

GRAYS HARBOR
Geographic Response Plan
(GH-GRP)

Resources at Risk

This section provides information about the type and location of natural and economic resources that will support initial Environmental Unit functions.

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INTRODUCTION

This section provides a summary of natural, cultural, and economic resources at risk in the planning area, including those resources at risk from oils with the potential to sink or submerge. It provides general information on habitat, fish, and wildlife resources, and locations in the area where sensitive natural resource concerns have been identified. It offers a summary of cultural resources that include fundamental procedures for the discovery of cultural artifacts and human skeletal remains. General information about flight restrictions, wildlife deterrence, and oiled wildlife can be found near the end of this section. A list of economic resources in the area is provided in the appendix.

This section is purposely broad in scope and should not be considered comprehensive. Some of the sensitive resources described in this section cannot be addressed in Response Strategies and Priorities because it is not possible to conduct effective response activities in these locations. Additional information from private organizations or federal, state, tribal, and local government agencies should also be sought during spills.

This material is presented with enough detail to give general information about the area during the first phase of a spill response. During an actual incident, more information about resources at risk will be available from the Environmental Unit in the Planning Section.

Note: specific resource concerns related to areas that already have designated protection strategies may be found in the “Resources at Risk” column of the matrix describing the individual strategies.

The information provided in this section can be used in:

- Assisting the Environmental Unit (EU) and Operations in developing ad hoc response strategies.
- Providing resource-at-risk “context” to responders, clean-up workers, and others during the initial phase of a spill response in the GRP area.
- Briefing responders and incident command staff that may be unfamiliar with sensitive resource concerns in the GRP area.
- Providing background information for personnel involved in media presentations and public outreach during a spill incident.
- Providing information on benthic and water column species or cultural resources present to assist in planning for oils with the potential to sink or submerge.

NATURAL RESOURCES AT RISK - SUMMARY

This area contains a wide variety of aquatic, riparian, upland habitats, and nearshore marine (outer coast from Grayland to Copalis Beach and Grays Harbor Bay) areas. These habitats support many of Washington’s salmonid species as well as a complex diversity of other wildlife. In addition to those species directly at risk to oil spills, others (due to their life histories and/or behaviors) are unlikely to become directly oiled during a spill incident but may be disturbed by other operations such as

cleanup, reconnaissance, or fire suppression activities. Some of the bird species are resident throughout the year, but many others seasonally migrate outside of the area.

Portions of the estuary are under active commercial shellfish aquaculture (primarily oysters). While much of tidelands are privately owned, commercial shellfish beds provide much the same habitat benefits to native fish and shellfish as do natural beds.

Several of the species found in this area have been classified under the Federal Endangered Species Act or by the Washington State Fish and Wildlife Commission. For the purposes of this section, the area is assumed to extend westward to the outer extent of state waters (3 miles offshore).

Classification types are:

- Federal Endangered (FE)
- Federal Threatened (FT)
- Federal Candidate (FC)
- State Endangered (SE)
- State Threatened (ST)
- State Sensitive (SS)

Federal and State listed species that may occur within this area include:

Birds:

- American white pelican [ST]
- common loon [SS]
- marbled murrelet [FT/SE]
- northern spotted owl [FT/SE]
- sandhill crane [SE]
- short-tailed albatross [FE]
- streaked horned lark [FT/SE]
- tufted puffin [SE]
- western snowy plover [FT/SE]
- yellow billed cuckoo [FT/SE]

Mammals:

- blue whale [FE/SE]
- fin whale [FE/SE]
- fisher [FC/SE]
- gray whale (eastern north Pacific) [SS]
- gray whale (western North Pacific) [FE/SS]
- humpback whale (Central American population) [FE/SE]

- humpback whale (Mexican population) [FT/SE]
- killer whale (southern resident) [FE/SE]
- right whale (north Pacific) [FE/SE]
- sei whale [FE/SE]
- sperm whale [FE/SE]

Fish:

- bull trout [FT]
- eulachon [FT]
- green sturgeon [FT]
- Olympic mudminnow [SS]

Amphibians/Reptiles:

- green sea turtle [FT/ST]
- leatherback sea turtle [FE/SE]
- loggerhead sea turtle [FE/SE]

Insects:

- Oregon silverspot butterfly [FT/SE]

Critical habitats are the specific areas, occupied by an endangered or threatened species at the time it was listed, that contain the physical or biological features that are essential to the conservation of that species - and that may need special management or protection. Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation.

The following species have federally designated critical habitats within this area:

- bull trout
- green sturgeon
- leatherback sea turtle
- western snowy plover
- streaked horned lark

GENERAL RESOURCE CONCERNS

Habitats:

- A large portion of the bay is composed of **intertidal and shallow subtidal mud/sand flats**. These habitats are rich in benthic organisms, creating important foraging areas for salmon and other fishes, crabs, and shorebirds.
- Extensive **eelgrass beds** in the bay serve as important nursery and foraging areas for crab, salmonids, other fishes, and waterfowl.
- **Oyster beds/reefs** and surface deposits of shell fragments from oysters and soft-shell clams support high densities of crabs, epibenthic invertebrates and fishes.
- Extensive areas of **salt marsh** occur throughout the bay, predominantly in association with stream and river mouths. Salt marshes support a diverse array of birds, insect and fish and wildlife species.
- A number of **rivers and smaller tributary streams** flow into this estuary. These act as important salmon migration routes and spawning areas, as well as providing rearing habitat for juvenile salmonids. The associated **riparian scrub and woodlands** play a crucial role in supporting a large diversity and abundance of passerine bird species as breeding, migrating, and overwintering habitat.
- **Outer sand beaches** provide critical habitat for razor clams and for the vast numbers of shorebirds that stop over to feed to and rest on the outer coast and its estuaries during the spring and fall migration.
- **Stream mouths on outer beaches** are concentration areas for a variety of wildlife.
- The **subtidal habitats** in this area consist primarily of soft sediments, such as clay, mud, sand, and gravel. These areas are broad flat and relatively level. Animals that tend to live on the surface of these habitats may include sea cucumber, sea stars, crustaceans (such as crab and shrimp), and bottom fish such as skate, cod, and the flat fishes.
- These soft sediment habitats also support shellfish and other invertebrates including bivalves, worms, brittle stars, shrimplike crustaceans. The burrowing or foraging activities of these animals may penetrate up to one meter below the subsurface bottom.
- Nutrient rich **nearshore waters** sustain a highly productive food web that includes fish, seabirds and marine mammals and serves as habitat for wide-ranging fish such as salmon, forage fish (herring, smelt, and sandlance), sharks, and a large number and wide variety of birds that utilize this habitat as foraging areas. These waters also support both resident and migrating marine mammals. Regional and localized oceanographic conditions can greatly influence the distribution and abundance of all these resources.

Fish and shellfish:

- The estuary is important nursery and foraging area for **juvenile salmonids** including stocks of coastal cutthroat trout; winter and summer steelhead; fall, spring, and summer chinook; fall chum and coho.
- **Herring** spawning occurs within eelgrass beds at several locations within the estuary
- The estuary provides important habitat for several **marine fishes**, including juvenile English sole and lingcod, white and green sturgeon, and starry flounder.
- The estuary is a major nursery area for juvenile stages of **Dungeness crab** population. Crabs that rear in this bay contribute significantly to the adult population along the outer coast and to the coastal crab fishery.

- Portions of the estuary are under active commercial **shellfish culture**. While much of tidelands and oysters are privately owned, commercial oyster beds provide much the same habitat benefits to native fish and shellfish as do natural beds.
- Other **shellfish** occur throughout this area. Razor clams occur along the outer sand beaches and along the entrance to the bay. Eastern softshell clams, horse clams, Manila clams and cockles are found at various locations throughout the bay.

Wildlife:

- Grays Harbor is a **shorebird site of world significance**, supporting up to 1 million birds during the spring migration, as well as large numbers of fall-migrating and wintering shorebirds. The Oyhut/Damon Point area is one of only 3 nesting areas in Washington for the listed **western snowy plover**.
- Concentrations of **brown pelicans** feed and roost in the bay from mid-to-late summer. The state-listed American white pelican may also be found in the area.
- **Waterfowl concentrations** occur from fall through spring, especially in North
- The waters at the entrance to Grays Harbor are a regular feeding area for migrating and resident **seabirds and marine waterfowl**. The South jetty is a favorite roosting site for many species of marine birds and those shorebirds that rely on rocky habitats.
- **Bald eagles** nest throughout the region and forage throughout the bay and **peregrine falcons** are common during peak shorebird abundance in spring.
- **Resident and migratory songbirds** heavily utilize riparian habitats year-round and are susceptible to response activities in riparian vegetation, as well as oiling or oil ingestion if riparian vegetation and shorelines become contaminated.
- Grays Harbor is home to thousands of **harbor seals** from mid-spring through early fall and is one of the largest seal pupping areas in the state. Pupping occurs throughout the bay with concentrations around Sand Island and within North Bay.
- Various species of **whales and dolphins** regularly occur in this region's nearshore zone. The entire U.S. population of **gray whales** migrates through Washington waters in the spring and fall, with many animals stopping to feed in shallow coastal waters during the northward migration in spring. Some individuals will typically leave the main migration and inhabit Washington's nearshore waters throughout the summer. **Humpback whales [FE]** are coastal residents during the summer months, tending to concentrate in feeding areas offshore of Washington's north coast. **Killer whales** (Orca) sighted off the outer coast are most commonly transient or offshore pods, but **southern resident killer whale [FE]** pods may also be seen in the area. **Harbor porpoise** are common year-round and may be found from the surf zone out to several miles offshore. Both **minke whales** and **Dall's porpoise** occasionally occur in nearshore waters. Numerous other species of whales or dolphins occur further offshore.

SPECIFIC GEOGRAPHIC AREAS OF CONCERN

1. **North Bay:** Waterfowl and shorebird concentrations. Extensive eelgrass beds. Major harbor seal pupping area.
2. **Bowerman Basin:** This basin comprises the majority of the Grays Harbor National Wildlife Refuge, which provides critical feeding habitat for both migrating and overwintering shorebirds.
3. **Johns River:** Saltmarsh habitat. Waterfowl and shorebird concentrations. Salmon. WDFW Wildlife Area.
4. **South Bay (Elk River estuary):** Concentrations of waterfowl and shorebirds from fall through spring. Herring spawning area. Saltmarsh and eelgrass habitats. State Park (Bottle Beach).
5. **Mouth of Grays Harbor:** Significant concentration area for feeding seabirds. Migrating gray whales frequently feed just inside entrance to bay. Jetties are heavily used as roosting areas for pelicans, other seabirds, and some species of shorebirds.
6. **Oyhut/Damon Point:** Snowy plover nesting area. Concentration area for waterfowl and shorebirds. Saltmarsh habitat. WDFW Wildlife Area (Oyhut).

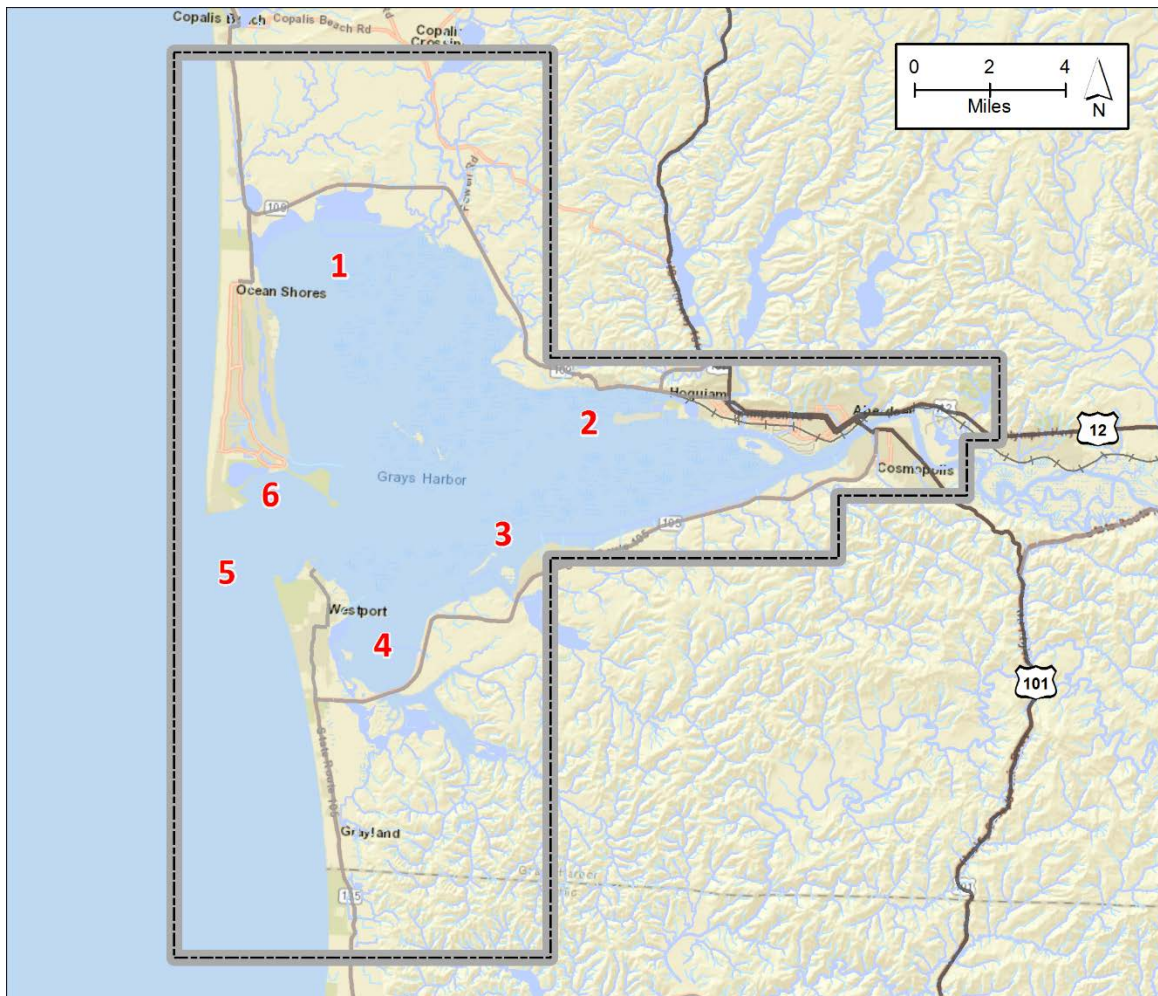


Figure 1: Grays Harbor Specific Geographic Areas of Concern

CULTURAL RESOURCES AT RISK - SUMMARY

Culturally significant resources are present within the planning area. Information regarding the type and location of cultural resources is maintained by the Washington Department of Archeology and Historic Preservation (WDAHP). This sensitive information is made available to the Washington Department of Ecology for oil spill preparedness and response planning. The Tribal Historic Preservation Offices (THPOs) or Cultural Resource Departments of local tribes (see Table 1) may also be able to provide information on cultural resources at risk in the area and should be contacted, along with WDAHP, through normal trustee notification processes when significant oil spills, or smaller spills above reportable thresholds, occur in the area.

During a spill response, after the Unified Command is established, information related to specific archeological concerns will be coordinated through the Environmental Unit. In order to ensure that tactical response strategies do not inadvertently harm culturally sensitive sites, WDAHP should be consulted before disturbing any soil or sediment during a response action, including submerged soils or sediments. WDAHP and/or the Tribal governments may assign a person, or provide a list of professional archeologists that can be contracted, to monitor response activities and cleanup operations for the protection of cultural resources at risk. Due to the sensitive nature of such information, details regarding the location and type of cultural resources present are not included in this document.

Table 1: GH-GRP Cultural Resources Contacts

Contact	Phone	Email
Washington Department of Archeology and Historic Preservation (WDAHP)	360- 586-3080	Rob.Whitlam@dahp.wa.gov
Chehalis Confederated Tribes	360-709-1747	dpenn@chehalis-tribe.org
Confederated Tribes of the Grand Ronde	503-879-2084 503-879-2226	thpo@grandronde.org
Hoh Indian Tribe	208-686-1572	e.d@hohtribe-nsn.org
Makah Nation	360-645-2711	makahthpo@centurytel.net
Quileute Nation	360-374-6163	Rio.Jaime@quileutenation.org
Quinault Indian Nation	360-276-8215 x 520	jjames@quinault.org
Shoalwater Bay Tribe	360-267-0731 360-267-8184	edavis@shoalwaterbay-nsn.gov

Discovery of Human Skeletal Remains

Any human remains, burial sites, or burial-related materials that are discovered during a spill response must be treated with respect at all times (photographing human remains is prohibited to all except the appropriate authorities). Refer to National Historic Preservation Act Compliance Guidelines ([NWACP Section 9403](#)) during an emergency response.

Procedures for the Discovery of Cultural Resources

If any person monitoring work activities or involved in spill response believes that they have encountered cultural resources, all workers must stop immediately and notify the Unified Command and Cultural Resource Specialist. The area of work stoppage must be adequate to provide for the security, protection, and integrity of the material or artifact(s) discovered.

Examples of Prehistoric Cultural Resources

- Lithic debitage (stone chips and other tool-making byproducts)
- Flaked or ground stone tools
- Exotic rock, minerals, or quarries
- Concentrations of organically stained sediments, charcoal, or ash
- Fire-modified rock
- Rock alignments or rock structures
- Bone (burned, modified, or in association with other bone, artifacts, or features)
- Shell or shell fragments
- Petroglyphs and pictographs
- Fish weirs, fish traps, and prehistoric water craft
- Culturally modified trees
- Physical locations or features (traditional cultural properties)
- Submerged villages sites or artifacts

Historic cultural materials over 50 years old

- Bottles, or other glass
- Cans
- Ceramics
- Milled wood, brick, concrete, metal, or other building material
- Trash dumps
- Homesteads, building remains
- Logging, mining, or railroad features
- Piers, wharves, docks, bridges, dams, or shipwrecks
- Shipwrecks or other submerged historical objects

ECONOMIC RESOURCES AT RISK SUMMARY

Socio-economic sensitive resources are facilities or locations that rely on a body of water to be economically viable. Because of their location, they could be severely impacted if an oil spill were to occur. Economically sensitive resources are separated into three categories: critical infrastructure, water dependent commercial areas, and water dependent recreation areas. The appendix provides a list of economic resources for this GRP area.

Commercial shellfish aquaculture operations provide important local jobs and significantly contribute to local the economy. Commercial, tribal, and recreational fisheries (targeting species such as salmon, crab, and razor clams) are also important to local economies.

GENERAL INFORMATION

Flight restriction zones

Flight restriction zones may be recommended by the Environmental Unit (Planning Section), in consultation with the Wildlife Branch, for the purpose of reducing disturbances that could result in injury to wildlife during an oil spill. By keeping a safe distance or altitude from identified sensitive areas, pilots/operators can lessen the risk of aircraft/bird collisions, prevent the accidental hazing of wildlife into oiled areas, and avoid causing the abandonment of nests.

Implementation of Flight Restriction Zones will take place within the Air Operations Branch (Operations Section) after the Unified Command is formed. The Planning Section's Environmental Unit will work with the Air Ops Branch Director to resolve any potential conflicts with flight activities that are essential to the spill response effort. Typically, the area within a 1,500-foot radius and below 1,000 feet in altitude is restricted to flying in areas that have been identified as sensitive; however, some areas have more restrictive zones. In addition to restrictions associated with wildlife, Tribal authorities may also request notification when overflights are likely to affect culturally sensitive areas within reservations. See Oil Spill Best Management Practices ([NWACP Section 9301](#)) for more information on the use of aircraft and helicopters in open water and shoreline responses.

Wildlife Deterrence

The Wildlife Branch (Operations Section), in consultation with the appropriate trustee agencies and the Environmental Unit, will evaluate wildlife deterrent options for the purpose of keeping wildlife away from oil and cleanup operations and will manage any such activities during a response. Deterrence options might include the use of acoustic or visual deterrent devices, boats, aircraft or other situation-appropriate tools. For more information see the Northwest Wildlife Response Plan ([NWACP Section 9310](#)) and Northwest Area Wildlife Deterrence Resources ([NWACP Section 9311](#)).

Oiled Wildlife

Attempting to capture oiled wildlife can be hazardous to both personnel and the affected animals. Response personnel should not approach or attempt to recover oiled wildlife. Responders should report their observations of oiled wildlife to the Wildlife Branch so appropriate action can be taken. Information provided should include the location, date, and time of the sighting, and the estimated number and kind of animals observed. Early on in the response, before a Unified Command is established, oiled wildlife sightings should be reported to Washington Emergency Management Division. For more information see the Northwest Wildlife Response Plan ([NWACP Section 9310](#)).