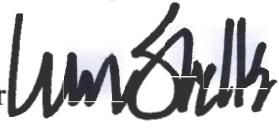




June 19, 2013

MEMORANDUM FOR: Northwest Region Assistant Regional Administrators

FROM: William W. Stelle, Jr. 
Regional Administrator

SUBJECT: Guidance on ESA Consultation for Southern Resident Killer Whales and Other Listed Marine Mammals

This memo establishes how the Northwest Region will manage Endangered Species Act (ESA) section 7(a)(2) responsibilities for Southern Resident killer whales and other listed marine mammals, and supersedes the October 24, 2008, and DRAFT April 26, 2011, memos. The guidance is specific to the Northwest Region's duties as a consulting agency (i.e., does not apply to the Region's duties as an action agency). Federal agency actions affecting ESA-listed marine mammals will also frequently affect salmon, and the Northwest Region will need to simultaneously consult on both types of species.

In general, the Protected Resources Division (PRD) will be responsible for marine mammal section 7 duties associated with the following actions:

- Fisheries
- Hatcheries
- An increase in toxics of concern¹ (i.e., NPDES permits)

For all other actions affecting listed marine mammals, the division with the salmon lead for the action will also consult on effects to marine mammals, unless otherwise agreed between Assistant Regional Administrators.

Section 7 Coordination

There are two types of coordination for actions that affect both salmon and marine mammals: (1) when PRD is the lead for marine mammals, and (2) when the division with the salmon lead for the action will also be the lead for marine mammals.

(1) Coordination when PRD is the lead for marine mammals:

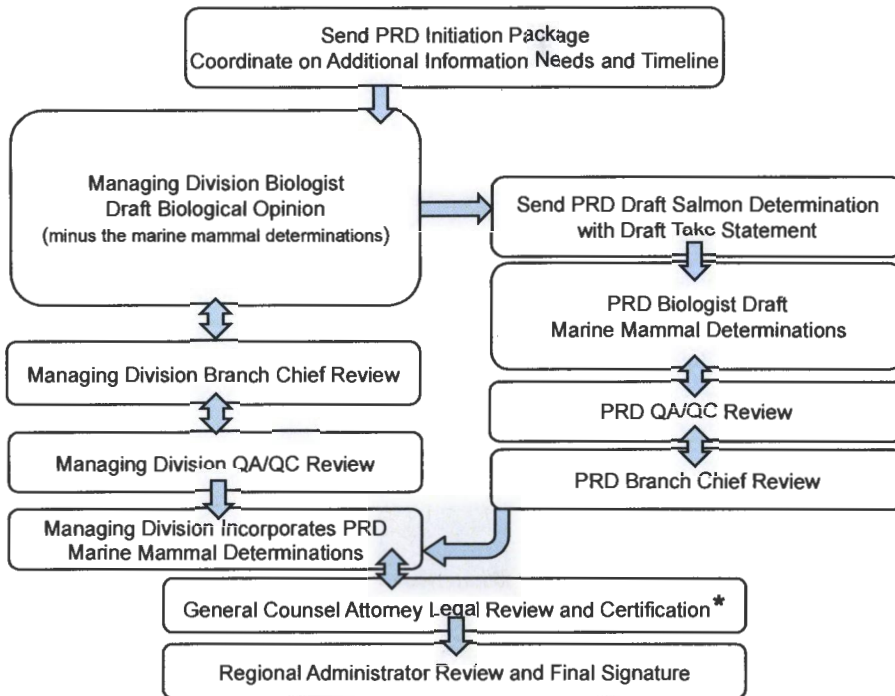
The division receiving the request to consult will manage the consultation process (managing division). The managing division will also be the lead for the salmon and other non-mammal determinations (in accordance with Thom 2010 and Stelle 2011 guidance on ESA activities for eulachon and rockfish, respectively). In most instances, the managing division will be the primary communication link to the action agency and project applicant. Responsibilities of

¹ Review Table 11 in the [Southern Resident killer whale Recovery Plan](#)



the managing division and PRD are summarized in a work flow diagram and described below. In many cases when PRD has the lead for marine mammals, the process for salmon and marine mammal effect determinations is sequential rather than concurrent, because the Southern Resident killer whale determination is often contingent upon and needs to refer to the effect determination for salmon. In some cases, it may also be necessary to consider the effect of the action on non-listed salmon if those effects are pertinent to the determination for Southern Resident killer whales.

Coordination when PRD is the lead for marine mammals



*The managing division should cc: PRD when requesting General Counsel legal review. The PRD biologist will address questions about the marine mammal determinations that may arise during the General Counsel review.

The managing division will:

- Notify PRD as soon as possible after receiving a request to consult on a proposed action that is within one of the above categories of actions;
- Make copies of the consultation initiation package available to the designated PRD biologist, as requested;
- Confer with PRD early in the consultation to reach agreement on:
 - whether the action agency effect determinations for marine mammals are appropriate;
 - the type of ESA document the managing division intends to prepare;
 - whether additional information about the proposed action is needed from the action agency;
 - whether the proposed action should be modified to further protect marine mammals and/or their habitat; and

- the method PRD will use to complete the marine mammal consultation (see below);
- Prepare the appropriate ESA documents and salmon or other non-mammal determinations (letter of concurrence, biological opinion, etc.);
- Complete tribal coordination in accordance with existing protocols;
- Incorporate the marine mammal determinations received from PRD (see below) into the consultation document;
- Complete quality control and quality assurance requirements for salmon and other non-mammal species,
- Complete GCNW review and approval of the entire consultation document;
- Maintain the project docket file;
- Provide a copy of the signed document to the coordinating PRD biologist.

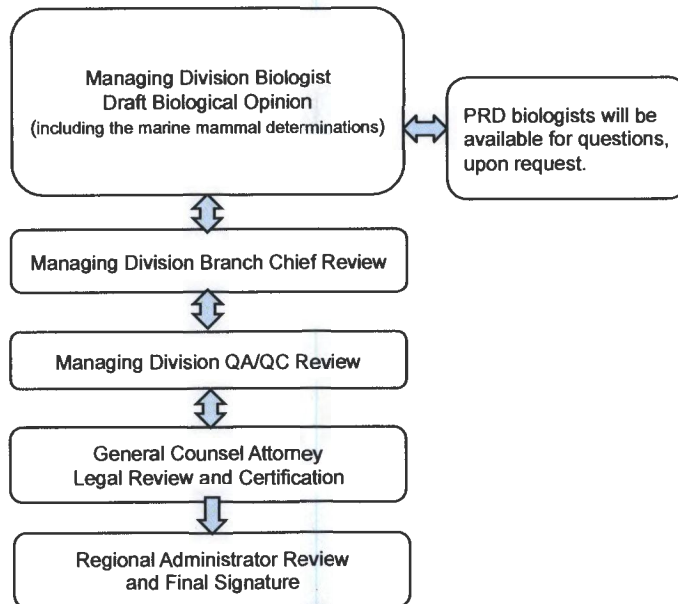
Upon receipt of the consultation initiation package from the managing division, PRD will:

- Confer with the lead division early in the consultation to reach agreement on:
 - whether the action agency effect determination for marine mammals is appropriate;
 - the type of ESA document the lead division intends to prepare; and
 - the method PRD will use to complete the marine mammal consultation (see below).
- Provide to the lead division in a timely manner all necessary information to complete the documentation for ESA consultation.
 - In the case of informal consultation, PRD will provide the rationale for concurring with a "not likely to adversely affect" determination that will be included in the lead division's letter of concurrence.
 - In the case of formal consultation, PRD will provide either:
 - Completed narratives for insertion into the biological opinion (including the status of the species, description of the environmental baseline, analysis of effects, cumulative effects, integration and synthesis, conclusion, incidental take statement, terms and conditions and conservation recommendations), or
 - Information that the lead division can use to complete the marine mammal ESA narrative in the biological opinion.
 - Complete quality control and quality assurance requirements for marine mammals, and send the cleared mammal determinations to the managing division for GCNW review and signature.

(2) Coordination when the division with the salmon lead is also the lead for marine mammals

The division receiving the request to consult will lead the entire consultation resulting in streamlined process (as depicted in the below workflow diagram). PRD biologists will be available to answer questions, as needed. PRD developed and will maintain a document collection in google drive called "Marine Mammal Section 7 Tools." This document collection is available to assist other divisions with lead duties for marine mammal consultations.

Coordination when the division with the salmon lead is also the lead for marine mammals



Section 7(a)(2) Effect Call Guidance

Guidance for marine mammal no effect (NE), not likely to adversely affect (NLAA), and likely to adversely affect (LAA) determinations are provided in Table 1 below. Our Northwest Region [website²](#) provides general habitat use/life-history timing for Steller sea lions and Southern Resident killer whales, and can be used with Table 1 to help assess the likelihood of exposure. Table 2 provides a selection of recently completed consultations, and is also available in a google drive collection, “Marine Mammal Section 7 Tools.” Review of language used in these letters will be a helpful exercise for drafting letters on similar actions and with similar effects. More details about conservation measures and marine mammal monitoring plans are in Appendix 1.

In order for a NE determination to be supported, all pathways of effects related to the proposed action must meet the conditions of the decision criteria. The analysis for a NLAA determination must address all pathways of effects that meet the conditions of the decision criteria. Some projects may not meet all of the criteria in Table 1 for a straightforward NLAA determination, and may require more in-depth analysis to determine if the project is likely to adversely affect listed marine mammals. Thus, if a proposed action does not meet these criteria, it does not mean the action automatically would receive a likely to adversely affect determination, but would require additional analysis for NMFS to make the determination. Table 1 also includes some decision criteria that if met clearly indicate that adverse effects are likely (LAA). In the case that LAA criteria are met, further analysis is required to make a jeopardy or no jeopardy determination. Example opinions are available

² The NOAA Fisheries Northwest Regional Office Marine Mammal ESA Section 7 Consultation Tools can be found at http://www.nwr.noaa.gov/protected_species/marine_mammals/cetaceans_whales_dolphins_porpoise/toothed_whales/killer_whal/es/southern_resident_killer_whale/section_7_consultations/marine_mammal_esa_section_7_consultation_tools.html

for review in the google drive collection, "Marine Mammal Section 7 Tools." PRD biologists are available to answer questions.

Where an action affects listed salmonids and listed marine mammals to such different degrees that a biological opinion is required for one but a letter of concurrence is appropriate for the other, "not likely to adversely affect" determinations should be incorporated in the biological opinion in accordance with the regional biological opinion template.

Table 1. Effect determinations for listed marine mammals, unless identified as only applicable for specific species.

Pathways for Effects	Effect Determination		
	No Effect	Not Likely to Adversely Affect- criteria for straightforward determinations	Likely to Adversely Affect- criteria for straightforward determinations
Sound <ul style="list-style-type: none"> Vessels Construction Seismic activities Military activities Research 	- Species not present ^{1,2} <u>OR</u> - Sound intensity (dB) ≤ ambient conditions <u>OR</u> - Frequency (hertz [Hz]) outside hearing range ³	- Species extremely unlikely to be present ^{1,2} <u>OR</u> - Sound intensity above ambient and within hearing range, but below disturbance level at the source ⁴ <u>OR</u> - Species likely to be present and conservation measures can be implemented to avoid sound exposure ⁵	- Species likely to be present ^{1,2} <u>AND</u> - Conservation measures are not proposed that would avoid sound exposure ⁵
Physical disturbance <ul style="list-style-type: none"> Vessels Fishing gear Tidal turbine or wave buoy 	<u>Specifically for SRKW and large whales:</u> - Species not present ^{1,2} <u>OR</u> - No anticipated vessel effects	<u>Specifically for SRKW and large whales:</u> - Species extremely unlikely to be present ^{1,2} <u>OR</u> - Species likely to be present and vessel effects are extremely unlikely ⁵	- Species likely to be present ^{1,2} <u>AND</u> - There is a risk of entanglement, collision or injury
Prey quantity <ul style="list-style-type: none"> Fisheries Habitat actions Hatchery actions Research 	<u>Specifically for SRKW:</u> - NLAA for Chinook salmon <u>OR</u> - Chinook take results in ≤ 1 adult equivalent Chinook within the action area ⁷	<u>Specifically for SRKW:</u> - Chinook take results in > 1 but ≤ 100 adult equivalent Chinook	<u>Specifically for SRKW:</u> - Actions that are predicted to cause a non-negligible ⁸ reduction in Chinook available <u>OR</u> - Jeopardy to Chinook
Contaminants / Prey quality <ul style="list-style-type: none"> Construction Dredging Pollution Water Quality Criteria 	- No exposure of prey to contaminants	- Spill Prevention Control and Countermeasures Plan in place for construction projects <u>AND / OR</u> - Disposal or placement of contaminated materials (i.e., dredged materials, removed creosote piles or sediment moved during outfall repair) will result in no measurable contaminant effects in prey <u>AND / OR</u> - Not anticipated to cause a measurable accumulation of contaminants in an individual marine mammal ⁹	- Predicted measurable accumulation of contaminants in an individual marine mammal ⁹ <u>OR</u> - There is a risk of health effects ¹⁰

- ¹ For projects in inland waters of Washington State, Southern Resident killer whales are considered not present if there have been no sightings in the action area, and extremely unlikely to occur in an action area if there have been fewer than five sightings per month (using The Whale Museum database; refer to the [Evaluating Potential for Occurrence](#) consultation tool).
- ² Steller sea lions are considered not present in an action area if the closest haulout is ≥ 10 miles away, and extremely unlikely to be present in an action area if the closest haulout is ≥ 5 miles away. Distances do not apply for projects in the Columbia River; see specific seasonal occurrence information for the lower Columbia River and find haulout locations [here](#).
- ³ Hearing range for killer whales is approximately 1 to 100 kHz; 0.75-75 kHz for all pinnipeds; 0.07-22 kHz for all baleen whales.
- ⁴ [Current underwater sound threshold levels for disturbance/injury to marine mammals are](#): Disturbance: Broadband 160 dB_{RMS} re 1 μ Pa for impulse sound and 120 dB_{RMS} re 1 μ Pa for continuous sound, and Injury: Broadband 180dB_{RMS} re 1 μ Pa for whales and 190 dB_{RMS} injury re 1 μ Pa for pinnipeds. In-air threshold for disturbance is 100dB_{RMS} (re 20 μ Pa) for non-harbor seal pinnipeds.
- ⁵ Two primary measures available to avoid exposure are found [here](#).
- ⁶ Project-related vessels meet conditions that the vessels are slow moving, do not target whales, and the project will not result in long-term increases in vessel traffic (i.e., increases that persist beyond the immediate project).
- ⁷ When evaluating the indirect effects of prey reduction on Southern Resident killer whales, the action area is defined by the area of overlap between the marine distribution of the affected Chinook salmon stock(s) and the distribution of Southern Resident killer whales. See Weitkamp 2010 for information about the marine distribution of Chinook salmon.
- ⁸ Whether a reduction in Chinook available is non-negligible depends on several factors including the timing, location, and life stage of prey removal, and the percent reduction in prey available in the action area.
- ⁹ A measurable accumulation of contaminants in an individual marine mammal is dependent on several factors including levels of contaminants from the project, exposure of prey to contaminants (where and what life stage), the likelihood of detection of the contaminants in the individual marine mammal, and if the contaminant bioaccumulates (i.e., increases in accumulation in an individual) and/or biomagnifies (i.e., increases in concentration up the food chain). Examples of projects that may cause measurable accumulation in individuals include water quality criteria, National Pollutant Discharge Elimination System (NPDES) permits, and storm water permits. For a list of environmental contaminants that are persistent in the environment and bioaccumulate in marine mammals, please see Table 11 (pg. II-100) in the final [Southern Resident killer whale recovery plan](#).
- ¹⁰ There is a risk of health effects when the current levels of the pollutant in a marine mammal are at or above known threat levels (usually these threat levels are from surrogate species). Health effects from the accumulation or exposure of a contaminant can include reproductive defects, reduced immune response, endocrine disruption, cancer, etc.

Table 2. Examples of recently completed NLAA consultations by location, species, and pathway of effect referenced by PCTS number.

Pathways of Effects	Location	PCTS Numbers		
		Southern Residents	Steller sea lions	Other (e.g., whales, turtles)
Sound <ul style="list-style-type: none"> • Vessels • Construction • Military activities • Research 	Inland Waters of WA	2010/02803 2010/03373 2010/03498	2010/02803	
	Coast of WA/OR and Columbia River	2010/02135	2010/02135 2010/02599 2010/00491	
Physical disturbance <ul style="list-style-type: none"> • Vessels • Fishing gear • Wave or Tidal Buoys 	Inland Waters of WA	2010/05102 2010/03373 2010/03498 2009/04236 2009/04128 2009/02217	2010/05102 2009/04236 2009/04128 2009/02217	2010/05102
	Coast of WA/OR and Columbia River	2012/00929 2009/04328 2008/04549 2007/07211	2012/00929 2010/04857 2009/04328 2009/01242 2008/04549 2007/07211	2012/00929 2009/04328 2008/04549 2007/07211
Prey quantity <ul style="list-style-type: none"> • Fisheries • Major habitat actions • Research 	Inland Waters of WA	2010/05102 2010/03373 2010/03498 2009/04236 2009/04128 2009/02217	2010/05102 2009/04236 2009/04128 2009/02217	2010/05102
	Coast of WA/OR and Columbia River	2010/02353 2010/02135 2009/04328 2008/04549 2007/07211	2010/02353 2010/02135 2010/04857 2009/04328 2009/01242 2008/04549 2007/07211	2010/02353 2009/04328 2008/04549 2007/07211
Contaminants / Prey quality <ul style="list-style-type: none"> • Construction • Dredging • Pollution 	Inland Waters of WA	2010/06456 2009/05743 2008/06523 2008/07378	2010/06456 2009/03531 2009/05743 2008/06523 2008/07378	2010/06456 2009/03531 2008/06523 2008/07378
	Coast of WA/OR and Columbia River	2010/02353 2008/04549	2010/02353 2008/04549	2010/02353 2008/04549

Appendix 1. Conservation Measures and Marine Mammal Monitoring Plan Guidance

Overview of Conservation Measures:

Where sound exposure above the applicable acoustic threshold(s) is likely, applicants can adopt one of two conservation measures to avoid exposure and remain in informal consultation: (1) request a specific timing restriction to their work window, or (2) develop and follow a monitoring plan to avoid such sound exposure. A user guide with details about: (1) the marine mammal acoustic thresholds, (2) analytical tools to evaluate potential for occurrence of ESA-listed marine mammals and to evaluate the area of potential sound effects, and (3) these conservation measures are available at the [Northwest Regional Office website](#). A template of protocol for marine mammal monitoring plans is also available and can be readily adapted for specific projects (see below).

Marine Mammal Monitoring Plans:

The basic premise of a marine mammal-monitoring plan is to observe for marine mammals in the defined area of potential sound effects. Stop or do not start work if a marine mammal is sighted in the monitoring area. Do not start work again until the marine mammal has moved out of the monitoring area. Below find a template of marine mammal monitoring protocol that can be adapted to specific projects. Steps to take in order to adapt a plan to a specific project include:

- 1) Review the marine mammal acoustic thresholds (see the [Interim Sound Threshold Guidance](#)),
- 2) Define the [area\(s\) of potential sound effects](#),
- 3) Evaluate potential for ESA-listed [marine mammal occurrence](#) in the area(s) of potential sound effects,
- 4) Where ESA-listed marine mammals are likely to be exposed to sound above the acoustic thresholds, adopt [conservation measures](#) to avoid sound exposure that may cause injury or behavioral disruption.

Monitoring Protocol Template:

The applicant will implement the following measures during pile driving to help prevent acoustic effects on ESA-listed marine mammals that may be present in the action area during project implementation:

- 1) The marine mammal observer(s) will be present on site at all times during active pile driving. In order to be considered qualified, each observer will meet a list of qualifications for marine mammal observers (as described below), or undergo training to meet the qualifications prior to the start of pile driving.
- 2) The area of potential sound effects will be monitored for marine mammals during active pile driving (Figure 1). Observer position(s) are identified in Figure 1 and their positions are designed to provide full observer coverage of this area.
- 3) To verify the required monitoring distance from the project site, the observers will use a hand held or boat mounted GPS device or rangefinder.

- 4) The observers will scan the waters within the area of potential sound effects using either binoculars (10X42 or similar) or spotting scopes (20-60 zoom or equivalent) and by making visual observations.
- 5) In the event that weather or sea conditions restrict the observer's ability to observe, or become unsafe for the monitoring vessel(s) to operate, pile installation will cease until conditions allow for monitoring to resume.
- 6) The waters will be scanned 20 minutes prior to and during all pile driving. If ESA-listed marine mammals enter or are observed within the area of potential sound effects during or 20 minutes prior to pile driving, the observer(s) will immediately notify the on-site supervisor or inspector and will require that pile driving not initiate or temporarily cease until the animals have moved outside of the area of potential sound effects.
- 7) Pile driving will only occur during daylight hours when visual monitoring of marine mammals can be performed.
- 8) A marine mammal observation sheet will be used to record the species type, date, and time of any marine mammal sightings. Observers will record marine mammal behavior as and any communication between the observer and the contractor during pile driving.

If any dead or dying marine mammal species are observed in the action area, regardless of known cause; the species type (if known), date, time, and location of the observation will be recorded, a photograph of the specimen will be taken, and NMFS will be immediately notified.

Minimum Qualifications for Marine Mammal Observers:

- 1) Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance. Use of binoculars or spotting scope may be necessary to correctly identify the target.
- 2) Advanced education in biological science, wildlife management, mammalogy or related fields (Bachelor's degree or higher is preferred).
- 3) Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).
- 4) Experience or training in the field identification of marine mammals (cetaceans and pinnipeds).
- 5) Sufficient training, orientation or experience with vessel operation and pile driving operations to provide for personal safety during observations.
- 6) Writing skills sufficient to prepare a report of observations. Reports should include such information as the number, type, and location of marine mammals observed, the behavior of marine mammals in the area of potential sound effects during construction, dates and times when observations and in-water construction activities were conducted, dates and times when in-water construction activities were suspended because of marine mammals, etc.
- 7) Ability to communicate orally, by radio or in person, with project personnel to provide real time information on marine mammals observed in the area, as necessary.

Examples of Figure 1: Depicting areas of sound effects and observer locations.

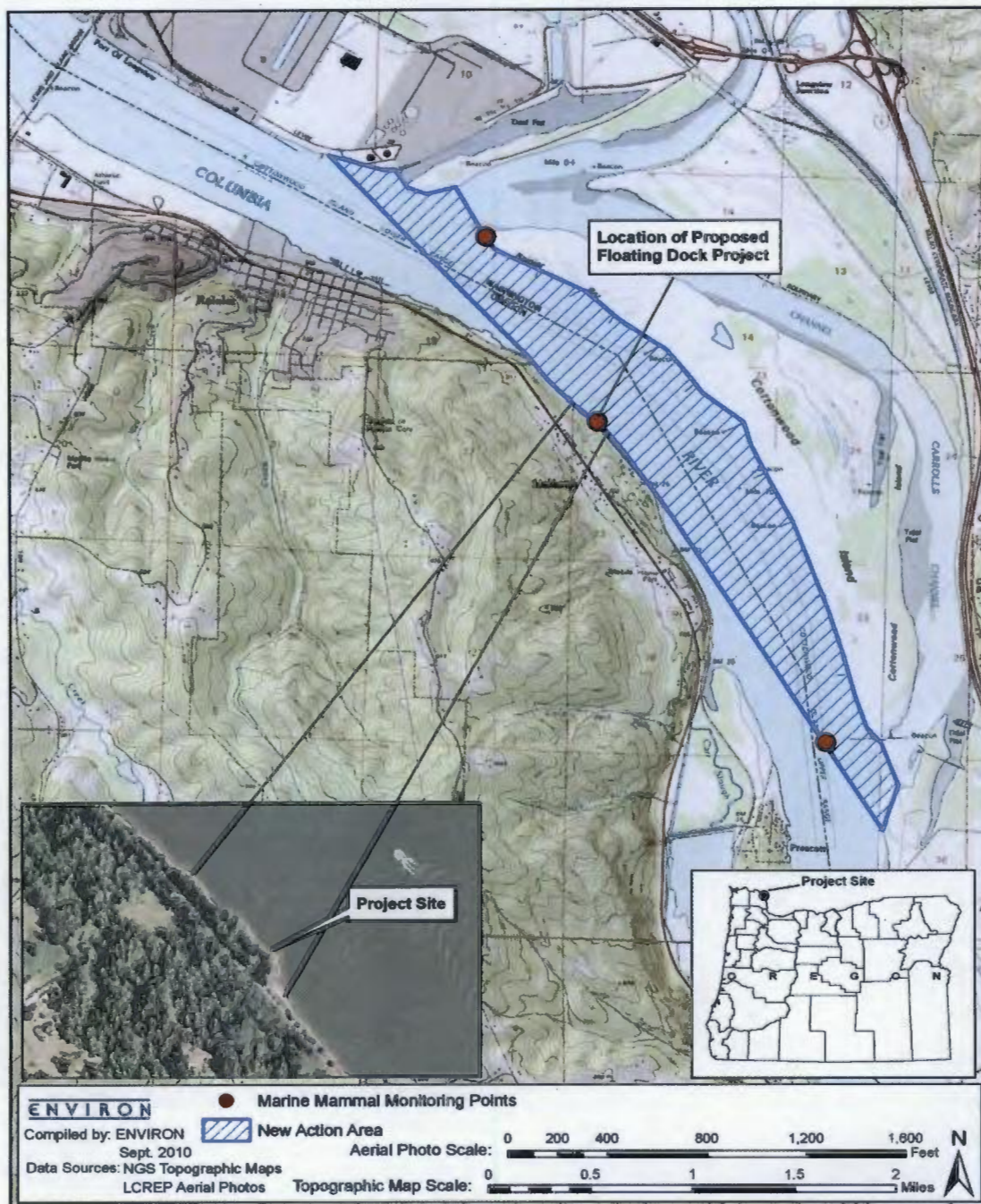


Figure 1. Area of Potential Sound Effects (based on extend of pile driving effects) and Marine Mammal Observer Locations in the Columbia River.



Figure 1. Area of Potential Sound Effects (based on extent of vibratory driving effects) and Marine Mammal Observer locations in Duwamish West Waterway and Elliott Bay, Seattle, WA.

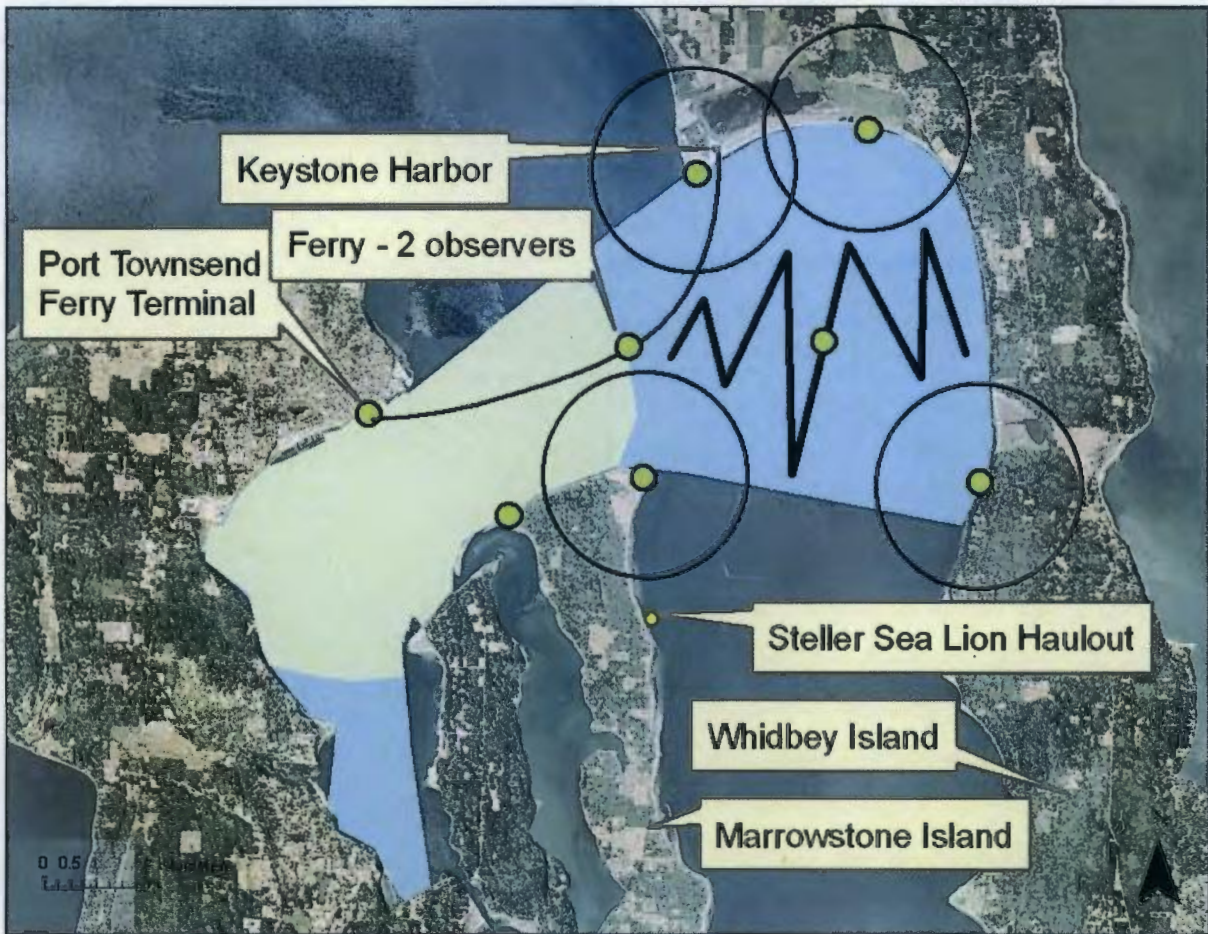


Figure 1. Area of Potential Sound Effects (impact pile driving in green, and vibratory pile driving in green + blue) in Puget Sound and Marine Mammal Observer locations.

