

HATCHERY AND SENSITIVE AREA PROTECTION TACTICS

PURPOSE OF THE HATCHERY AND SENSITIVE AREA PROTECTION TACTICS

Equipment storage containers (connexes) are deployed throughout Prince William Sound at hatcheries, towns, and villages. Response plans are in place to protect the hatcheries, and the equipment stored in these locations is designated specifically for this purpose. Other equipment stored at Response Centers is dedicated to sensitive area protection and nearshore response operations. These tactics describe this program and provide deployment configurations for protecting each hatchery. See Tactic LP-3 for information on the Response Centers.

- **PWS-SA-1, Hatchery and Special Area Protection:** Describes the location of the hatcheries and Response Centers, as well as the Geographic Response Strategies (GRS) that have been developed to protect pre-identified sensitive areas.
- **PWS-SA-2, Deployment Plan for Armin F. Koernig Hatchery, Sawmill Bay:** Describes the main equipment stored at this hatchery and the general boom deployment configuration.
- **PWS-SA-3, Deployment Plan for Cannery Creek Hatchery:** Describes the main equipment stored at this hatchery and the general boom deployment configuration.
- **PWS-SA-4, Deployment Plan for Wally Noerenberg Hatchery, Lake Bay, Ester Island:** Describes the main equipment stored at this hatchery and the general boom deployment configuration.
- **PWS-SA-5, Deployment Plan for Main Bay Hatchery:** Describes the main equipment stored at this hatchery and the general boom deployment configuration.
- **PWS-SA-6, Deployment Plan for Solomon Gulch Hatchery:** Describes the main equipment stored at this hatchery and the general boom deployment configuration.
- **PWS-SA-7, Deployment Plan for Exclusion Booming of Valdez Duck Flats:** Describes the main equipment stored to protect this area and the boom deployment configuration.
- **PWS-SA-8, Graphical Resource Database (GRD):** Describes the content and use of the GRD to support nearshore and shoreline response actions.

HOW HATCHERY AND SPECIAL AREA PROTECTION IS MANAGED

The decision to mobilize hatchery and sensitive area protection is made by the Unified Command in conjunction with the Planning Section Chief. The Environmental Unit Leader, using the position checklists, identifies the sensitive areas to protect, and the management of these deployments is under the control of the Operations Section. Hatchery and sensitive area protection will be directed by a Task Force Leader who identifies specific sensitive locations within the designated areas to protect and will develop specific strategies and tactics to carryout deployments. The Task Force Leader will report to the Nearshore Group Supervisor.

The use of the Graphical Resource Database (GRD) is under the control of the Planning Section. The GRD is used to help plan the nearshore response and can be integrated into the ATOM model used to predict the future direction of oil movement on water (see Tactic PWS-TS-2 for a discussion of ATOM).

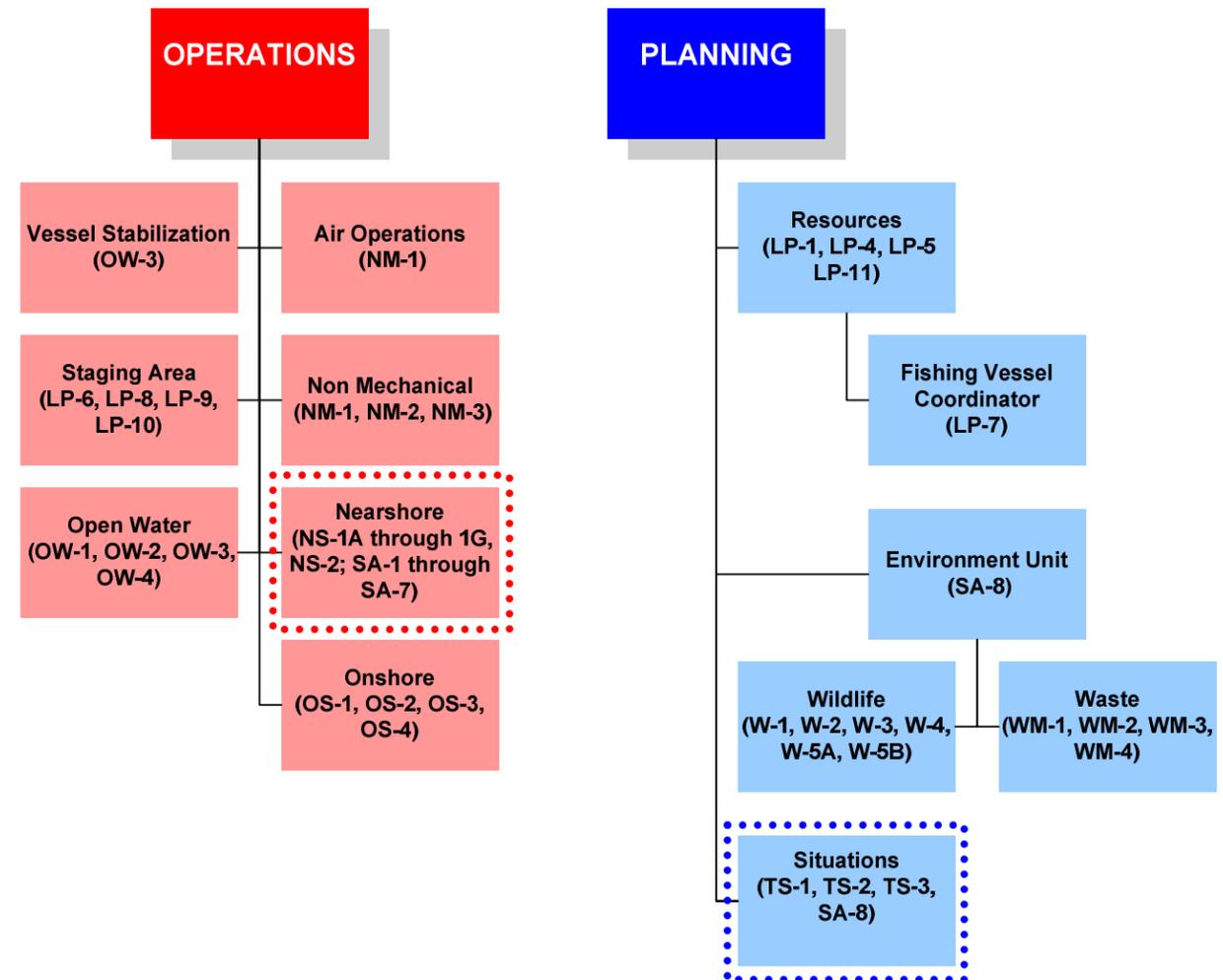
SAFETY ASPECTS OF HATCHERY AND SPECIAL AREA PROTECTION

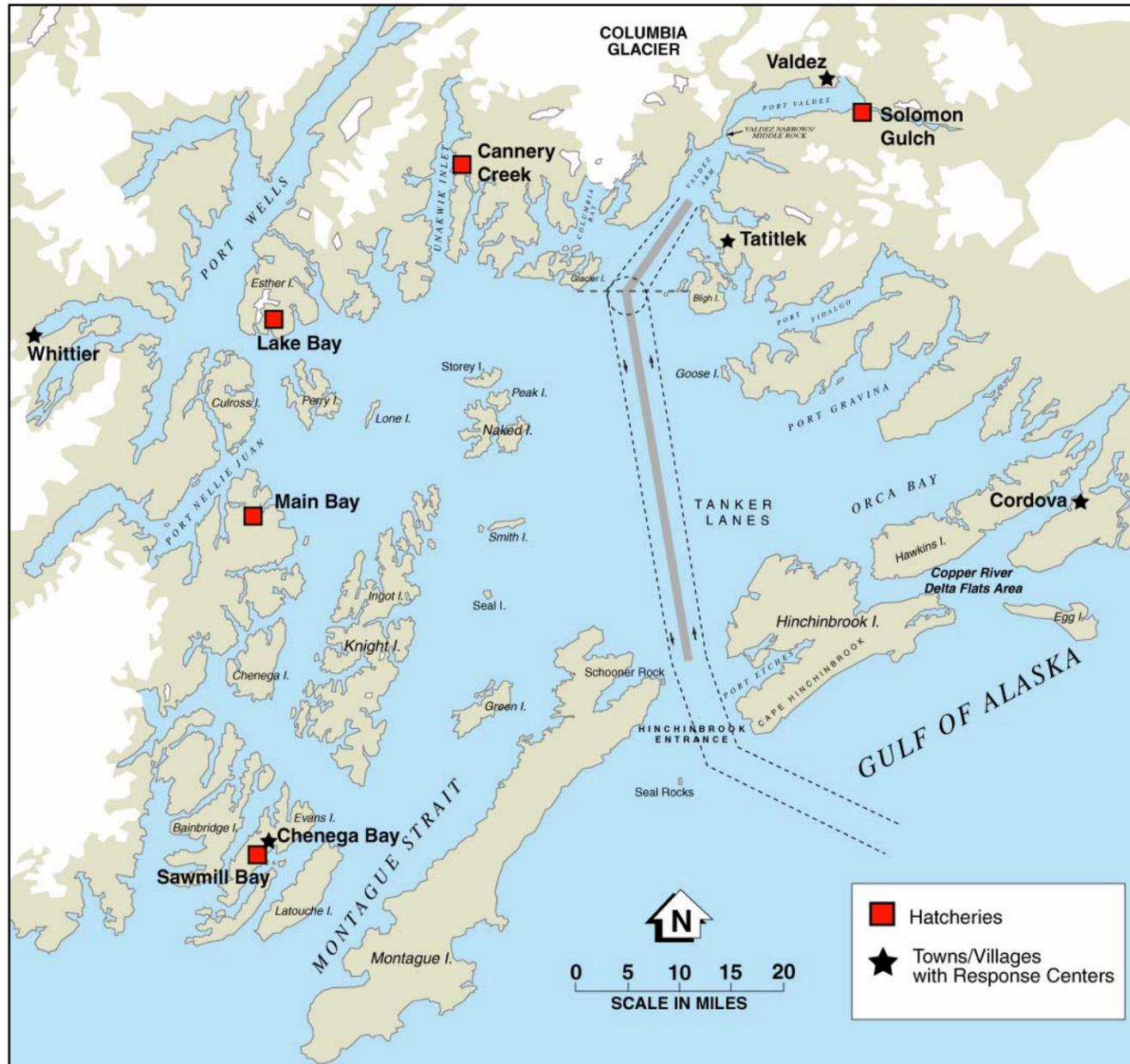
Safety is the most important aspect of hatchery and sensitive area protection and is the responsibility of the Onsite Safety Specialist (OSS) and each individual responder. Regular safety briefings will be provided to the responders, and the OSS will select the level of personal protection and is responsible for the providing PPE for the responders. Specific safety concerns include the following:

- Many of these deployments involve towing equipment in shallow water. Care must be taken when working close to the shoreline.
- Some of the deployments involve going ashore to attach boom to anchor points. Care must be taken to avoid contact with potentially dangerous wildlife.

COMMUNICATIONS

Before the hatchery and sensitive area protection deployments begin, each responder will be briefed on the communications plan, which will cover communication methods such as types of radios to use and the channels designated for field operations.





TACTIC PURPOSE AND DESCRIPTION

Protection of fish hatcheries and sensitive areas in Prince William Sound from spilled oil is a priority for nearshore responders. Dedicated protection equipment has been staged in permanent storage (connexes) at the five operating hatcheries in Prince William Sound, the Valdez Duck Flats and the Response Centers. Year-round maintenance and security programs are in place to assure equipment availability and readiness. Periodic inspections of the pre-staged equipment are conducted, and SERVS performs scheduled maintenance.

When necessary, the Unified Command instructs the Operations Section Chief to activate hatchery and sensitive area protection. Local Response Centers or the Prince William Sound Aquaculture Corporation are contacted for assistance with equipment mobilization. Fishing vessels, under the direction of the Nearshore Group Supervisor, support the hatchery protection program and sensitive area protection with tasks such as:

- Aid with boom deployment, tending, and maintenance;
- Assistance with nearshore skimming operations;
- Logistical support for onshore operations; and
- Retrieval of boom and other response equipment.

When activated, hatchery and sensitive area protection will be conducted using Tier I fishing vessels (core fleet), which collect response equipment from the Response Centers.

Additional information about Prince William Sound sensitive area protection can be found in site-specific Geographic Response Strategies (GRS), which are designed to supplement the *Prince William Sound Subarea Contingency Plan for Oil and Hazardous Substances Spills and Releases*. GRS provide guidance to aid first responders to an oil spill in protecting selected areas from the impacts of that spill or minimizing those impacts. Each GRS consists of two parts:

- A graphic showing a map, deployment diagram, photographs, and implementation notes.
- A matrix giving the location description, response strategy, response resources, staging area, site access, natural resources being protected, and other special considerations.

Although GRS can contain specific recommendations, they are intended to be flexible to allow responders to make necessary modifications as dictated by prevailing conditions at the time of the spill. GRS are approved by the U.S. Coast Guard and by the Alaska Department of Environmental Conservation (ADEC). They are available on ADEC's web site, and are also included as a data layer in the SERVS Graphical Resource Database (GRD).

Tracking of inventory removed from hatchery connexes is guided by ICS procedures. Inventory tracking that should be followed during the mobilization of spill response equipment includes documentation of items and notification to Group Supervisor of deployment completion.

**TASK FORCE EQUIPMENT AND PERSONNEL
(Minimum for 24-hour operation)**

EQUIPMENT	BASE LOCATION	FUNCTION	PIECES/ TASK FORCE	LABORER/ BASIC RESPONER	VESSEL OPERATOR
Boom, Anchors, Handtools, etc.	Individual hatchery and sensitive area	Exclude oil from the hatchery or sensitive area	See specific tactic	See specific tactic	N/A
Fishing Vessel	Whittier, Chenega Bay	Boom deployment and maintenance	9	9	18

N/A: no additional personnel or not applicable.

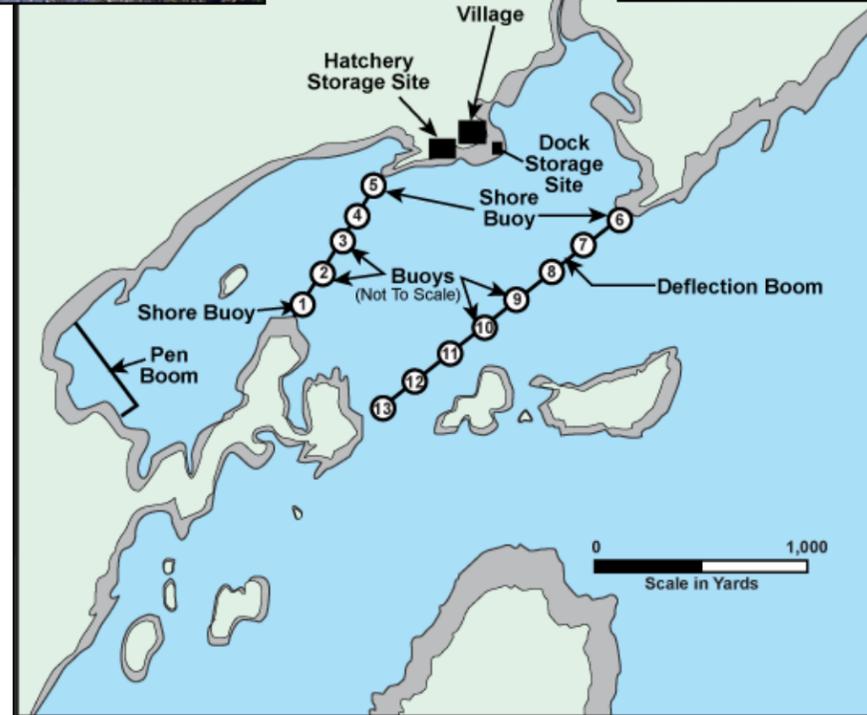
OPERATIONAL CONSIDERATIONS

- A Hatchery Protection Task Force for western Prince William Sound will be assembled using Tier I fishing vessels from Whittier and Chenega Bay. This task force will deploy resources according to priorities established by the Unified Command. Each hatchery has a pre-determined deployment plan (see separate tactics). Once deployment is completed at one hatchery, the task force moves on to the next, leaving one vessel behind to tend the deployment. Additional training is provided to these vessel crews for hatchery protection deployments.
- Hatchery personnel may be available to assist in deployment at hatcheries.
- Equipment staged at hatcheries and sensitive areas is used for on-site training.
- Seasonal constraints may preclude implementation of some GRS.
- Sites selected for development of GRS are not meant to be exclusive; other sensitive sites may require protection during a spill.
- It is not intended that GRS will be automatically implemented at the beginning of a spill; it is likely that implementation will be considered only for those sites in the projected path of the spill.

Chenega Hatchery Protection Site, Pad #1 is located on the beach SE of the village.



Chenega Response Center Site, Pad #2 is located at the new ferry dock SW of the small boat harbor.



TACTIC PURPOSE AND DESCRIPTION

First line: The deflection boom, which consists of 6,957 feet of protected-water boom stretched among eight permanently positioned mooring buoys, is designed to form a continuous deflection barrier from the east shoreline at the entrance to Sawmill Bay, out to Buoy Number 6. This boom is designed to deflect oil from entering Sawmill Bay and thus protect the sensitive hatchery located there.

Second line: This is the primary exclusion boom, which consists of 4,464 feet of medium-duty boom stretched among five permanently positioned mooring buoys. This boom is designed to form a continuous seal between the east and west shorelines within Sawmill Bay.

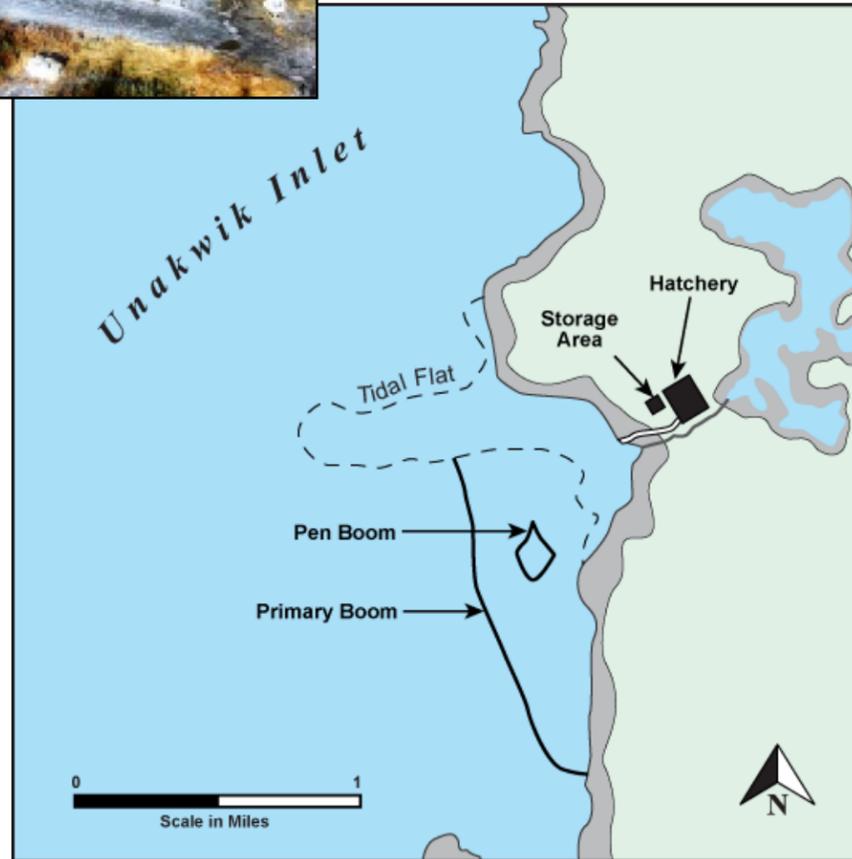
Third line: The pen boom, which consists of approximately 4,800 feet of light-duty boom and 500 feet of intertidal boom, is designed to surround the hatchery holding pens and would be moored using 40-pound anchors.

EQUIPMENT

EQUIPMENT	BASE LOCATION	FUNCTION	PIECES
Boom, Protected Water	Chenega Bay	Exclusion and Deflection	11,121 ft
Boom, Calm Water	Chenega Bay	Pen	4,800 ft
Boom, Intertidal	Chenega Bay	Pen	500 ft
Mooring Assembly	Chenega Bay	Anchor boom	13 Permanent
Tools, Assorted	Chenega Bay	Support	Various
PPE, Assorted	Chenega Bay	Support	Various
Fishing Vessels	Whittier, Chenega Bay	Boom deployment and maintenance	See Tactic PWS-SA-1

OPERATIONAL CONSIDERATIONS

- This deployment scheme is the primary installation plan for this location. The number of crew and fishing vessels in the deployment team, as well as the stage and height of the tide, will likely dictate minor changes in the order of deployment.
- After initial deployment, a small fishing vessel or work boat would remain to tend the boom.
- A laminated hatchery protection deployment plan is located in the connexes at the site.
- The mooring buoys for the deflection and exclusion boom are permanently located in Sawmill Bay.



TACTIC PURPOSE AND DESCRIPTION

First line: Approximately 6,000 feet of light-duty boom and 1,000 feet of intertidal boom with appropriate anchors are used to seal off the area from the north shoreline south to the shoreline adjacent to the holding pens. This boom is designed to act as the primary exclusion boom when deployed, and would be moored using 40-pound anchors.

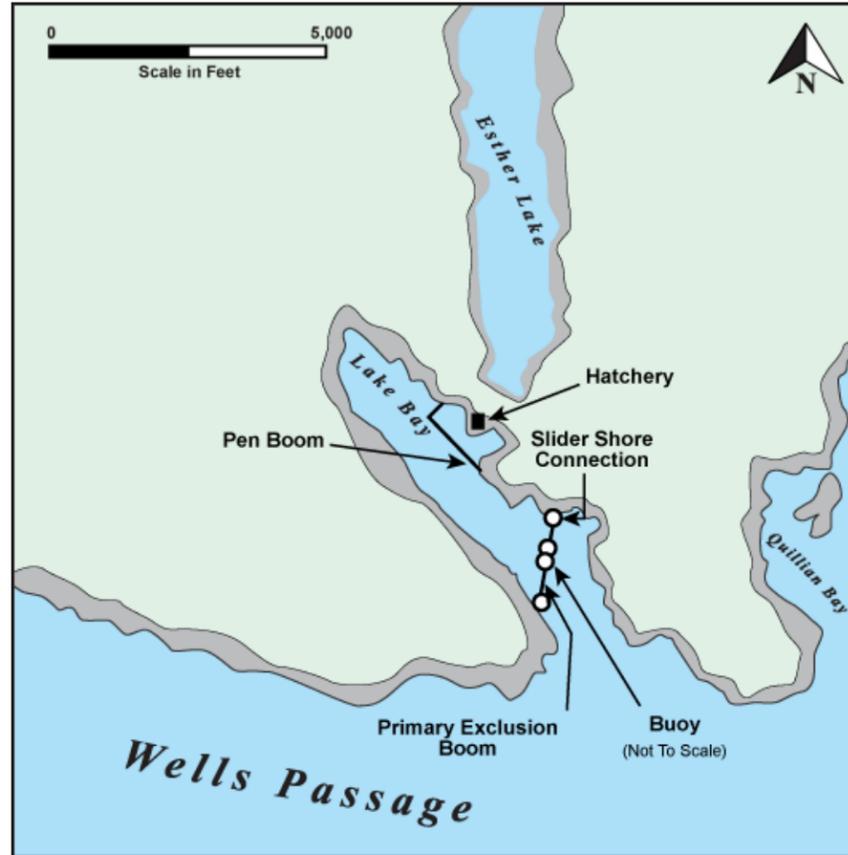
Second line: The pen boom consists of 1,200 feet of light-duty boom to encircle the holding pens.

EQUIPMENT

EQUIPMENT	BASE LOCATION	FUNCTION	PIECES
Boom, Calm Water	Cannery Creek	Exclusion and pen	7,200 ft
Boom, Intertidal	Cannery Creek	Exclusion	1,000 ft
Anchor Assembly	Cannery Creek	Boom anchor	40
Tools, Assorted	Cannery Creek	Support	Various
PPE, Assorted	Cannery Creek	Support	Various
Fishing Vessels	Whittier, Chenega Bay	Boom deployment and maintenance	See Tactic PWS-SA-1

OPERATIONAL CONSIDERATIONS

- This deployment scheme is the primary installation plan for this location. The number of crew and fishing vessels in the deployment team, as well as the stage and height of the tide, will likely dictate minor changes in the order of deployment.
- After initial deployment, a small fishing vessel or work boat would remain to tend the boom.
- A laminated hatchery protection deployment plan is located in the connexes at the site.



TACTIC PURPOSE AND DESCRIPTION

First line: The first line is an exclusion boom consisting of approximately 1,800 feet of medium-duty boom stretched among four permanently positioned buoys. This boom is designed to form a continuous seal between the east and west shorelines just inside the entrance to Lake Bay.

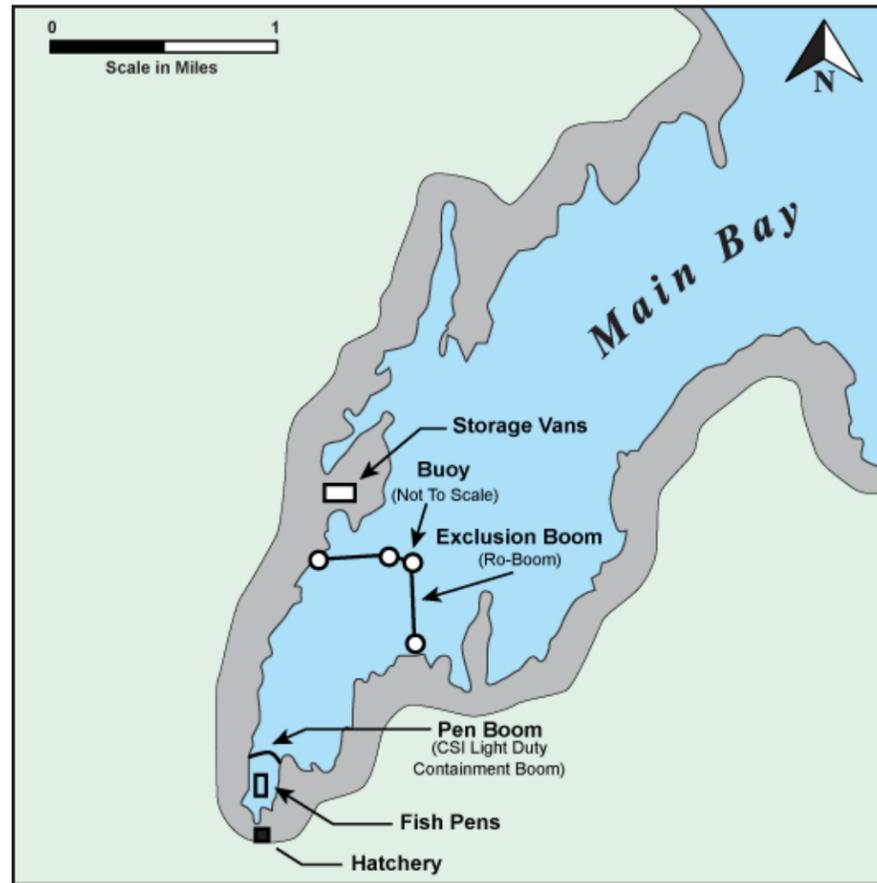
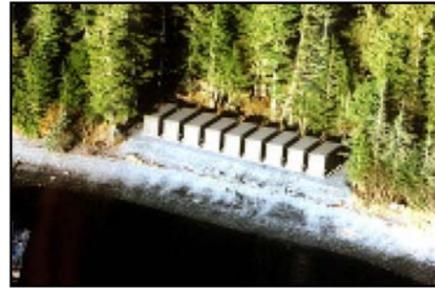
Second line: The pen boom consists of approximately 3,000 feet of light-duty boom, some of which may be stored at the Whittier Response Center because of space limitations. This boom is designed to surround the hatchery holding pens and would be moored using 40-pound anchors.

EQUIPMENT

EQUIPMENT	BASE LOCATION	FUNCTION	PIECES
Boom, Calm Water	Lake Bay	Exclusion	1,800 ft
Boom, Calm Water	Lake Bay	Pen	3,000 ft
Anchor Assembly	Lake Bay	Boom anchor	20
Tools, Assorted	Lake Bay	Support	Various
PPE, Assorted	Lake Bay	Support	Various
Fishing Vessels	Whittier, Chenega Bay	Boom deployment and maintenance	See Tactic PWS-SA-1

OPERATIONAL CONSIDERATIONS

- This deployment scheme is the primary installation plan for this location. The number of crew and fishing vessels in the deployment team, as well as the stage and height of the tide, will likely dictate minor changes in the order of deployment.
- After initial deployment, a small fishing vessel or work boat would remain to tend the boom.
- The mooring buoys for primary exclusion booming are permanently installed in Lake Bay.
- A laminated hatchery protection deployment plan is located in the connexes at the site.



TACTIC PURPOSE AND DESCRIPTION

First line: The first line exclusion boom consists of approximately 3,720 feet of medium-duty boom among four permanently positioned buoys. This boom is designed to form a continuous seal between the north and south shorelines.

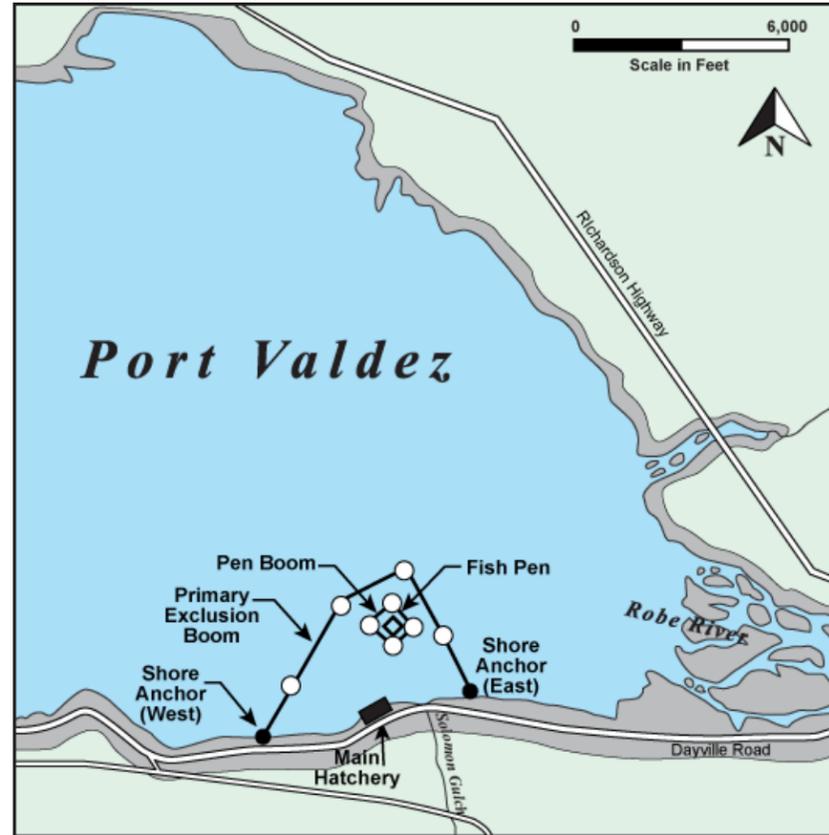
Second line: The pen boom consists of approximately 2,000 feet of light-duty boom and 500 feet of intertidal boom. This boom configuration is designed to encircle the hatchery holding pens.

EQUIPMENT

EQUIPMENT	BASE LOCATION	FUNCTION	PIECES
Boom, Protected Water	Main Bay	Exclusion	3,720 ft
Boom, Intertidal	Main Bay	Pen	500 ft
Boom, Calm Water	Main Bay	Pen	2,000 ft
Anchor Assembly	Main Bay	Boom anchor	20
Tools, Assorted	Main Bay	Support	Various
PPE, Assorted	Main Bay	Support	Various
Fishing Vessels	Whittier, Chenega Bay	Boom deployment and maintenance	See Tactic PWS-SA-1

OPERATIONAL CONSIDERATIONS

- This deployment scheme is the primary installation plan for this location. The number of crew and fishing vessels in the deployment team, as well as the stage and height of the tide, will likely dictate minor changes in the order of deployment.
- After initial deployment, a small fishing vessel or work boat would remain to tend the boom.
- The mooring buoys for the exclusion boom are permanently located in Main Bay.
- A laminated hatchery protection deployment plan is located in the connexes at the site.



NOTE: Due to limited response time associated with an oil spill, all or portions of the boom will be permanently installed whenever fish pens are in place, from approximately March to October each year.

TACTIC PURPOSE AND DESCRIPTION

First line: The primary exclusion boom consists of approximately 3,300 feet of calm-water boom and 2,500 feet of intertidal boom. These booms are stretched among five permanently moored buoys and shore anchors.

Second line: Approximately 2,300 feet of calm-water boom completely encloses the hatchery holding pens. Due to limited response time for an oil spill from the Valdez Marine Terminal, all of this boom will be deployed whenever the fish pens are in place, usually between March and October each year.

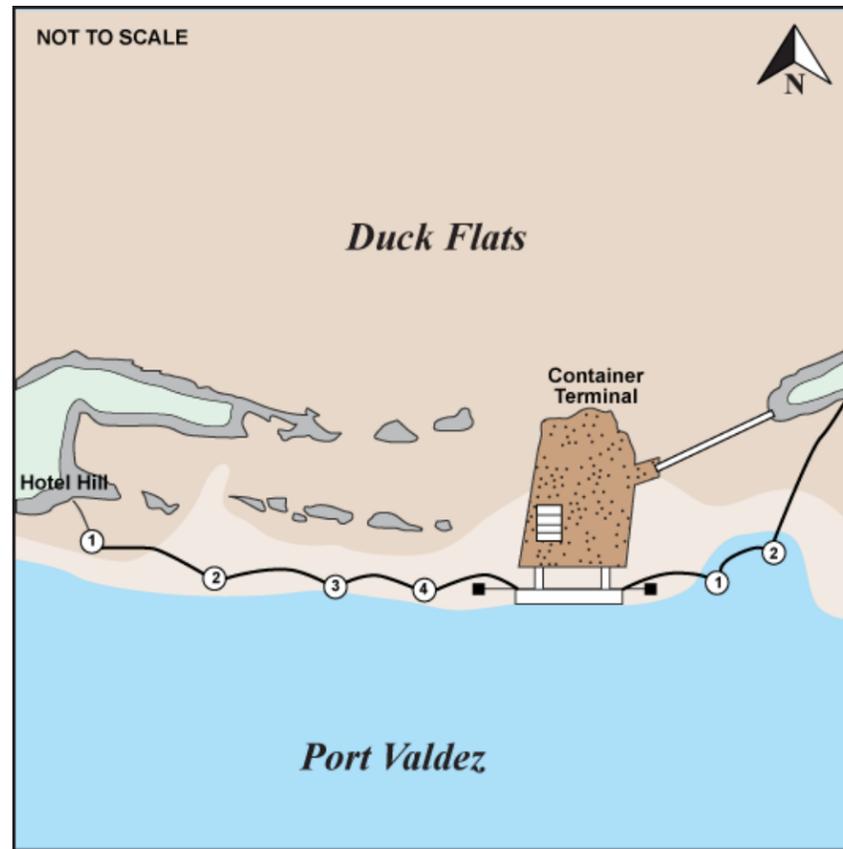
EQUIPMENT

EQUIPMENT	BASE LOCATION	FUNCTION	PIECES/ TASK FORCE	LABORER/ BASIC RESPONDER	VESSEL OPERATOR
Boom, Calm Water	Solomon Gulch	Exclusion	3,300 ft	6	3
Boom, Intertidal	Solomon Gulch	Pen	2,500 ft		
Boom, Calm Water	Solomon Gulch	Exclusion	2,300 ft		
Anchor Assembly	Solomon Gulch	Boom anchor	6		
Buoys	Solomon Gulch	Support	10		
Vehicle, All Terrain	Solomon Gulch	Support	1		
Pump	Solomon Gulch	Support	4		
Tools, Assorted	Solomon Gulch	Support	Various		
PPE, Assorted	Solomon Gulch	Support	Various		
Fishing Vessels or Work Boats*	Valdez	Boom deployment and maintenance	3		

*The personnel and vessels for deployment at the Solomon Gulch Hatchery are not part of the Hatchery Protection Task Force.

OPERATIONAL CONSIDERATIONS

- This deployment scheme is the primary installation plan for this location. The number of crew and fishing vessels in the deployment team, as well as the stage and height of the tide, will likely dictate minor changes in the order of deployment. The fishing vessels used to deploy this protection strategy are from Valdez, and the vessels from Whittier and Chenega Bay will not be used for this deployment.
- After initial deployment, a small fishing vessel or work boat would remain to tend the boom.
- A laminated hatchery protection deployment plan is located in the connexes at the site.



TACTIC PURPOSE AND DESCRIPTION

To protect the Duck Flats area, exclusion boom would be deployed from the SERVS dock. Anchors would be stationed southward of the boom, generally during high slack tide. Sorbent booms would be placed to enhance the beach seals at the eastern and western extremes of the boom configuration.

Equipment for protection of the Duck Flats is located at the SERVS dock. One connex contains intertidal boom, as well as blowers, water pumps, and anchors for exclusion booming. Three additional connexes hold calm-water boom for protecting the area west of the container dock and for contributing 300 feet of intertidal boom for the boom configuration at the eastern area.

EQUIPMENT

EQUIPMENT	BASE LOCATION	FUNCTION	PIECES
Boom, Calm Water	Valdez	Exclusion	5,000 ft
Boom, Intertidal	Valdez	Exclusion	1,650 ft
Fishing Vessels	Valdez	Boom deployment and maintenance	See Tactic PWS-SA-1

OPERATIONAL CONSIDERATIONS

- This deployment scheme is the primary installation plan for this location. The number of crew and fishing vessels in the deployment team, as well as the stage and height of the tide, will likely dictate minor changes in the order of deployment.
- After initial deployment, a small fishing vessel or work boat would remain to tend the boom.
- A laminated hatchery protection deployment plan is located in the connexes at the site.

FIGURE 1: SAMPLE PLOT OF LAYERS FROM NEARSHORE DATABASE

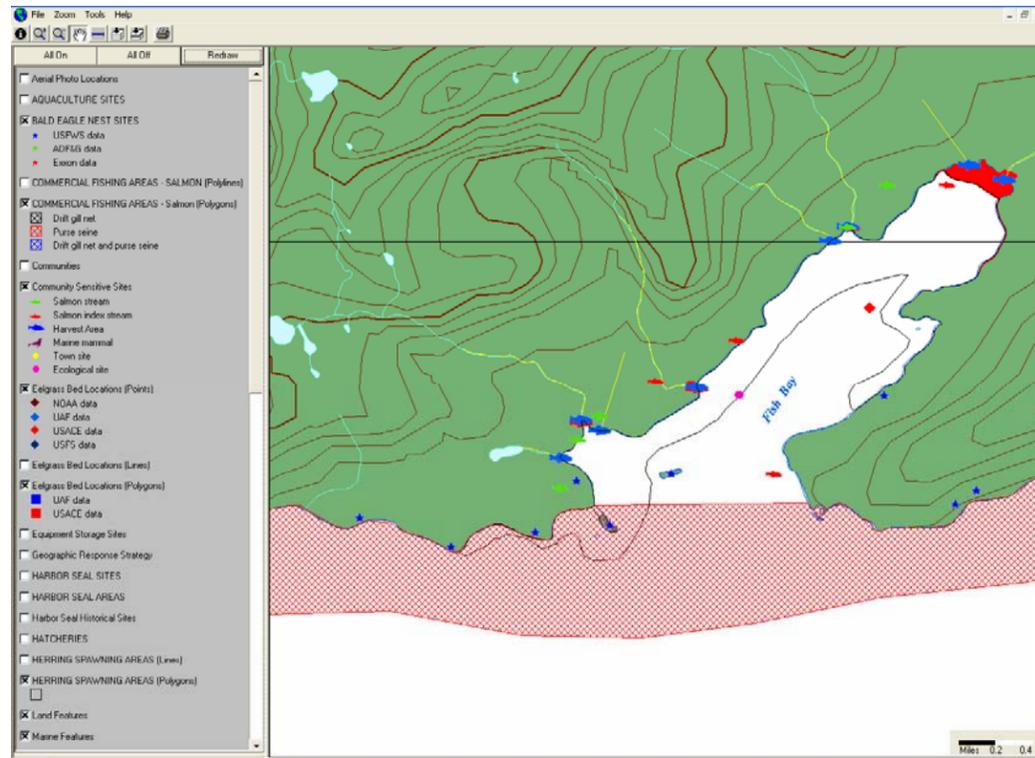
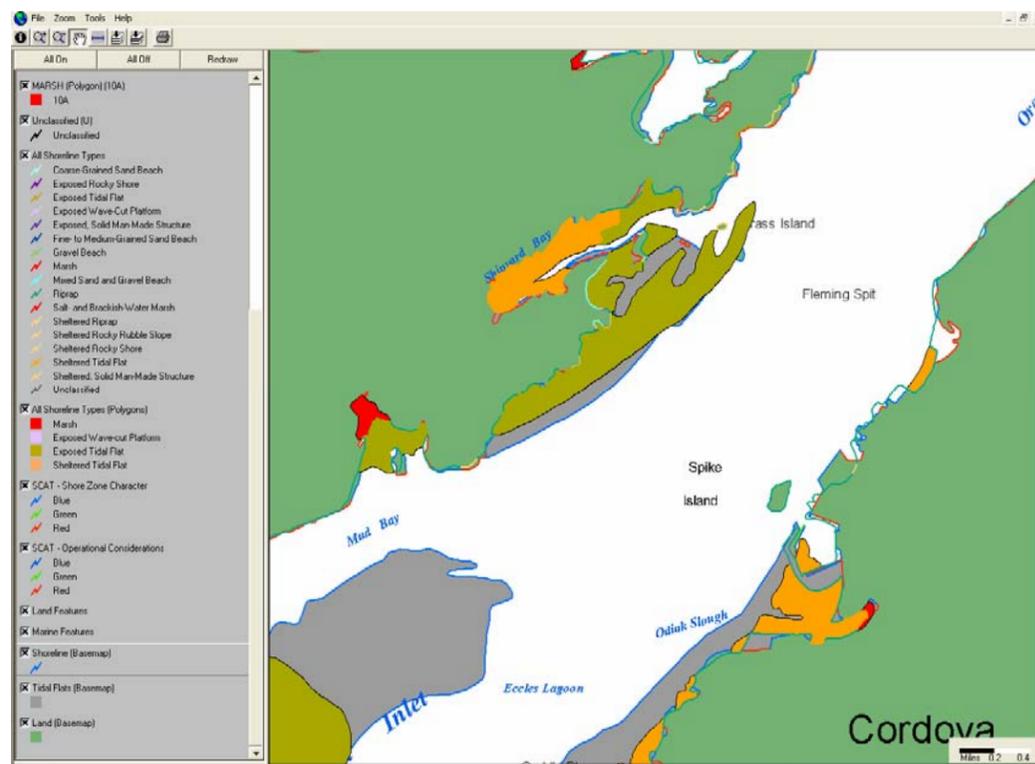


FIGURE 2: SAMPLE PLOT OF SHORETYPE DATABASE



TACTIC PURPOSE AND DESCRIPTION

APSC’s Graphical Resource Database (GRD), which is a data display tool for the shoreline and nearshore waters of Alaska’s Southcentral coast, contains geographically referenced data on biological resources, socioeconomic resources, and shoreline types. This tool could be used in conjunction with the appropriate Subarea Contingency Plans, National Oceanic and Atmospheric Administration (NOAA) Environmental Sensitivity Index (ESI) maps, data from visual surveillance, and outputs from Alyeska’s Tactical Oilspill Model (ATOM) to help prioritize protection of sensitive areas at risk from spilled oil. The GRD could also be of use to SCAT team members in making their assessments.

The GRD consists of three base maps: Prince William Sound, Alaska East (Copper River Delta), and Alaska West (Alaska Peninsula, Kenai Peninsula, and Kodiak Island). Records are arranged in two databases for each base map area of the GRD: Nearshore and Shoretype. Information from these databases can be manipulated, queried, and displayed through the GRD’s graphical interface.

The Nearshore Database contains information on various important biological, socioeconomic, and response related regions and resources, including the following:

- Aerial Photographs
- Aquaculture Sites
- Areas Meriting Special Attention
- Bald Eagle Nest Sites
- Commercial Fishing Areas
- Communities
- Community-Defined Sensitive Areas
- Eelgrass Bed Locations
- Response Equipment Storage Sites
- Geographic Response Strategy Site Locations
- Harbor Seal Areas and Sites
- Harbor Seal Historical Hatchery Sites
- Herring Spawning Areas
- Land Features
- Marine Features
- Marsh Shoreline
- NOAA Chart Footprints
- Port Valdez Sensitive Area Tactical Guide Information
- Recreation/Tourism Areas
- Research Areas
- Salmon Collection and Release Sites
- Salmon Streams
- Seabird Colonies
- Sea Lion Sites
- Sea Otter Concentration Areas
- Sheltered Tidal Flats
- Small Boat Harbors
- Subsistence Areas
- Waterfowl Concentration Areas
- Whale Concentration Areas

Data on some of these resources is not available in certain map areas of the GRD. Figure 1 is a sample plot of layers from the Nearshore Database displayed on part of the Prince William Sound base map.

The Shoretype Database shows combinations of different shoreline types, including:

- Ice
- Exposed Rocky Shore
- Exposed, Solid Man-Made Structure
- Exposed Wave-Cut Platform
- Fine to Medium-Grained Sand Beach
- Coarse-Grained Sand Beach
- Marsh
- Mixed Sand and Gravel Beach
- Gravel Beach
- Riprap
- Exposed Tidal Flat
- SCAT Operational Considerations
- SCAT Shore-Zone Character
- Sheltered Rocky Shore
- Sheltered, Solid Man-Made Structure
- Sheltered Riprap
- Sheltered Rocky Rubble Slope
- Sheltered Tidal Flat

Figure 2 shows a sample plot of these layers on part of the Prince William Sound base map.

In addition to the Nearshore and Shoretype Databases, a Cultural Resources Data Layer including information about cultural and historical sites has been developed. Due to the sensitive nature of this information, only APSC’s cultural resources consultant and the State Historic Preservation Officer (SHPO) have access to this data. Relevant agencies would manage sensitive cultural resource information during a response.

The GRD is available as a free-standing program and is pre-installed on some computers in the Valdez Emergency Operations Center. Information from GRD layers can also be integrated into ATOM.

Data for the GRD was provided by state agencies, federal agencies, and several private entities and organizations. APSC regularly updates the GRD in cooperation with the resource trustee agencies.