

# GEOGRAPHIC RESPONSE STRATEGIES: PART ONE – INTRODUCTION

## Purpose and Scope

These Geographic Response Strategies (GRS) are designed to be a supplement to the Cook Inlet Subarea Contingency Plan for Oil and Hazardous Substances Spills and Releases, commonly referred to as the Cook Inlet Subarea Contingency Plan (Cook Inlet SCP). GRS provide response strategies for the protection of selected sensitive areas to aid first responders to an oil spill. The strategies here serve as the federal and state on-scene coordinators' "orders" during an oil spill in the area covered by this GRS. As such, they have been approved by the U.S. Coast Guard Marine Safety Office and the Alaska Department of Environmental Conservation.

Implementation of these Geographic Response Strategies is the third phase of an oil spill response. The first and primary phase of the response is to contain and remove the oil at the scene of the spill or while it is still on the open water, thereby reducing or eliminating impact on shorelines or sensitive habitats. If some of the spilled oil escapes this tactic, the second phase, which is no less important, is to intercept, contain and remove the oil in the nearshore area. The intent of phase two is the same as phase one: remove the spilled oil before it impacts sensitive environments. If phases one and two are not fully successful, phase three is to protect sensitive areas in the path of the oil. The purpose of phase three is to protect the selected sensitive areas from the impacts of a spill or to minimize that impact to the maximum extent practical.

The sites selected for development of Geographic Response Strategies are not meant to be exclusive; other sensitive sites may require protection during any given oil spill. The fact that a GRS may not have been developed for a certain sensitive site does not mean that site should not be protected if it is threatened by an oil spill.

These strategies are intended to be flexible to allow spill responders to modify them, as necessary, to fit the prevailing conditions at the time of a spill. Seasonal constraints, such as ice or weather, may preclude implementation of some of the strategies in the winter months. It is not intended that all the sites be automatically protected at the beginning of a spill, only those that are in the projected path of the spill. The strategies developed for the selected sites were completed with a focus on minimizing environmental damage, utilizing as small a footprint as needed to support the response operations and selecting sites for equipment deployment that will not cause more damage than the spilled oil. To test these GRS, each site will be visited and equipment deployed according to the strategy, to ensure that the strategy is the most effective in protecting the resources at risk at the site. Revisions will be made to the strategies, and this document, if changes are indicated by site visits, drills or actual use during spills.

The Cook Inlet Subarea Committee has divided the Subarea into seven Geographic Response Zones (Figure G-1-1). As of April 2003, strategies have been developed for the Central Cook Inlet (CCI), Northern Cook Inlet (NCI), Kachemak Bay (KB), Southwest Cook Inlet (SWCI) and Seward (SZ) zones. In the future, strategies will be developed for the remaining zones.

## How to Use These Geographic Response Strategies

The information provided here supplements information provided in the Cook Inlet SCP and the Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substances Discharge/Releases (commonly referred to as the Unified Plan). Information provided in either of those plans is not duplicated herein. This document is intended for use by response professionals already familiar with spill response techniques.

Part 2 contains a general description of the protection/recovery strategies utilized throughout the GRS. Each general description contains the strategy objective, deployment depictions, resource sets required to implement the strategy, and deployment considerations and limitations. These general strategies may be adapted to produce a protection scheme for any site in Cook Inlet.

Part 3 contains site-specific response strategies. An index at the beginning of each sub-section shows the location of the selected sites. Each GRS consists of two parts: 1) a graphic showing a map, deployment diagram, picture and implementation notes; and 2) a matrix giving the location description, response strategy, response resources, staging area, site access, natural resources being protected and special considerations.

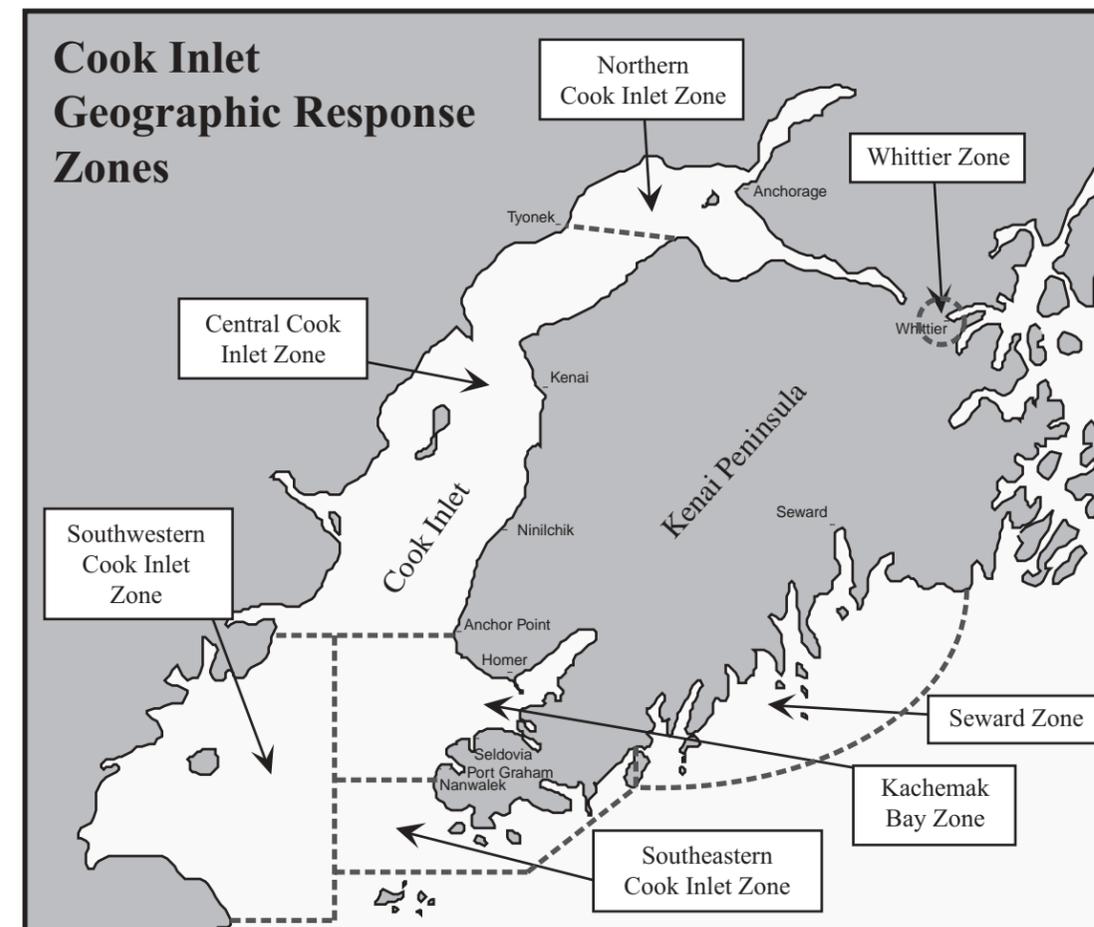


Figure G-1-1. Cook Inlet Geographic Response Zones

## Who to Contact for Input

Comments and recommendations on these GRS are welcomed. Please send your comments to either of the following agencies:

Alaska Department of Environmental Conservation  
Prevention and Emergency Response Program  
555 Cordova Street  
Anchorage, AK 99501

United States Coast Guard  
Captain of the Port, Western Alaska  
510 L Street  
Anchorage, AK 99501

## How the Document Was Developed

These GRS were developed through a cooperative, work group process involving federal, state, and local spill response experts working with representatives from the oil production and transportation industry, citizens' groups, and natural resource agencies. Work groups were (or will be) formed for each response zone in the subarea.

Work group participants identified all sensitive areas with potential to be classified as "Areas of Major Concern" under the criteria established in the Cook Inlet Subarea Plan. These potential sites were evaluated by the additional criteria of 1) risk of being impacted from a water borne spill; and 2) feasibility of successfully protecting the site with existing technology. Using this process, the work group selected a preliminary list of sites that was released for public input. Feedback on site selection was solicited from tribal representatives, user groups, environmental organizations and the general public. Based on the feedback received, the work group made the final site selections for the zone. Additional sites may be selected in the future.

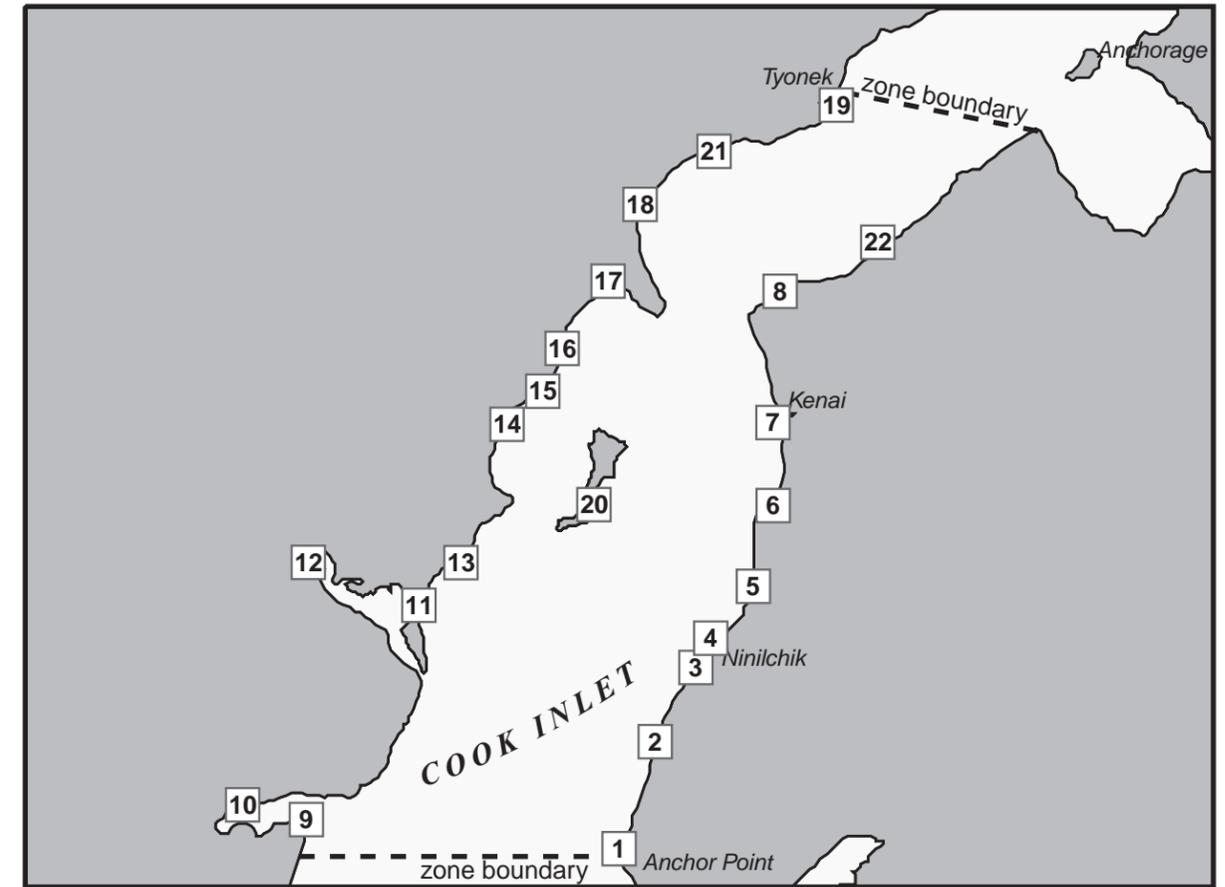
A Cook Inlet Tactics committee, composed of spill response professionals, was formed to develop draft strategies for each site selected. The draft strategies were reviewed and approved by the entire work group and the final draft was forwarded to the Cook Inlet Subarea Committee with the recommendation that it be adopted as part of the Cook Inlet SCP.

### A. CENTRAL COOK INLET RESPONSE ZONE

The Central Cook Inlet Work Group consisted of representatives from the following organizations:

*Alaska Department of Environmental Conservation	National Marine Fisheries Service
Alaska Department of Fish and Game	National Oceanic and Atmospheric Administration
Alaska Department of Natural Resources	National Park Service
Anadarko Petroleum	Ocean Shipping, Inc.
Chevron Shipping	Phillips Petroleum
Cook Inlet Pipeline Company	Prince William Sound Regional Citizens' Advisory Council
Cook Inlet Regional Citizens Advisory Council	*Tesoro Alaska Petroleum
Cook Inlet Spill Prevention and Response, Inc.	United States Coast Guard
Cross Timbers Operating Company	United States Department of the Interior
Forcenergy	United States Fish and Wildlife Service
*Kenai Peninsula Borough	United States Forest Service
Keystone Shipping	Unocal
Marathon Oil	Williams Alaska Petroleum
Minerals Management Service	* = co-chairs

The work group developed Table G-1-1 to aid in the selection of sites from within the Central Cook Inlet Zone. The table consists of identified sites in each row with information about resources at each site that could qualify the site as an area of major concern detailed in the columns. Shaded rows in the table represent the twenty-two sites selected for initial GRS development.



<b>Central Cook Inlet Geographic Response Strategies</b>	
CCI-01 – Anchor River	CCI-12 – Tuxedni River
CCI-02 – Stariski Creek	CCI-13 – Polly Creek
CCI-03 – Deep Creek	CCI-14 – Little Jack Slough
CCI-04 – Niniilchik River	CCI-15 – Drift River
CCI-05 – Clam Gulch	CCI-16 – Big River
CCI-06 – Kasilof River	CCI-17 – Kustatan River
CCI-07 – Kenai River	CCI-18 – McArthur River
CCI-08 – East Foreland	CCI-19 – Chuitna River
CCI-09 – Gull Island	CCI-20 – Swamp Creek
CCI-10 – West Glacier Creek	CCI-21 – Middle River
CCI-11 – Crescent River	CCI-22 – Swanson River

Figure G-1-2. Central Cook Inlet Geographic Response Strategies.

Key to Site Selection Matrix Table G-1-1.

Marine Mammals	Anadromous Fish	Eagle Nests	Sea Otters	Intertidal Spawning	Herring Spawning	Subsistence	Cultural Resources	Sea Birds	Waterfowl and Shore Birds	High Recreational Use	Commercial Fishing	Land Mgt. Special Designations	Coastal Habitat
S = Seal	> 50 K = more than 50,000 Spawners	N = Nest Present, Agency Verification	X = May be Present	S = Spawning	S = Spawning	F = Fishing	S = Standard (REPORT any cultural resources found during operations to the FOSC Historic Properties Specialist.)	F = Feeding Areas	C = Seasonal Concentrations	X = Heavy Recreational Use Occurs	X = Commercial Fishing Occurs	SCH = State Critical Habitat	M = Marsh
B = Beluga	X = Listed in Anadromous Catalog	n = Nest Present, Local Knowledge				B = Birds	I = Inspection (FOSC Historic Properties Specialist should INSPECT site prior to operations.)	N = Nesting Areas	* = Spring Onshore			MR = Maritime Reserve	STF = Sheltered Tidal Flats
S>10 = Seals more than 10 Individuals						I = Intertidal	M = Monitor (FOSC Historic Properties Specialist should MONITOR on-site operations)					NP = National Park	SRS = Sheltered Rocky Shoreline
SL = Sea Lions						M = Marine Mammals						WA = Wilderness Area	
						O = Otters						GR = Game Refuge	
												SP = State Park	
												SRA = State Recreation Area	
												AMSA = Areas Meriting Special Attention	
												WSR = Wild and Scenic Rivers	
												WF = Wildlife Refuge	
												ANCSA = ANSCA Conveyed Lands	
												CT = conveyed Tidelands	
												TL = Tideland Leases, Permits and Right-of-Ways	

Trustee agencies and data source.

NMFS, ADF&G	ADF&G	FWS, ADF&G	USFWS	ADF&G	ADF&G	ADF&G	ADNR	UFWS, ADF&G	UFWS, ADF&G	ADNR	ADF&G	ADNR, NPS, ADF&G, Municipalities, Tribal Organizations	NOAA
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NOTE: Table G-1-1 was developed for GRS site selection in the summer of 1999. It is not intended to be kept current within this document. Not all land management special designations are identified in the table.

Table G-1-1. Site selection table for the Central Cook Inlet Geographic Response Zone.

 Shaded rows in the table represent the twenty two sites selected for GRS development.

Location	Lat. N	Lon. W	Marine Mammals	Anadromous Fish	Eagle Nests	Sea Otters	Intertidal Spawning	Herring Spawning	Subsistence	Cultural Resources	Sea Birds	Waterfowl and Shore Birds	High Recreational Use	Commercial Fishing	Land Mgt. Special Designations	Coastal Habitat
<b>East Side</b>																
Anchor River	59° 47	151° 52		X	N				F	I	F		X		SCH	M
Stariski Creek	59° 52	151° 48		X	N					S		C	X			M
Deep Creek	60° 02	151° 42		X	N					S	F		X			M
Ninilchik River	60° 03	151° 40		X	N		S			S	F		X			M
Clam Gulch	60° 14	151° 24			N					S			X		SCH	
Kasilof River	60° 24	151° 19		>50K	N		S		F	I		C	X			M
Kenai River	60° 33	151° 16	B, S>10	>50K	N		S		F	S		C				M
East Forelands	60° 44	151° 25			N					S		*				
Nikiski Bay	60° 45	151° 19	B		N							*				
Bishop Creek	60° 46	151° 04		X	N							C				M
Swanson River	60° 48	151° 01		X	N		S			I		C	X		SP	M
Leaf Creek	60° 50	150° 55			N											
Otter Creek	60° 52	151° 52		X	N							C				M
Moose Point	60° 57	150° 41	B		N											M
Nearshore, Tidalflats and Beaches; Anchor Point to Possession Point														X		
<b>West Side</b>																
Gull Island	59° 50	152° 59	S>10			X				S	N				WF	
Chinitna Bay	59° 51	152° 60	B, S		N	X	S	S				C				M, STF
Fitz Creek	59° 48	153° 09		X		X										M, STF
West Glacier Creek	59° 51	153° 12		X	N	X	S			S		C				M, STF
Middle Glacier Creek	59° 52	153° 09				X						C				M, STF
East Glacier Creek	59° 53	152° 54		X		X										
Shelter Creek	59° 53	152° 48		X	N	X										M
Red River	59° 56	152° 42				X										M
Johnson River	60° 01	152° 42		X	N	X										M, STF
Chisik Island	60° 08	152° 35				X					N				MR	STF
Tuxedni Bay	60° 12	152° 43	B, S>10				S	S				C			NP/WA	M, STF, SRS
Crescent River	60° 13	152° 34	B, S	>50K	N		S		I	S		*			NP	M
Tuxedni River	60° 15	152° 54	S>10	X	N		S			M		C			NP	M, STF, SRS

Table G-1-1 continued. Site selection table for the Central Cook Inlet Geographic Response Zone .

 Shaded rows in the table represent the twenty two sites selected for GRS development.

Location	Lat. N	Lon. W	Marine Mammals	Anadromous Fish	Eagle Nests	Sea Otters	Intertidal Spawning	Herring Spawning	Subsistence	Cultural Resources	Sea Birds	Waterfowl and Shore Birds	High Recreational Use	Commercial Fishing	Land Mgt. Special Designations	Coastal Habitat
<b>Polly Creek</b>	60° 17	152° 27		X			S		I	I		*	X	X	NP	M
Harriet Point	60° 24	152° 15	S						I, M			*				
Redoubt Bay	60° 29	152° 14	B		N							C			SCH	M, STF
<b>Little Jack Slough</b>	60° 32	152° 16	S>10	X	N				I, M	S		C			NP	M
<b>Drift River</b>	60° 36	152° 07	B	X	N				I, M	S		C			SCH	M, STF
Seal River	60° 39	152° 03		X	N				M			C			SCH	M, STF
<b>Big River</b>	60° 40	152° 02	B, S>10	X			S		M	S		C			SCH	M, STF
Bachatna Creek	60° 43	151° 58	S>10	X					M			C			SCH	M, STF
Johnson Slough	60° 43	151° 55	B, S>10	X					M			C			SCH	M, STF
Seal Slough	60° 43	151° 53	S						M			C			SCH	M, STF
<b>Kustatan River</b>	60° 44	151° 50	B, S	X	N		S		M	S		C			GR	M, STF
West Foreland	60° 44	151° 42	S		N				M							STF
Trading Bay	60° 52	151° 36	B		N				I, M, B			C			GR	M, STF
<b>McArthur River</b>	60° 55	151° 43	B	X	N		S		F, M, B	S		C			SCH/GR	M, STF
Cottonwood Slough	60° 57	151° 38			N				M, B			C			GR	M, STF
<b>Middle River</b>	60° 59	151° 36		X	N				F, M, B	S		C			GR	M, STF
Nikolai Creek	61° 00	151° 29		X	N		S		F, M, B			C				M, STF
Old Tyonek Creek	61° 02	115° 18		X	N				F, M			C				M, STF
Tyonek Creek	61° 02	151° 12	B	X	N				F, M			C				M
Indian Creek	61° 04	151° 08		X			S		F, M			C				M
<b>Chuitna River</b>	61° 06	151° 07	B	X	N		S		F, M, B	I		C				M
Nearshore, Tidalflats and Beaches: Cresnet River to Tyonek														X		
<b>Kalgin Island</b>																
Kalgin Island	60° 26	151° 57	B, S									C			SCH	M, STF
Packers Creek	60° 26	151° 54		X			S								SCH	
<b>Swamp Creek</b>	60° 24	151° 59	B							S		C			SCH	M
Oldman's Bay	60° 23	152° 01										C			SCH	
Nearshore, Tidalflats and Beaches: Kalgin Island														X		

**B. KACHEMAK BAY RESPONSE ZONE**

The Kachemak Bay Work group consisted of representatives from the following organizations:

- |  |  |
|--|--|
| Alaska Chadux Corporation                        | National Marine Fisheries Service                        |
| *Alaska Department of Environmental Conservation | Ocean Ship Holdings                                      |
| Alaska Department of Fish and Game               | Olsen Enterprises, Inc.                                  |
| Alaska Department of Natural Resources           | Petro Marine   |
| Anadarko Petroleum                               | Port Graham Village Council                              |
| Chevron Shipping                                 | Prince William Sound Regional Citizens' Advisory Council |
| City of Homer                                    | Sea Coast Towing, Inc.                                   |
| City of Seldovia                                 | Seldovia Village Tribe                                   |
| Cook Inlet Keeper                                | Shellfish Growers  |
| Cook Inlet Pipeline Company                      | SOS Team, Seldovia                                       |
| Cook Inlet Regional Citizens Advisory Council    | *Tesoro Alaska Petroleum                                 |
| Cook Inlet Spill Prevention and Response, Inc.   | United States Coast Guard                                |
| Crowley Marine Services                          | United States Department of the Interior                 |
| Kachemak Bay Research Reserve                    | United States Fish and Wildlife Service                  |
| Kenai Peninsula Borough                          | Unocal   |
| Nanwalek Village Council                         | Williams Alaska Petroleum                                |
| Newport Petroleum                                | Yukon Fuel/Yutana Barge Lines                            |
| National Oceanic and Atmospheric Administration  | * = co-chairs  |

The work group developed Table G-1-2 to aid in the selection of sites from within the Kachemak Bay Zone. The table consists of identified sites in each row with information about resources at each site that could qualify the site as an area of major concern detailed in the columns. Shaded cells in the table represent the items that meet criteria for selection as Most Sensitive Area in the Sub Area Contingency Plan. These sites will be considered for initial GRS development.

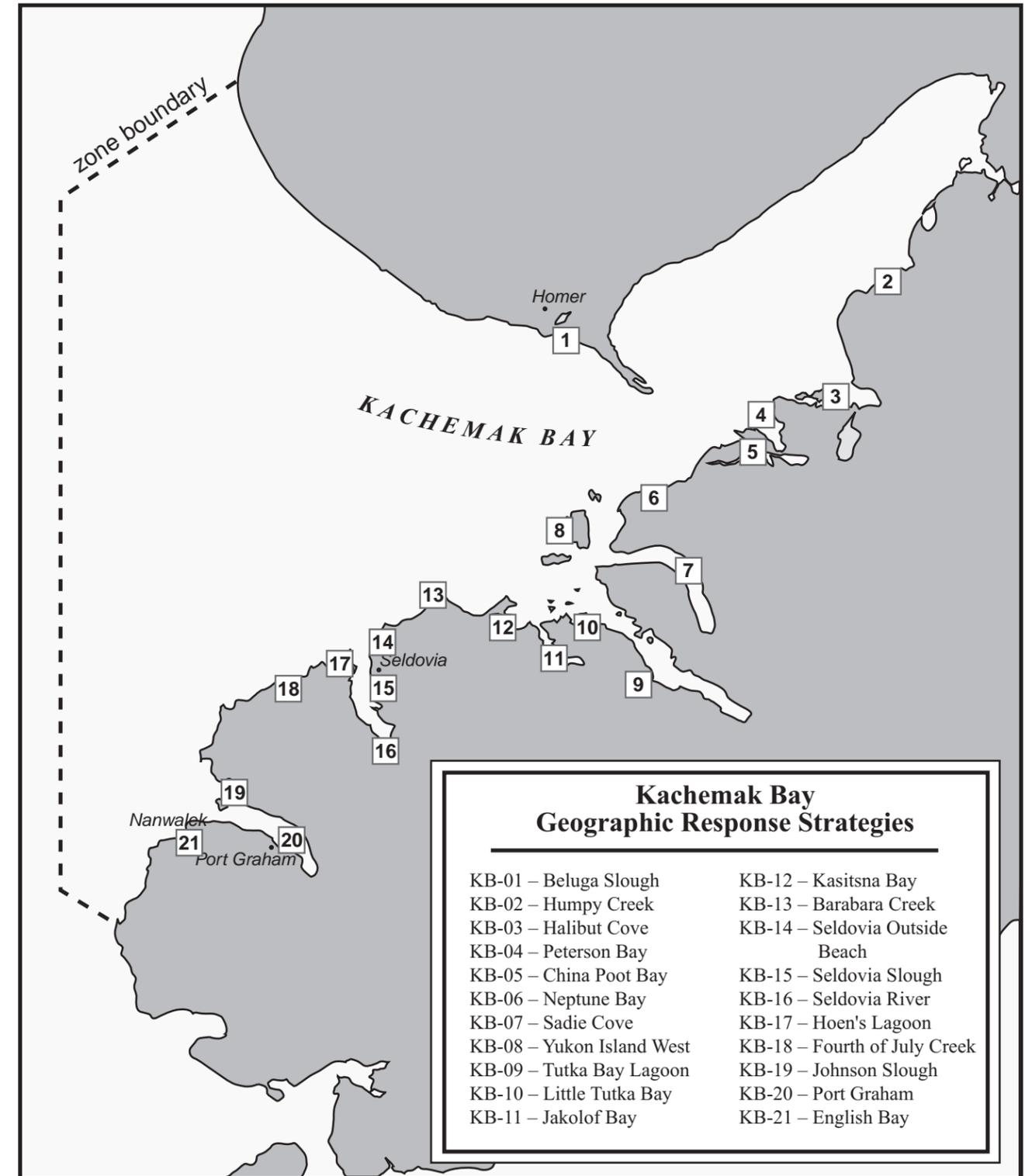


Figure G-1-3. Kachemak Bay Geographic Response Strategies.

**KEY TO TABLE G-1-2.**

Location	Lat. N	Lon. W	Marine Mammals	Fish	Birds	Coastal Habitat	Subsistence	Cultural Resources	Recreational Use	Commercial Fish Aquaculture	Land Mgt. Special Designations
Key to Site Selection Table			O = Sea Otter  H = Harbor Seal  SL = Sea Lion	P = Pink Salmon  CO = Coho Salmon  Ch = Chum Salmon  DV = Dolly Varden Char  I = Intertidal Spawning  H = Herring spawning  S = Sockeye Salmon	En = Eagle nest  SBf = Sea Bird feeding area  SBn = Sea Bird nesting  WFc = Waterfowl or Shore Bird concentration area  WFs = Waterfowl or Shore Bird Spring Onshore	M = Marsh  SRS = Sheltered Rocky Shoreline  K = High Density Kelp Beds	F = Fish  B = Birds  I = Intertidal  M = Marine Mammals  O = Otters		SF = Sport Fishing  CS = Camp Site  TH = Trail Head	C = Commercial Fishing  A = Aquaculture Sites  H = Hatchery  HC = High Use Commercial Fishing	TL = Tidelands leases permits and right-of-ways  CT = Conveyed Tidelands  SP = State Park  BO = Kenai Borough Ordance 218-2  CH = Critical Habitat

Responsible Agency			NMFS, ADFG, USFW	ADFG	USFW, ADFG,	NOAA	ADFG	ADNR	ADNR	ADFG	ADNR, NPS, ADFG, Municipalities, Tribal Organizations
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NOTE: Table G-1-2 was developed for GRS site selection in the fall of 2001. It is not intended to be kept current within this document. Not all land management special designations are identified in the table.

Table G-1-2. Site selection table for the Kachemak Bay Geographic Response Zone.

 Shaded cells meet criteria for selection as Most Sensitive Area in SCP.

Location	Priority	Lat. N	Lon. W	Marine Mammals	Fish	Birds	Coastal Habitat	Subsistence	Cultural Resources	Recreational Use	Commercial Fish Aquaculture	Land Mgt. Special Designations
Multnaia Gulch		59° 43.5	151° 49.9		H	SBf, WFc	K					CH
Diamond Gulch		59° 40.2	151° 42.4		H	SBf, WFc	K					SP, CH
Homer Harbor		59° 36.2	151° 24.9		H	SBf, WFc				SF		CT, TL, CH
Beluga Slough/Mariners Park	H	59° 38.2	151° 31.1			SBf, WFc	M		R			CT,CH
Fishing Hole		59° 36.6	151° 26.2			SBf, WFc				SF		CT, CH
Coal Bay Flats		59° 38.0	151° 27.7		H	SBf, WFc				SF		CT, TL, CH
Mud Bay		59° 38.0	151° 29.1		H	SBf, WFc				SF		CT, TL, CH
Millers Landing		59° 39.8	151° 26.2		H	SBf, WFc				SF		CT, TL, CH
Fritz Creek		59° 40.8	151° 22.3		P, I, H	SBf, WFc						CH
McNeil Canyon		59° 43.0	151° 14.7			En, SBf, WFc						CH
Cottonwood Creek		59° 44.0	151° 12.1			SBf, WFc						CH
Eastland Creek		59° 45.3	151° 09.8			SBf, WFc						CH
Falls Creek		59° 46.1	151° 08.1			En, SBf, WFc						CH
Swift Creek		59° 47.1	151° 04.7	H>10		SBf, WFs						CH
Fox Creek		59° 47.2	151° 04.7	H>10	CO, S, DV	En, WFs	M					CH
Fox River		59° 48.8	150° 58.8	H>10	K, CO, P, CH, S, DV, I	SBn=16, WFs	M					CH, BO
Bradley River		59° 47.5	150° 55.8	H>10	K, CH, S, CO, P, DV, I	WFs	M				C	TL, CH
Battle Creek		59° 45.9	150° 58.6	H>10	CO, DV, S	En, WFs	M				C	TL, CH
Martin River		59° 45.8	150° 59.7	H>10	CH, P, S, DV, I	WFs					C	CH
Chugachik Island		59° 44.7	151° 02.8	H>10	H	En, SBf, WFs	SRS				C	CH
Bear Cove		59° 43.7	151° 03.1	H>10, O	H	En, SBf, WFc	SRS				A, C	CH
B. C. Mariculture		59° 43.7	151° 03.1	O	H						A, C	CH
Bear Island		59° 43.7	151° 03.9	H>10, O	H	En, SBf, WFc	SRS				C	TL, CH, SP
Aurora Lagoon		59° 41.9	151° 06.3	O	H, CO, P, DV, I, H	SBf, WFs	M, SRS				C	CH, SP
Unnamed Stream		59° 41.0	151° 07.1	O	H, CO	SBf, WFs					C	CH, SP
Mallard Bay		59° 40.3	151° 07.1	H>10, O	H	SBf, WFs, SBn	M, SRS				C	CH, SP
Humpy Creek	H	59° 39.7	151° 09.6	O	P>46, K, CO, CH, I, H, CO	SBf, WFs			I	SF	C	CH, SP
Grewingk Creek		59° 39.2	151° 10.7	O	H	SBf, WFs	M				C	CH, SP
Glacier Spit		59° 38.6	151° 12.3	O	H	SBf, WFs				SF	HC	CH, SP
Halibut Cove/Halibut Cove Lagoon	H	59° 35.7	151° 12.4	O	P, I, CO	En, SBf, WFs, WFc	M, SRS		M	SF, CS, TH	A, HC	CT, TL, CH, SP
Peterson Bay	H	59° 34.7	151° 17.2	O	H	En, SBf, WFc	M, SRS, K		M		A, HC	TL, CH, SP
Gull Island		59° 35.1	151° 19.7	O		SBn=17455, WFc				SF	C	CH, SP

Table G-1-2 continued. Site selection table for the Kachemak Bay Geographic Response Zone.

 Shaded cells meet criteria for selection as Most Sensitive Area in SCP.

Location	Priority	Lat. N	Lon. W	Marine Mammals	Fish	Birds	Coastal Habitat	Subsistence	Cultural Resources	Recreational Use	Commercial Fish Aquaculture	Land Mgt. Special Designations
China Poot Bay	H	59° 34.6	151° 20.1	H>10, O	P>5, I, CO, DV	SBf, WFs	M, SRS, K		I	SF, TH	HC	CH, SP
McKeon Flats Marsh		59° 32.6	151° 22.9	O	P, CH, I, DV	En, SBf, WFs	M, K				C	CH, SP
Neptune Bay	H	59° 32.8	151° 23.7	O		En, SBf, WFs	M, SRS, K		I		HC	CH, SP
Sixty Foot Rock		59° 33.0	151° 28.0	O		SBn=891, WFc					C	CH, SP
Cohen Island		59° 32.4	151° 28.4	H, O		SBf, WFc	K				C	CH, SP
Yukon Island West	H	59° 31.3	151° 30.6	H, O	H	SBn, SBf, WFc	K		M		C	CH, SP
Hesketh Island		59° 30.4	151° 31.2	O	H	SBf, WFc	K				C	CH, SP
Sadie Cove	H	59° 29.8	151° 24.5	O	P, CH, I, H	WFc	M, SRS		M	SF	C	CH, SP
Grass Island		59° 29.9	151° 29.6	O	H	SBn=14, WFc					C	CH, SP
Herring Islands		59° 28.9	151° 31.0	O	H	En, WFc, SBf	K				C	CH, SP
Tutka Bay		59° 28.5	151° 27.5	O	H	En, SBf, WFc				SF	HC	CH, SP
Tutka Bay Lagoon	H	59° 26.6	151° 24.7	O	P, CH, CO, I	SBf, WFc	M, SRS		R	SF	H, HC	CH, SP
Head of Tutka		59° 24.9	151° 17.8	O	P, CH, CO, I	SBf, WFc	M, SRS			SF	HC	CH, SP
Little Tutka Bay	H	59° 28.3	151° 29.4	O	H	SBf, WFc	SRS		R		C	CH, SP
Bootleggers Cove		59° 28.4	151° 30.9	O		SBf, WFc	SRS				C	CH, SP
Bootleggers Cove Mariculture		59° 28.4	151° 30.9	O							C	CH, SP
Jakalof Bay	H	59° 28.0	151° 31.3	O	P, CH, I, H, CO	En, SBf, WFc	SRS		I	SF	A,	CH
Kasitsna Bay	H	59° 28.9	151° 33.9	O	H	SBf, WFc	SRS		I	SF	HC	CH
Barabara Creek	H	59° 29.1	151° 38.5	O	P>10, Ch, I	SBf, WFc	K		I		HC	CH
Seldovia Outside Beach	H	59° 27.7	151° 43.2	O	H	SBf, WFc	M		R	SF		CH
Seldovia Harbor/Slough	H	59° 26.6	151° 42.7	O	P, CH, I	SBf, WFc, SBn	M, SRS		R	SF		CH
Head of Seldovia Bay/River	H	59° 24.6	151° 42.3	O	CO, P>34, CH, DV, I, H	SBf, WFc, SBn	M, SRS	F,B,I,M,O	I	SF		CH, BO
Hoen's Lagoon	H	59° 26.6	151° 44.0	O		SBf, WFc	M,SRS, K		I			CH
Fourth of July Creek	H	59° 26.3	151° 48.0		P, I				R			
Pt. Pogibshi		59° 25.5	151° 53.2	O	H	SBf, WFc	K				C	AM, CH
Bird Reef		59° 23.3	151° 55.1	O		SBf, WFc	K				C	AM
Passage Island/Johnson Slough	H	59° 22.4	151° 43.9	O	H	SBf, WFc	M, SRS, K	F,B,I,M,O	I		C	AM
Port Graham Bay	H	59° 20.5	151° 47.6	O	CO, P, CH, DV, I	SBf, WFc	M, SRS	F,B,I,M,O	R	SF	C	AM
English Bay Lagoon	H	59° 21.1	151° 56.2	O	CO, P, S, DV, I	SBf, WFc	M, SRS, K	F,B,I,M,O	R			AM, BO
Flat Island		59° 19.8	151° 59.6	SL, O		SBn=3778, WFc	K				C	AM

### C. NORTHERN COOK INLET RESPONSE ZONE

The Northern Cook Inlet Work Group consisted of representatives from the following organizations:

Alaska Department of Environmental Conservation  
Alaska Department of Fish & Game  
Alaska Department of Natural Resources  
Alaska Chadux Corporation  
Chevron Corp.  
Cook Inlet Regional Citizens Advisory Council  
Cook Inlet Spill Prevention and Response, Inc.  
Crowley Marine Services  
National Marine Fisheries Service  
National Oceanic & Atmospheric Administration  
Signature Flight Support  
U.S. Coast Guard  
U.S. Department of the Interior  
U.S. Fish & Wildlife Service  
Williams Energy Services

The work group initially convened to focus on addressing the difficulties faced when responding to spills on mud flats, a common shoreline feature in Cook Inlet. After some deliberation, the work group decided to create geographic response strategies for two locations that both exhibited mud flat topography and a higher risk of spill contamination. The two sites selected are near the port of the Municipality of Anchorage. By developing the GRS, the work group created a tactical system for addressing spill impacts to mud flats. These results can be found as a specific tactic in Part Two: General Protection/Recovery Strategies.

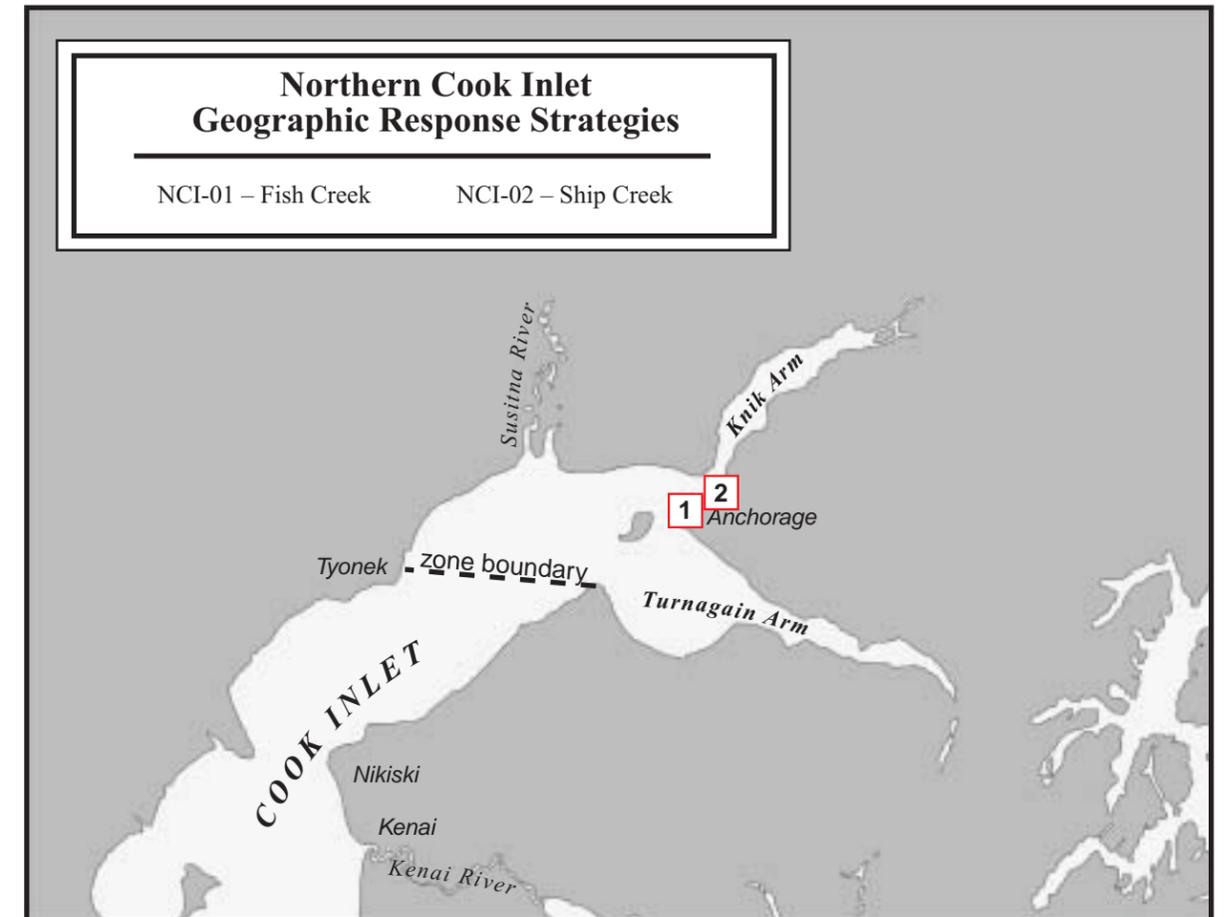


Figure G-1-4. Northern Cook Inlet Geographic Response Strategies.

**D. SEWARD RESPONSE ZONE**

The Seward Zone Working Group consisted of representatives from the following organizations:

- Alaska Chadux Company
- \*Alaska Department of Environmental Conservation
- Alaska Department of Fish and Game
- Alaska Department of Natural Resources
- Alaska Tanker Company
- Alyeska Pipeline Service Company/  
Ship Escort and Vessel Response Service
- ChevronTexaco
- City of Seward
- Cook Inlet Regional Citizens Advisory Council
- Cook Inlet Spill Prevention and Response, Inc.
- Kenai Fjord National Park
- Kenai Peninsula Borough
- National Marine Fisheries Service
- National Oceanic and Atmospheric Administration
- Polar Tanker Company
- Port Graham Village Council
- Prince William Sound Regional Citizens' Advisory Council
- SeaRiver Maritime
- \*Tesoro Alaska Petroleum
- United States Coast Guard
- United States Department of Agriculture –  
United States Forest Service – Chugach National Forest
- United States Department of the Interior
- United States Environmental Protection Agency
- United States Fish and Wildlife Service –  
Ecological Services Field Office
- \* = co-chairs

The working group developed Table G-1-3 to aid in the selection of sites from within the Seward Zone. The table consists of identified sites in each row with information about resources at each site that could qualify the site as an area of major concern detailed in the columns. The first twenty-nine rows in the table represent the sites selected for initial GRS development.

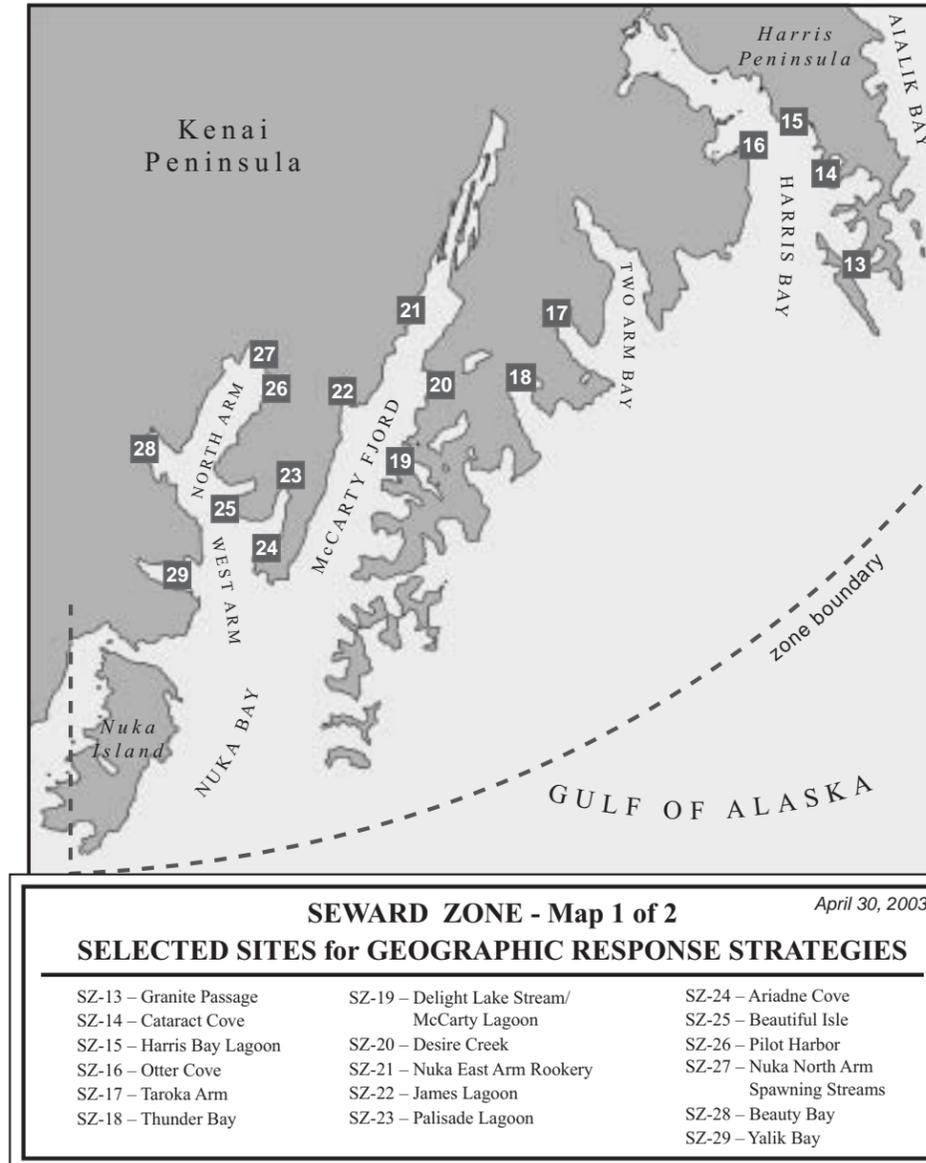


Figure G-1-5. Seward Geographic Response Strategies, Map 1.

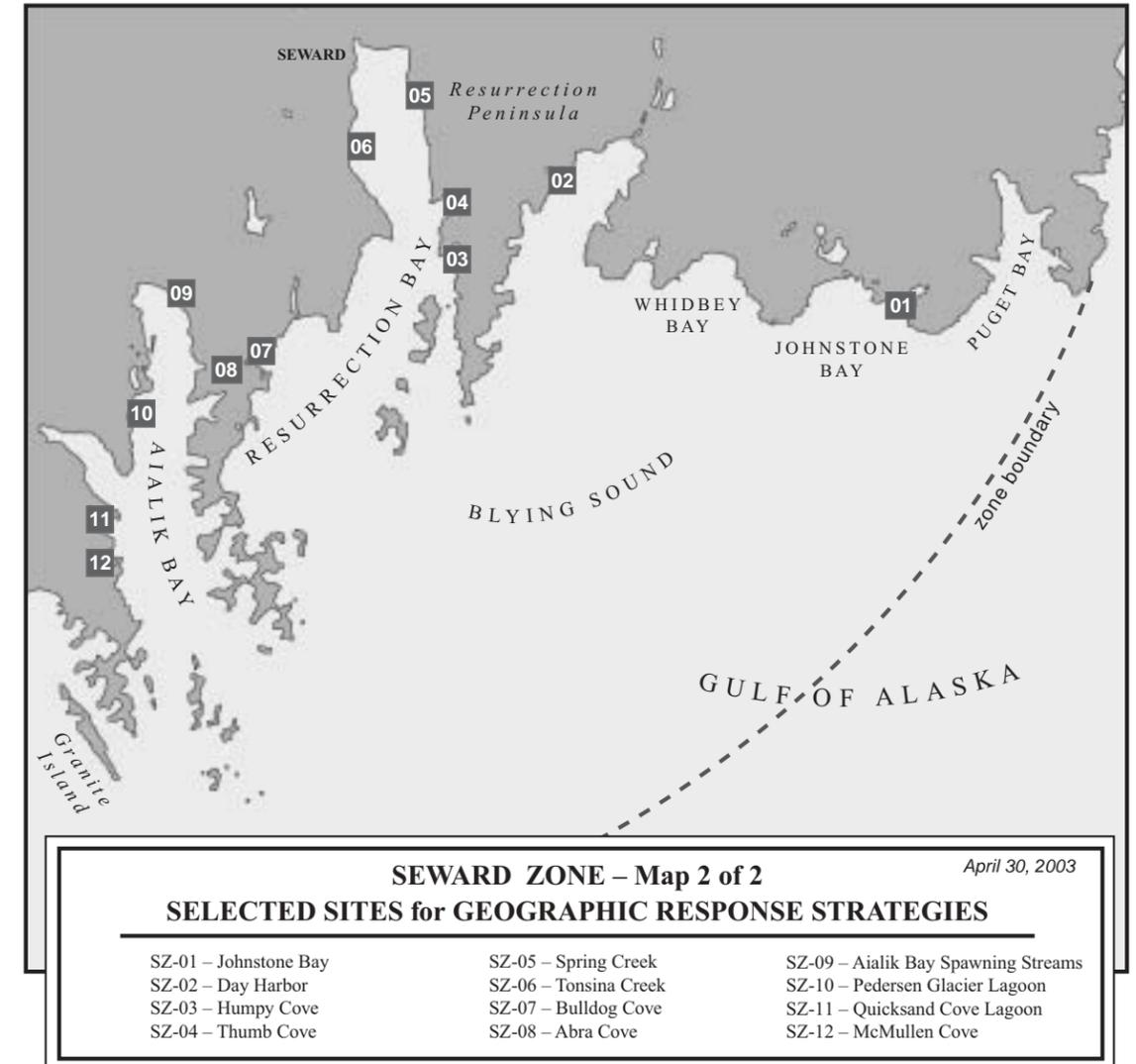


Figure G-1-6. Seward Geographic Response Strategies, Map 2.

**Key to Site Selection Matrix Table G-1-3**

Location	Lat. N	Lon. W	Marine Mammals	Fish	Subsistence	Cultural Resources	Birds	Recreational Use	Commercial Fish Aquaculture	Land Mgt. Special Designations	Coastal Habitat
Key to Site Selection Table			O = Sea Otter S = Harbor Seal SL = Sea Lion	K = King Salmon P = Pink Salmon *CO = Coho Salmon Ch = Chum Salmon DV = Dolly Varden Char I = Intertidal Spawning H = Herring spawning S = Sockeye Salmon	F = Fish B = Birds I = Intertidal M = Marine Mammals O = Otters	R=Report any cultural resources found during operations to the FOOSC Historic Properties Specialist.  I=FOOSC Historic Properties Specialist should inspect site prior to operation.  M= FOOSC Historic Properties Specialist should monitor on-site operation.	En = Eagle nest SBf = Sea Bird feeding area SBn = Sea Bird nesting  *Wfc = Waterfowl or Shore Bird concentration area WFs = Waterfowl or Shore Bird Spring Onshore	SF = Sport Fishing  C = Camp Site TH = Trail Head  K = Kayak Beach  A = Anchorage	C = Commercial Fishing A = Aquaculture Sites  H = Hatchery  HC = High Use Commercial Fishing	TL = Tidelands leases permits and right-of-ways CT = Conveyed Tidelands SP = State Park  BO = Kenai Borough Ordinance 218-2  CH = Critical Habitat	M = Marsh SRS = Sheltered Rocky Shoreline K = High Density Kelp Beds ETF = Exposed Tidal Flat

Responsible Agency			NMFS, ADFG, USFW	ADFG	ADFG	ADNR	USFW, ADFG,	ADNR	ADFG	ADNR, NPS, ADFG, Municipalities, Tribal Organizations	NOAA
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NOTE: The table was developed for GRS site selection in the fall of 2001. Not all land management special designations are identified in the table.

\* H, M, L, = high, moderate, lesser concern based upon numbers of seabirds/salmon surveyed.

**Salmon prioritization scheme from Cook Inlet Subarea Contingency Plan:**

Category	Least	Medium	Most
ABUNDANCE	< 4,000 sockeye < 5,000 pink < 5,000 chum < 500 coho	4,000 - 25,000 sockeye 5,000 - 30,000 pink 5,000 - 10,000 chum < 1,000 chinook 500-2,500 coho	> 25,000 sockeye > 30,000 pink > 10,000 chum > 1,000 chinook > 2,500 coho
Species diversity	1	2-3	4-5

**Seabird colony prioritization from Cook Inlet Subarea Contingency Plan:**

Category	Least	Medium	Most
ABUNDANCE	< 1,000	1,000 - 5,000	> 5,000

Table G-1-3. Site selection table for the Seward Geographic Response Zone.

GRS #	Location	Priority	Lat. N	Lon. W	Marine Mammals	Fish	Subsistence	Cultural Resources	Birds	High Recreational Use	Commercial Fishing	Land Mgt. Special Designations	Coastal Habitat
SZ-01	Johnstone Bay	H	59 56.3	148 40.0	S>10, O	P, CH, CO, S, DV, I, H		R	SBf, EN	SF			M
SZ-02	Day Harbor	H	60 01.7	149 09.6	S>10, O	P, CH, I, H		R			A,HC		M, SRS
SZ-03	Humpy Cove	H	59 58.1	149 18.3		P, H, I, H		R		C, K	A		M, SRS
SZ-04	Thumb Cove	H	60 00.6	149 18.1	S, O	P, I, H		R	SBf, WFc	SF	HC	SMP, SU	SRS,STF
SZ-05	Spring Creek	H	60 05.1	149 21.3	S, O	S. P, CH, CO, DV, I, H		R	WFc, SBc	SF, C, K	HC	SU	STF, M
SZ-06	Tonsina Creek	H	60 02.8	149 26.2	O	P, CH, I, H, DV		R	EN	SF, C, TH	HC	SU, SP	M
SZ-07	Bulldog Cove	H	59 53.3	149 31.0	S>10, O	P, I, H, DV		R	SBn <1,000, EN	SF, C, K		SU	M
SZ-08	Abra Cove	H	59 53.7	149 39.8	O	P, H		R	SBn, SBf, EN, WFs	C			SRS
SZ-09	Aialik Bay Spawning Streams	H	59 56.6	149 41.1	S>10, O	P>5000, I, H		R	WFc, SBf		HC	SU	
SZ-10	Pedersen Glacier Lagoon	H	59 53.7	149 44.5	S>10, O	P, CH, CO, DV, I, H,S		I	WFc,SBc	C, A		SU	M, STF
SZ-11	Quicksand Cove Lagoon	H	59 47.0	149 45.8		P, CH, I, H		R	WFc, SBf, SBn, EN	C			M
SZ-12	McMullen Cove	H	59 45.8	149 46.9	S,O	H		R			A		
SZ-13	Granite Passage	H	59 39.4	149 47.8	W,O	H		R	SBf, EN	SF, A			
SZ-14	Cataract Cove	H	59 42.7	149 50.2	O	H		R	WFc			SU	SRS
SZ-15	Harris Bay Lagoon	H	59 44.3	149 51.3		P, I, H		I	WFn, SBf, EN	SF			M, SRS
SZ-16	Otter Cove	H	60 43.7	149 56.0	S>10, O	P, H		R	EN, SBf, SBn <1,000			SU	SRS, STF
SZ-17	Taroka Arm	H	59 37.2	150 08.8	S>10, O	P, I, H		R	WFc, SBn <1,000, EN			SU	SRS
SZ-18	Thunder Bay	H	59 34.7	150 11.2		P, I, H		R	WFc, EN				STF
SZ-19	Delight Lake Stream/McCarty Lagoon	H	59 32.5	150 20.4	S, O	P, CO, S >10,000 I, H, K		R	EN, WFc	SF, K, C		SU	M
SZ-20	Desire Creek	H	59 34.9	150 17.8	O, SL	P, CO, S, I, H, 5,000-30,000 Pink S.; >10,000 Sockeye S.		R		K, C, A		SU	SRS
SZ-21	Nuka East Arm Rookery	H	59 38.1	150 18.8	S>100, O	H		R	WFc, N, SBn <1,000	K, C, SF		SU	
SZ-22	James Lagoon	H	59 34.5	150 24.4	S>10,O	P, CO, S, I, H, <5,000 Pink S.		R	EN, WFc, SBn <1,000	K, C		SU	SRS, STF, M
SZ-23	Palisade Lagoon	H	59 31.4	150 28.8	S>10, O	P, I, H		R	WFc, EN, SBc	K, A		SU	M, SRS
SZ-24	Ariadne Cove	H	59 28.5	150 30.8	S, O	P, H		R	WFc, SBf, EN	K, C		SU	SRS
SZ-25	Beautiful Isle	H	59 30.6	150 33.9	O	H		R	SBn <1,000, WFc			SU	SRS
SZ-26	Pilot Harbor	H	59 34.8	150 30.1	S>10, O	P, CH, I, H		R	EN, WFc	A		SU	M, SRS
SZ-27	Nuka North Arm Spawning Streams	H	59 35.9	150 31.1	O	P, I, H		R	WFc			SU	M, SRS, STF
SZ-28	Beauty Bay	H	59 31.6	150 38.2	S>10, O	P, CH, I, H		M	EN, WFc, SBf	A, K		SU	M, SRS, STF
SZ-29	Yalik Bay	H	59 28.2	150 39.4	O	P, I, H		I	WFc, SBf	K, C		SU	SRS, STF
	Nuka Pt. Rookery		59 18.1	150 41.7	S>10, O	H			SBn <1,000			SP, SU	

Table G-1-3, cont. Site selection table for the Seward Geographic Response Zone.

GRS #	Location	Priority	Lat. N	Lon. W	Marine Mammals	Fish	Subsistence	Cultural Resources	Birds	High Recreational Use	Commercial Fishing	Land Mgt. Special Designations	Coastal Habitat
	Nuka Island Rookery		59 21.6	150 37.0	O	H			SBn <1,000			SP, SU	
	Nuka Island Spawning Stream		59 23.1	150 37.3	O	P>5000, I, h						SP, SU	SRS
	Nuka Pass Spawning Stream		59 25.3	150 39.2	O	P>5000, I, H				K		SP, SU	
	Yalik Pt. Rookery		59 26.3	150 35.3	O	H			SBn <1,000			SU	SRS
	combined with #8											SU	
	combined with #8					H						SU	
	Nuka North Arm Spawning Stream		59 35.7	150 33.1	O	P, I, H			Wfc	K		SU	SRS
	Quartz Bay		59 31.0	150 31.7	O	P, I, H			EN	K, A, C		SU	M, SRS
	Harrington Pt. Rookery		59 27.4	150 30.4	O	H			SBn <1,000			SU	
	Wildcat Pass Rookery		59 23.0	150 23.8	SL, O	H			SBn <1,000			SU	
	Outer Island		59 20.7	150 25.0	SL, O	H			SBn >5,000			SU	
	Rabbit Island Rookery		59 22.7	150 22.0	O	H			SBn <1,000			SU	
	Rabbit Island Haulout		59 23.1	150 21.8	SL, O	H						SU	
	Hoof Pt.		59 24.8	150 17.2	O	H			SBn 1,000-5,000			SU	
	Morning Cove Rookery		59 27.6	150 17.1	O	H			SBn <1,000			SU	
	Steep Pt.		59 29.0	150 15.2	O	H			SBn <1,000			SU	
	Black Bay Rookery		59 30.2	150 14.0	O	H			SBn <1,000			SU	
	Black Mt . Rookery		59 32.4	150 10.5	O	H			SBn <1,000			SU	
	Thunder Bay Rookery		59 34.0	150 08.8	S>10, O	H			SBn <1,000			SU	
	Head of Paguna Arm		59 42.0	150 08.0	O	P, I, H						SU	SRS
	Paguna Arm Spawning Stream		59 40.6	150 06.4	O	P, I, H						SU	
	Surok Pt. Rookery		59 36.7	150 01.8	O	H			SBn <1,000			SU	
	Sandy Bay Spawning Stream		59 39.5	149 59.8	O	P, I, H						SU	
	Harris Bay Island Rookery		59 47	150 03	S>10, O	H			SBn <1,000			SU	SRS
	Harris Bay Rookery		59 47	150 03	O	H			SBn <1,000			SU	SRS
	Granite Isand Rookery		59 37.9	149 48.1	S>10, O	H			SBn 1,000-5,000	SF		SU	
	Twin Islands		59 40.5	149 43.6	S>10, O	H			SBn <1,000			SU	
	Holgate Arm Rookery		59 48.1	149 46.2	O	H			SBn <1,000			SU	
	Holgate Arm Haulout		59 51.0	149 49.0	S>10, O	H						SU	SRS
	Slate Island Rookery		59 55.11	149 42.7	S>10, O	H			SBn<1,000, EN			SU	SRS
	Squab Island		59 56.0	149 42.7	S>10, O	H			SBn 1,000-5,000			SU	SRS
	Frozen Rock		59 56.4	149 42.4	S>10, O	H			SBn			SU	SRS
	Aialik Bay Spawning Stream		59 57.0	149 43.3	S>10, O	P>5000, CH, I, H					HC	SU	SRS
	Aialik Bay Spawning Stream		59 56.1	149 40.6	S>10, O	P>5000, I, H					HC	SU	
	Aialik Bay Spawning Stream		59 55.1	149 40.1	S>10, O	P>5000, CH, I, H					HC	SU	

Table G-1-3, cont. Site selection table for the Seward Geographic Response Zone.

GRS #	Location	Priority	Lat. N	Lon. W	Marine Mammals	Fish	Subsistence	Cultural Resources	Birds	High Recreational Use	Commercial Fishing	Land Mgt. Special Designations	Coastal Habitat
	Aialik Bay Spawning Stream		59 53.7	149 39.0	S>10, O	P>5000, CH, I, H					HC	SU	
	Aialik Peninsula Rookery		59 50.2	149 40.3	O	H			SBn, EN			SU	SRS
	Aialik Peninsula Rookery		59 49.6	149 40.4	O	H			SBn <1,000			SU	SRS
	Harbor Island Rookery		59 39.9	149 38.9	O	H			SBn <1,000	SF		SU	
	16-21 Island Rookery		59 39.2	149 37.6	O	H			SBn 1,000	SF		SU	
	Natoa Island Rookery		59 38.5	149 36.2	O	H			SBn, EN >5,000	SF		SU	
	Beehive Island		59 37.1	149 36.7	O	H			SBn >5,000	SF		SU	
	Chiswell Islands Rookery		59 36.6	149 36.1	SL, O	H			SBn >5,000	SF		SU	
	Matushka Island Haulout		59 36.5	149 38.2	SL, O	H			EN	SF		SU	
	Matushka Island Rookery		59 36.6	149 37.4	SL, O	H			SBn >5,000	SF		SU	
	Chiswell Island Rookery		59 36.0	149 34.0	SL, O	H			SBn >5,000	SF		SU	
	Chiswell Islands Rookery		59 35.8	149 35.0	O	H			SBn 1,000-5,000	SF		SU	
	Lone Rock		59 34.5	149 37.4	O	H			SBn <1,000	SF		SU	
	Seal Rocks		59 34.5	149 37.4	SL	H			SBn <1,000	SF		SU	
	Chat Island		59 42.0	149 33.7	SL	H			EN, SBn <1,000	SF		SU	
	No Name Island		59 43.1	149 30.5	O	H			SBn <1,000	SF		SU	
	Pilot Rock		59 44.5	149 28.0	O	H			SBn <1,000	SF		SU	
	Aialik Penn. Rookery		59 43.5	149 31.4	O	H			SBn	SF		SU	
	Pony Cove		59 45.1	149 33.4	S>10, O	H			SBn <1,000	SF		SU	
	Cheval Island Rookery		59 47.1	149 30.9	S>10, O	H			SBn <1,000	SF		SU	
	Bear Glacier Haulout		59 55.0	149 31.3	S>10, O	H				SF		SU	
	Callisto Head		59 55.1	149 31.3	O	H			SBn <1,000	SF		SU	
	Cains Head		59 58.9	149 23.6	S>10, O	H			EN, SBn <1,000	SF	HC	SU	
	Seward Harbor		60 06.8	149 25.5	O	H				SF		SU	
	Resurrection River		60 07.1	149 23.9	O	P, CH, CO, CH, S, DV, AC, I, H			EN	SF		SU	M, ETF
	Resurrection Bay Spawning Stream		60 07.0	149 22.2	O	P, CH, I, H			EN	SF		SU	ETF
	Seward Ship's Chandlery / CIP Dock		60 05.4	149 21.9	O	H				SF		SU	
	Sandspit Point SMP		59 56.2	149 18.5	O	H			En	SF		SMP, SU	
	Sunny Cove SMP		59 54.1	149 20.3	O	H				SF		SMP, SU	
	Hive Island		59 53.4	149 22.7	S>10, O, SL	H			SBn <1,000	SF		SU	
	Rugged Island Rookery		59 52.1	149 24.3	O	H			SBn <1,000	SF		SU	
	Cape Resurrection		59 52.4	149 16.1	O	H			SBn >5,000	SF		SU	
	Barwell Island		59 51.6	149 16.9	O	H			SBn >5,000	SF		SU	
	Driftwood bay		59 55.5	149 15.1	O	H				C, SF			

Table G-1-3, cont. Site selection table for the Seward Geographic Response Zone.

GRS #	Location	Priority	Lat. N	Lon. W	Marine Mammals	Fish	Subsistence	Cultural Resources	Birds	High Recreational Use	Commercial Fishing	Land Mgt. Special Designations	Coastal Habitat
	Safety Cove SMP		59 59.0	149 13.1	O	H				C		SMP	SRS
	Day Harbor NW Stream		60 02.6	149 07.4		H							
	Head of Day Harbor-West		60 03.1	149 03.9		H							
	Head of Day Harbor-East		60 02.4	149 02.5		H							
	Horsehead Bay Spawning Stream		59 57.9	149 02.0	O	P, CH, I, H							
	Widby Bay Spawning Stream		59 58.2	148 57.0	O	P, I, H			N				
	Cape Fairfield Rookery		59 55.5	148 51.0	SL, O	H			SBn <1,000	SF			
	Cape Junken Rookery		59 55.1	148 37.7	O	H			SBn	SF			
	Head of Puget Bay		60 01.4	148 30 0	O	P, S, I, H				SF			
	Cape Puget Rookery		59 56.6	148 26.7	O	H				SF			
	Head of McCarty Fjord		59 43.1	150 14.0	S	H							
	Eldorado Narrow		59 55.5	149 18.6		H					A		
	Paradise Cove		59 45.4	149 35.4		H					A		

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**E. SOUTHEAST COOK INLET RESPONSE ZONE**

to be developed

**F. SOUTHWEST COOK INLET RESPONSE ZONE**

to be developed

**G. WHITTIER RESPONSE ZONE**

to be developed

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