

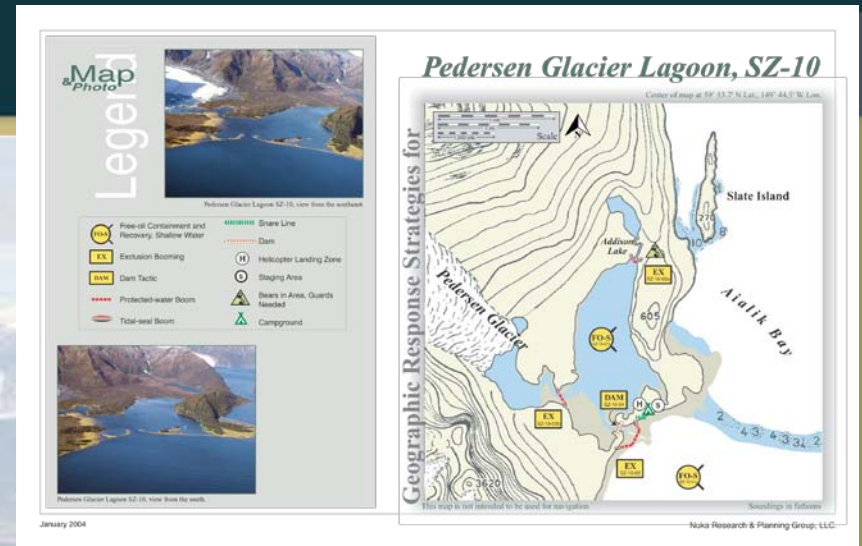
Geographic Response Strategy in **ALASKA**

Overview by Mike Munger, Executive Director
Cook Inlet Regional Citizens Advisory Council



Geographic Response Strategies are:

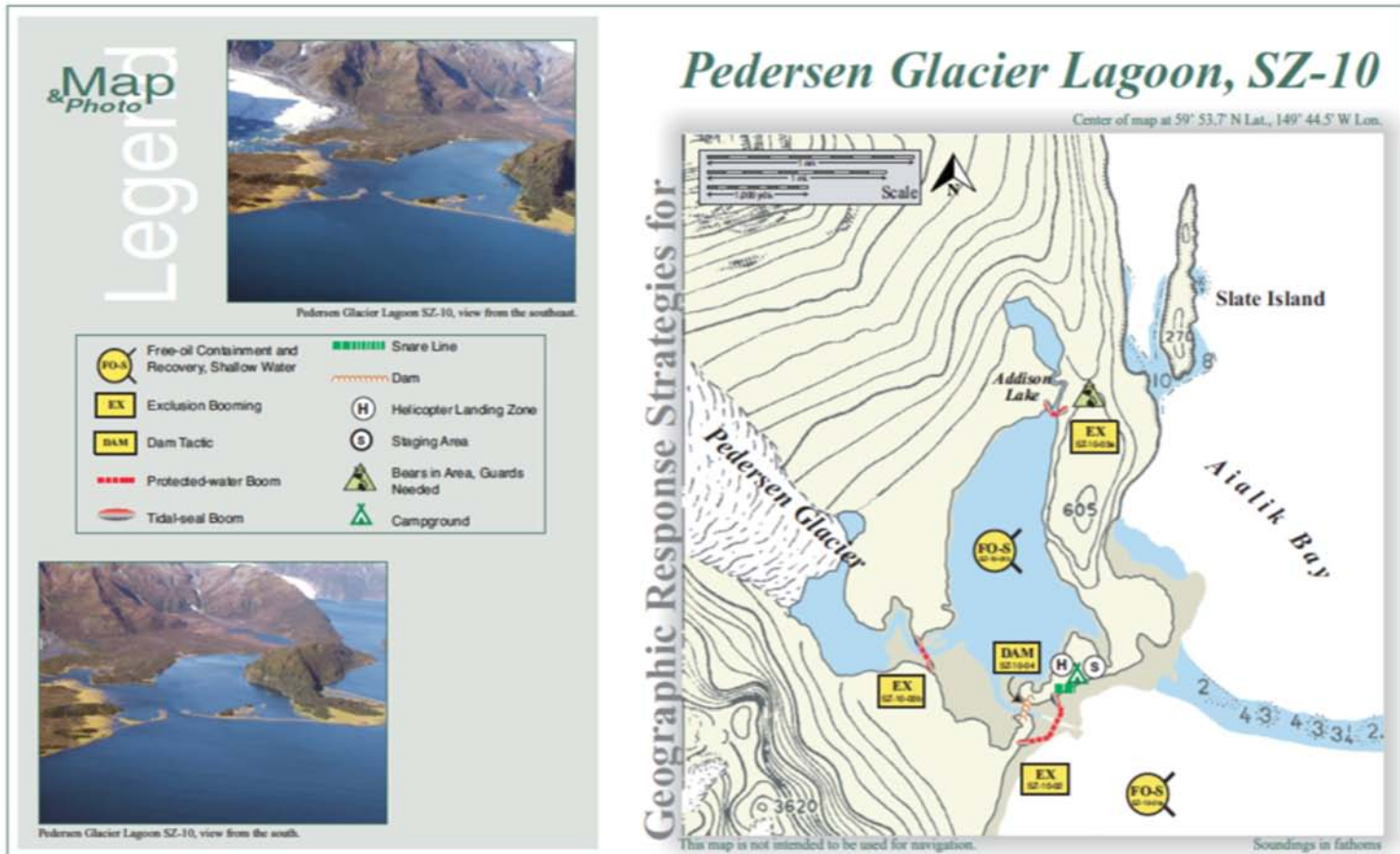
- *Field ready documents* that outline shore-side and near shore oil spill response strategies for *pre-selected sensitive areas*.
- *Tools* that may be utilized by an Incident Command or Responsible Party in the event of an oil spill.
- A *public document* that is Part G of the State/Federal Subarea Plan.
- *Developed* by a workgroup that involves trustee agencies, response agencies, spill responders and the public.



Guiding Principles – PRIMARY

- Responder-oriented strategies and techniques to protect designated sensitive areas.
- Strategies must be modifiable to fit the prevailing conditions.
- No unnecessary duplication of information in other plans.
- Identifies resources at risk and set priorities for their protection.
- The documents specify required response resource, logistical information, and field instructions for deployment.
- Easy to use, test and update.

Geographic Response Strategy–MAP



January 2004

Nuka Research & Planning Group, LLC.

Geographic Response Strategy-TABLE

Seward Zone Geographic Response Strategies

January 2004

ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
SZ-10-01	Poderson Glacier Lagoon Nearshore waters in the general area of: a. Lat. 59°52.3 N Lon. 149°43.7 W b. Lat. 59°52.3 N Lon. 149°43.7 W	Free-oil Recovery- Shallow Water Maximize free-oil recovery in the offshore & nearshore environment of Poderson Glacier Lagoon depending on spill source and trajectory.	Deploy free-oil recovery strike teams upwind and up current of Poderson Glacier Lagoon entrance. Use tactic (b) if oil has entered the lagoon. Use aerial surveillance to locate incoming slicks.	Multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Seward	Via marine waters Chart 16682-1	Same as SZ-10-02	Vessel master should have local knowledge. Site surveyed 9/08/02 GRS WG.
SZ-10-02	Poderson Glacier Lagoon Mouth Lat. 59°52.74 N Lon. 149°44.32 W The current flowing out of the lagoon does not reverse until the tide runs above +4.3 ft. Currents are strong (3.5-4 Kts.) in the lagoon entrance during max. flood.	Exclusion Exclude oil from entering Poderson Glacier Lagoon.	Transport equipment by vessel (Class 2/3/4) from Seward. Deploy anchor and boom with fishing vessels and skiffs(Class 3/4/5). Place shore-seal boom and protected-water boom around lagoon entrance as shown on the map. Place 100 ft. of snare or sorbent boom on beach at south end of boom array to collect any oil diverted by the boom. Tend throughout the tide.	Deployment Equipment 2400 ft. protected-water boom 6 section x50 ft. shore-seal boom 6 ea. anchor systems (~20 lbs.) 4 ea. anchor systems (~100 lbs.) 6 ea. anchor stakes 100 ft. snare or sorbent boom Vessels 2 ea. class 2 (transport) 1 ea. class 3/4 2 ea. class 6 Personnel / Shift 11 ea. vessel crew Tending Vessels 1 ea. class 3/4 1 ea. class 6 Personnel / Shift 3 ea. vessel crew	Stage at the NPS one acre compute easement. Food storage locker is at this site.	Via marine waters Chart 16682-1 Title 16 permitting required from ADF&G. NPS Special Use Permit is required for GRS operations in Kenai Fjords National Park. This permit has been pre-filed by the NPS.	Fish- intertidal spawning, salmon, herring (April-May), dolly varden. Marine mammals- sea otters, seals. Terrestrial mammals- bears, river otters. Birds- Waterfowl- teal, wigeon, merganser, Shembarde, oyster catchers, eagles. Habitat- marsh, sheltered tidal flats, intertidal resources- mussels. Human use- high recreational use (May-Sept).	Poderson Lagoon should be entered at or near high tide. Lagoon is different than depicted on pre 2002 NOAA charts. High surf is common outside lagoon. The beaches outside the lagoon should be a high priority for shoreline cleanup. REPORT any cultural resources found during operations to FOSC Historic Properties Specialist. Site surveyed 9/08/02 GRS WG. Tested: no
SZ-10-03	Poderson Glacier Lagoon a. Adliken Lake Creek Lat. 59°53.85 N Lon. 149°44.26 W b. Poderson Glacier Creek (reverses at +7 ft. tide) Lat. 59°52.99 N Lon. 149°48.15 W	Exclusion Exclude oil from entering the streams in Poderson Glacier Lagoon.	Transport equipment by vessel (Class 2/3/4) from Seward. Deploy anchor and boom with fishing vessels and skiffs(Class 3/4/5) around creek entrances to the lagoon. Place calm-water boom for site (a) in a chevron pattern. Place (b) at an adequate angle to deflect to the north shoreline. Tend throughout the tide. Boom Lengths a. 300 ft. b. 500 ft.	Deployment Equipment 800 ft. calm-water boom 6 ea. anchor systems (~20 lbs.) 8 ea. anchor stakes Vessels/Personnel/Shift Same as SZ-10-02 Tending Vessels/Personnel/Shift Same as SZ-10-02	Vessel platform Adliken Bay Ranger station and public use cabins are in the area.	Via marine waters Chart 16682-1 Title 16 permitting required from ADF&G.	Same as SZ-10-02	The surrounding lands are property of the Port Graham Village Corporation. Contact the Corporation as soon as possible for permitting to conduct shore-side activities. Conducting any on-shore activity in the surrounding area beyond the scope of this document requires the express consent of the Port Graham Village Corporation. Vessel master should have local knowledge. Site surveyed 9/08/02 GRS WG. Tested: no.
SZ-10-04	Poderson Glacier Lagoon Lat. 59°52.75 N Lon. 149°44.43 W Use this tactic with a large, protracted event and only as a last resort.	Dam Using local materials to dam the lagoon entrance, exclude oil from entering the lagoon.	Transport bulldozers and backhoes to the site with landing craft. Close lagoon entrance with materials from storm berm.	Deployment Vessels 1 ea. landing craft Equipment 1 ea. backhoe/bulldozer 2 ea. culvert Personnel 2 ea. heavy equipment operator Tending Vessel/Personnel/Shift 1 ea. heavy equipment operator	Beach	Via marine waters Chart 16682-1 Army Corps of Engineers permitting required for this tactic. Title 16 permitting required from ADF&G.	Same as SZ-10-02	Site surveyed 9/08/02 GRS WG.

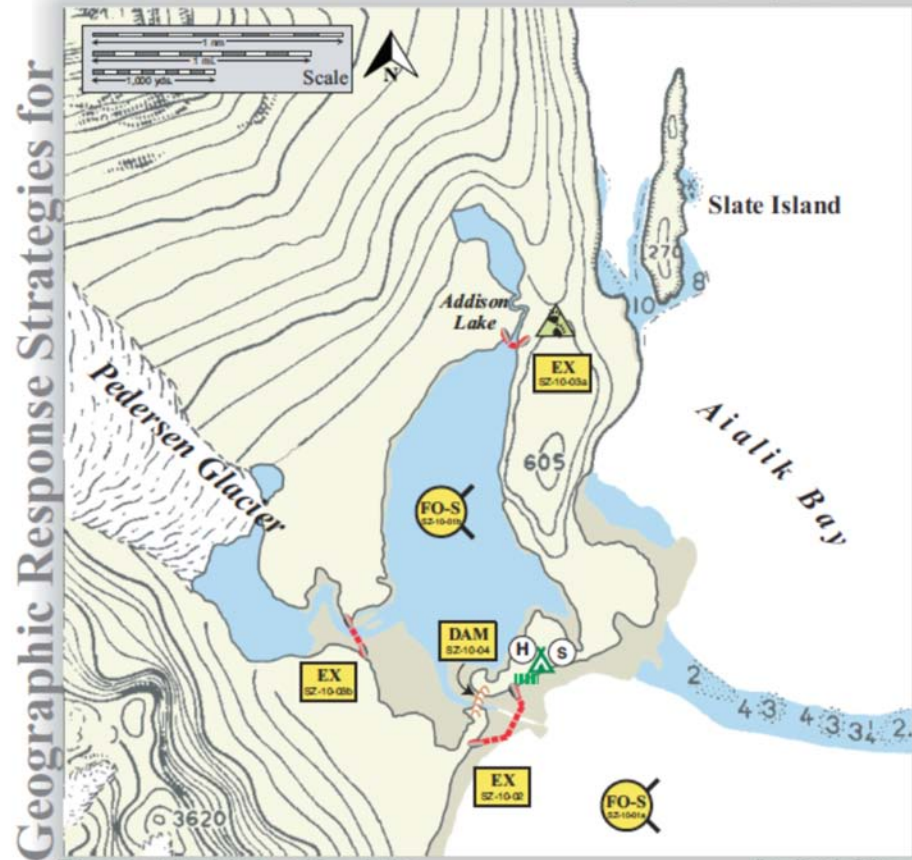
Map Page Elements – PHOTOGRAPHY



Map Page Elements – TACTICS MAP

Pedersen Glacier Lagoon, SZ-10

Center of map at 59° 53.7' N Lat., 149° 44.5' W Lon.



Map Page Elements – LEGEND



Free-oil Containment and Recovery, Shallow Water



Exclusion Booming



Dam Tactic



Protected-water Boom



Tidal-seal Boom



Snare Line



Dam



Helicopter Landing Zone



Staging Area



Bears in Area, Guards Needed



Campground

Table Elements

Seward Zone Geographic Response Strategies

ID	Location and Description	Response Strategy	Implementation	Response Resources
SZ-10-01	<p>Pederson Glacier Lagoon</p> <p>Nearshore waters in the general area of:</p> <p>a. Lat. 59°52.3 N Lon. 149°43.7 W</p> <p>b. Lat. 59°52.3 N Lon. 149°43.7 W</p>	<p>Free-oil Recovery- Shallow Water</p> <p>Maximize free-oil recovery in the offshore & nearshore environment of Pederson Glacier Lagoon depending on spill source and trajectory.</p>	<p>Deploy free-oil recovery strike teams upwind and up current of Pederson Glacier Lagoon entrance.</p> <p>Use tactic (b) if oil has entered the lagoon.</p> <p>Use aerial surveillance to locate incoming slicks.</p>	<p>Multiple free-oil recovery strike teams as required to maximize interception of oil before impacts sensitive areas.</p>
SZ-10-02	<p>Pederson Glacier Lagoon Mouth</p> <p>Lat. 59°52.74 N Lon. 149°44.32 W</p> <p>The current flowing out of the lagoon does not reverse until the tide rises above +4.3 ft.</p> <p>Currents are strong (3.5-4 Kts.) in the lagoon entrance during max. flood.</p>	<p>Exclusion</p> <p>Exclude oil from entering Pederson Glacier Lagoon.</p>	<p>Transport equipment by vessel (Class 2/3/4) from Seward.</p> <p>Deploy anchors and boom with fishing vessels and skiffs (Class 3/4/6).</p> <p>Place shore-seal boom and protected-water boom around lagoon entrance as shown on the map.</p> <p>Place 100 ft. of snare or sorbent boom on beach at north end of boom array to collect any oil diverted by the boom.</p> <p>Tend throughout the tide.</p>	<p>Deployment</p> <p>Equipment</p> <p>2400 ft. protected-water boom 6 section ≥50 ft. shore-seal boom 6 ea. anchor systems (~20 lbs.) 4 ea. anchor systems (~100 lbs.) 6 ea. anchor stakes 100 ft. snare or sorbent boom</p> <p>Vessels</p> <p>2 ea. class 2 (transport) 1 ea. class 3/4 2 ea. class 6</p> <p>Personnel / Shift</p> <p>11 ea. vessel crew</p> <p>Tending</p> <p>Vessels</p> <p>1 ea. class 3/4 1 ea. class 6</p> <p>Personnel / shift</p> <p>3 ea. vessel crew</p>

Table Elements

Staging Area	Site Access	Resources Protected (months)	Special Considerations
Seward	Via marine waters Chart 16682-1	Same as SZ-10-02	Vessel master should have local knowledge. Site surveyed 9/08/02 GRS WG.
Stage at the NPS one acre campsite easement. Food storage locker is at this site.	Via marine waters Chart 16682-1 Title 16 permitting required from ADF&G. NPS Special Use Permit is required for GRS operations in Kenai Fjords National Park. This permit has been pre-filed by the NPS.	Fish-intertidal spawning, salmon, herring (April-May), dolly varden. Marine mammals-sea otters, seals. Terrestrial mammals-bears, river otters. Birds- Waterfowl-teal, wigeon, merganser, Shorebirds, oyster catchers, eagles. Habitat-marsh, sheltered tidal flats, intertidal resources-mussels. Human use- high recreational use (May-Sept).	Pederson Lagoon should be entered at or near high tide. Lagoon is different than depicted on pre 2002 NOAA charts. High surf is common outside lagoon. The beaches outside the lagoon should be a high priority for shoreline cleanup. REPORT any cultural resources found during operations to FOSC Historic Properties Specialist. Site surveyed 9/08/02 GRS WG. Tested: no

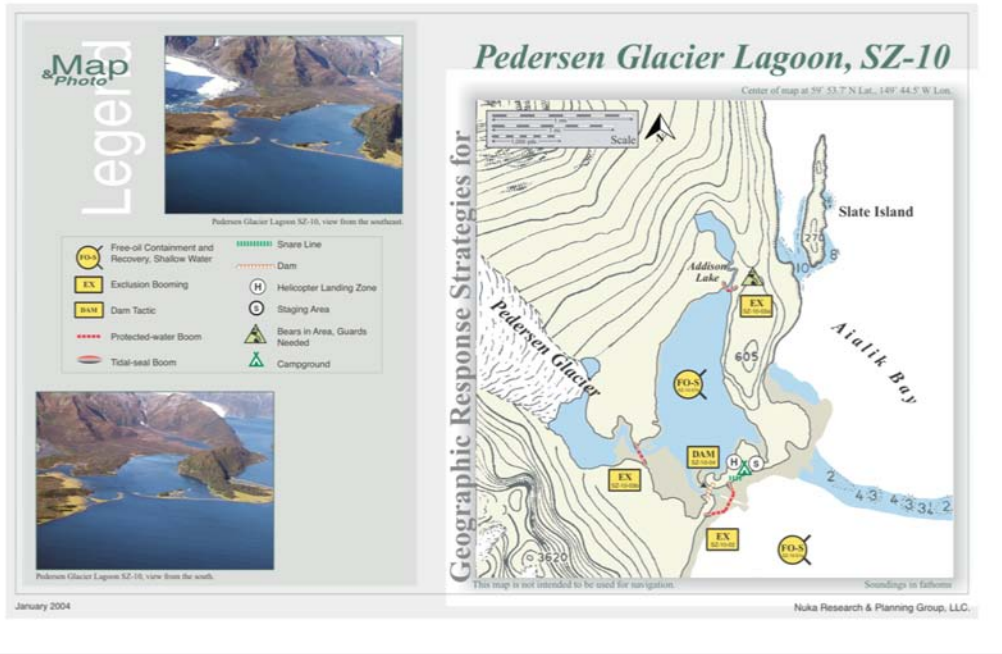
GRS Development Process

Workgroup development

Site Selection

Tactics Development

Review and editing



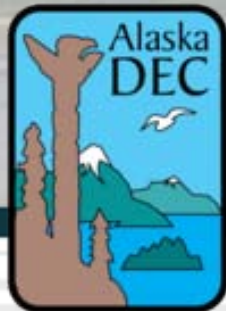
Workgroup Members

Oversight Agencies- USCG, EPA, AK Dept. of Env. Conservation

Natural Resource Agencies-USFWS, NPS, USFS, ADFG,ADNR

Response Organizations- SERVS, CISPRI, AK Chadux, SEAPRO

Contingency Plan Holders- Local & Tribal Governments, Public



Site Selection Process

Initial Selection by Workgroup

Site Selection Matrix lists all areas of resource concentration. Areas are mapped. Public meetings are held to discuss selection.

Public Input Process

Resource Maps, SSM posted to the website and opened to the public and workgroup for input/comments.

Outreach to organizations and resource agencies to confirm resource location.

Finalized Site Selection after Public Input



Identify Candidate Sites:

Site Selection Matrix (SSM)

Columns – Priority Criteria from Area Plan
Rows – Potential Sites

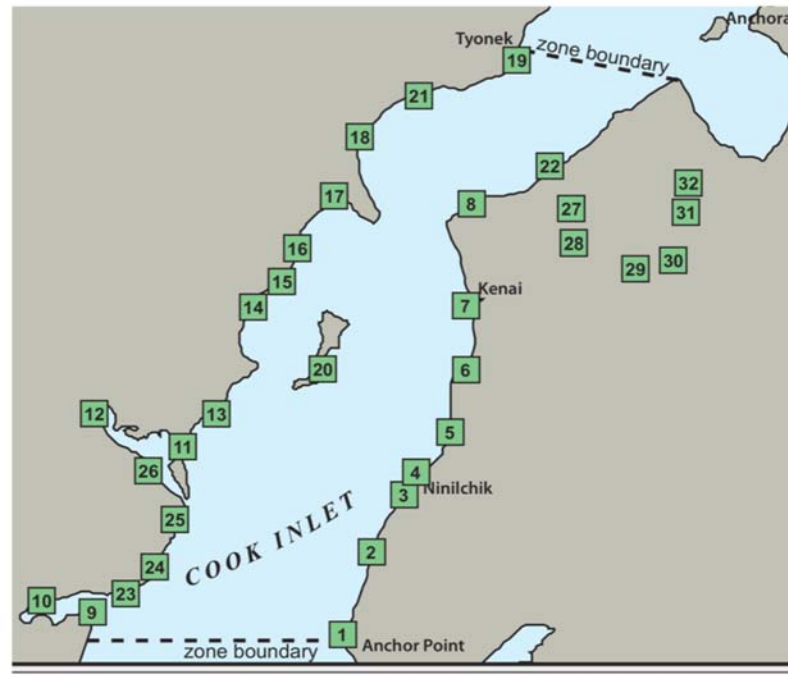
Seward Zone Geographic Response Strategies Site Selection Matrix

Selection #	Location	Priority	Latitude	Longitude	Marine Mammal	Fish	Subsistence	Cultural Resources	Birds	Recreational Use	Commercial Fishing	Land Mgt.	Coastal Habitat
IS-01	Johnstone Bay-salmon stream	H	59°56.93'N	148°43.58'W	S>10,O	R,CH,CO,S,DV,I,H		R	SB,EN	SF			M
IS-09	Aialik Bay Spawning Streams	H	59°55.10'N	149°02.00'W	S>10,O	P>5000,CH,I,H					HC	SU	SRS
IS-16	Northwestern Lagoon/Otter Cove	H	59°43.70'N	149°56.00'W	S>10,O	R,H		R	EN,SB,SBn		C	SU	SRS,STF
IS-30	Head of Puget Bay	H	60°01.40'N	148°30.00'W	O	R,S,I,H				SF			
IS-31	Widby Bay	H	59°58.20'N	148°57.00'W	O	R,I,H			N		C		
IS-32	Horsehead Bay	H	59°57.90'N	149°02.00'W	O	R,CH,I,H					C		
IS-33	Head of Day Harbor	H	60°02.40'N	149°02.50'W		R,CH,I,H					C		
IS-34	Eldorado Narrows/Cape Resurrection	H	59°55.50'N	149°18.60'W	OR	H			SBn				
IS-35	Resurrection Bay/Seward Lagoon	H	59°07.02'N	149°24.40'W						SF	C		
IS-36	Bear Glacier Lagoon	H	59°55.72'N	149°29.65'W	S	S				SF,K,C			
IS-37	Porcupine Cove	H	59°51.01'N	149°35.04'W	OR				SBn	K			
IS-38	Chiswell Island	H	59°35.89'N	149°34.04'W	SL,OR				SBn	WV			
IS-39	Holgate Arm	H	59°48.10'N	149°46.20'W	O	H,P			SBn<1,000		C	SU	SRS
IS-40	Sandy Bay & Cup Cove	H	59°39.50'N	149°59.80'W	O	R,I,H					C	SU	
IS-41	Head of Paguna Arm	H	59°42.00'N	150°08.00'W	O	R,I,H					C	SU	SRS
IS-42	Delusion Creek	H	59°37.45'N	150°16.55'W							C		
IS-43	Nuka North Arm Spawning Stream 2	H	59°35.70'N	150°33.10'W	O	R,I,H			Wfc	K		SU	SRS
IS-44	Nuka Island Spawning Stream & Rookery	H	59°23.10'N	150°37.30'W	O	P>5000,I,h					C	SP,SU	SRS
IS-45	Nuka Pass Spawning Stream	H	59°25.30'N	150°39.20'W	O	P>5000,I,H				K		SP,SU	

Key to Site Selection Matrix

Marine Mammals	Fish	Birds	Coastal Habitat	Cultural Resources	Subsistence Use	Recreational Use	Commercial Fishing	Land Management
S = Steller Sea Lion rookeries and haulouts	E = Eulachon spawning concentration	C = Waterfowl & shorebird migratory, molting, and winter concentration	T = Sheltered tidal flat	I = FOSC Historic Properties Specialist should inspect site prior to operations	I = High use marine invertebrate area		H = Salmon hatchery or ocean pen	P = State park
O = Sea otter concentration >100 otters	R = Juvenile fish rearing in kelp and reefs	M = Marbled murrelet nearshore feeding concentration	R = Sheltered rocky shore	M = FOSC Historic Properties Specialist should Monitor onsite operations			P = Shorebased fish processor	N = National park and preserve
W = Humpback whale summer, fall, winter concentration	S = More than 10,000 salmon spawners	K = Kittlitz murrelet (proposed endangered species) habitat	K = Kelp or eelgrass beds				N = Set-net fishery	L = National landmark
			I = High area of intertidal diversity					R = National wildlife refuge
								W = Wild & scenic river
Source								
Primary sources: SE SCP, NOAA ESI maps, NMFS, ADFG, FWS, NPS data	Primary sources: ADFG, FWS, NMFS data	Primary sources: SE SCP, NOAA ESI maps, FWS Seabird Colony Catalog, ADFG, FWS data	Primary sources: NOAA ESI maps, FWS, ADFG data	Primary sources: ADNR, USFS	Primary sources: ADFG, USFS data	Primary sources: ADNR, USFS, NPS data	Primary sources: ADFG data	Primary sources: ADNR, NPS, ADFG, FWS, USFS data

Index Map of Candidate Sites



Central Cook Inlet, ALASKA
SELECTED SITES for GEOGRAPHIC RESPONSE STRATEGIES

version: June 27, 2011

CCI-01 – Anchor River	CCI-12 – Tuxedni River	CCI-23 – Shelter Creek
CCI-02 – Stariski Creek	CCI-13 – Polly Creek	CCI-24 – Silver Salmon Creek
CCI-03 – Deep Creek	CCI-14 – Little Jack Slough	CCI-25 – Johnson River
CCI-04 – Ninilchik River	CCI-15 – Drift River	CCI-26 – Tuxedni Bay
CCI-05 – Clam Gulch	CCI-16 – Big River	CCI-27 – Swanson R Mile 1.5
CCI-06 – Kaslof River	CCI-17 – Kustatan River	CCI-28 – Swanson R Mile 6.8
CCI-07 – Kenai River	CCI-18 – McArthur River	CCI-29 – Swanson R Mile 18.5
CCI-08 – East Foreland	CCI-19 – Chuitna River	CCI-30 – Swanson R Mile 19.2
CCI-09 – Gull Island	CCI-20 – Swamp Creek	CCI-31 – Swanson R Mile 21.85
CCI-10 – West Glacier Creek	CCI-21 – Middle River	CCI-32 – Swanson R Mile 22.7
CCI-11 – Crescent River	CCI-22 – Swanson River	

Site Selection Process:

3 Criteria for Site Selection

Environmental Sensitivity
Risk of Oil Spill Impact
Ability to Protect the Site



Tactics Development Process

- Research-Draft tactics
- Site Survey- Confirm or modify draft tactics
- Tactics Committee review- larger group review and confirm modify tactics
- Workgroup Review- ensure drafted tactics protect resources at each site



Tactics Development Process WORKGROUP REVIEW

The draft GRS posted to the web page for workgroup and public review. Once reviewed and any changes are included, the plans are finalized and submitted to the Subarea Committee for inclusion in the Subarea Contingency Plan.

State of Alaska myAlaska My Government Resident Business in Alaska Visiting Alaska State Employees

Alaska DEC Alaska Department of Environmental Conservation Spill Prevention and Response search DEC State of Alaska

State of Alaska > DEC > SPAR > PERP > Geographic Response Strategies

SPAR PROGRAMS

- Contaminated Sites
- Industry Preparedness
- Prevention and Emergency Response
- Response Fund Administration

INFORMATION

- Report a Spill
- About Us
- Recent Spill Responses
- Approvals and Permits
- Guidance and Forms

QUICK LINKS

- GRS Home
- Places of Refuge
- Frequently-asked questions
- Site map

PRIMARY PROJECT PARTICIPANTS

GEOGRAPHIC RESPONSE STRATEGIES FOR ALASKA: HOMEPAGE

This website describes the process used to develop **Geographic Response Strategies (GRS)** to protect sensitive coastal environments along the Alaska coastline. GRS are oil spill response plans tailored to protect a specific sensitive area from impacts following a spill. These response plans are map-based strategies that can save time during the critical first few hours of an oil spill response. They show responders where sensitive areas are located and where to place oil spill protection resources. You can learn more about Geographic Response Strategies by reading our [Frequently Asked Questions](#).

For the purposes of oil spill planning, Alaska has been divided into ten regions, or Subareas. GRS are developed for each Subarea by workgroups that are formed under the governing Subarea Committee. GRS workgroup participants include State and Federal resource trustee agencies and local spill response experts. Public involvement is essential to ensure that the sites selected and the strategies developed reflect the environmental protection priorities of local communities, stakeholders, and resource users.

<http://www.dec.state.ak.us/spar/perp/grs/home.htm>

QUESTIONS?

