiana	Michaux mugwort	Asteraceae	P
Artemesia norvegica	Mountain sagewort	Asteraceae	P
Artemesia tilesii	Aleutian mugwort	Asteraceae	P
Balsamorhiza sagittata	Arrow-leaf balsamroot	Asteraceae	P
Calypso bulbosa	Fairy slipper	Orchidaceae	P
Campanula rotundifolia	Common harebell	Campanulaceae	P
Castilleja cervina	Deer paintbrush	Scrophulariaceae	P
Castilleja cusickii	Cusick's paintbrush	Scrophulariaceae	P
Castilleja elmeri	Elmer's paintbrush	Scrophulariaceae	P
Castilleja exilis	Alkali paintbrush	Scrophulariaceae	P
Castilleja hispida	Harsh paintbrush	Scrophulariaceae	P
Castilleja miniata	Scarlet paintbrush	Scrophulariaceae	P
Castilleja parviflora albida	Small-flowered paintbrush	Scrophulariaceae	P
Castilleja parviflora oreopola	Magenta paintbrush	Scrophulariaceae	P
Castilleja rhexifolia	Rhexia-leafed paintbrush	Scrophulariaceae	P
Castilleja thompsonii	Thompson's paintbrush	Scrophulariaceae	P
Chrysopsis villosa	Hairy golden-aster	Asteraceae	P
Coreopsis atkinsoniana	Columbia tickseed	Asteraceae	P
Eriogonum compositum	Northern buckwheat	Polygonaceae	P
Eriogonum elatum	Tall buckwheat	Polygonaceae	P
Eriogonum heracleoides	Parsnip-flowered buckwheat	Polygonaceae	P
Eriogonum niveum	Snow buckwheat	Polygonaceae	P
Eriogonum ovalifolium	Oval-leaf buckwheat	Polygonaceae	P
Eriogonum pyrolifolium	Alpine buckwheat	Polygonaceae	P
Eriogonum strictum	Strict buckwheat	Polygonaceae	P
Eriogonum thymoides	Thyme-leaf buckwheat	Polygonaceae	P
Eriogonum umbellatum	Sulfur buckwheat	Polygonaceae	P
Gaillardia aristata	Blanket-flower	Asteraceae	P
Geranium bicknellii	Bicknell's geranium	Geraniaceae	P
Geranium carolinianum	Wild geranium	Geraniaceae	P
Geranium viscosissimum	Sticky geranium	Geraniaceae	P
Linum perenne	Wild blue-flax	Linaceae	P
Oenothera andina	Tiny evening-primrose	Onagraceae	P
Oenothera contorta	Bentpod evening-primrose	Onagraceae	P
Oenothera hilgardii	Hilgard's evening-primrose	Onagraceae	P

Oenothera hookeri	Hooker's evening-primrose	Onagraceae	P
Oenothera pallida	White-stemmed evening primrose	Onagraceae	P
Penstemon davidsonii	Davidson's penstemon	Scrophulariaceae	P
Penstemon deustus	Hot-rock penstemon	Scrophulariaceae	P
Penstemon diphyllus	Two-leaf penstemon	Scrophulariaceae	P
Penstemon fruticosus	Shrubby penstemon	Scrophulariaceae	P
Penstemon gairdneri	Gairdner's penstemon	Scrophulariaceae	P
Penstemon glandulosus	Glandular penstemon	Scrophulariaceae	P
Penstemon payettensis	Payette penstemon	Scrophulariaceae	P
Penstemon procerus	Small-flowered penstemon	Scrophulariaceae	P
Penstemon pruinosus	Chelan penstemon	Scrophulariaceae	P
Penstemon richardsonii	Richardson's penstemon	Scrophulariaceae	P
Penstemon rydbergii	Rydberg's penstemon	Scrophulariaceae	P
Penstemon serrulatus	Cascade penstemon	Scrophulariaceae	P
Penstemon speciosus	Showy penstemon	Scrophulariaceae	P
Penstemon venustus	Blue mountain penstemon	Scrophulariaceae	P
Penstemon washingtonensis	Washington penstemon	Scrophulariaceae	P
Salvia dorrii	Gray ball sage	Lamiaceae	P
Viola glabella	Stream violet	Violaceae	P
Viola macloskeyi	Small white violet	Violaceae	P
Viola nephrophylla	Northern bog violet	Violaceae	P
Viola nuttallii	Yellow prairie violet	Violaceae	P
Viola orbiculata	Round-leaved violet	Violaceae	P
Viola palustris	Marsh violet	Violaceae	P
Viola purpurea	Goosefoot violet	Violaceae	P
Viola selkirkii	Selkirk's violet	Violaceae	P
Viola sempervirens	Evergreen violet	Violaceae	P

Vines (V)

Clematis columbiana	Columbia virgin's bower	Ranunculaceae	V
Clematis lingusticifolia	Virgin's bower	Ranunculaceae	V
Lathyrus ochroleucus	Cream-flowered peavine	Fabaceae	V

(List compiled from Okanogan County Native Plants, Washington Native Plant Society, http://www.wnps.org/plant_lists/counties/okanogan/okanogan_county.html by Terri Williams, Okanogan County Master Gardener. Non-profit use permitted.)

DRAWN BY: S. SCHROCK

DATE: 5/28/2010

NORTH

TOWN OF: Twisp

TITLE: **SMP PUBLIC ACCESS**

Highlands Associates
Okanogan, WA

SCALE:

FIG. # :

All map data is approximate and should be verified prior to any further use

TOWN LIMITS

OPEN SPACE

TOWN LIMITS

TWISP RIVER

AINSWORTH AVE

TWISP PARK

TWISP AVE

MAGERS ST.

SALMON RECOVERY FOUNDATION

UNDEVELOPED RIVER TRAIL

TOWN LIMITS

2nd AVE

Urban Growth Boundary

TOWN LIMITS

5th AVE

UNDEVELOPED RIVER TRAIL

Hwy 20

TOWN LIMITS

DOT

Urban Growth Boundary

Burton St.

TOWN LIMITS

Private Common Area

Urban Growth Boundary

TOWN LIMITS

TOWN LIMITS

WDFW

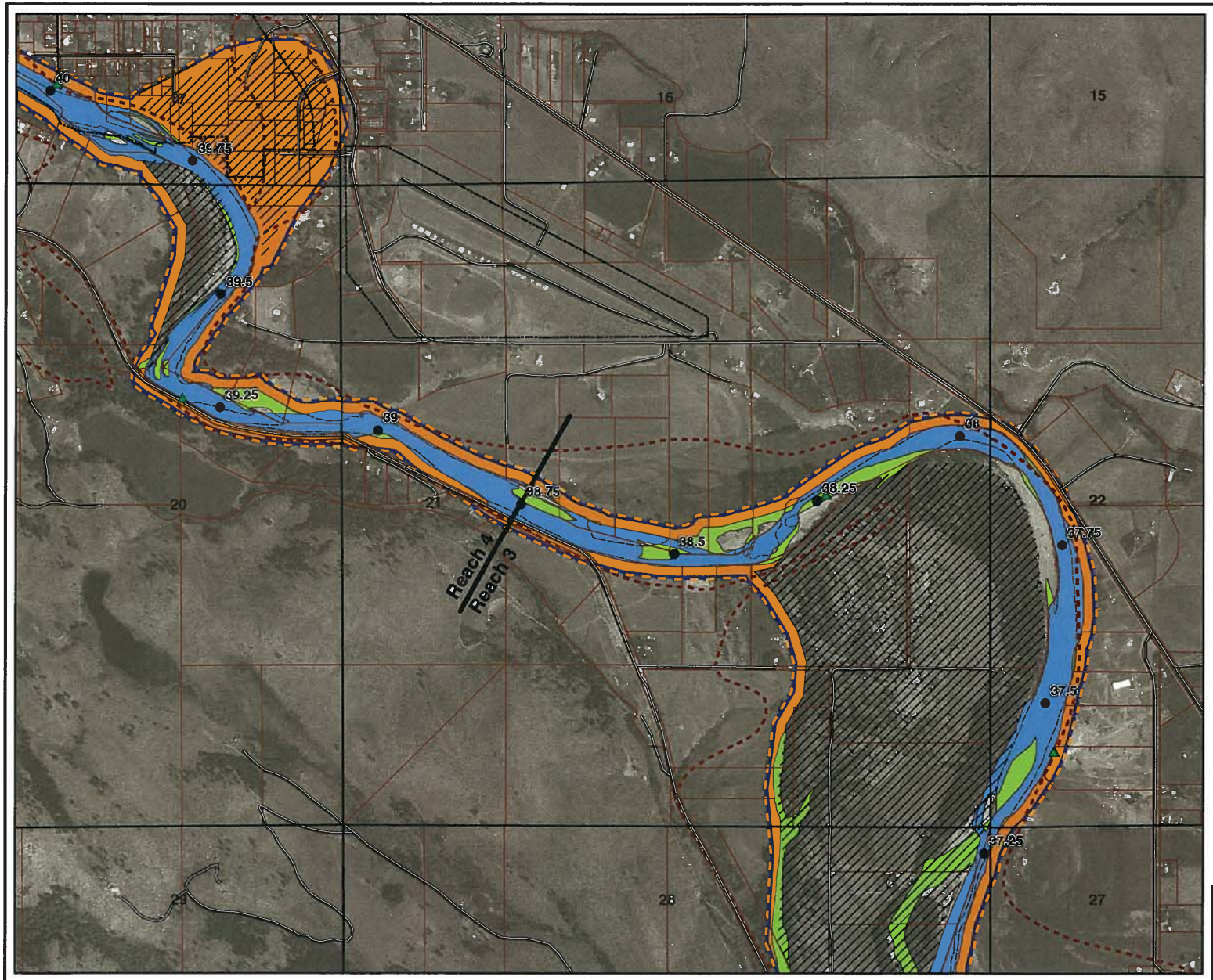
Twisp-Carlton RD ROW

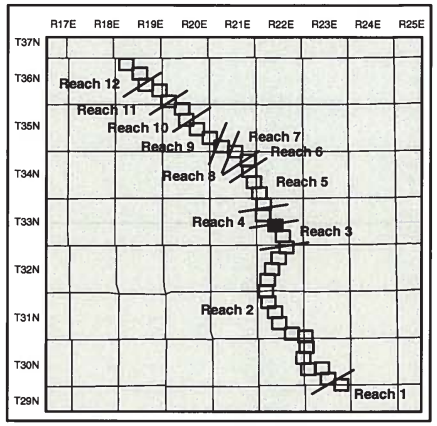
PUBLIC ACCESS INVENTORY
TYPE of ACCESS

- DEVELOPED
- INFORMAL
- ROW
- UNDEVELOPED
- UNKNOWN

NORTH

May 29, 2010 Highlands Associates





LEGEND

- River Mile
- RIP
- Road
- Reach
- City Boundary
- Township\Range\Section
- Landuse
- Avulsion Hazard Zone
- Disconnected Migration Area
- Severe Channel Migration Hazard Zone
- Moderate Channel Migration Hazard Zone and FEMA Floodplain Boundary
- 1954 Active Channel
- 1998 Active Channel
- EHZ/ES (Projected 50-year)
- EHZ/GS

N

0 800

Scale 1" = 800 Feet

Map Projection:
Washington State Plane
North Zone, NAD 27, Feet

Source: Okanogan County, Golder Associates Inc., USGS

This figure was originally produced in color. Reproduction in black and white may result in a loss of information

Channel Migration Zone Components

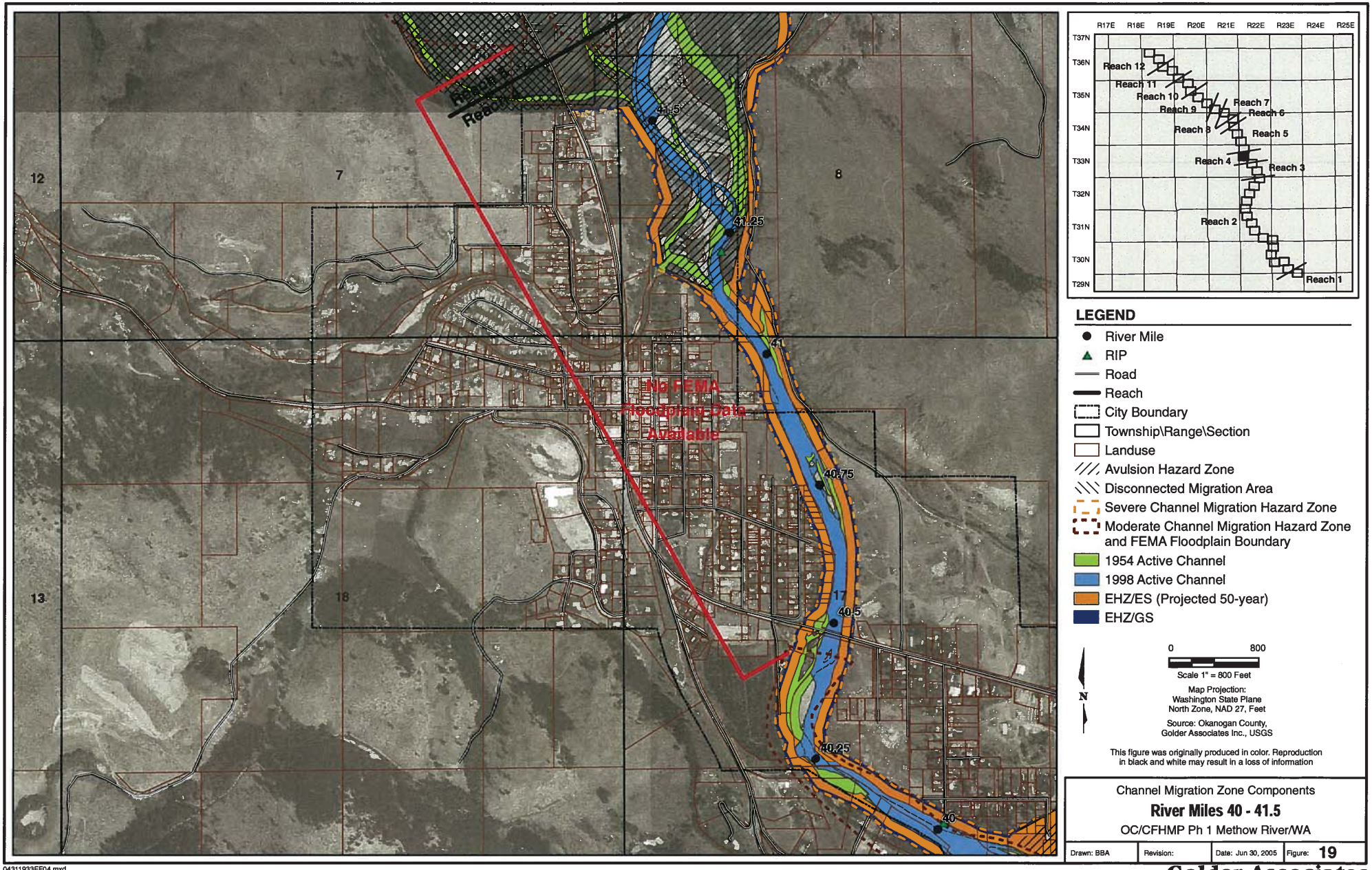
River Miles 37.25 - 40

OC/CFHMP Ph 1 Methow River/WA

Drawn: BBA	Revision:	Date: Jun 30, 2005	Figure: 18

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Golder Associates



Channel Migration Zone Components

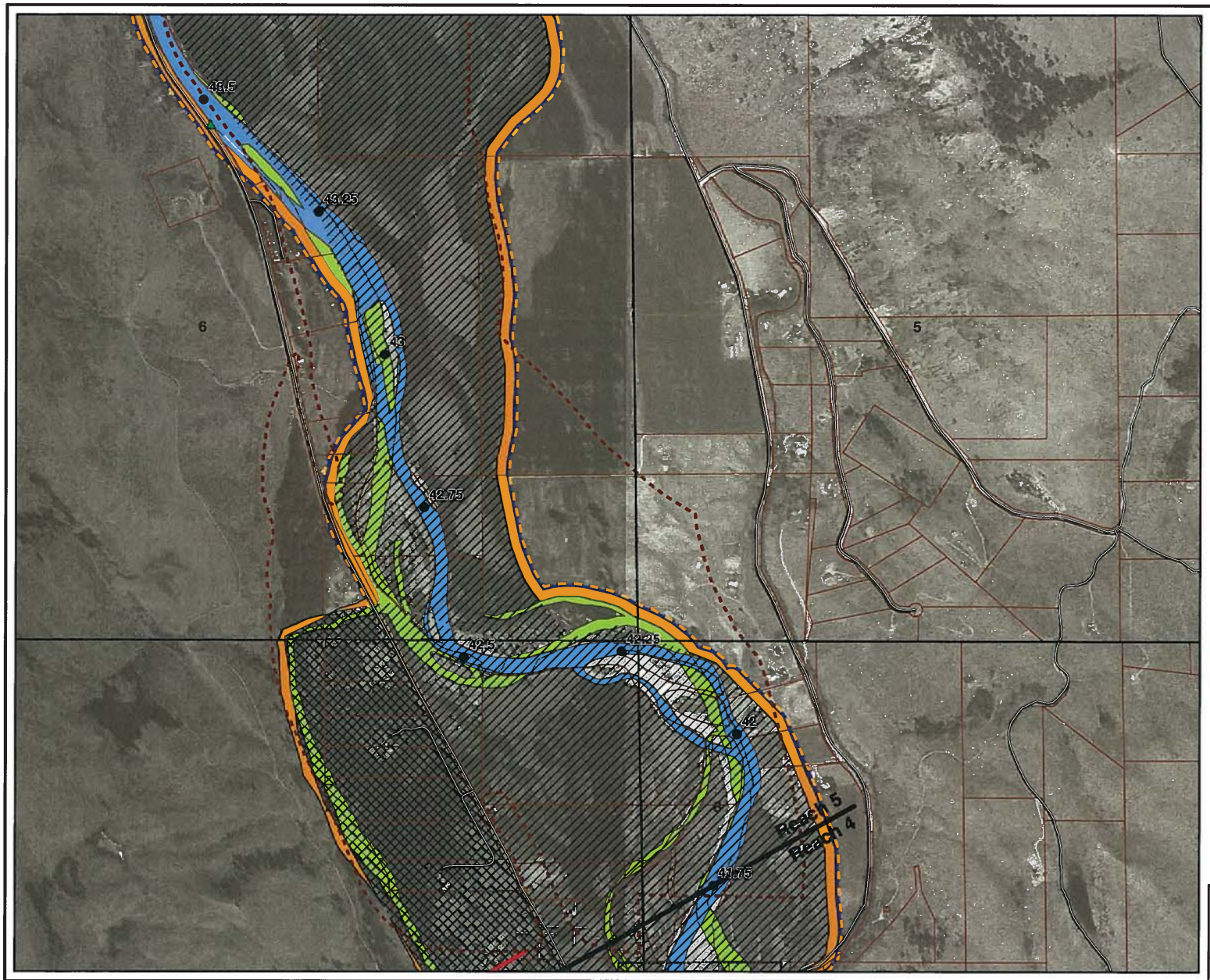
River Miles 40 - 41.5

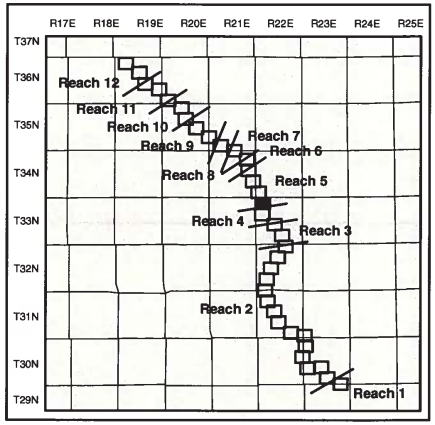
OC/CFHMP Ph 1 Methow River/WA

Drawn: BBA	Revision:	Date: Jun 30, 2005	Figure: 19

04311933EF04.mxd

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LEGEND

- River Mile
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Channel Migration Zone Components

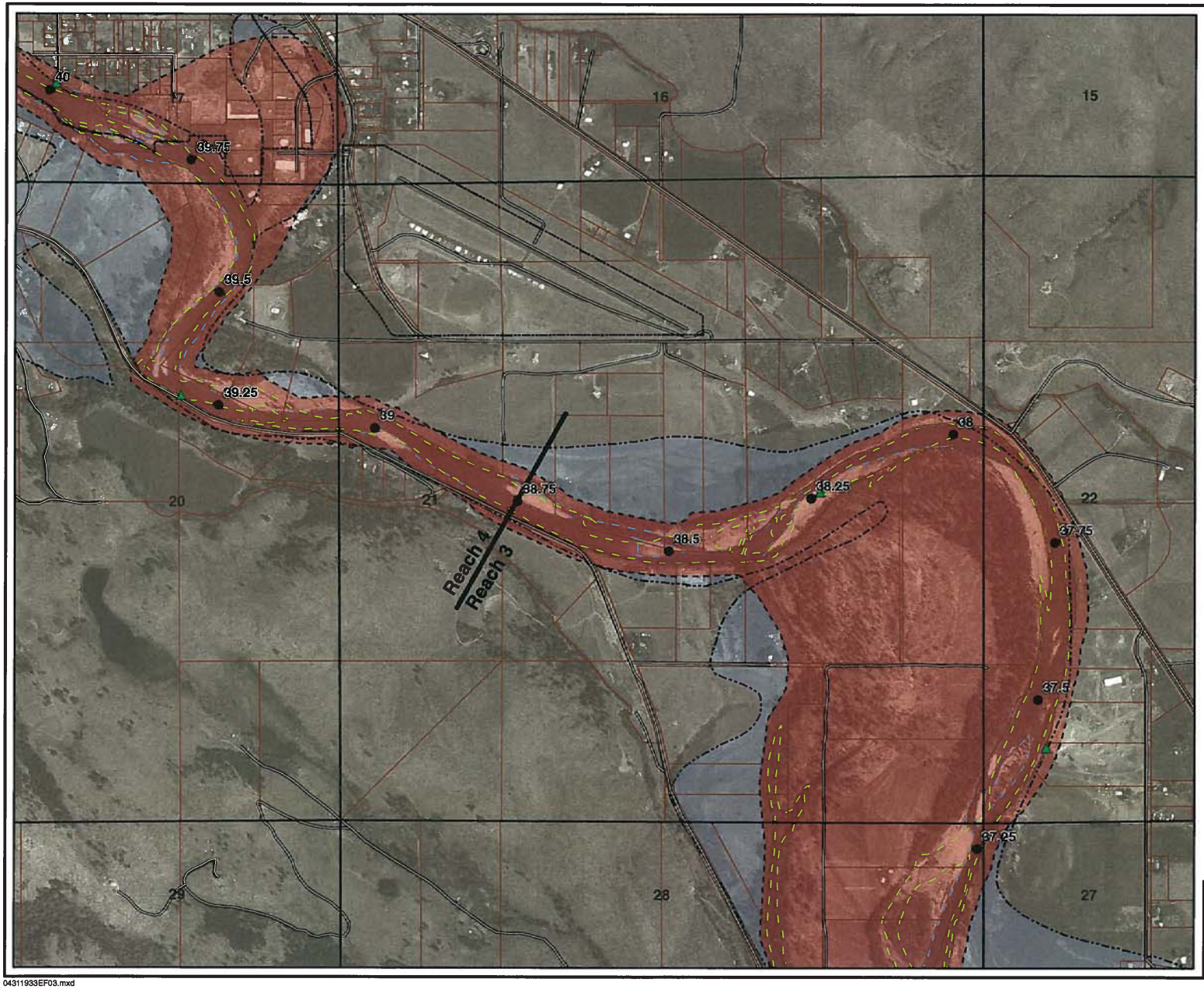
River Miles 41.75 - 43.5

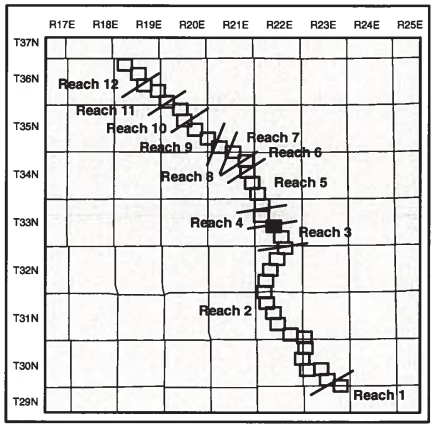
OC/CFHMP Ph 1 Methow River/WA

Drawn: BBA	Revision:	Date: Jun 30, 2005	Figure: 20

04311933EF04.mxd

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LEGEND

- River Mile
- RIP
- Road
- Reach
- Disconnected Migration Area
- City Boundary
- Township\Range\Section
- Parcel Boundary
- 1954 Active Channel
- 1998 Active Channel
- Severe Channel Migration Hazard Zone
- Moderate Channel Migration Hazard Zone

N

0 800

Scale 1" = 800 Feet

Map Projection:
Washington State Plane
North Zone, NAD 27, Feet

Source: Okanogan County,
Golder Associates Inc., USGS

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Channel Migration Hazard Zones

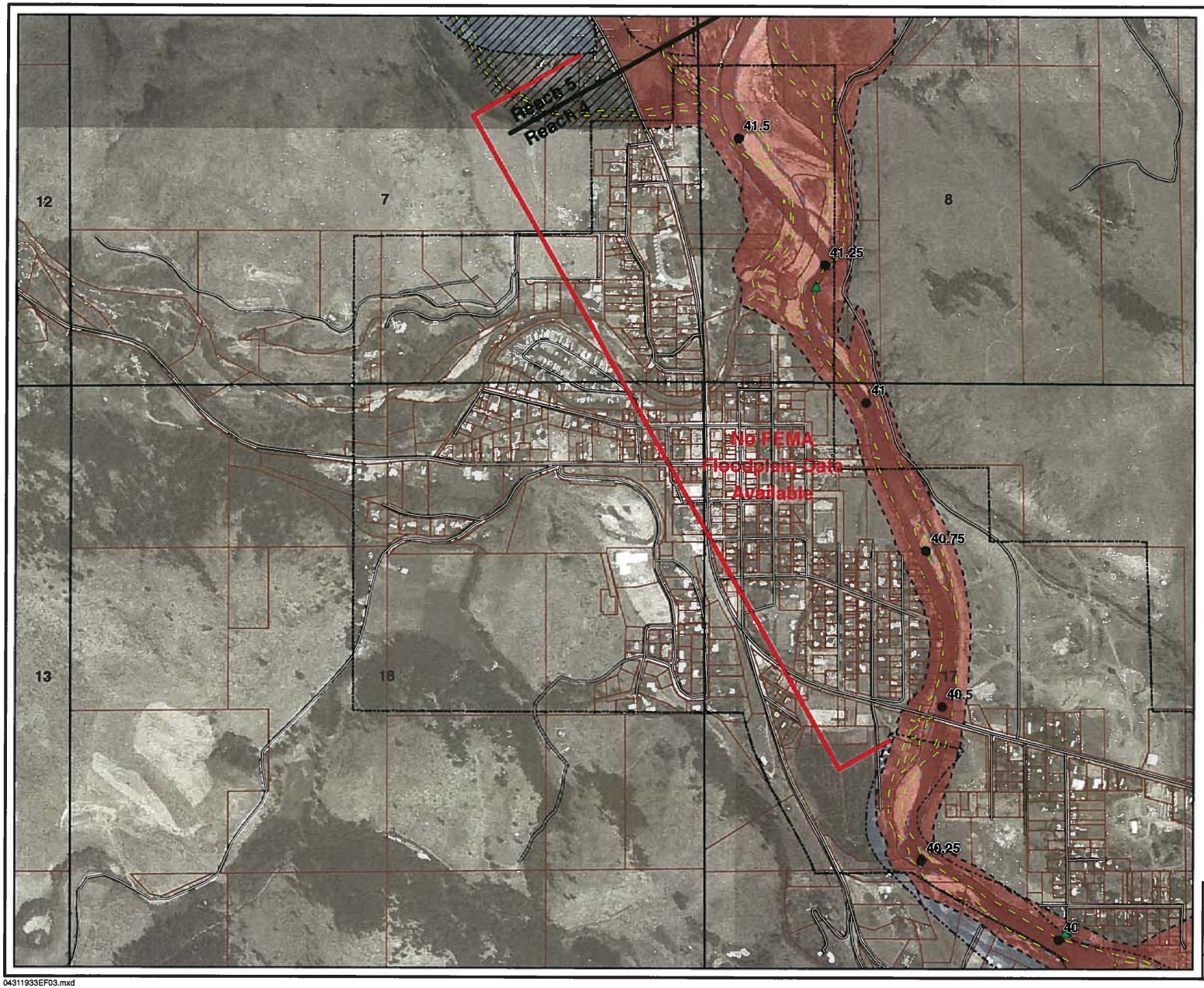
River Miles 37.25 - 40

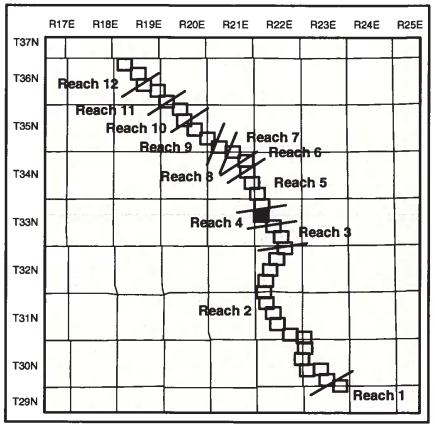
OC/CFHMP Ph 1 Methow River/WA

Drawn: BBA	Revision:	Date: Jun 30, 2005	Figure: 18

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LEGEND

- River Mile
- RIP
- Road
- Reach
- Disconnected Migration Area
- City Boundary
- Township\Range\Section
- Parcel Boundary
- 1954 Active Channel
- 1998 Active Channel
- Severe Channel Migration Hazard Zone
- Moderate Channel Migration Hazard Zone

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Scale 1" = 800 Feet

Map Projection:
Washington State Plane
North Zone, NAD 27, Feet

Source: Okanogan County,
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Channel Migration Hazard Zones

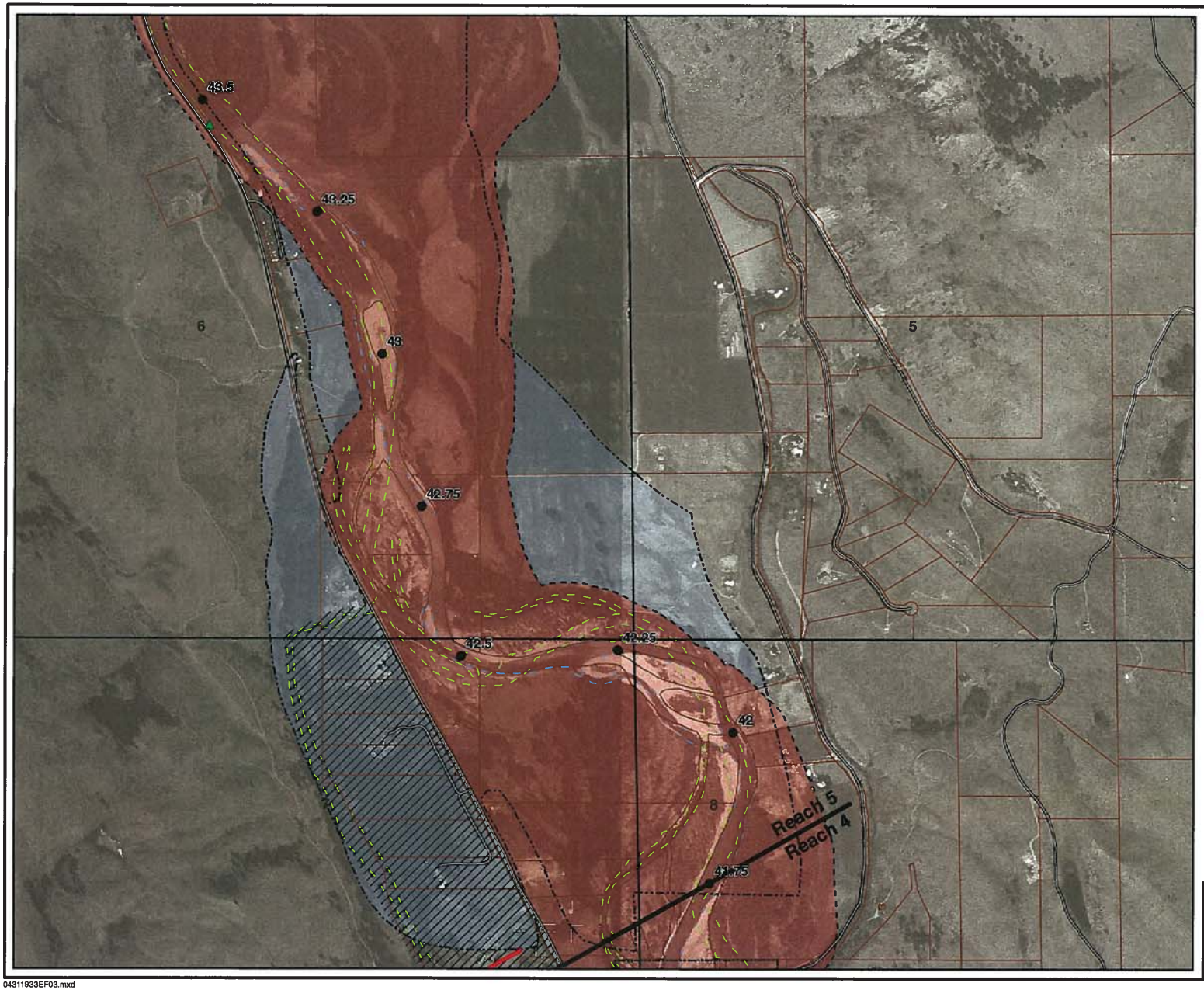
River Miles 40 - 41.5

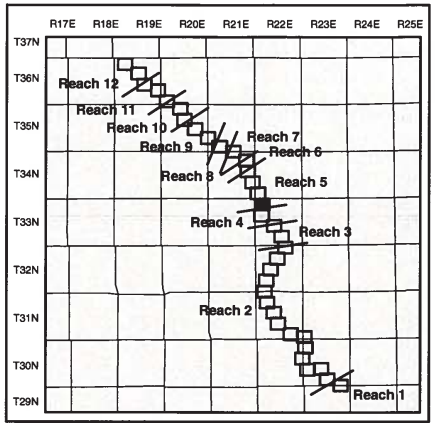
OC/CFHMP Ph 1 Methow River/WA

Drawn: BBA	Revision:	Date: Jun 30, 2005	Figure: 19

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Channel Migration Hazard Zones

River Miles 41.75 - 43.5

OC/CFHMP Ph 1 Methow River/WA

Drawn: BBA	Revision:	Date: Jun 30, 2005	Figure: 20

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APPENDIX H: SHORELINE DESIGNATIONS COMMON LEGAL DESCRIPTIONS

Methow River

Left Bank

Beginning at the intersection of the Ordinary High Water Mark of the Methow River, and the northerly city limit line of the City of Twisp;

Thence southwesterly along said River to its intersection with the northerly line of Tax 264, said point also being on the city limit line of the City of Twisp; ***Urban Conservancy***

Thence continuing southwesterly and southeasterly along said River to its intersection with the westerly line of Lot 2 of the Kroll Short Plat; ***High Intensity***

Thence continuing southeasterly along said River to its intersection with the city limits of the City of Twisp, said point also being the southeast corner of Tax 302 in the southeast quarter of the southeast quarter of Section 17, Township 33 North, Range 22 East, Willamette Meridian; ***Shoreline Residential***

APPENDIX H: SHORELINE DESIGNATIONS COMMON LEGAL DESCRIPTIONS

Methow River

Right Bank

Beginning at the intersection of the Ordinary High Water Mark of the Methow River, and the northeasterly corner of Tax 17, being a portion of the southwest quarter of the southwest quarter of Section 8, Township 33 North, Range 22 East, Willamette Meridian;

Thence southeasterly along said River to its intersection with the southeasterly corner of Tax 31, being a portion of the southwest quarter of the southwest quarter of said Section 8; ***Urban Conservancy***

Thence continuing southeasterly and southwesterly along said River to its intersection with the southeasterly corner of a parcel described as a portion of Lot 1, Lots 2 and 3, and the southerly 10 feet of Lot 4, Block 11, Kings Addition to Twisp; ***Shoreline Residential***

Thence continuing southwesterly along said River to its intersection with the northeasterly corner of Tax 384, being a portion of the southwest quarter of Section 17, Township 33 North, Range 22 East, Willamette Meridian; ***High Intensity***

Thence continuing southwesterly along said River to its intersection with the southerly city limit line of the City of Twisp; ***Shoreline Residential***

APPENDIX H: SHORELINE DESIGNATIONS COMMON LEGAL DESCRIPTIONS

Twisp River

Left Bank

Beginning at the intersection of the Ordinary High Water Mark of the Twisp River, and the southeasterly corner of Tax 178, being a portion of the southwest quarter of the southeast quarter of Section 7, Township 33 North, Range 22 East, Willamette Meridian, said point also being on the westerly city limit line of the City of Twisp;

Thence easterly and northeasterly along said River to its intersection with the southwesterly corner of Lot 3 of the Van Meter Short Plat; ***Urban Conservancy*** to the southeasterly lines of Tax 178, Tax 180, and Tax 181; ***Shoreline Residential*** for the balance of shoreline jurisdiction.

Thence continuing northeasterly, easterly, and southeasterly along said River to its intersection with southwesterly corner of Tax 1, being Lot 1 in Block 1, Johnson's First Addition to Twisp; ***Shoreline Residential***

Thence continuing southeasterly, easterly, and northeasterly along said River to its intersection with southerly prolongation of the easterly line of Tax 197, being a portion of the southeast quarter of the southeast quarter of said Section 7; ***Urban Conservancy*** to the floodway boundary; ***Shoreline Residential*** for the balance of shoreline jurisdiction.

Thence continuing northeasterly along said River to its intersection with the southeasterly corner of Tax 50, being a portion of the southwest quarter of the southwest quarter of Section 8, Township 33 North, Range 22 East, Willamette Meridian, and the Ordinary High Water Mark of the Methow River; ***Urban Conservancy*** to the floodway boundary; ***High Intensity*** for the balance of shoreline jurisdiction.

APPENDIX H: SHORELINE DESIGNATIONS COMMON LEGAL DESCRIPTIONS

Twisp River

Right Bank

Beginning at the intersection of the Ordinary High Water Mark of the Twisp River, and the northwesterly corner of Tax 4, being a portion of the northwest quarter of the northeast quarter of Section 18, Township 33 North, Range 22 East, Willamette Meridian, said point also being on the westerly city limit line of the City of Twisp;

Thence easterly, northeasterly, and easterly along said River to its intersection with the southwesterly corner of Tax 168, being a portion of the south one half of Section 7, Township 33 North, Range 22 East, Willamette Meridian; ***Urban Conservancy*** to the westerly lines of Tax 97 and Tax 99; ***Shoreline Residential*** for the balance of shoreline jurisdiction.

Thence continuing northeasterly, southeasterly, easterly, and northeasterly along said River to its intersection with southerly line of Tax 17, being a portion of the southwest quarter of the southwest quarter of Section 8, Township 33 North, Range 22 East, Willamette Meridian; ***High Intensity***

Thence continuing northeasterly and easterly, along said River to its intersection with the northeasterly corner of said Tax 17, and the Ordinary High Water Mark of the Methow River; ***Urban Conservancy***