

GEOGRAPHIC RESPONSE STRATEGIES: PART ONE – INTRODUCTION

Purpose and Scope

These Geographic Response Strategies (GRS) are designed to be a supplement to the Western Alaska Subarea Contingency Plan for Oil and Hazardous Substances Spills and Releases, commonly referred to as the Western Alaska Subarea Contingency Plan (SCP). GRS provide unified (public, responders, and agencies) priorities and response strategies for the protection of selected sensitive areas to aid first responders to an oil spill. The GRS list the sensitive resources of an area and the response strategies, equipment, personnel and logistical information necessary to protect the sensitive areas. Because the U.S. Coast Guard Marine Safety Office, Environmental Protection Agency and the Alaska Department of Environmental Conservation have already approved them, the GRS serve as pre-approved strategies of the Unified Command during the emergency phase of an oil spill response.

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 may 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 Western Alaska GRS Workgroup has divided the Subarea into 2 Geographic Response Zones (figure G-1-1) and directed that 32 sites be developed throughout the Subarea. In the future, strategies may be developed for additional sensitive areas.

How to Use These Geographic Response Strategies

The information provided here supplements information provided in the Western Alaska 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.

The GRS contain basic protection and recovery strategies with directions for implementation in the field. Each 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 Western Alaska. The strategies are taken from the State of Alaska's oil spill response tactics guide, *Spill Tactics for Alaska Responders* (STAR Manual). Responders should use refer to the STAR manual for more detailed information about the GRS tactics. The STAR manual, published by ADEC, is available online at: <http://www.dec.state.ak.us/spar/perp/star/docs.htm>.

Part 2 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. Western Alaska Subarea 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, workgroup 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. Workgroups were (or will be) formed for each response zone in the subarea.

Workgroup participants identified all sensitive areas with potential to be classified as “Areas of Major Concern” under the criteria established in the Western Alaska 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 workgroup 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 workgroup made the final site selections for the zone. Additional sites may be selected in the future.

A Western Alaska Tactics committee, composed of spill response professionals and personnel from natural resource agencies, was formed to develop draft strategies for each site selected. The draft strategies were reviewed and approved by the entire workgroup and the final draft was forwarded to the Western Alaska Subarea Committee with the recommendation that it be adopted as part of the Western Alaska SCP.

The Western Alaska Workgroup consisted of representatives from the following organizations:

- Alaska Department of Environmental Conservation
- Alaska Department of Fish and Game
- Alaska Department of Natural Resources
- Alaska Chadux Corporation
- Alaska Marine Pilots
- Association of Village Council Presidents
- City of Pilot Point
- Curyung Tribal Council
- City of Bethel
- City of Hooper Bay
- City of Goodnews Bay
- Kuskowkwim River Watershed Council
- Lake and Peninsula Borough
- Minerals Management Service
- Native Village of Hooper Bay
- National Marine Fisheries Service
- National Oceanic and Atmospheric Administration
- National Park Service
- United States Coast Guard
- United States Department of the Interior
- United States Fish and Wildlife Service

The Workgroup developed Table G-1-1 to aid in the selection of sites from within the Western Alaska Subarea. 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.

Western Alaska Site Selection Matrix

Index Number	GRS Number	Priority	Location	Latitude	Longitude	Marine Mammals	Fish	Birds	Subsistence	Cultural Resources	Comm. Fish	Coastal Habitat	Land Mgt. Designation
NORTHERN ZONE													
N-02	N-01	H	Pastolik River/Apoon Mouth	63° 02.36'N	163° 21.33'W		CH,CO,K,P,S,AC,SF,W	SHBc,SBc,Wfc	S			ETF,SRS,M,PS	N
N-06	N-02	H	Bugomowik Pass & Emmonak Slough	62° 57.09'N	164° 47.37'W		CH,CO,K,P,S,AC,SF,W	SHBc,SBc,Wfc	S		SN	ETF,SRS,M,PS	N
N-07	N-03	H	Kwiguk Pass & Kawkhawik Slough	62° 47.35'N	164° 53.51'W		CH,CO,K,P,S,AC,SF,W	SHBc,SBc,Wfc	S		SN	ETF,SRS,M,PS	N
N-10	N-04	H	Kwemeluk Pass	62° 32.60'N	165° 02.36'W		CH,CO,K,P,S,AC,SF,W	SHBc,SBc,Wfc	S		SN	ETF,SRS,M,PS	N
N-13	N-05	H	Kun River/Scammon Bay	61° 50.90'N	165° 37.97'W		CH,SF,W,H	SHBc,SBc,Wfc	S		H	ETF,SRS,M,PS	N
N-15	N-06	H	Kokechik Bay	61° 43.83'N	166° 08.89'W	SS	P,SF,W,H	SHBc,SBc,Wfc	S		H	ETF,GB,M	YDNWR,N
N-16	N-07	H	Hooper Bay	61° 32.17'N	165° 50.92'W	SS	CH,K,P,SF,W	SBn,SHBc,Wfc	S			ETF,M,PS	N
N-17	N-08	H	Angyoyaravak Bay	61° 17.13'N	165° 44.47'W		CH,K,P,SF,W	SHBc,SBc,Wfc	S			ETF,M,PS	YDNWR,N
N-18	N-09	H	Opagyarak/Aphrewn/Manokinak River	61° 06.93'N	165° 20.02'W		CH,K,P,SF,W	SHBc,SBc,Wfc	S			ETF,STF,GB,M,PS	YDNWR
N-19	N-10	H	Anerkochik/Azun Rivers	61° 03.00'N	165° 10.10'W		CH,K,P,SF,W	SHBc,SBc,Wfc	S			ETF,STF,GB,M,PS	YDNWR
N-20	N-11	H	Ningliek River	60° 52.41'N	165° 03.72'W		CO,P,W	SHBc,SBc,Wfc	S			ETF,STF,GB,M,PS	YDNWR,N
N-21	N-12	H	Ikalutlulik River	60° 40.46'N	165° 06.46'W	SS	CO,AC,CP	SHBc,SBc,Wfc	S			ETF,STF,GB,M,PS	N
N-22	N-13	H	Tanunak Bay	60° 35.06'N	165° 17.70'W		CH,CO,P,AC,CP	SHBc,SBc,Wfc	S			EWPETF,M,GB,PS	N
N-23	N-14	H	Cape Vancouver	60° 32.14'N	165° 24.72'W	SS	CP	SBn,SHBc,Wfc	S			EWPETF,GB	N
N-01			Pastoliak River	63° 02.37' N	163° 14.03'W		CH,P,AC	SHBc,SBc,Wfc	S			ETF,SRS,M,PS	N
N-03			Okwega Pass Area	63° 06.53'N	163° 32.33'W		CH,CO,K,P,S,AC,SF,W	SHBc,SBc,Wfc	S		SN	ETF,SRS,M,PS	N
N-04			Okshokwehik Pass Area	63° 12.85'N	163° 49.42'W		CH,CO,K,P,S,AC,SF,W	SHBc,SBc,Wfc	S		SN	ETF,SRS,M,PS	N
N-05			Kwikpak & Kawanak Pass	63° 03.11'N	164° 35.87'W		CH,CO,K,P,S,AC,SF,W	SHBc,SBc,Wfc	S		SN	ETF,SRS,M,PS	YDNWR,N
N-08			Alakanuk Pass & Casey's Channel	62° 42.35'N	164° 51.96'W		CH,CO,K,P,S,AC,SF,W	SHBc,SBc,Wfc	S		SN	ETF,SRS,M,PS	N
N-09			Kwikluak Pass	62° 36.17'N	164° 47.24'W		CH,CO,K,P,S,AC,SF,W	SHBc,SBc,Wfc	S		SN	ETF,SRS,M,PS	N
N-11			Black River	62° 21.57'N	165° 20.67'W		CH,K,SF,W	SHBc,SBc,Wfc	S		SN	ETF,SRS,M,PS	YDNWR,N
N-12			Sand Islands	62° 00.00'N	165° 58.23'W	SS		SBn,SHBc,Wfc	S		H	GB	YDNWR
N-14			Kongiahluk Bay	61° 49.46'N	165° 46.71'W	SS	H	SHBc,SBc,Wfc	S		H	ETF,GB	N
SOUTHERN ZONE													
S-01	S-01	H	Kangirivar Bay	60° 28.55'N	165° 08.23'W	SS	CH,CO,K,P,AC,W,CPH	SHBc,SBc,Wfc	S			ETF,PS,GB,EWP	N
S-02	S-02	H	Kolavinarak River	60° 15.44'N	164° 42.98'W		CHp,Pp,ACp,Wp	SHBc,SBc,Wfc	S			ETF,STF,M	N
S-03	S-03	H	Kinia River	60° 10.76'N	164° 30.01'W		H	SHBc,SBc,Wfc	S			ETF,STF,M	YDNWR,N
S-04	S-04	H	Kinak Bay	59° 58.78'N	164° 10.49'W		W,H	SHBc,SBc,Wfc	S			ETF,STF,M,GB	YDNWR,N
S-05	S-05	H	Kikegtok & Pingrbek Islands	59° 51.47'N	164° 19.61'W		H	SBn,SHBc,Wfc	S			GB	YDNWR
S-06	S-06	H	Kwigillingok River	59° 50.74'N	163° 07.27'W	W	W,H	SHBc,SBc,Wfc	S		C	M,PS	N
S-07	S-07	H	Kongiganak River	59° 54.86'N	162° 54.68'W		W,H	SHBc,SBc,Wfc	S		C	ETF,M,PS	N
S-08	S-08	H	Ishkowiak River	59° 57.89'N	162° 42.32'W		W,H	SHBc,SBc,Wfc	S		C	ETF,M,PS	N
S-09	S-09	H	Eek Channel	60° 08.57'N	162° 11.86'W		CH,CO,K,P,S,AC,SF,W	SHBc,SBc,Wfc	S		C	ETF,M,PS	YDNWR,N
S-16	S-10	H	Kanektok River	59° 44.90'N	161° 58.15'W		CH,CO,K,P,S,AC,W,H	SHBc,SBc,Wfc	S		C	ETF,STF,GB,M,PS	N
S-20	S-11	H	Carter Bay	59° 18.39'N	161° 58.68'W		CH,CO,K,P,AC,W,H	SHBc,SBc,Wfc	S		C	STF,GB,M,PS	BLM,N
S-21	S-12	H	Goodnews Bay	59° 04.04'N	161° 46.35'W	W	CH,CO,K,P,S,AC,W,H	SBc,SHBc,Wfc	S			GB,STF,SRS,ETF,M,EWP	N
S-22	S-13	H	Salmon River	58° 51.39'N	161° 47.97'W		CH,CO,K,P,S,H	SBc,SHBc,Wfc	S			GB,M,ETF,PS	TNWR,N
S-23	S-14	H	Chaguan Bay	58° 46.29'N	161° 47.43'W	SL,SS	CH,CO,K,P,AC,W,H	SBn,SHBc,Wfc	S			GB,STF,SRS,ETF,M,EWP	TNWR,N
S-24	S-15	H	Security Cove	58° 41.24'N	161° 54.85'W	SL,SS	H	SBn,SHBc,Wfc	S			GB,STF,SRS,ETF	TNWR,N
S-26	S-16	H	Nanuak Bay	58° 34.51'N	161° 46.36'W	W,SS	CH,CO,S,AC,H	SBn,SHBc,Wfc	S			GB,STF,SRS,ETF,M,PS	TNWR,N
S-10			Tagayarak River	60° 14.34'N	162° 33.60'W		SF,W	SHBc,SBc,Wfc	S		C	ETF,M,PS	YDNWR,N
S-11			Kinak River	60° 18.92'N	162° 33.37'W		SF,W	SHBc,SBc,Wfc	S		C	ETF,M,PS	YDNWR,N
S-12			Kialik River	60° 24.28'N	162° 25.73'W		SF,W	SHBc,SBc,Wfc	S		C	ETF,M,PS	YDNWR,N
S-13			Johnson River	60° 39.09'N	162° 06.52'W		SF,W	SHBc,SBc,Wfc	S		C	ETF,STF,M,PS	YDNWR,N
S-14			Napaskiak Slough	60° 42.40'N	161° 46.38'W		SF,W	SHBc,SBc,Wfc	S		C	ETF,STF,M,PS	N
S-15			Kuskokwim River at Bethel	60° 45.83'N	161° 44.59'W		CH,CO,K,P,S,AL,HW,L,C,PC,SF,W	SHBc,SBc,Wfc	S		C	ETF,STF,GB,M,PS	N
S-17			North & South Arolik River	59° 40.90'N	161° 55.44'W		CH,CO,K,P,S,AC,W,H	SHBc,SBc,Wfc	S		C	ETF,STF,GB,M,PS	N
S-18			Jacksmith Bay	59° 29.54'N	161° 46.03'W		CH,CO,K,P,S,AC,W,H	SHBc,SBc,Wfc	S		C	STF,GB,M,PS	TNWR,N
S-19			Cripple Creek	59° 25.31'N	161° 52.48'W		CH,CO,K,P,S,AC,W,H	SHBc,SBc,Wfc	S		C	STF,GB,M,PS	BLM,N
S-25			Cape Newenham	58° 39.12'N	162° 12.97'W	W,S,SL	H	SBn,SHBc,Wfc	S			GB,ERS	TNWR,N
S-27			Pyrite Point	58° 35.33'N	161° 33.37'W	W,SS	CH,AC	SBn,SHBc,Wfc	S			GB,STF,SRS,ETF,M,PS	TNWR,N
S-28			Asigyukpak Point	58° 40.62'N	161° 21.59'W		H,CP,RS	SHBc,SBc,Wfc	S			GB,STF,SRS,ETF,M,PS	TNWR,N
ISLAND ZONE													

Western Alaska Site Selection Matrix

Index Number	GRS Number	Priority	Location	Latitude	Longitude	Marine Mammals	Fish	Birds	Subsistence	Cultural Resources	Comm. Fish	Coastal Habitat	Land Mgt. Designation
I-03	I-01	H	NE Lagoon	60° 23.75'N	172° 36.95'W	SL,SS,W	DV	SBn,SHBc,WFc	S			GB,M,PS	AMNWR
I-08	I-02	H	Hall Island	60° 40.76'N	173° 02.16'W	SL,SS,W		SBn,SHBc,WFc	S			GB,ERS,EWP	AMNWR
I-10	I-03	H	Shoal Bay/Mekoryuk River	60° 23.42'N	166° 10.21'W	W,SS	CH,CO,PAC	WFc	S			ETF,STF,GB,M,PS	M
I-11	I-04	H	Lookswarat Bay/Jewoak Creek/Anluk Creek	60° 21.51'N	166° 22.89'W	SS	CH,AC		S			EWP,ETF,GB,M	M
I-14	I-05	H	Nariksmiut/Ahding River	60° 18.55'N	166° 45.77'W		CH,PAC	SBn,WFc	S			EWP,ETF,GB,M	N
I-15	I-06	H	Nash Harbor	60° 13.06'N	166° 52.90'W		CH,PAC	SBn,WFc	S			EWP,SRS,M	N
I-22	I-07	H	Duchikthluk Bay	59° 48.73'N	166° 06.40'W	SS	CH,CO,PAC	SBn,SHBc,WFc	S			SRS,GB,M	YDNWR,N
I-23	I-08	H	Nunariugarmiut Lagoon	59° 52.99'N	165° 57.91'W		CH,CO,AC	SBn,SHBc,WFc	S			SRS,GB,M	YDNWR,N
I-26	I-09	H	Kalikneethook River Area	60° 08.52'N	165° 39.38'W		CH,AC	SBn, WFc	S			ERS,GB	YDNWR,N
I-27	I-10	H	Koweejoongak River/Vakeekalik Creek	60° 19.68'N	165° 56.19'W		CH,CO,PAC	WFc	S			SRS,GB,M	YDNWR,N
I-01			Cape Upright	60° 17.79'N	172° 14.61'W	SL,SS,W		SBn,SHBc,WFc				GB,ERS	AMNWR
I-02			NE St. Matthews Is.	60° 23.23'N	172° 24.69'W	SL,SS,W		SBn,SHBc,WFc				GB,M,PS	AMNWR
I-04			N St Matthews Lagoons	60° 28.56'N	172° 47.78'W			SBn,SHBc,WFc				GB,M,PS	AMNWR
I-05			Glory of Russia Cape	60° 36.23'N	172° 55.42'W	SL,SS,W	DV	SBn,SHBc,WFc				GB,ERS,EWP	AMNWR
I-06			SW St. Matthews Is.	60° 29.50'N	173° 04.00'W	SL,SS,W		SBn,SHBc,WFc				GB,ERS,EWP	AMNWR
I-07			Sugarloaf Mountain	60° 19.15'N	172° 38.31'W	SL,SS,W	DV	SBn,SHBc,WFc				GB,ERS,EWP	AMNWR
I-09			Pinnacle Island	60° 12.73'N	172° 43.16'W	SL		SBn,WFc				GB,ERS,EWP	AMNWR
I-13			Nigikmiut Creek/Kahniruk River	60° 20.35'N	166° 38.70'W		CH,AC	WFc				EWP,ETF,GB,M	N
I-16			Ahlik River	60° 13.19'N	167° 11.46'W	SS	CH,PAC	SBn,WFc				EWP,SRS,M	YDNWR,N
I-17			Ikook Point	60° 13.02'N	167° 26.48'W	SL,SS,W		SBn,WFc				EWP,SRS,M	YDNWR,N
I-18			Dooksook River	60° 02.75'N	167° 16.91'W	SL,W	CH,S,AC	SBn,WFc				EWP,SRS,M	YDNWR,N
I-19			Dahloongamiut/Kiyakyaliksamiut Rivers	59° 58.33'N	167° 04.21'W		CH,CO,AC	SHBc,SBc,WFc				EWP,SRS,M	YDNWR,N
I-20			Chakwakamiut/Jayalik Rivers	59° 54.58'N	166° 49.39'W		CH,AC	SBn,SHBc,WFc				SRS,GB,M	YDNWR,N
I-21			Binajoaksamiut River/Bagoobit Dunes	59° 49.90'N	166° 27.05'W		CH,CO,AC	SBc,SHBc,WFc				SRS,GB,M	YDNWR,N
I-24			Nakooytoolek	59° 53.41'N	165° 44.84'W		CH,CO,AC	SBn,SHBc,WFc				SRS,GB,M	YDNWR,N
I-25			Little Cape Corwin	60° 03.11'N	165° 39.11'W		CH,CO,PAC	WFc				ERS,GB	YDNWR,N

Marine Mammals	Fish	Intertidal	Birds	Subsistence	Cultural Resources	Comm.Fish	Coastal Habitat	Land Mgt. Designation
S = Harbor Seal	S = Sockeye Salmon	I=Intertidal Resources present throughout coastal areas of Western Alaska.	WFc = Waterfowl concentration area	S=Subsistence activities	R = REPORT any cultural resources found during operations to FOSC Historic Properties Specialist.	C = Commercial fishing	LLT= Low lying Tundra	TL = Tidelands leases, permits, & right-of-ways
SL = Sea Lion	P = Pink salmon		SHBc= Shorebird concentration area			Lack of listing in the SSM does not indicate that no subsistence activities take place in the area.	SN=Set Net fishing	M= Marsh
W=Walrus	Co = Coho Salmon		SBc= Seabird Concentration	H=Herring			STF= Sheltered Tidal Flats	SP = State Park
PB=Polar Bear	K=Chinook		SBn=Seabird Nesting	I = FOSC Historic properties specialist should INSPECT site prior to operations.			GB= Gravel Beaches	AMNWR = Alaska Maritime National Wildlife Refuge
SS=Spotted Seal	Ch = Chum Salmon		Ringed Seals and Spotted Seals are present throughout the Subarea. Listing on the SSM indicates a high concentration area.			M = FOSC Historic properties specialist should MONITOR operations.		
RS=Ringed Seal	DV = Dolly Varden Char			TC= Tundra Cliffs	S = State owned			
BS=Bearded Seal	SC=Saffron Cod			EWP= Exposed wavecut platform	P = Private owned			
	H = Herring Spawning			ERS=exposed rocky shoreline	BLM = Bureau of Land Mngt.			
	AC=Arctic Char			PS=Peat shoreline	YDNWR-Yukon Delta National Wildlife Refuge			
	SH= Steelhead trout			ETF=Exposed Tidal Flats	NP-National Park			
	RS=Rainbow Smelt				M= Municipal			
	W=White Fish				NF=National Forest, Monument, Recreational, and Conservation areas			
	SF=Sheefish				NA=Native Allotment			
	CP=Capelin							
	Additional species occur in the nearshore waters of Western Alaska							