2025 Best Achievable Protection (BAP) Summary Document

Background

Washington uses the Best Achievable Protection (BAP) process to maintain a high standard of oil spill preparedness. As outlined in WAC 173-182-621 and WAC 173-186-410, this 5-year cycle reviews emerging response technologies and practices to inform updates to oil spill contingency planning. The BAP recommendations help guide updates to oil spill contingency plans.

As part of the 2025 BAP process, Ecology administered a survey to identify priority areas for improving oil spill preparedness. Based on survey responses, four key focus areas were selected and assigned to dedicated workgroups for further evaluation: (1) non-floating oils, (2) Shoreline Cleanup Assessment Techniques, (3) Southern Resident Killer Whale deterrence, and (4) Uncrewed Aerial Surveillance. This document summarizes each workgroup's discussions and presents their recommendations for strengthening Washington's oil spill preparedness system.

Not all BAP recommendations will be included in the scope of upcoming rule updates. Some suggestions may be more appropriately implemented through other preparedness tools—such as Regional or Area Contingency Plans, policy updates, technical guidance, or operational response tools—rather than through changes to rule language. Ecology will consider the most effective and practical pathway for each recommendation to strengthen oil spill preparedness across all planning levels.

2025 BAP Timeline

- Initial survey to identify research areas (February 2025)
- Survey Results: https://ecology.wa.gov/getattachment/08922d6f-f937-454b-80e6-4f8a38bd1aa3/BAP-Survey-Results-Summary-2025.pdf
- Formation of workgroups (March 2025)
- Workgroups research subject areas (March through May 2025)
- Workgroups provide recommendations to rule writing team (May 2025)
- Public comment opportunity - all workgroup recommendations (June – July 2025)
- Ecology rule team determines rule update scope (July 2025)
- Formal rulemaking announcement (Fall 2025)
- Rule development process (Winter through Summer 2026)
- Tentative proposal of rule updates (Fall 2026)
- Tentative adoption of rule updates (2027)

Non-Floating Oils (NFO) Workgroup Recommendation Summary

The working group agrees that floating oil response is more effective compared to non-floating oil response. In cases where oils may become non-floating, a rapid, aggressive, well-coordinated response, with safety as a first priority, must be conducted prior to oil submerging.

- The first priority of any response should be to assess risk and protect human lives.
- Non-floating oil response requires specialized knowledge and equipment.
- Response tactics should be selected based on oil type and environmental conditions.
- Products that sink over time pose unique response challenges.

Recommendation 1: Consider on-water recovery as a first line of defense in non-floating oil response, especially for products that sink over time.

Evaluate response times and tactics required by the current rule for floating and non-floating oil equipment and assessment and compare the equipment requirements to modeled behavior of potentially non-floating oils. Timelines regarding how long those oils will remain floating in the environment to assess if the current timelines in rule are appropriate.

- Areas to consider when doing model comparisons:
    - Transportation corridors where oils that sink over time (diluted bitumen, crude oils, bunkers) are moved in bulk, with special consideration to areas impacted by the TransMountain pipeline expansion. For example:
        - Haro Strait/Rosario Strait (see 2015 report and 2023 report)
        - Strait of Juan de Fuca
        - Bouy J or other "holding" locations for tankers waiting for berth
        - Anchorages (Port Angeles & Vendovi Island)
    - Estuarine environments where water density is variable in the above areas
- This recommendation to model is for planning purposes only. Modeling at the time of release is informative as well, but modeling to ensure sufficient preparedness and modeling for response provides different information.
- Use modeling results to evaluate equipment requirements for NFOs and adjust planning standard timelines as needed, so that Washington has the best achievable protection, with access to the right equipment prior to a potentially non-floating oil spill.
- Consider incorporating Canadian resources and sunken oil planning into modeling. Understand the resources our Canadian neighbors bring to any transboundary spill incident and any planning documents they've developed.

Recommendation 2: Increase our communal understanding of the chemical and physical properties of non-floating oils before and during responses.

Non-floating oil responses require specialized knowledge and pose unique challenges to responders. The working group recommends that Washington's response community increases our understanding of the fates and effects of non-floating oils in the environment.

- Understand the chemical and physical characteristics of diluted-bitumen and other non-floating oils moving in Washington and non-floating oil's fate when released to the environment. Additionally, the physical environment (i.e. cold temperatures) also impacts fate and transport of potentially non-floating oils.
- Consider requiring that the SDS for the diluent or other known additives to crude oil be shared with responders within a timeframe (1 hour? 6 hours?) that is reasonable for the safety of the responders, and useful to evaluate potential behavior and impacts to the environment.
- Review the literature recommendations regarding unique safety considerations based on chemical/physical properties of diluted bitumen and other crude oils and incorporate recommendations in rule scope, as appropriate. (Literature reviewed at the end of this document)
- Consider requiring initial field-testing protocols during incidents to allow responders to assess how ambient environmental conditions may impact the response (i.e. a tailgate jar test). This may be part of the initial spill assessment requirements under the contingency planning WACs.

Recommendation 3: Update our understanding of response options regarding non-floating oils, either through regional and area planning or improving information in the primary response contractor applications approved by Ecology.

Option 1: Updates the workgroup recommends at the Regional/Area Planning Level:

- The workgroup recommends that the regional/area planning committees review evacuation and communication plans. Consider papers from Vancouver, Canada when reviewing the plans, especially the communications and air monitoring portions of the reports.
- Evaluate and assemble models that already exist to describe non-floating oil behavior and include them in the existing non-floating oil response tool (NWACP Section 9412).
    - Currently using GNOME/ADIOS to evaluate how long it would take for an oil to cease to remain on the surface. The workgroup recommends documenting best practices and any limitations of these models.
- Ensure best practices from the uSCAT manual are incorporated into NWACP Section 9412.
- Incorporate SLRoss research (linked below) that characterizes behavior of multiple oils into NWACP Section 9412, as appropriate, including any relevant data sheets from those laboratory tests.
- Consider creating a matrix with timeframes, product properties, environmental conditions, and appropriate response tactics added to the area plan & cited in the contingency plans. The goal of this matrix is to speed up or assist decision making using physical and chemical characteristics of the oil & environmental conditions to assist folks in mobilizing the right equipment
    - First responder and community safety are the first priority of any response.

    - Any new tools under NWACP Section 9412 should not box in first responders but rather provide best practices. Responders need flexibility to respond to the specific incident and incident specifics should drive response.
    - Grid should evaluate appropriateness of equipment based on
        - Type of oil (physical and chemical conditions)
        - Timeline & Timeframes
        - Weather (cold vs. hot)
        - tides/water flow/currents
        - Sediment/Turbidity (weathering of oil)
        - Availability of equipment in the region

Option 2: Alternative to updating the area plan: Consider using PRC applications to verify non-floating oil capabilities and rely on the applications to verify appropriate access to equipment based on the tactics the responders propose in their area of operation.

- Responsible parties contracting with OSRO/PRC that are rated for non-floating oil should already have appropriate tactics and response equipment cited in their applications if they are approved. These tactics should be consistent with the uSCAT manual and other documents cited in this summary.
- Assess if application requirements are complete to assess responders' ability to rapidly detect, assess, and clean-up non-floating oils.
- Oil spill primary response contractors have the expertise during a response, we should ensure that expertise is being centered when discussing tactics.

Recommendation 4: Ecology should evaluate the response resources needed to conduct floating oil and non-floating oil responses to ensure personnel or resources are not "double-counted" and plan holders meet all planning standards for floating and non-floating oils.

The goal of this recommendation is to ensure responders could deploy tactics for floating and non-floating oil simultaneously, as an incident evolves.

- In addition, the workgroup recommends Ecology ensures that cross-border cooperation can still occur, including moving responders and equipment across transboundary borders in a reasonable amount of time, through drills and other planning processes.
    - The workgroup emphasizes that Washington should not rely only on Canadian resources, it is important that Washington has access to non-floating oil resources.

Recommendation 5: The working group recommends that the rulemaking group reviews recent incidents to evaluate any new technologies for addition to planning standards.

Non-floating oil response equipment or response techniques may require infrastructure to staff boats, cranes, or other equipment that may be limited in the Puget Sound. As a community, we should explore tactics and equipment used in prior responses, but ensure any tactics recommended are appropriate for the PNW operating environment. It may not be necessary to

identify the specific equipment but, rather, identify how we could support similar tactics other responses have found effective using equipment available in our region.

- NOAA lessons learned could be used to inform tactic or equipment requirements, as well as a literature review.
- The work group discussed new skimming technology that pulls oil from the water column using a "bubble curtain" or pneumatic barrier. The rulemaking team should evaluate if this equipment is viable for Puget Sound environments.
    - The rule writing team should explore both standalone units (i.e. catamaran style skimmer) and equipment that could be retrofitted or added to existing equipment.
    - The rule writing team should consider how currents, especially in the Strait of Juan de Fuca, may limit how effective new technology may be.
    - A caveat – there wasn't strong consensus from the workgroup if this would be newly required equipment, or to consider equipment for the next cycle as the technology is improved.
- Other technologies referenced by the WCMRC report (linked in references):
    - ROVs - remotely operated, tethered submersibles that can be equipped with cameras, sonar, manipulator arms that allow operators to locate and assess submerged oil, and specialized tools for oil recovery operations.
    - Deep Trekker DTG2
    - Laser fluorometers - can detect oil in the water column by measuring fluorescence.
    - Smart filters with nanomaterial coatings - can separate oil from water using gravity rather than chemicals.
- Ecology and others on the working group attended the California OSPR technology conference, and side-beam vs. multi-beam sonar access in the State should be evaluated as part of the rule writing process, regarding presentations made on the effectiveness of each to detect non-floating oil in the water column.

References

API (American Petroleum Institute) Sunken Oil Detection and Recovery Operational Guide, 2016
https://www.nrt.org/sites/73/files/API%20-%20Sunken-oil-ops-guide.pdf

Coastal and Ocean Resources, uSCAT Technical Reference Manual May 2018
https://www.uscat.ca/

DTIC (Defense Technical Information Center) Guidance Document – Behavior of Diluted Bitumen in the Freshwater Environment, September 2023
https://apps.dtic.mil/sti/trecms/pdf/AD1215737.pdf

Ecology, Non-floating Oil Spill Risks, 2020
https://apps.ecology.wa.gov/publications/documents/1808002.pdf

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NOAA, Oil spill case histories, 1967-1991: summaries of significant U.S. and international spills
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https://www.sanjuancountywa.gov/DocumentCenter/View/21461/150630-SJC-Oil-Spill-Evaluation-FINAL-w-APPENDICES?bidId=

RRT10, Non-floating oil spill response tool
https://nrt.org/sites/175/files/Chapter_9000_NWACP_9-2024%202.pdf

SL Ross Environmental Research Ltd., Comparison of Conventional and Non-Conventional Oils through Laboratory and Meso-Scale Testing: Full Data Report, 2020
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USCG Risk Assessment of Transporting Canadian Oil Sands, May 2014
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WCMRC Sunken and Submerged Oil Plan, September 2020
https://wcmrc.com/wp-content/uploads/WCMRC-Sunken-and-Submerged-Oil-Plan-Rev-1.pdf

Shoreline Cleanup Assessment Technique (SCAT) Workgroup Recommendation Summary

This recommendation summary was developed by the Shoreline Cleanup Assessment Technique (SCAT) Workgroup as a part of the Best Achievable Protection (BAP) cycle of 2025. This workgroup was created to develop a summary of recommendations that identify the best and most current practices of SCAT to be addressed as potential updates to rules in the Washington Administrative Codes (WACs) and updates to the Northwest Area Contingency Plan (NWACP), Puget Sound Area Contingency Plan, and Columbia River Area Contingency Plan.

The SCAT is the systematic approach to surveying oiled shoreline during a pollution response in order to document and provide shoreline treatment recommendations (STRs) to the Shoreline Response Branch in the Operations Section. SCAT was first used on a large scale during the Exxon Valdez response in 1989 and has since evolved, most notably in the 2010's, to include SCAT as a part of a larger Shoreline Response Program (SRP). The use of SCAT is not strictly for shorelines and floating oils but can also be adapted for use during responses involving non-floating oils using underwater SCAT (uSCAT). These nuances from the evolution of SCAT are not currently reflected in the NWACP, and SCAT is not mentioned in the WACs. The recommendations provided below will allow the state of Washington and the Northwest Region to react to shoreline oiling with increased efficiency and will lead to a more rapid, aggressive, and well-coordinated response to protect our shorelines.

Incorporate SCAT into a larger Shoreline Response Program (SRP)

It was unanimously agreed upon by members of the workgroup that SCAT should be incorporated with shoreline cleanup and response actions as a larger Shoreline Response Program (SRP) rather than shoreline response and SCAT occurring independent of each other. SRPs are commonly used today when responding to shoreline impacts, however the NWACP does not mention the use of SRPs and its guidance on what is required of SCAT is outdated. Moving towards an SRP would modernize how responders perform SCAT in Washington State.

An SRP resides in the Environmental Unit (EU) but provides a clear line of communication between the Planning Section's Environmental Unit and Operations Section's Shoreline Response Branch. This arrangement streamlines the communication of data from SCAT surveys and provides STRs to Operations (IPIECA-IOGP 2014; 2020; Owens and Santer 2021). Under an SRP, the shoreline response acts as a cohesive unit and not separate entities acting independently of each other. This clear line of communication is something that traditional SCAT and operational shoreline response may lack, which leads to reduced efficiency and collateral environmental impacts from cleanup response (Owens and Santner 2021). An SRP is an extension of the traditional SCAT Program, but with broader focuses on strategic and tactical planning to minimize the impacts of oil and cleanup actions on shorelines (Owens and Santner 2021). The establishment of an SRP would also lighten the initial load of the EUL and EU staff, since there will be dedicated personnel assigned to the development and implementation of an SRP plan, unlike the ACPs which place this responsibility on the EUL and EU staff (IPIECA-IOGP 2020). The WACs already provide a planning standard for Shoreline Cleanup, and the addition of SCAT to sections where shoreline cleanup is mentioned would aid in developing an SRP in the WACs.

SRP WAC Recommendations

- Establish the use of an SRP where shoreline cleanup or response is mentioned.
- Update sections that describe shoreline cleanup and response to include SCAT.

SRP NWACP, Puget Sound ACP, Columbia River ACP Recommendations

- Define SRP as a subsection in the Environmental Unit, this should include a description of an SRP as a whole and the SCAT process.

Establish Timeframe for SRP Mobilization

Lessons learned from responses over the past 20 years have shown that when shoreline response is assigned a lower priority, the initiation of shoreline cleanup is delayed significantly. This results in missed opportunities to recover stranded oil before it re-mobilizes, increased impacts of stranded oil due to longer oil exposure times, and an increase in waste generation from the response (IPIECA-IOGP 2020). The establishment of an SRP early in the response should be included in the initial ICS objectives (ICS Form 202) at the start of the incident. By assigning SRP as an early objective, it guarantees that the SRP will be supported at an appropriate level, particularly by those who may not be familiar with SCAT (Owens and Santner 2021).

During the Cosco Busan response in 2007, where 54,000 gallons of IFO was spilled, an SRP was developed within a day of the release and deployed into the field, even without aerial observations or oil spill trajectories, which were delayed due to heavy fog. This rapid and aggressive SRP enabled oil removal to commence within the first low tide period after the oil became stranded and before oil could be reworked, buried, or remobilized during the next high tide (IPIECA-IOGP 2020). This aggressive approach led to most of the shoreline being cleaned within three months.

Currently, the NWACP's 96 Hour Plan only has one mention of SCAT at the 10-hour mark, which only calls to order "hot shot" SCAT resources, while the WAC has no mention of SCAT as previously noted. This workgroup determined that this was not sufficient and agreed the EUL should make the decision to mobilize or place on standby an SRP earlier in the initial stages of the response.

SRP Timeframe Recommendations for NWACP

- Update Section 9220 - 96 Hour Plan to include SCAT in the initial assessment teams at the Day 1, +2 Hour mark.
- Update Section 9220 - 96 Hour Plan to include the decision by the EUL to mobilize or place on standby an SRP at the Day 1, +3 Hour mark.
- Update the 96-Hour Plan Supplemental Toolkit to include the decision by the EUL to mobilize or place on standby an SRP in the EUL section of the toolkit at the 3 hours mark.
- Include "Protect shoreline by establishing an SRP" as an objective in the NWACP Section 9703: Initial Incident Objectives for Oil Spills ICS-202 Incident Objectives form.

Roles and Responsibilities of SCAT Program Members

Upon review of the NWACP, Puget Sound ACP, and Columbia River ACP, this workgroup found conflicting guidance on the roles and responsibilities of the SCAT Program. The three ACPs place the responsibility of developing and executing a SCAT plan either under the EUL or EU staff. Since

this workgroup suggests the use of an SRP, the responsibility of developing and executing the SCAT plan should fall under the SCAT Coordinator position, who reports to the SRP Manager. Aside from tasking the SCAT Coordinator with the responsibility of developing the SCAT plan, the three ACPs additionally should describe the other critical roles and responsibilities of SCAT Data Manager, SCAT-OPS Liaison, and SCAT Field Team Lead. The positions within the SCAT program are inherently scalable and, depending on the size of the spill and the number of field teams needed, multiple roles could be performed by one person.

Another inconsistency that was found in the ACPs, was the use of the term "SCAT team". In multiple descriptions, the term SCAT team was used interchangeably for instances of SCAT Field Teams and the SCAT program as a whole. This workgroup suggests updates to the ACPs to include more specific terms, where SCAT Program is mentioned as the entirety of the SCAT Program, while SCAT Field Team is used for the survey teams out in the field. This distinction is important for assigning responsibilities to the separate units within the SCAT Program and SRP. The recommendations on SCAT roles and responsibilities provided below are only for the three ACPs. Roles and responsibilities were taken from IPIECA-IOGP 2014, IPIECA-IOGP 2020, and Owens and Santner 2021.

SCAT Roles and Responsibilities Recommendations for the NWACP, Puget Sound ACP, and Columbia River ACP

- Update the ACPs to include the role of SRP Manager and their responsibility to develop and execute the SRP Plan.
- Update the ACPs to include the role of SCAT Coordinator and their responsibility to develop and execute a SCAT Plan.
- Update the ACPs to include the role of the SCAT Data Manager with the responsibility to collect and process data, oversee the production of reports, maps and data summaries for the planning section. If the response involves two or more SCAT Field Teams, a SCAT Data Manager should be deployed and filled by one person.
- Update the ACPs to include the role of the SCAT-OPS Liaison and their responsibilities of acting as the two-way communication bridge between the SCAT Program and the operational Shoreline Response Team, training fields teams and cleanup crews on proper response and cleanup techniques and validating that the shoreline treatment recommendations are feasible and being performed in accordance with the best management practices.
- Update the ACPs to include the role of the SCAT Field Team Lead and their responsibilities of leading the SCAT Field Team and developing a consensus with the team on segment oiling conditions and treatment recommendations.
- Update the ACPs to include the scalability of the SRP, for small-scale responses the key roles may be performed by one or two individuals, but as the response increases in size to medium or large-scale, the key roles may scale out to include the SRP Manager, SCAT Coordinator, SCAT Data Manager, SCAT Field Team Leads, and SCAT-OPS Liaisons. A key indicator that the response is increasing in size is if there is a need for more than one SCAT field team.

- Update the ACPs to include the appropriate use of the terms SRP Program, SCAT Program, and SCAT Field Team.

Update to NWACP Response Tools: Section 9421 and SRP Plan Template

The NWACP Section 9421 is a SCAT resource tool that includes guidance on the SCAT Program and SCAT Plan templates. This workgroup agreed that this guidance is roughly 15 years out of date and requires an update. Section 9421 should be updated to include an SRP plan template for responders to use when developing an SRP. The IPIECA-IOGP 2020 guidance shows that having a flexible SRP template in place allows for easier management of shoreline response components and provides a smooth operational transition into the systematic phase of the response. This workgroup suggests using Appendix 3 in the *IPIECA Shoreline Response Programme Guidance* document as inspiration for this future template.

As far as this BAP cycle is concerned, this workgroup recommends an update to Section 9421 and to consider future updates to the WAC for plan holders to use the NWACP SRP template for SRP activities during a response.

SRP Template Recommendations for the NWACP

- Update Section 9421 to include the SRP, update the SCAT Program and include an SRP Plan template.
- There should also be an effort to reduce the size of Section 9421 to make it more efficient.

Develop Pre-Identified SCAT Segments for All of Washington State

When a SCAT Program is mobilized for a response, the bulk of the initial work is spent in the incident command post creating a SCAT plan, which includes the development of SCAT segments. The development of the SCAT plan and SCAT segments can take time to get it right from the start, and in the initial planning stage, can lead to reactive segmentation and the use of multiple unconnected segmentation schemes created by different groups within a response (IPIECA-IOGP 2014). When multiple groups in a response create segments and segment groups independent of each other, it can lead to a misalignment between cleanup crews and SCAT Field Teams, leading to further confusion and delays in shoreline cleanup. When the shoreline is pre-segmented prior to an incident, it provides the response with key shoreline information and provides segments and segment groups for the Operations and Planning Sections to use immediately without taking the time to develop the segments during the crucial early hours of an incident.

Currently, the NWACP includes the response tool Section 9422 Shoreline Segmentation Guidance for SCAT, which outlines how to properly develop SCAT segments and provides pre-segmented shorelines in both King and Kitsap County. Washington Department of Ecology's Resources at Risk map includes a layer of "Oil Spill Shoreline Division Segments", which identifies larger pre-identified SCAT segment groups in the Strait of Juan de Fuca, North Puget Sound, and the Columbia River. Washington Department of Natural Resources has a ShoreZone inventory layer in their GIS database, which divides all the marine shoreline in Washington state by shoreline type. The use of these resources under a standardized nomenclature would improve the response time of an SRP to get responders in the field and harmonize the field organization for all shoreline-related activities.

Pre-identified SCAT Segmentation Recommendations for the NWACP

- Include the use of pre-identified SCAT segments in the NWACP SRP section and update Section 9421 to include the use of pre-identified SCAT segments in areas that have already been pre-segmented with a naming convention provided in Section 9422. The WA ECY Resources at Risk "Oil Spill Shoreline Division Segments" Layer provides responders with larger segment groups, however this resource should be used as a reference tool only and should be broken down into smaller segments and named using the guidance given in Section 9422.
- Update the NWACP to include language guiding responders to follow the instructions outlined in Section 9422 to properly name and define SCAT segments and segment groups that are created during a response outside of the pre-segmented areas.
- Update the NWACP Section 9422 to include the updated link to the WA DNR ShoreZone Inventory layer in their GIS database
- ShoreZone Inventory - Shoreline type | Washington State Department of Natural Resources GIS Open Data
- Develop a single, publicly available source that spatially displays all pre-identified SCAT segments and segment groups in Washington State with a uniformed naming convention as described in Section 9422. This workgroup suggests using NOAA's ERMA as this source, since USCG and NOAA have an MOA to use ERMA as a COP during responses.
- Suggest to the Northwest Area Committee to create a NWACP Subcommittee, Task Force, or Workgroup to gather resources on what other pre-identified SCAT segment and segment group resources exist for Washington State and further develop SCAT segments and segment groups for all Washington shorelines to better prepare the state for pollution response.

References

IPIECA-IOGP, 2014. A guide to oiled shoreline assessment (SCAT) surveys. Good practice guidelines for incident management and emergency response personnel. https://www.ipieca.org/resources/good-practice/a-guide-to-oiled-shoreline-assessment-scat-surveys/

IPIECA-IOGP, 2020. Shoreline Response Programme Guidance. https://www.ipieca.org/resources/shoreline-response-programme-guidance

Owens, E. Santner, R., 2021. Integration of a Shoreline Response Program (SRP) and SCAT. International Oil Spill Conference Proceedings 1 May 2021;2021 (1): 679374. doi: https://doi.org/10.7901/2169-3358-2021.1.679374

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Southern Resident Killer Whale (SRKW) Deterrence Workgroup Recommendation Summary

The Department of Ecology established a SRKW deterrence workgroup to review existing documentation on the topic and to discuss the possibilities for achieving a higher level of protection for these whales if an oil spill were to occur. This recommendation summary provides a list of resources reviewed, a summary of the workgroup discussions, and the workgroup's recommendations for advancing preparedness for SRKW deterrence.

Summary of Workgroup Discussions

The workgroup identified several issues related to the deployment of SRKW deterrence:

- Whale monitoring and recon networks are vital to the success of the deterrence tactic. The network includes various resources such as hydrophones, whale watching vessels, whale researchers, live cams (including IR), etc. A lot of these networks are supported by federal funds that may or may not have long-term funding.
- How do we ensure that these resources are available when needed? Is there a way that the industries and agencies in need of this data during a spill can help support them between spill events?
- Plan holders are not authorized to conduct SRKW deterrence without a signed Incident Action Plan (IAP) from the U.S. Coast Guard (USCG). The USCG, under a co-investigator permit with National Marine Fisheries Service (NMFS), is authorized to carry out certain pre-approved SRKW deterrence activities. NMFS should be contacted immediately whenever whale deterrence is recommended, though NMFS response times may be affected by recent changes within the federal government.
- All deterrence efforts are species-specific. Wildlife Response Service Providers (WRSP) must also obtain permits and specific authorizations to perform certain deterrence tactics.
- Another key challenge is maintaining a trained and ready pool of deterrence personnel. Following the 2023 NWAC SRKW Deterrence Task Force, WDFW, NOAA, and others have continued efforts to address this by conducting training sessions, including webinars, ICS training, and land- and water-based exercises.
- If the tactic is to include volunteers, liability and insurance requirements are significant issues.
- The WAC 173-182-540 requires industry to describe the equipment, personnel, and resources for deterrence, including contact information for the resources to be deployed. This is short of requiring contractual agreements for this tactic. The group discussed that there are currently not any contractors or WRSPs that are specifically approved or permitted to carry out this work.
- The group talked about several potential improvements to planning for this tactic. One approach is to organize deterrence personnel like SCAT teams, building a community-based

pool led by the appropriate agencies. This structure could be formalized through a planning standard within WAC. Another option is to designate a single focal group, such as the WRSPs, to serve as the central hub for trained deterrent personnel. Contracts with approved WRSPs could also be a planning standard requirement.

- A minimum fleet size, equipment, and personnel standards could also be described in the rule.

Workgroup Recommendations

This workgroup is recommending the following actions to continue building capacity to deter SRKWs from oil spills:

- Consider planning standards for SRKW protection that provides a framework and funding mechanism for improved access to trained personnel, technical experts and equipment to conduct deterrence operations.
- Specify drill requirements to test planning standards that relate to SRKW protection to ensure a continuous process of improvement for whale deterrence.
- Continue to use Northwest Area Contingency Plan Section 9310, as a basis for working through drills and incidents and conduction training.
- Clarify ICS processes and position requirements to ensure an appropriate, efficient and timely decision-making process to consider deterrence operations.
- Continue to evaluate options and identify as an issue for a future rule update.
- Identify and seek funding sources for whale reconnaissance and monitoring efforts that would be available during an oil spill.
- Continue to research potential solutions to liability and responder immunity issues.
- Continue to work with Washington State Approved Primary Response Contractors (PRC) through the PRC Application process to provide more specificity and certainty for resource and personnel availability.
- Evaluate improvements to the Area Contingency Plans (ACP) to ensure best achievable protection.

References

2023 Oil spill Task Force Final Report
NWACP Section 9310 Appendix C.2 (Killer Whale – Deterrence Implementation Plan)
Pinniped and Cetacean Oil Spill Response Guidelines
SRKW Recovery Plan and Implementation
Marine Mammal Response Resource List
NOAA/USCG Co-Investigator Letter

Uncrewed Aerial Systems Workgroup Recommendation Summary

This workgroup recommends Unmanned Aerial Systems (UAS) use in oil spill response be included in the upcoming scope of rulemaking for 173-182 WAC. Over recent years, use of UAS in oil spill response has emerged as an industry standard. Their relative ease of use, deployment time, and the information UAS are capable of gathering have made them an important tool that should be considered in many response applications. Importantly, if any of the below recommendations are not aligned with the rulemaking scope, they would likely still be relevant to include in the next update the Northwest Area Contingency Plan. The working group focused on results and outcomes rather than specifics of tech to help future-proof any recommendations made.

UAS Workgroup Recommendations

- Consider better aligning the aerial surveillance requirements of WAC 173-182-320 and 173-182-321. Currently, the requirements of WAC 173-182-320 are less prescriptive—likely because there are no aerial surveillance requirements in the federal regulations, or CFR, for facilities.
    - Importantly, facilities on inland rivers may be exempt for aerial surveillance requirements, so a direct CFR reference may not be applicable for all regulated plan holders.
- Consider adding language to include UAS use as an optional response tool in low visibility environments (WAC 173-320, 321, 250, 450, and 810).
- Consider adding UAS as an option wherever fixed wing or helicopters are called out.
- Rather than requiring specific equipment or technical capabilities, it would be more appropriate to base regulation around the desired outcomes or mission of the overflight objective (see table).

Task/Objective Breakdown of UAS use in Oil Spill Response (Table)

Tasking	Objectives	Sensors Required
Situational Awareness	Simple aerial perspective - confirm general location and presence/absence	Observer and/or Visual (RGB) camera, orthographic capability
	State of the vessel(s)	Observer and/or Visual (RGB) camera
Oil on water	Initial assessment	Any
	Map individual points of surface spill extent	GPS location of platform, means to mark point targets
	Measure area of extent surface spill	Accurate georectified or orthomosaic imagery and means to draw on imagery
	Locate thickest / potential actionable surface oil	IR, multispectral, visual support
	Quantification of surface oil on water	Georeferenced imagery (Vis, UV, IR, or multispectral)
	Drift validation / recurrent mapping of the spill	Georeferenced imagery (Vis, UV, IR, or multispectral)

	Tactical support - Identify thickest oil - guide deployed resources to it	Visual - IR if available
Shoreline	Initial Assessment	Any
	Habitat Classification	Set by specific objectives
	Oiling assessment - shoreline/habitat	Set by specific objectives
	Shoreline Classification - response/cleanup options and access	Visual
	Resources of Risk - identification/confirmation	Set by specific objectives
	Recurrent assessment - state of oiling/effectiveness of shoreline tactics	Set by specific objectives

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