

MEMORANDUM



Date: October 26, 2016
To: Kim Van Zwalenburg, Department of Ecology
cc: Tim Crose, Pacific County Department of Community Development
From: Dan Nickel, Tess Brandon, and Sarah Sandstrom
Project Number: 130727
Project Name: Pacific County Shoreline Master Program Update

Subject: Supplementation of the Record

The revised Pacific County Shoreline Master Program (SMP) was adopted by the Board of County Commissioners on September 27th, 2016, as Resolution No. 2016-036. Prior to adoption, the Department of Ecology (Ecology) provided comments on the draft SMP on July 5th, 2016. The majority of these comments were addressed by revising the SMP prior to adoption. Where the County decided not to revise the SMP in response to Ecology, this memorandum provides a supplement to the County's record in support of that decision.

Net Pens

In the SMP, net pens for salmonid enhancement are permitted in the Willapa Bay Estuary and Columbia River Estuary environments, and conditionally permitted in the Freshwater Aquatic environment. Section 5.5 further requires that no artificial feed be used. Other types of net pens, including temporary holding pens for finfish or for growing fish to harvest size, are prohibited in all environments.

Issue

Ecology has commented that the SMP's restrictions on net pens represent a countywide prohibition of a "preferred water-dependent use of statewide interest," and has requested that this prohibition be supported by rationale and documented in the record provided to Ecology.

Discussion

Net pens are of particular concern in Pacific County because of unique conditions associated with the County's shoreline that would result in an unacceptable risk to existing water-dependent uses in the County. These conditions are described below as they exist in each applicable shoreline environment designation.

Willapa Bay Estuary

Water quality is a particular concern in Willapa Bay given the significance of shellfish aquaculture to the County's economy (see Shoreline Analysis Report for Shorelines in Pacific County). As noted in the Shoreline Analysis Report, "Successful aquaculture production is dependent on good water quality conditions, low fine sediment loads, and a consistent range of salinities." Willapa Bay has historically been known for its excellent water quality conditions. Nevertheless, several areas within Willapa Bay are listed as impaired for water quality parameters including temperature, fecal coliform bacteria, dissolved oxygen, and pesticides. Net pen production, regardless of how well managed, will result in some particulate organic waste material from the growing species (Rust et al. 2014). Given the circulation patterns of the coastal ocean and Willapa Bay described in the Shoreline Analysis Report, particulate organic matter in or near the mouth of Willapa Bay would be transported and dispersed within Willapa Bay. Any additional dispersion of particulate organic matter within Willapa Bay would have the potential to further reduce benthic dissolved oxygen, which would result in unacceptable risk to existing aquaculture facilities. Other concerns from existing aquaculture related to net pens include potential for eutrophication and associated toxic algal blooms.

Coastal Ocean/ Coastal Ocean High Intensity

Extensive public comment, debate, and agency coordination during the SMP development process focused on the incompatibility of fixed structures (primarily directed at wind energy, but also broadly applicable) with fishing access and safety in Pacific County. As noted in public comment, Pacific County is the fourth most fishery-dependent county in the nation and its waters disproportionately support commercial fisheries in Washington State. Anchored net pens would result in incompatible effects to fishing navigability, access, and safety, as described previously in relation to fixed structures.

Additionally, the high-energy conditions in Pacific Coastal waters in Pacific County are not conducive to net pen aquaculture. As noted in Ecology's Southwest Washington Coastal Erosion Study, deep water wave heights average three meters in winter and can reach as high as nine meters. Climate change is expected to increase the intensity of storms, and shifting storm tracks and increased wave heights have already been recognized south of Point Grenville (Huppert et al. 2009). Net pens in such an area would present an unacceptable risk of failure resulting in escape of salmon, which would result in unintended adverse impacts to native fish populations (through potential competition and inter-breeding).

Columbia River Estuary

As noted in the Shoreline Analysis Report, the combination of dikes and water flow regulation has contributed to a 62% loss in the shallow water habitat in the lower Columbia River Estuary

(Kukulka and Jay 2003). Current wild populations of salmon in the Columbia River basin represent only 12% of their historic numbers (Bottom *et al.* 2005). Thirteen Evolutionarily Significant Units of salmon pass through the Columbia River Estuary. Given the already reduced area for productive rearing of salmonids in the Columbia River Estuary, as well as the potential risks to already depressed stocks from net pens, including disease, parasites, escape, and interbreeding, the introduction of net pens to the Columbia River Estuary would present unacceptable risk to the natural environment.

Freshwater Aquatic

Concerns about net pens in the freshwater aquatic designation are related to downstream impacts to water quality in the receiving waters of Willapa Bay (see Willapa Bay Estuary section above). Freshwater aquatic areas outside of the Willapa Bay watershed are not conducive to net pen aquaculture given their relatively small and steep drainages in Pacific County.

In-Water Dredge Disposal

In the SMP, Table 5-1 defines in-water dredge disposal in the Columbia River Estuary using Direct Pump Ashore or Re-Pump Ashore disposal methods as permitted uses; all other methods in that shoreline environment designation are conditionally permitted. Ocean disposal using belly dumping is prohibited in the Coastal Ocean environment and is conditionally permitted in the Coastal Ocean High Intensity environment using U.S. Army Corps of Engineers/EPA-approved spreading protocols to prevent mound-induced wave amplification greater than ten percent. Ocean disposal other than for restoration purposes is prohibited in the Willapa Bay Estuary environment. Section 2 of the SMP provides definitions for each of the disposal methods referred to in the SMP.

Issue

Ecology has expressed concern over the implication that a local SMP can regulate dredge disposal methods or equipment, and has stated that such topics are more properly addressed in Regional Sediment Management Plans or Dredge Disposal Management Plans.

Discussion

Dredge disposal in the Columbia River Estuary, Coastal Ocean, and Coastal Ocean High Intensity environments is of particular concern because of the unique confluence of issues surrounding existing uses, biological resources, and sediment dynamics. These issues have been well documented and discussed extensively during the SMP development process, including Shoreline Planning Committee meetings and Planning Commission workshops and hearings. The issues, and their relationship to SMP permitting requirements, are briefly described below.

Loss of sediment from the littoral zone

Dredge disposal practices at the mouth of the Columbia River have moved vast quantities of sediment outside the natural littoral zone, resulting in a loss of sediment from the littoral zone at an estimated rate of approximately one million cubic yards annually (Lower Columbia Solutions Group 2011). Erosion rates are critical around the North Jetty and Jetty A, which are adjacent to aquatic areas designated as Coastal Ocean High Intensity. Accordingly, dredge disposal methods that don't inherently return sediment to the littoral zone are held to a higher review standard in both the Coastal Ocean High Intensity and Columbia River Estuary environments.

Loss of biological resources

The Coastal Ocean and Coastal Ocean High Intensity environments are crucial to the State's commercial and recreational fisheries, including Dungeness crab, bottomfish, lingcod, salmon, and pink shrimp (Shoreline Analysis Report for Shorelines in Pacific County). The most valuable fishery along Washington's outer coast is the Dungeness crab fishery, with crab transit and fishing efforts in Pacific County waters concentrated in the Coastal Ocean and Coastal Ocean High Intensity environments (Shoreline Analysis Report for Shorelines in Pacific County). The Columbia River Estuary provides vital rearing and nursery habitat for fish and shellfish, such as Dungeness crab, salmonids, and sturgeon. Impacts to these fisheries from dredge disposal include direct burial of species and/or fishing equipment, loss of habitat (either due to direct burial or indirect erosion effects, described above), and navigational hazards (described below) (Cogan Owens Cogan, LLC 2009). These impacts are diminished when thin-layer placement disposal methods are used, particularly in shallow environments (Cogan Owens Cogan, LLC 2009). As a result, only those disposal methods that allow for thin-layer placement are permitted within the Coastal Ocean environment. Similarly, in the Columbia River Estuary, disposal methods with the potential for burial of vital habitats (i.e. methods other than direct pump ashore and re-pump ashore) warrant the enhanced scrutiny of a conditional use review.

Impacts to small boat navigation

Mounds created from dredge disposal at the mouth of the Columbia River eliminate the predictability of wave conditions for small boat navigation, creating safety hazards for fishermen passing through this area on their way to and from fishing grounds. Navigation safety in areas of dredged material disposal can best be enhanced by avoiding mounding. Mounding is in turn controlled by the speed and geometry of the disposal method. Dispersed, thin-layer, and/or respraying methods of disposal all reduce mounding dramatically in comparison to belly dumping, which is therefore prohibited in the Coastal Ocean environment

and permitted as a conditional use in the Coastal Ocean High Intensity environment (provided wave amplification from mounding does not exceed 10%).

Ecology's concern is over the implication of regulating methods or equipment for a particular use, where the role of the SMP is typically to regulate uses and modifications. In both cases, the intent is to ensure that impacts to shoreline ecological functions and existing uses are minimized. In the case of in-water dredge disposal, different methods result in fundamentally different physical changes to the shoreline environment. The permitting requirements in the SMP have been developed to reflect this direct relationship between dredge disposal methods and shoreline impacts. Regulation of physical changes to the shoreline environment, such as through a requirement for use of soft shoreline stabilization methods rather than hard, is an appropriate use of an SMP. Regulating dredge disposal methods is therefore an appropriate and effective way to predict and control impacts from permitted dredge disposal activities, while reducing uncertainty for both permit applicants and County permitting staff.

Ecology asserted that dredge disposal methods might be better addressed in Regional Sediment Management Plans or Dredge Disposal Management Plans. The Regional Sediment Management Plan for the mouth of the Columbia River (2011) discusses thin-layer disposal at beneficial use sites, proposing a network of authorized sites including the littoral zone, deep water disposal, nearshore, and onshore sites. However, discussion and direction of dredge disposal methods in the Regional Sediment Management Plan should not preclude their direct regulation in the SMP. On the contrary, SMP regulations work in concert with this regional document and ensure consistency between County shoreline permitting and regional sediment management objectives. This approach is not dissimilar to the inclusion of specific provisions governing the dimensions and materials used for new docks, in order to ensure consistency between County shoreline permitting and State requirements. Again, this approach helps reduce uncertainty for permit applicants and County permitting staff, while ensuring that permitted uses are consistent with SMP policies to mitigate impacts on shoreline ecological functions.

Dune Restoration

In the SMP, ecological dune restoration is conditionally permitted in all upland environments with the exception of the Natural environment (where it is permitted), and is allowed only where it will not result in decreased protection of inland development from damage caused by storm surge, tsunamis, windblown sand, or flooding (SMP Section 5.1, Table 5-1).

Issue

Ecology questioned the rationale for requiring a higher level of review (conditional use permit) in all upland environments other than Natural.

Discussion

Dunes provide tsunami protection for shoreline residents and other shoreline development; therefore, additional consideration and review is warranted when permitting removal of invasive vegetation from dunes (as part of dune restoration) in areas of existing development.

Sewage Collection

In the SMP, sewage collection is conditionally permitted in the Shoreline Residential and High Intensity environments and is prohibited in all other environments (SMP Section 5.1, Table 5-1). SMP Section 5.23.B.2 specifies that utility facilities, “such as power plants and sewage treatment plants, or parts of those facilities, are prohibited in shoreline jurisdiction unless it can be demonstrated that no other feasible option is available.”

Issue

Ecology commented that conditional permission of sewage collection in these two environments is inconsistent with the prohibition in Section 5.23.B.2, and that additional clarity should be provided.

Discussion

Use of the clause, “unless infeasible” can be, and is commonly, interpreted in the use matrix as either an “X” or a “C,” with the permit conditions being demonstration of the infeasibility of other options. As such, the permissions for sewage collection in Table 5-1 are consistent with the intent of Section 5.23.B.2.

Consideration of Cumulative Impacts

In the SMP, Section 6.2, General Ocean Uses, lists the following as one of the permit review criteria for all coastal ocean uses: “There will be no likely significant long-term or cumulative impacts to coastal or marine resources or uses, including consideration of cumulative adverse impacts from activities outside the county, that cause local impacts.”

Issue

Ecology commented that this phrase is “too broad and open-ended, and it is unclear how this could be implemented. WAC 173-26-360(2) makes clear the allowable geographical application:

‘The guidelines address uses occurring in Washington's coastal waters, but not impacts generated from activities offshore of Oregon, Alaska, California, or British Columbia.’” Ecology suggested use of the qualifier, "and within Washington waters," to ensure consistency with this geographical constraint.

Discussion

WAC 173-26-360(2) defines the area of application of the guidelines. The SMP provision does not attempt to regulate anything beyond state (or county) waters. It does, however, provide the opportunity to consider the collective impacts of activities that may occur outside of the county, including across the state border, that directly impact local conditions. Considering the location of Pacific County, it is reasonable and critical to consider cumulative impacts more broadly than strictly within Washington State in order to maintain no net loss of ecological functions.

References

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