

# NORTHWEST ARCTIC SUBAREA CONTINGENCY PLAN

## GEOGRAPHIC RESPONSE STRATEGIES SECTION

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The following pages are available on the ADEC Website at <http://dec.alaska.gov/spar/ppr/grs/nwa/home.htm>. Any new or revised GRS's will be added to the above website (or zone specific websites) as they become available.

## GEOGRAPHIC RESPONSE STRATEGIES: PART ONE - INTRODUCTION

The GRS Introduction pages are available on the ADEC Website at <http://dec.alaska.gov/spar/ppr/grs/nwa/home.htm>.

### A. PURPOSE AND SCOPE

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

Implementation of Geographic Response Strategies is the third line of defense to protect sensitive coastal/shoreline areas. The first and primary phase is to contain and remove oil at the source or while it is still on the open water, thereby reducing or eliminating impact to shorelines or sensitive habitats. If spilled oil escapes continues shoreward, the second phase, which is no less important, is to intercept, contain, and remove it in the nearshore area. The intent of phase two is the same as phase one: remove spilled oil before impacting sensitive habitat. If phases one and two are not fully successful, phase three attempts to protect particular sensitive areas and minimize impacts to the maximum extent practical. Existing GRS do not represent a comprehensive list of sensitive resources in any given area, and other sites may require protection.

These strategies are intended to be flexible to allow spill responders to modify them, as necessary, according to prevailing conditions at the time of a spill. Seasonal constraints, such as ice or weather, may preclude implementation of certain tactics or strategies during winter. It is not intended for all sites be automatically or simultaneously protected at the beginning of a spill, only those in the projected path of the spill. Strategies were completed with a focus on minimizing environmental damage, leaving as small a footprint as possible to support response operations. Deployment strategies were developed to avoid causing more damage than spilled oil, itself. To test GRS, each site will be visited and evaluated, and equipment may be deployed according to the strategy, to ensure the strategy is effective. Revisions will be made to strategies and this document, if changes are warranted based on site visits, drills, or actual use during spills.



The NWA Subarea has been divided into three Geographic Response Zones, as shown above.

## B. HOW TO USE GEOGRAPHIC RESPONSE STRATEGIES

The information provided herein supplements information in the Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substances Discharge/Releases (commonly referred to as the Unified Plan). Information in the Unified Plan is not duplicated herein. This document is intended for use by response professionals already familiar with spill response techniques. More information about becoming familiar with GRS deployment techniques is available online at: <https://dec.alaska.gov/spar/ppr/ssu/vta.htm>.

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

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.

## C. WHO TO CONTACT FOR INPUT

Comments, recommendations, and site specific information about these GRS are welcomed. Please send your comments via email to [dec.spar.grs@alaska.gov](mailto:dec.spar.grs@alaska.gov) or to:

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

#### **D. 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. The Northwest Arctic GRS Work Group developed the GRS for each zone.

Work Group participants identified sensitive areas with potential to be classified as "Areas of Major Concern" under the criteria established in the NWA 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 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 Northwest Arctic Subarea Committee with the recommendation that it be adopted as part of the Northwest Arctic SCP.

More information about the site selection process is available online at:

[http://dec.alaska.gov/spar/ppr/grs/GRS\\_ssp.pdf](http://dec.alaska.gov/spar/ppr/grs/GRS_ssp.pdf)

#### **1. NORTHWEST ARCTIC GRS WORKGROUP**

The Northwest Arctic GRS Work Group developed GRSs for each zone. The work group consisted of representatives from the following organizations:

Alaska Clean Seas	City of Nome
Alaska Department of Environmental Conservation*	National Oceanic and Atmospheric Administration (NOAA)
Alaska Department of Natural Resources	Crowley Marine Services
Alaska Department of Fish and game	US Coast Guard, District 17
Alaska Marine Pilots Association	US Department of the Interior
Association of Village Council Presidents	US Coast Guard COTP Western Alaska*
Chadux Alaska Corporation	US Environmental Protection Agency*
City of Kotzebue	

\* = co-chairs

The work group developed a site selection matrix key to aid in the selection of sites from within three NWA GRS Zones. The matrix consisted of individual sites in each row with information about resources at each site that could qualify as areas of major concern detailed in the columns. Sites with the presence

of the most sensitive resources were prioritized for development into GRS over sites with fewer resources, and GRS development continued until available funding was depleted.

## **GEOGRAPHIC RESPONSE STRATEGIES: PART TWO - GENERAL PROTECTION/RECOVERY TACTICS**

Each Geographic Response Strategy uses numerous individual tactics, which are described on the first page of each GRS document. Northwest Arctic GRS documents are located on the appropriate zone page from:

<http://dec.alaska.gov/spar/ppr/grs/nwa/home.htm>

The following GRS General Protection/Recovery Tactics are mentioned in Northwest Arctic GRS and are described in detail in ADEC's Spill Tactics for Alaska Responders manual at:

[http://dec.alaska.gov/spar/PPR/star/final/NORS\\_STAR\\_vMarch2014.pdf](http://dec.alaska.gov/spar/PPR/star/final/NORS_STAR_vMarch2014.pdf)

DEFLECTION BOOMING - (B-III-13-1)  
DIVERSION BOOMING - (B-III-8-1)  
EXCLUSION BOOMING – B-III-12-1)  
SHORESIDE RECOVERY – (B-III-10-1)  
MARINE RECOVERY – (B-III-9-1)  
FREE-OIL RECOVERY – (B-III-5-1 and B-III-6-1)  
PASSIVE RECOVERY AND DEBRIS REMOVAL – (B-III-11-1 and B-III-11-2)  
COLD WATER DELUGE – (B-III-15-1)  
UNDERFLOW DAMMING – B-III-3-2)

## GEOGRAPHIC RESPONSE STRATEGIES: PART THREE - SITE-SPECIFIC GEOGRAPHIC RESPONSE STRATEGIES

The GRS site specific response strategies, introductory text, and index maps are available on ADEC's website at: <http://dec.alaska.gov/spar/ppr/grs/nwa/home.htm>.

### A. NORTHWEST ARCTIC, NORTHERN RESPONSE ZONE

GRS introductory pages for the Northwest Arctic's Northern Response Zone are available at:

<http://dec.alaska.gov/spar/ppr/grs/nwa/northern.htm>

Strategies within the Northwest Arctic's Northern Zone include the following:

N-01	Singoalik Lagoon
N-02	Taksikpak Lagoon
N-03	Asipak River Lagoon
N-04	Kivalina River/Wulik River
N-05	Ipiavik Lagoon
N-06	Rabbit Creek & Imik Lagoon
N-07	Jade Creek & Kotlik Lagoon
N-08	Krusenstern & Aukulak Lagoons
N-09	Sheshalik Spit
N-10	Noatak River Delta
N-11	Little Noatak Slough
N-12	Ekichuk Lake
N-13	Kobuk River Delta
N-14	Mukuksok Channel
N-15	Selawik River Delta
N-16	Mangoak Creek
N-17	Kotzebue/Pipe Spit
N-18	Eschschoitz Bay/Buckland River
N-19	Chamisso & Puffin Islands
N-20	Kiwalik Lagoon
N-21	Inmachuk River/Cape Deceit
N-22	Nugnugluktuk River & Kougachuk Creek
N-23	Cape Espenberg
N-24	Tasaychek Lagoon
N-25	Nelson Creek

N-26	Melvin River
N-27	Lewis Rich Channel
N-28	Riley Wreck
N-29	Choris Peninsula
N-30	Willow Bay
N-31	Goodhope River
N-32	Kitluk River



## B. NORTHWEST ARCTIC, SOUTHERN RESPONSE ZONE

GRS introductory pages for the Northwest Arctic's Southern Response Zone are available at:

<http://dec.alaska.gov/spar/ppr/grs/nwa/southern.htm>.

Strategies within the Northwest Arctic's Southern Zone include the following:

- S-01 Cowpack Inlet
- S-02 Head of Shishmaref
- S-03 Arctic Lagoon
- S-04 Ikpek Lagoon
- S-05 Lopp Lagoon
- S-06 Brevig Lagoon
- S-07 Grantley Harbor
- S-08 Cape Riley
- S-09 Jones Point
- S-10 Golsovia River
- S-11 Feather River Lagoon & Cape Woolley
- S-12 Sinuk River
- S-13 Cripple Creek Penny River
- S-14 Snake River & Nome Harbor
- S-15 Nome River
- S-16 Safety Sound
- S-17 Solomon & Bonanza Rivers
- S-18 Golovnin Lagoon
- S-19 Kwiniuk River
- S-20 Kwiniuk Inlet
- S-21 Kwik River
- S-22 Koyuk Inlet
- S-23 Inglutalik River
- S-24 Ungalik River
- S-25 Sineak River
- S-26 Malikfik & Shaktoolik Bay
- S-27 Unalakleet
- S-28 St. Michael Bay
- S-29 St. Michael Canal & Kuiak River
- S-30 Kogok & Pigmiktalik Rivers
- S-31 Sarichef Island
- S-32 Little Diomedede
- S-33 Fairway Rock
- S-34 Wales/Cape Prince of Wales
- S-35 Port Clarence Beach
- S-36 King Island
- S-37 Sledge Island
- S-38 Hastings Creek

S-39 Topkok Head & River  
S-40 Bluff Point Sites & Square Rock  
S-41 Rocky Point  
S-42 Head of Golovin Lagoon  
S-43 Cape Darby  
S-44 Elim & Iron Creek  
S-45 Kaiuktulik River  
S-46 Reindeer Cove  
S-47 Cape Denbigh  
S-48 Besboro Island  
S-49 Egavik River  
S-50 Spruce & Point Creek  
S-51 Klikitarik Bay  
S-52 Egg Island  
S-53 Stuart Island

### C. NORTHWEST ARCTIC, SAINT LAWRENCE ISLAND RESPONSE ZONE

GRS introductory pages for the Northwest Arctic's Saint Lawrence Island Response Zone are available at:

<http://dec.alaska.gov/spar/ppr/grs/nwa/sli.htm>.

Strategies within the Northwest Arctic's Saint Lawrence Island Zone include the following:

- SL-01 Petngeghyak Lagoon & River
- SL-02 Tapisagek River & Qitnegaq Bay
- SL-03 Sipepak Lagoon
- SL-04 Alngighyak Lagoon
- SL-05 Kentanga Bay
- SL-06 Kangii Bay Lagoon
- SL-07 Nayghapak & Aghnak Lagoon
- SL-08 Northwest Cape/Gambell
- SL-09 Ketngipalak
- SL-10 Kangqaak Bay
- SL-11 Punguuk Islands
- SL-12 Qilugnaak Lagoon
- SL-13 Northeast Cape
- SL-14 Camp Iveetok
- SL-15 Stolbi Rocks
- SL-16 Kukulek Cape/Savoonga
- SL-17 Southwest Cape
- SL-18 Naayvaghak Lagoon
- SL-19 Umeyaalak Bay
- SL-20 Southeast Cape/Sekeunak Lagoon

# GEOGRAPHIC RESPONSE STRATEGIES: PART FOUR - REFERENCES

## SENSITIVE AREAS

The Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases, Unified Plan Volume 1, May 1994 ..... ADEC, USCG, EPA  
Alaska Habitat Management Guide, Arctic Region ..... ADF&G  
An Atlas to the Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes, Arctic Region, 2014 ..... ADF&G  
State of Alaska Game Refuges, Critical Habitat Areas and Game Sanctuaries, Online ..... ADF&G  
Arctic Regional Climatology ..... NOAA/National Center for Environmental Information  
Environmental Sensitivity Index (ESI) Atlas: Northwest Arctic, Alaska, Volume 2 ..... NOAA  
Alaska Region Threatened, Endangered, Candidate, and Sensitive Species ..... US Forest Service  
Tidal Current Tables: Pacific Coast of North America and Asia (Current year's edition)... US Department of Commerce

## EQUIPMENT & TECHNIQUES

Mechanical Protection Guidelines, June 1994 ..... NOAA, USCG  
Field Guide for Oil Spill Response in Arctic Waters, 1998, at <http://www.arctic-council.org/flguide/>  
..... Arctic Council  
International Oil Spill Control Directory..... Cutter Information Corp  
Oil Containment Boom: Design, Deployment, Use Recovery & Cleaning ..... Clean Sound Cooperative  
Oil Spill Response in Fast Currents, A Field Guide, Coast Guard Report #CG-D-01-02, 2001 US Coast Guard  
USCG Commandant (G-M) Letter (MSIB #: 07-16), Oil Spill Removal Organization Guidelines Update,  
2016 ..... US Coast Guard  
World Catalog of Oil Spill Response Products, 2017 Edition ..... SL Ross Environmental Research Ltd

## GIS DATABASES

Alaska Department of Natural Resources .....Alaska Geospacial Data Center, Anchorage  
National Oceanic and Atmospheric Administration .....Catherine Berg, Anchorage  
National Park Service .....George Dickison, Anchorage  
US Fish and Wildlife Service ..... Lori Verbrugge, Anchorage  
US Forest Service ..... Paula Smith or Karin Preston, Anchorage