

June 29, 2012

# Bristol Bay, ALASKA NORTHERN ZONE

## Map for GEOGRAPHIC RESPONSE STRATEGIES

- N-01 Osviak River
- N-02 Matogak River
- N-03 Quigmy River
- N-04 Kurtluk River
- N-05 Togiak River
- N-06 Negukthlik River
- N-07 Round Island
- N-08 Kulukak & Kanik River
- N-09 Igushik River
- N-10 Kvichak River
- N-11 Naknek River
- N-12 Egegik Bay
- N-13 South Spit
- N-14 Ugashik Bay
- N-15 Cinder River
- N-16 South Cinder River
- N-17 Port Heiden









The entrance of the Osviak River viewed from the southeast.



The entrance of the Osviak River viewed from the south.

Map

Legend

- FO-S

Free-oil Recovery
- DV

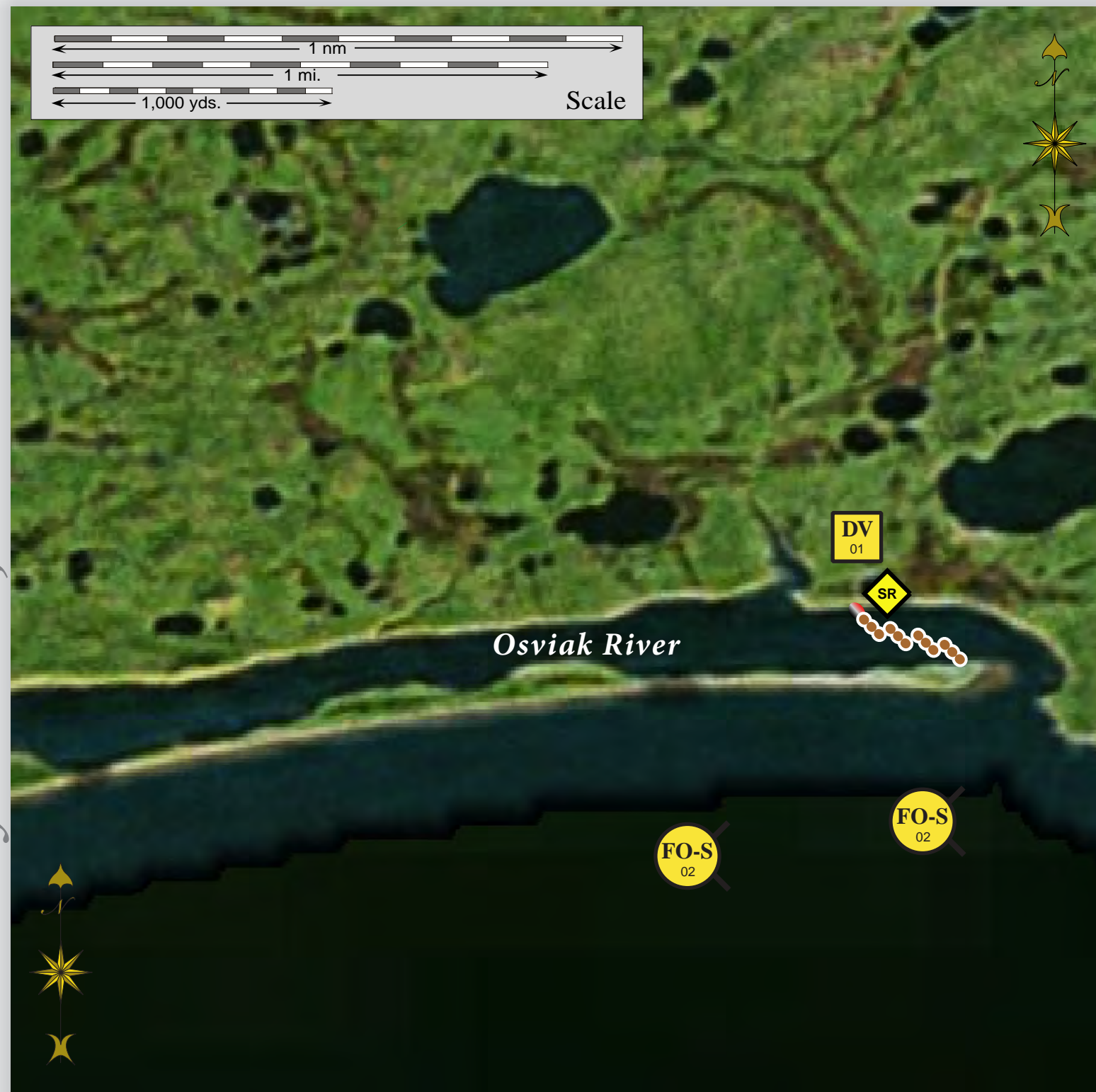
Diversion Booming
- SR

Shoreside Recovery
- Fast-water Boom
- Tidal-seal Boom

Geographic Response Strategies for  
Bristol Bay Subarea, Northern Zone

# Osviak River, BB-N01

Center of map at 58° 46.93' N Lat., 161° 12.12' W Lon.



This is not intended for navigational use.



ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-01-01 <div>DV</div>	<b>Asvigyaq (Osviak) River</b>  Lat. 58° 47.24'N Lon. 161°12.02'W	<b>Divert and Collect</b> Divert oil to shore side collection location on the shore of the Osviak River.	Deploy anchors and boom with skiffs (class 6).  Place 1200 ft of fast-water boom in 4 x 300 ft. sections at the proper angle to divert incoming oil to the collection sites.  Complete the array with 60 ft. of tidal seal boom on the shore that will be used as a collection site.  Set up shore-side recovery and tend throughout the tide.	<b>Deployment Equipment</b> 1200 ft. fast-water boom 60 ft. tidal seal boom 6 ea. anchor systems 4 ea. anchor stakes 1 ea. shore-side recovery systems <b>Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 6 ea. vessel crew/general techs 2 ea. response techs <b>Tending Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 1 ea. skilled tech	Vessel Platform	Via marine waters  Chart 16305	Fish- intertidal spawning-salmon (June-Sept.), capelin, sheefish, white fish  Birds-waterfowl, seabird and shorebird concentration  Marine mammals- seals  Habitat- exposed tidal flats, peat shoreline, marsh  Human use-subsistence	Vessel master should have local knowledge.  Title 41 permitting required from ADNLR.  Take precautions to protect the shoreline as outlined in the Alaska STAR Manual.  A large population of bears are in this area. Bear guard required.  Surveyed: not yet  Tested: not yet
N-01-02 <div>FO-S</div>	<b>Asvigyaq (Osviak) River</b> Nearshore waters in the general area of:  Lat. 58° 46.93'N Lon. 161°12.12'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Osviak River depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Osviak River .  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Togiak	Via marine waters  Chart 16305	Same as N-01-01	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.





Matogak River viewed from the south.

Map

Legend

FO-S

Free-oil Recovery

DV

Diversion Booming

SR

Shoreside Recovery

●●●●●●

Fast-water Boom

—●—

Tidal-seal Boom

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## Matugaq (Matogak) River, BB-N02

Center of map at 58° 52.19' N Lat., 160° 57.09' W Lon.



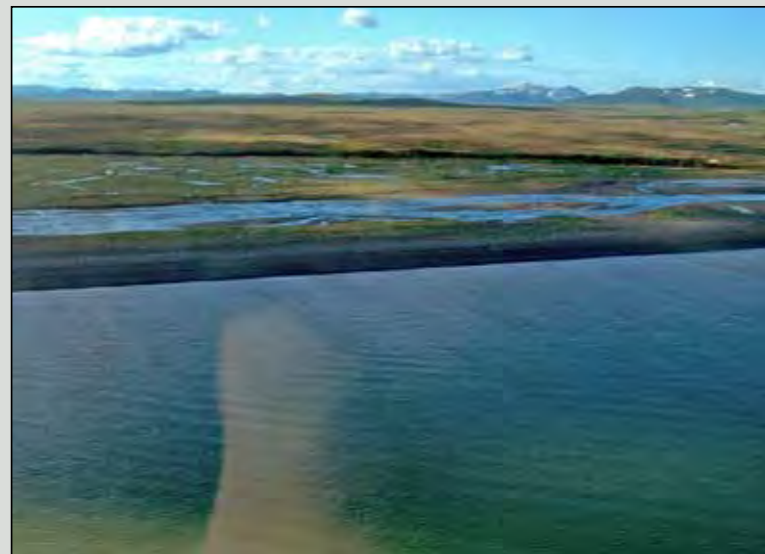
This is not intended for navigational use.



ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-02-01 <div>DV</div>	<b>Matugaq River (Matogak)</b> Lat. 58° 52.60'N Lon. 160°57.08'W	<b>Divert and Collect</b> Divert oil to shore side collection location on the shore of the Matogak River.	Deploy anchors and boom with skiffs (class 6).  Place 800 ft of fast-water boom in 2 cascaded sections at the proper angle to divert incoming oil to the collection sites. Complete the array with 60 ft. of tidal seal boom on the shore that will be used as a collection site.  Set up shore-side recovery and tend throughout the tide.	<b>Deployment Equipment</b> 800 ft. fast-water boom 60 ft. tidal seal boom 6 ea. anchor systems 4 ea. anchor stakes 1 ea. shore-side recovery systems <b>Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 6 ea. vessel crew/general techs 2 ea. response techs <b>Tending Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 1 ea. skilled tech	Togiak	Via marine waters  Chart 16305	Fish- intertidal spawning-salmon (June-Sept.), capelin, sheefish, white fish  Birds-waterfowl, seabird and shorebird concentration  Marine mammals- seals  Habitat- exposed tidal flats, peat shoreline, marsh  Human use-subsistence	Vessel master should have local knowledge.  Title 41 permitting required from ADNLR.  Take precautions to protect the shoreline as outlined in the Alaska STAR Manual.  A large population of bears are in this area. Bear guard required.  Surveyed: not yet  Tested: not yet
N-02-02 <div>FO-S</div>	<b>Matugaq River (Matogak)</b> Nearshore waters in the general area of:  Lat. 58° 52.19'N Lon. 160°57.09'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Matugaq River (Matogak) depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Matugaq River (Matogak).  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Togiak	Via marine waters  Chart 16305	Same as N-02-01	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.



Quigmy River viewed from the east.



The entrance to the Quigmy River viewed from the east.

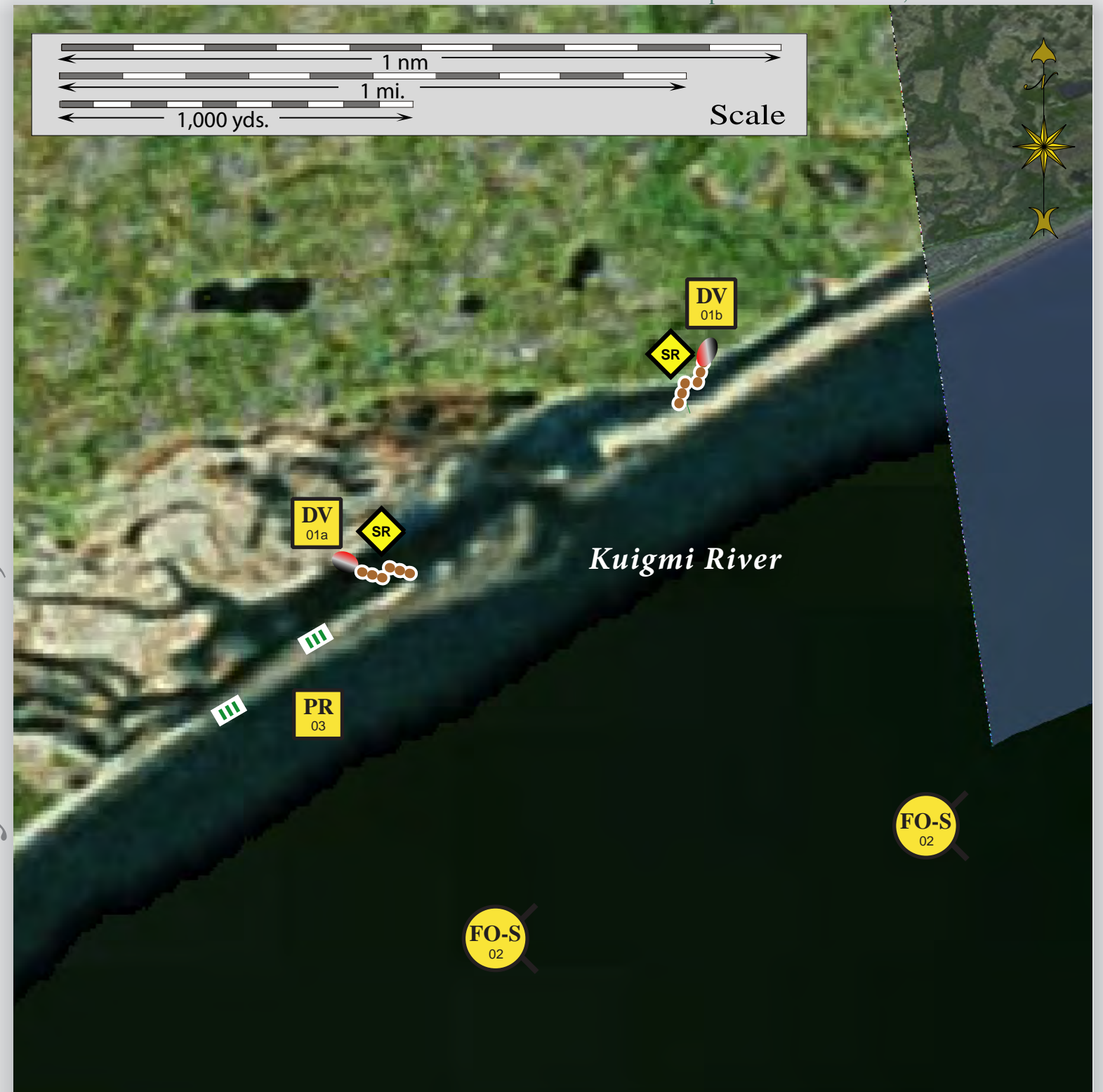
**Legend**

- Free-oil Recovery
- Diversion Booming
- Passive Recovery
- Shoreside Recovery
- Fast-water Boom
- Snare or Sorbent Boom
- Tidal-seal Boom

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## Kuigmi (Quigmy) River, BB-N03

Center of map at 58° 56.86' N Lat., 160° 39.31' W Lon.



This is not intended for navigational use.



ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-03-01 <div>DV</div>	<b>Kuigmi (Quigmy) River</b>  a. Lat. 58° 57.07'N Lon. 160°39.94'W  b. Lat. 58° 57.29'N Lon. 160°29.28'W	<b>Divert and Collect</b> Divert oil to shore side collection location on the shore of the Quigmy River.	Deploy anchors and boom with skiffs (class 6).  For (a) cascade 2 x 300 ft sections of fast-water boom at the proper angle to divert incoming oil to the collection sites. For (b) use 450 ft. at the proper angle to divert incoming oil to the collection site.  Complete each array with 60 ft. of tidal seal boom on the shore that will be used as a collection site.  Set up shore-side recovery and tend throughout the tide.  Boom Lengths: a. 600 ft b. 450 ft	<b>Deployment Equipment</b> 1050 ft. fast-water boom 120 ft. tidal seal boom 8 ea. anchor systems 8 ea. anchor stakes 2 ea. shore-side recovery systems <b>Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 6 ea. vessel crew/general techs 2 ea. response techs <b>Tending Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 2 ea. skilled tech	Vessel Platform	Via marine waters  Chart 16305	Fish- intertidal spawning- salmon (June-Sept.), capelin, sheefish, white fish  Birds-waterfowl, seabird and shorebird concentration  Habitat- exposed tidal flats, peat shoreline, marsh  Human use-subsistence, commercial fishing	Vessel master should have local knowledge.  Take precautions to protect the shoreline as outlined in the Alaska STAR Manual.  A large population of bears are in this area. Bear guard required. Title 41 permitting required from ADNR.  THREATENED OR ENDANGERED SPECIES/HABITAT POSSIBLE. Discuss with DOI prior to on-site operations.  Surveyed: not yet  Tested: not yet
N-03-02 <div>PR</div>	<b>Kuigmi (Quigmy) River</b>  Lat. 58° 56.84'N Lon. 160°40.11'W	<b>Passive Recovery</b> Survey the area prior to deployment. Place passive recovery across entrances to the identified sloughs and other major cuts in the back in Quigmy River.	During the survey identify areas on the spit where oil may enter at high tide.  Place and anchor snare line or sorbent boom across the breech areas on the spit in front of Quigmy River.  Replace as necessary to maximize the recovery.	<b>Deployment Equipment</b> 1000 ft. +/- snare line or sorbent boom 10 ea. anchor stakes (Adjust equipment to reflect survey findings) <b>Vessels/Personnel/Shift</b> Same as N-03-01 <b>Tending Vessels/Personnel/Shift</b> Same as N-03-01	Vessel Platform	Via marine waters  Chart 16305	Same as N-03-01	Vessel master should have local knowledge.
N-03-03 <div>FO-S</div>	<b>Kuigmi (Quigmy) River</b> Nearshore waters in the general area of:  Lat. 59° 01.15'N Lon. 160°28.57'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Quigmy River depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Quigmy River.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Togiak	Via marine waters  Chart 16305	Same as N-03-01	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.

NOTE: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the Bristol Bay Subarea Contingency Plan: [http://dec.alaska.gov/spar/perp/plans/scp\\_bb.htm](http://dec.alaska.gov/spar/perp/plans/scp_bb.htm).



Kurtluk River viewed from the southeast.

Map

Legend

FO-S

Free-oil Recovery

EX

Exclusion Booming

Protected-water Boom

Tidal-seal Boom

Geographic Response Strategies for  
Bristol Bay Subarea, Northern Zone

# Kurtluk River, BB-N04

Center of map at 59° 01.15' N Lat., 160° 28.57' W Lon.



This is not intended for navigational use.



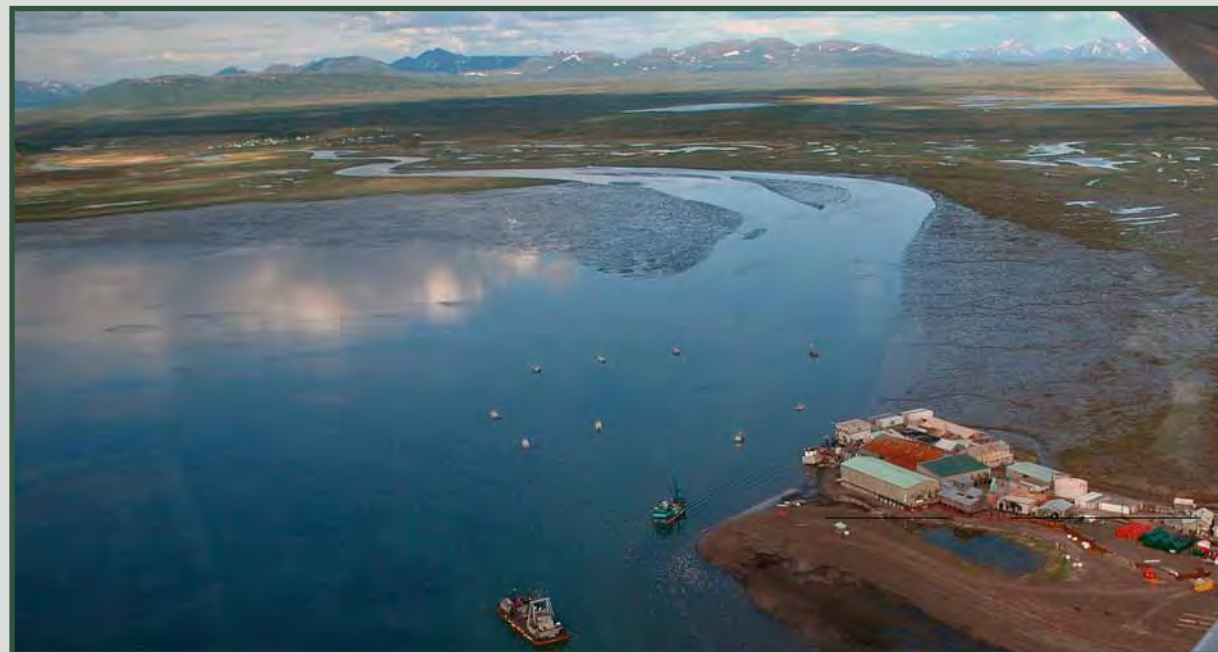
ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-04-01 <div>EX</div>	<b>Qurlluq (Kurtluk) River</b> Lat. 59° 01.41'N Lon. 160°28.84'W	<b>Exclusion</b> Exclude oil from impacting the Kurtluk River.	Deploy anchors and boom with skiffs (class 6) at high tide.  Place protected-water boom in a chevron pattern in front of the entrance to the river. Complete the array by placing 60 ft. of tidal seal boom on each leg.  Tend throughout the tide.	<b>Deployment Equipment</b> 300 ft. protected-water boom 120 ft. tidal seal boom 3 ea. anchor systems 4 ea. anchor stakes <b>Vessels</b> 2 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs <b>Tending Vessels</b> 1 ea. class 6 <b>Personnel/Shift</b> 2 ea. vessel crew/general techs	Togiak	Via marine waters  Chart 16305	Fish- intertidal spawning-salmon (June-Sept.) herring.  Birds-waterfowl, seabird and shorebird nesting  Habitat- exposed rocky shore, marsh, exposed tidal flats  Human use-subsistence, commercial fishing	Vessel master should have local knowledge.  Title 41 permitting required from ADNR.  A large population of bears are in this area. Bear guard required.  THREATENED OR ENDANGERED SPECIES/HABITAT POSSIBLE. Discuss with DOI prior to on-site operations.  Surveyed: not yet  Tested: not yet
N-04-02 <div>FO-S</div>	<b>Qurlluq (Kurtluk) River</b> Nearshore waters in the general area of:  Lat. 59° 01.15"N Lon. 160°28.57'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Kurtluk River depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Kurtluk River.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Togiak	Via marine waters  Chart 16305	Same as N-04-01	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.

NOTE: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the Bristol Bay Subarea Contingency Plan: [http://dec.alaska.gov/spar/perp/plans/scp\\_bb.htm](http://dec.alaska.gov/spar/perp/plans/scp_bb.htm).





Togiak River viewed from the south.



EX02b viewed from the west.

Map

Legend

<b>FO-S</b>	Free-oil Recovery	<b>PR</b>	Passive Recovery		Snare or Sorbent Boom
<b>DV</b>	Diversion Booming	<b>SR</b>	Shoreside Recovery		Tidal-seal Boom
<b>EX</b>	Exclusion Booming		Fast-water Boom		

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## Togiak River, BB-N05

Center of map at 59° 03.31' N Lat., 160° 20.83' W Lon.



This is not intended for navigational use.



ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-05-01 <div>DV</div>	<b>Togiak River</b> a. Lat. 59° 04.53'N Lon. 160°20.42'W  b. Lat. 59° 04.52'N Lon. 160°20.29'W	<b>Divert and Collect</b>  Divert oil to shore side collection location on the shore of the Togiak River.	<p>Deploy anchors and boom with skiffs (class 6).</p> <p>At each location cascade 300 ft section of fast-water boom at the proper angle to divert incoming oil to the collection sites. Complete the array with 60 ft. of tidal seal boom on the shore that will be used as a collection site.</p> <p>Set up shore-side recovery and tend throughout the tide.</p> <p>Boom Lengths:</p> <p>a. 600 ft</p> <p>b. 900 ft</p>	<p><b>Deployment</b></p> <p><b>Equipment</b></p> <p>1500 ft. fast-water boom 120 ft. tidal seal boom 15 ea. anchor systems 8 ea. anchor stakes 2 ea. shore-side recovery systems</p> <p><b>Vessels</b></p> <p>2 ea. class 6</p> <p><b>Personnel/Shift</b></p> <p>4 ea. vessel crew/general techs 2 ea. response techs</p> <p><b>Tending</b></p> <p><b>Vessels</b></p> <p>2 ea. class 6</p> <p><b>Personnel/Shift</b></p> <p>4 ea. vessel crew/general techs 2 ea. skilled tech</p>	Togiak	Via marine waters  Chart 16315	Fish- intertidal spawning- salmon (June-Sept.), capelin, sheefish, white fish  Birds-waterfowl, seabird and shorebird concentration  Habitat- exposed tidal flats, peat shoreline, marsh  Human use- subsistence, commercial fishing	<p>Vessel master should have local knowledge.</p> <p>Take precautions to protect the shoreline as outlined in the Alaska STAR Manual.</p> <p>A large population of bears are in this area. Bear guard required. Title 41 permitting required from ADNR.</p> <p>THREATENED OR ENDANGERED SPECIES/HABITAT POSSIBLE. Discuss with DOI prior to on-site operations.</p> <p>Surveyed: not yet</p> <p>Tested: not yet</p>
N-05-02 <div>EX</div>	<b>Togiak</b> a. Lat. 59° 04.16'N Lon. 160°21.79'W  b. Lat. 59° 04.51'N Lon. 160°21.07'W	<b>Exclusion</b>  Exclude oil from impacting the identified channels of the Togiak River.	<p>Deploy anchors and boom with skiffs (class 6) at high tide.</p> <p>Place fast-water boom in a chevron pattern in front of the entrance to the river. Complete the array by placing 60 ft. of tidal seal boom on each leg.</p> <p>Tend throughout the tide.</p> <p>Boom Lengths:</p> <p>a. 300 ft</p> <p>b. 700 ft</p>	<p><b>Deployment</b></p> <p><b>Equipment</b></p> <p>1000 ft. fast-water boom 240 ft. tidal seal boom 8 ea. anchor systems</p> <p><b>Vessels/Personnel/Shift</b></p> <p>Same as N-05-01</p> <p><b>Tending</b></p> <p><b>Vessels/Personnel/Shift</b></p> <p>Same as N-05-01</p>	Togiak	Via marine waters  Chart 16315	Same as N-05-01	<p>Vessel master should have local knowledge.</p> <p>Title 41 permitting required from ADNR.</p> <p>Surveyed: not yet</p> <p>Tested: not yet</p>
N-05-03 <div>PR</div>	<b>Togiak</b> a. Lat. 59° 04.45'N Lon. 160°19.84'W  b. Lat. 59° 04.22'N Lon. 160°19.09'W  c. Lat. 59° 04.10'N Lon. 160°19.03'W	<b>Passive Recovery</b>  Survey the area prior to deployment. Place passive recovery across entrances to the identified sloughs and other major cuts in the back in Togiak Bay.	<p>During the survey identify areas on the spit where oil may enter at high tide.</p> <p>Place and anchor snare line or sorbent boom across the major cuts in the back in Togiak Bay.</p> <p>Replace as necessary to maximize the recovery.</p> <p>Boom Lengths:</p> <p>a. 350 ft</p> <p>b. 350 ft</p> <p>c. 150 ft.</p>	<p><b>Deployment</b></p> <p><b>Equipment</b></p> <p>750 ft. snare line or sorbent boom 10 ea. anchor stakes (Adjust equipment to reflect survey findings)</p> <p><b>Vessels/Personnel/Shift</b></p> <p>Same as N-05-01</p> <p><b>Tending</b></p> <p><b>Vessels/Personnel/Shift</b></p> <p>Same as N-05-01</p>	Togiak	Via marine waters  Chart 16315	Same as N-05-01	<p>Vessel master should have local knowledge.</p>
N-05-04 <div>FO-S</div>	<b>Togiak River</b> Nearshore waters in the general area of:  Lat. 59° 01.15"N Lon. 160°28.57'W	<b>Free-oil Recovery</b>  Maximize free-oil recovery in the offshore & nearshore environment of Togiak River depending on spill location and trajectory.	<p>Deploy free-oil recovery strike teams upwind and up current of the Togiak River.</p> <p>Use aerial surveillance to locate incoming slicks.</p>	<p>Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.</p>	Togiak	Via marine waters  Chart 16315	Same as N-05-01	<p>Vessel master should have local knowledge.</p> <p>Use extreme caution, shallow waters with shifting channels and bars.</p>

NOTE: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the Bristol Bay Subarea Contingency Plan: [http://dec.alaska.gov/spar/perp/plans/scp\\_bb.htm](http://dec.alaska.gov/spar/perp/plans/scp_bb.htm).





The entrance of the Negukthlik River viewed from the south.



The mouth of the Negukthlik River viewed from the north.

**Legend**

**Map**

- Free-oil Recovery
- Diversion Booming
- Shoreside Recovery
- Fast-water Boom
- Tidal-seal Boom

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## Unagalaqliq Bay, BB-N06

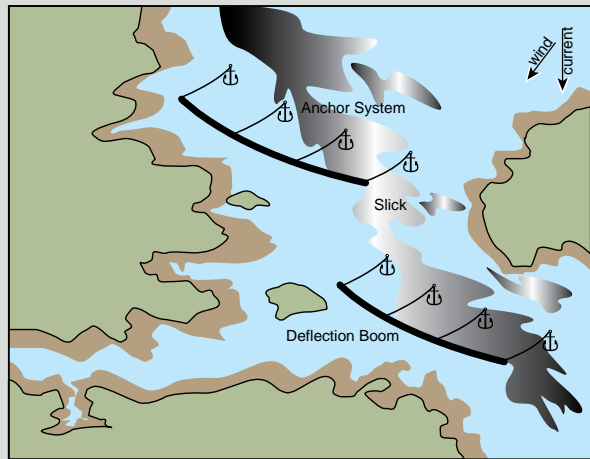
Center of map at 58° 53.87' N Lat., 160° 10.50' W Lon.



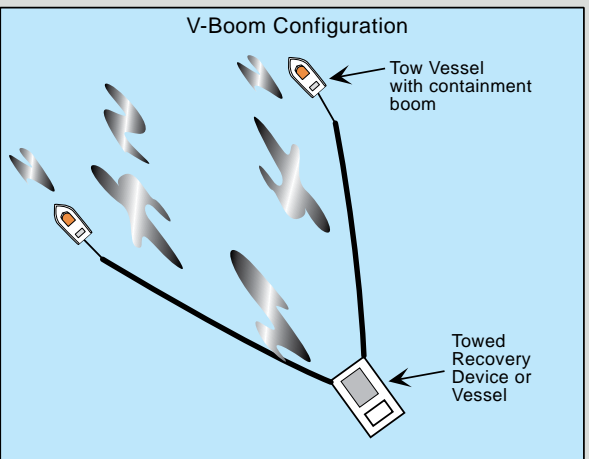
This is not intended for navigational use.



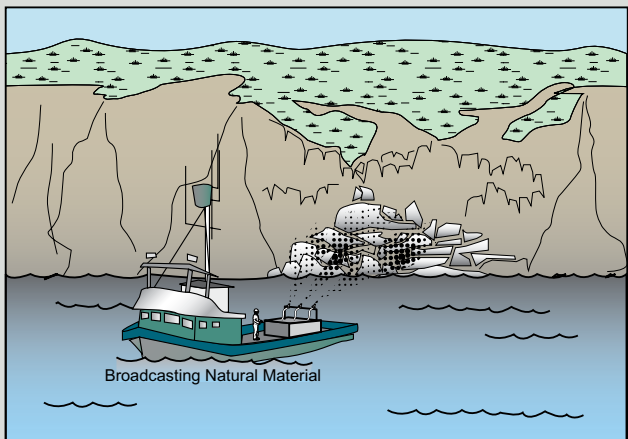
ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-06-01 <div>DV</div>	<b>Unagalaqliq Bay</b> Lat. 58° 54.94'N Lon. 160°09.71'W	<b>Divert and Collect</b> Divert oil to shore side collection location on the shore of the Negukthlik (Negiqliq) River.	Deploy anchors and boom with skiffs (class 6).  Cascade 2000 ft of fast-water boom in 300ft sections at the proper angle to divert incoming oil to the collection sites. Complete the array with 60 ft. of tidal seal boom on the shore that will be used as a collection site.  Set up shore-side recovery and tend throughout the tide.	<b>Deployment Equipment</b> 2000 ft. fast-water boom 60 ft. tidal seal boom 9 ea. anchor systems 4 ea. anchor stakes 1 ea. shore-side recovery systems <b>Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 6 ea. vessel crew/general techs 2 ea. response techs <b>Tending Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 1 ea. skilled tech	Vessel Platform	Via marine waters  Chart 16315	Fish- intertidal spawning-salmon (June-Sept.), capelin, sheefish, white fish  Birds-waterfowl, seabird and shorebird concentration  Habitat- exposed tidal flats, marsh, gravel beaches  Human use-subsistence  Commercial fishing	Vessel master should have local knowledge.  Title 41 permitting required from ADNRR.  Use appropriate measures as outlined in the STAR manual to protect the shoreline.  A large population of bears are in the area. Bear guard required.  Surveyed: not yet  Tested: not yet
N-06-02 <div>FO-S</div>	<b>Unagalaqliq Bay</b> Nearshore waters in the general area of:  Lat. 58° 53.87'N Lon. 160°10.50'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Negukthlik (Negiqliq) River depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Negukthlik (Negiqliq) River .  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Togiak	Via marine waters  Chart 16315	Same as N-06-01	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.



An example of the *Deflection Booming, Live Tactic*. Actual deployment should be adjusted for local conditions.



An example of the *Free-oil Recovery Tactic*. Actual deployment should be adjusted for local conditions.



An example of the *Passive Recovery, Marine Mammal Tactic*. Actual deployment should be adjusted for local conditions.

Map

Legend

FO-S

Free-oil Recovery

DF-L

Deflection Booming, Live

PR-MM

Passive Recovery, Marine Mammals

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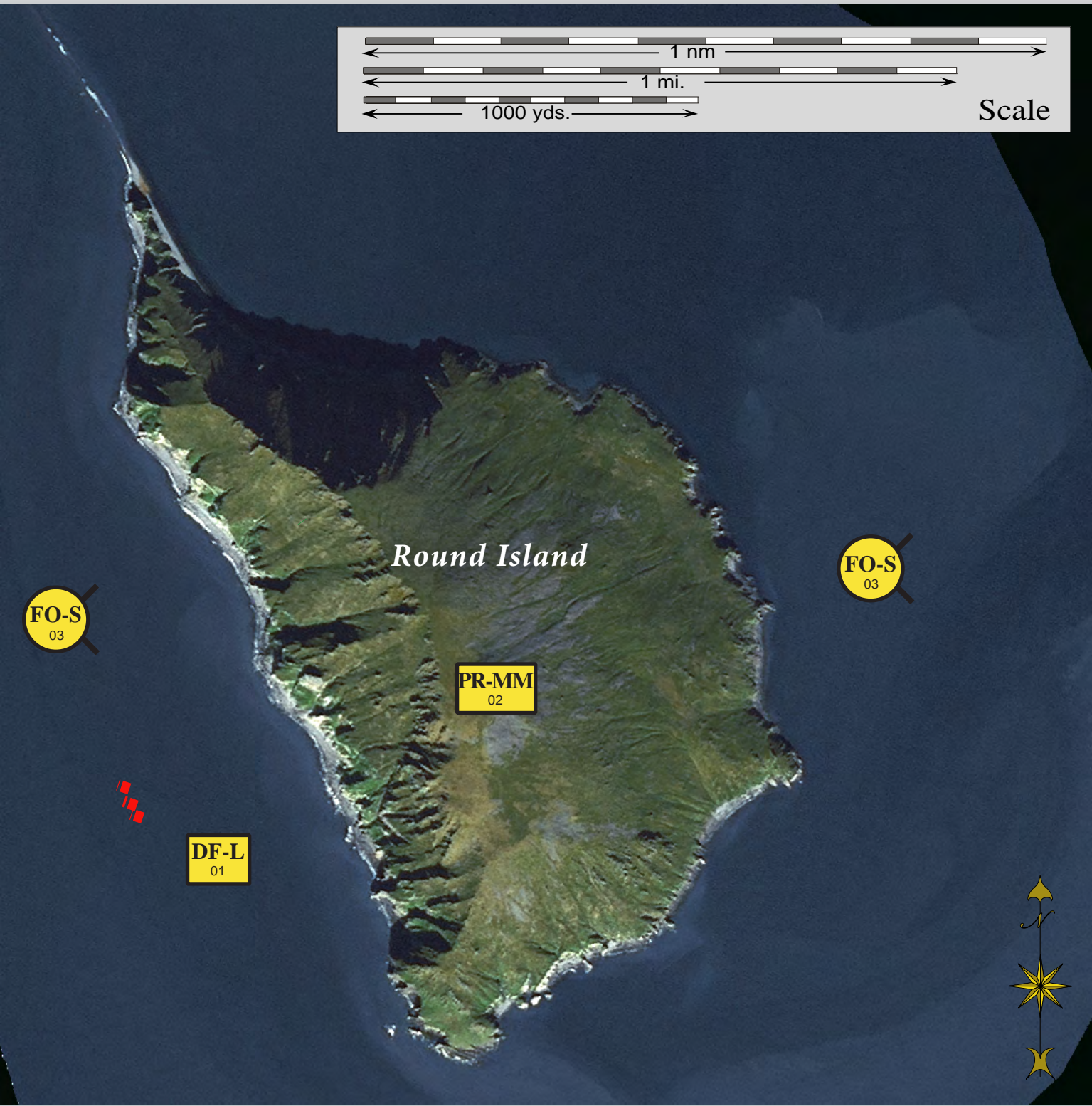
Protected-water Boom

Aerial photography of this area is unavailable at this time, but may be included as it becomes available.

Geographic Response Strategies for  
Bristol Bay Subarea, Northern Zone

# Round Island, BB-N07

Center of map at 58° 35.77' N Lat., 159° 56.68' W Lon.



This is not intended for navigational use.



ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-07-01 <div>FO-S</div>	<b>Round Island</b> Nearshore waters in the general area of:  Lat. 58° 35.77'N Lon. 166°10.21'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Round Island depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Round Island.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Togiak	Via marine waters  Chart 16315	Same as N-07-02	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.
N-07-02 <div>DF</div>	<b>Round Island</b> Location based on aerial survey  Lat. 58° 36.94'N Lon. 159°56,68'W	<b>Deflection-Live</b> Deflect oil that is going to impact the haul outs and rookery in the Round Island area away from the area and into free oil collection.	Use aerial surveillance to identify the incoming oil and it's direction. Depending on the location of the walrus and the direction of incoming oil, hold in place using vessels and 3 lengths of 300 ft. protected-water boom in a cascaded pattern in the path of the incoming oil. Deflect incoming oil out for free oil collection.  Tend throughout the tide.	<b>Deployment</b> <b>Equipment</b> 900 ft. protected-water boom <b>Vessels</b> 6 ea. class 3 <b>Personnel/Shift</b> 18 ea. vessel crew/general techs <b>Tending</b> <b>Vessels</b> 6 ea. class 3 <b>Personnel/Shift</b> 18 ea. vessel crew/general techs	Togiak	Via marine waters  Chart 16315	Fish-herring spawning (May)  Marine mammals-seal, sealions, walrus  Birds-waterfowl concentrations, seabird nesting  Habitat- exposed rocky shore, gravel beaches	Vessel master should have local knowledge.  Consult with the National Marine Fisheries Service prior to implementing this tactic.  Surveyed: not yet  Tested: not yet
N-07-03 <div>PR</div>	<b>Round Island</b>  <b>Actual location of this protection strategy will depend on field assessment at the time of deployment.</b>	<b>Passive Recovery-Marine Mammals</b> Minimize impact to marine mammal haulouts, after consulting with NMFS.	Broadcast sorbent material on haulout immediately prior to or after oil spill impact. Monitor after each high tide and replace as necessary.  Minimize disturbance of marine mammals.	<b>Deployment</b> <b>Equipment</b> Broadcast sorbent material & broadcast system <b>Vessels/Personnel/Shift</b> Same as N-07-02 <b>Tending</b> <b>Vessels/Personnel/Shift</b> Same as N-07-02	Togiak	Via marine waters  Chart 16315	Same as N-07-02	Vessel master should have local knowledge.  Consult with the National Marine Fisheries Service prior to implementing this tactic.

NOTE: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the Bristol Bay Subarea Contingency Plan: [http://dec.alaska.gov/spar/perp/plans/scp\\_bb.htm](http://dec.alaska.gov/spar/perp/plans/scp_bb.htm).





The Qaniq River as viewed from the west.



The Qaniq River as viewed from the north.

Map

Legend

- Free-oil Recovery
- Diversion Booming
- Shoreside Recovery
- Protected-water Boom
- Tidal-seal Boom

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## Kulukak & Qaniq River, BB-N08

Center of map at 58° 54.34' N Lat., 159° 40.31' W Lon.



This is not intended for navigational use.

ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-08-01 <div>DV</div>	<b>Kulukak &amp; Qaniq Rivers</b>  a. Lat. 58° 57.07'N Lon. 160°39.94'W  b. Lat. 58° 57.29'N Lon. 160°29.28'W	<b>Divert and Collect</b>  Divert oil to shore side collection location on the shore of the Kulukak River.	Deploy anchors and boom with skiffs (class 6).  At each location cascade 2 sections of fast-water boom at the proper angle to divert incoming oil to the collection sites. Complete the array with 60 ft. of tidal seal boom on the shore that will be used as a collection site.  Set up shore-side recovery and tend throughout the tide.  Boom Lengths:  a. 800 ft  b. 650 ft	<b>Deployment Equipment</b> 1450 ft. fast-water boom 120 ft. tidal seal boom 12 ea. anchor systems 8 ea. anchor stakes 2 ea. shore-side recovery systems <b>Vessels</b> 1 ea. class 3 2 ea. class 6 <b>Personnel/Shift</b> 7 ea. vessel crew/general techs 2 ea. response techs <b>Tending Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 2 ea. skilled tech	Vessel Platform	Via marine waters  Chart 16315	Fish- intertidal spawning- salmon (June-Sept.), capelin, sheefish, white fish  Birds-waterfowl, seabird and shorebird concentration  Habitat- exposed tidal flats, peat shoreline, marsh,  Human use-subsistence, commercial fishing	Vessel master should have local knowledge.  Take precautions to protect the shoreline as outlined in the Alaska STAR Manual.  Title 41 permitting required from ADNLR.  THREATENED OR ENDANGERED SPECIES/HABITAT POSSIBLE. Discuss with DOI prior to on-site operations  A large population of bears are in this area. Bear guard required.  Surveyed: not yet  Tested: not yet
N-08-02 <div>FO-S</div>	<b>Kulukak &amp; Qaniq Rivers</b>  Nearshore waters in the general area of:  Lat. 58° 54.34"N Lon. 159°40.31'W	<b>Free-oil Recovery</b>  Maximize free-oil recovery in the offshore & nearshore environment of Kulukak Bay depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Kulukak Bay.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Togiak	Via marine waters  Chart 16315	Same as N-08-02	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.

NOTE: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the Bristol Bay Subarea Contingency Plan: [http://dec.alaska.gov/spar/perp/plans/scp\\_bb.htm](http://dec.alaska.gov/spar/perp/plans/scp_bb.htm).





*Igushik River viewed from the southeast.*



*Igushik River viewed from the southeast.*

Legend

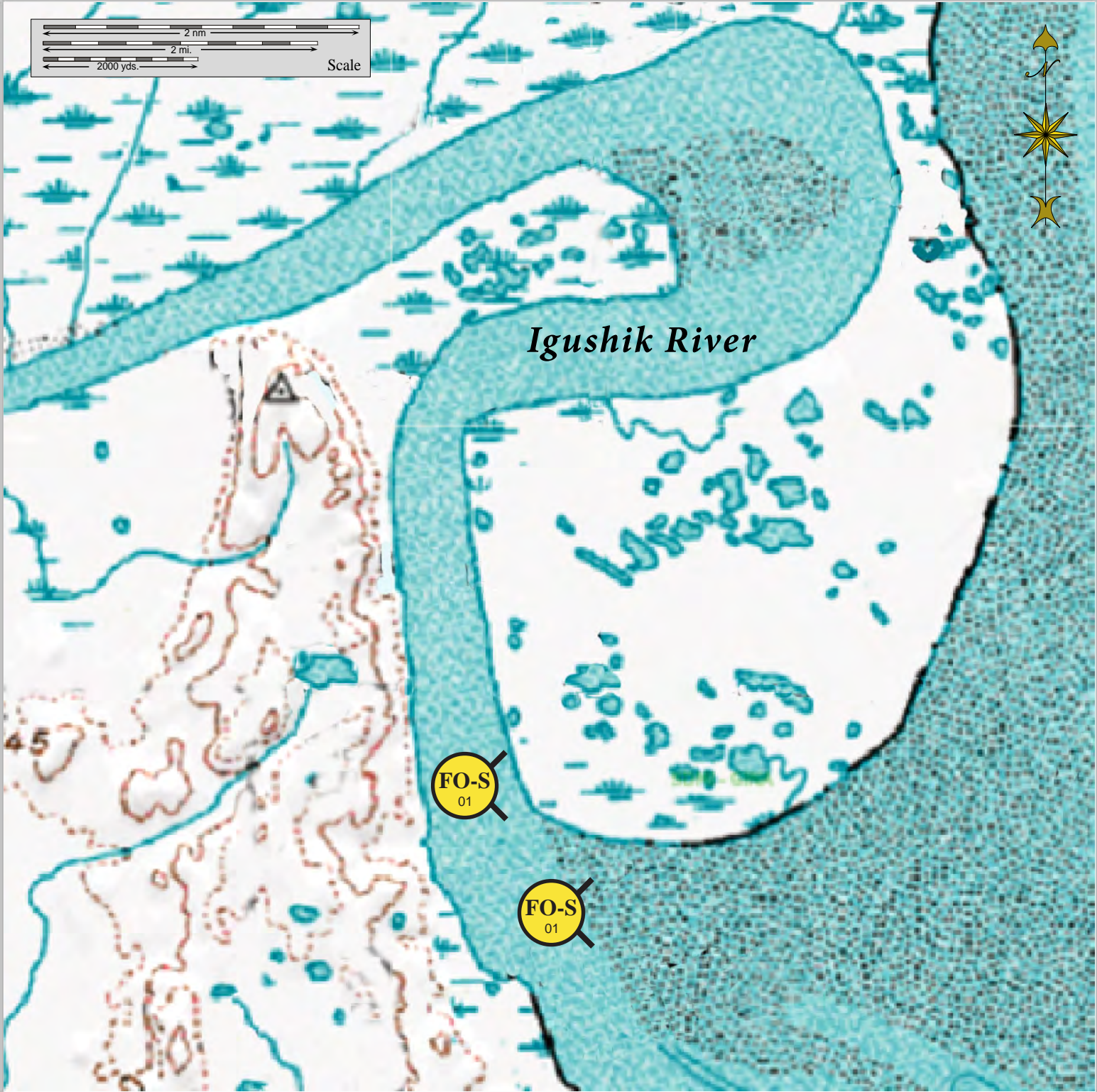
Map

Free-oil Recovery

Geographic Response Strategies for  
Bristol Bay Subarea, Northern Zone


# Igushik River, BB-N09

Center of map at 58° 42.46' N Lat., 158° 53.08' W Lon.

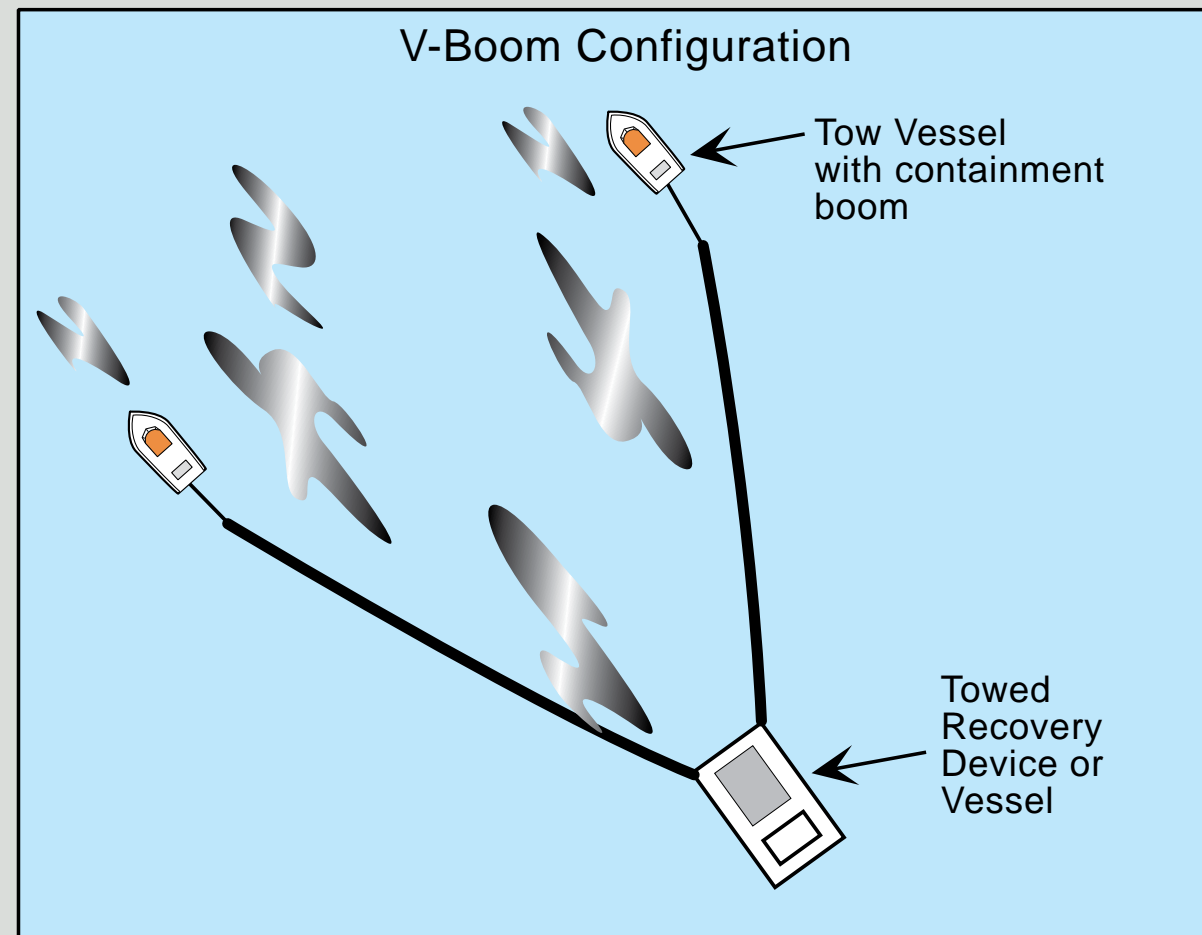


This is not intended for navigational use.



ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-09-01 	<b>Igushik River</b> Nearshore waters in the general area of:  Lat. 58° 42.46”N Lon. 158°53.08'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Igushik River depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Igushik River.  As the tide rises intercept and recover oil as it begins to enter the river.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Dillingham	Via marine waters  Chart 16322	Fish- intertidal spawning- salmon (June-Sept.), capelin, sheefish, white fish  Birds-waterfowl and shorebird concentration  Habitat- exposed tidal flats, peat shoreline, marsh  Human use-subsistence, commercial fishing	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.  Surveyed: not yet  Tested: not yet





An example of the *Free-oil Recovery Tactic*. Actual deployment should be adjusted for local conditions.

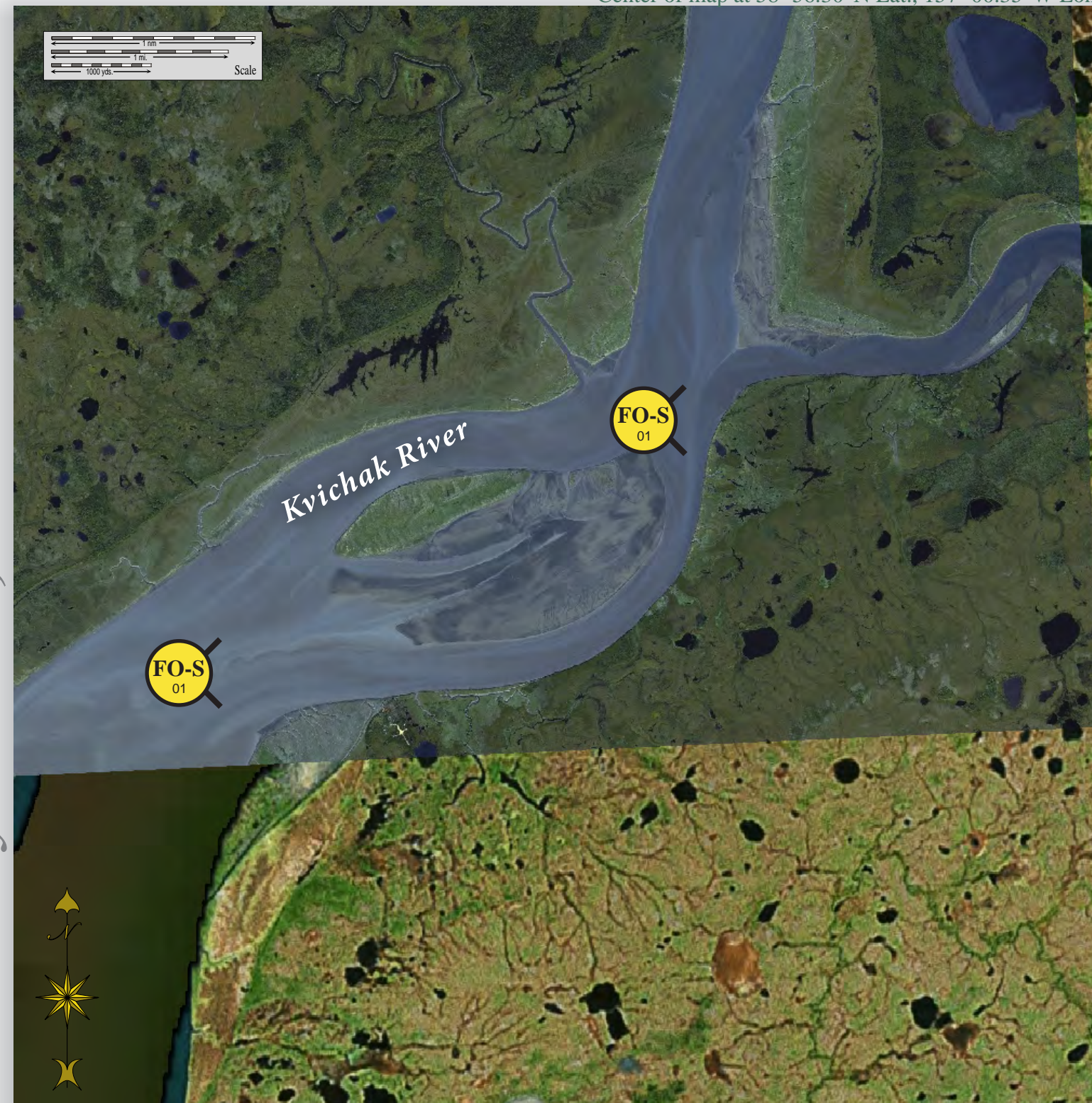


Aerial photography of this area is unavailable at this time, but may be included as it becomes available.


# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## Kvichak River, BB-N10

Center of map at 58° 56.30' N Lat., 157° 00.35' W Lon.

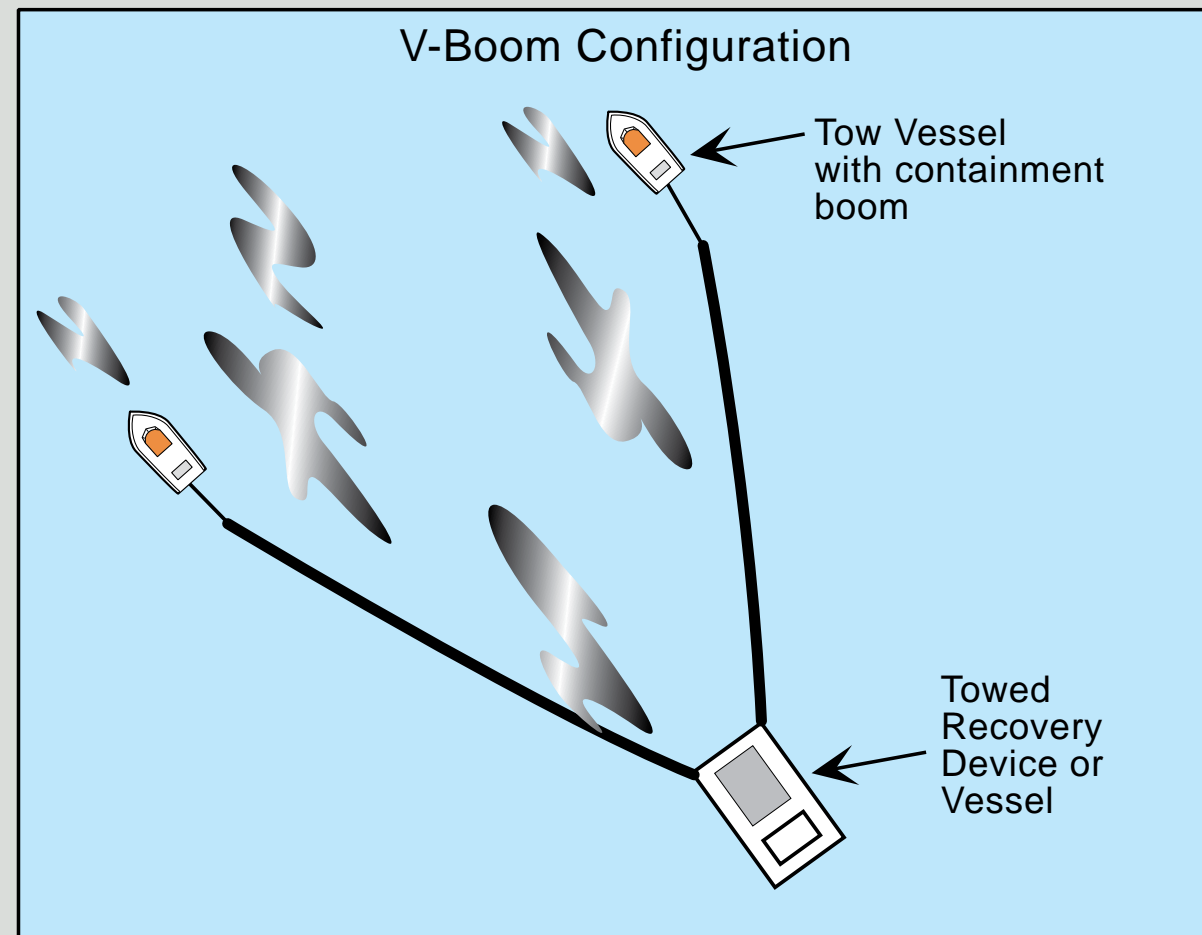


This is not intended for navigational use.

ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-10-01 	<b>Kvichak River</b> Nearshore waters in the general area of:  Lat. 58° 56.30"N Lon. 157°00.35'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Kvichak River depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Kvichak River.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Naknek	Via marine waters  Chart 16322	Fish- intertidal spawning- salmon (June-Sept.), sheefish, white fish  Birds-waterfowl and shorebird concentration  Habitat- exposed tidal flats, peat shoreline, marsh  Human use-subsistence, commercial fishing	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.  Surveyed: not yet  Tested: not yet

NOTE: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the Bristol Bay Subarea Contingency Plan: [http://dec.alaska.gov/spar/perp/plans/scp\\_bb.htm](http://dec.alaska.gov/spar/perp/plans/scp_bb.htm).





An example of the *Free-oil Recovery Tactic*. Actual deployment should be adjusted for local conditions.



Aerial photography of this area is unavailable at this time, but may be included as it becomes available.

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone


## Naknek River, BB-N11

Center of map at 58° 43.25' N Lat., 157° 04.91' W Lon.



This is not intended for navigational use.



ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-11-01 	<b>Naknek River</b> Nearshore waters in the general area of:  Lat. 58° 43.25”N Lon. 157°04.91’W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Naknek River depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Naknek River.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Naknek	Via marine waters  Chart 16322	Fish- intertidal spawning- salmon (June-Sept.), sheefish, white fish  Habitat- exposed tidal flats, peat shoreline, marsh  Human use-subsistence, commercial fishing	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.  Surveyed: not yet  Tested: not yet





Big Creek viewed from the west.



The shoreline of the outside of the bay viewed from the west.

Map

FO-S

Free-oil Recovery

EX

Exclusion Booming

DV

Diversion Booming

SR

Shoreside Recovery

Fast-water Boom

Tidal-seal Boom

Bears in Area, Guards Recommended

Geographic Response Strategies for  
Bristol Bay Subarea, Northern Zone

# Egegik Bay, BB-N12

Center of map at 58° 12.45' N Lat., 157° 27.07' W Lon.

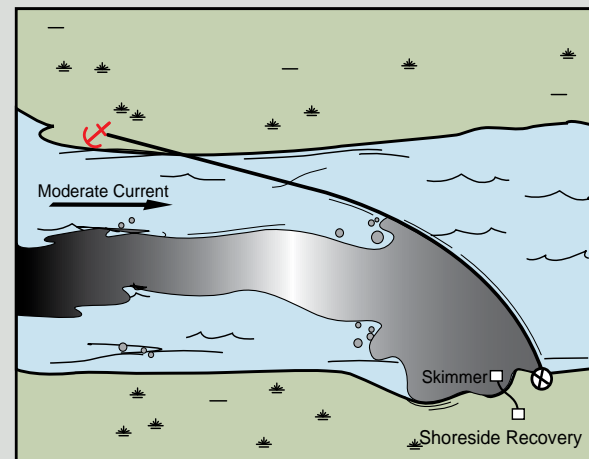


This is not intended for navigational use.

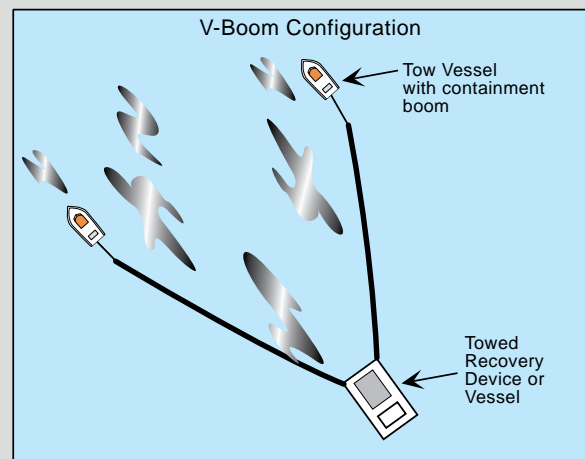


ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-12-01 <div>DV</div>	<b>Egegik Bay</b>  South Spit  Lat.58° 10.52'N Lon.157°32.03'W	<b>Divert and Collect</b>  Divert oil to shore side collection location on the shore of the South Spit	Deploy anchors and boom with skiffs (class 6).  On the spit, at a location most likely to intercept the most incoming oil, cascade from the beach 3 x 300 ft sections of fast-water boom at the proper angle to divert incoming oil to the collection sites.  Complete the array with 60 ft. of tidal seal boom on the beach.  Set up shore-side recovery and tend throughout the tide.  Boom Lengths:  a. 600 ft  b. 900 ft	<b>Deployment Equipment</b> 900 ft. fast-water boom 60 ft. tidal seal boom 9 ea. anchor systems 2 ea. anchor stakes 1 ea. shore-side recovery systems <b>Vessels</b> 2 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 2 ea. response techs <b>Tending Vessels</b> 2 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 1 ea. skilled tech	Egegik	Via marine waters  Chart 16323	Fish- intertidal spawning-salmon (June-Sept.)  Marine mammals-seals, walrus, sea otters  Birds-waterfowl, seabird and shorebird nesting, waterfowl concentration  Habitat- exposed rocky shore, marsh, sheltered tidal flats  Human use-subsistence, commercial fishing	Vessel master should have local knowledge.  Surveyed: not yet  Tested: not yet  THREATENED OR ENDANGERED SPECIES/HABITAT POSSIBLE. Discuss with DOI prior to on-site operations.  Take precautions to protect the shoreline as outlined in the Alaska STAR Manual.  A large population of bears are in this area. Bear guard required.
N-12-02 <div>EX</div>	<b>Big Creek</b>  Lat.58° 17.74'N Lon.157°32.48'W	<b>Exclusion</b>  Exclude oil from impacting Big Creek and intertidal area.	Deploy anchors and boom with skiffs (class 6) at high tide.  Place 600 ft. of fast-water boom in a chevron pattern in front of each entrance to the streams. Complete the arrays by placing 60 ft. of tidal seal boom on each leg.  Tend throughout the tide.	<b>Deployment Equipment</b> 600 ft. fast-water boom 120 ft. tidal-seal boom 3 ea. anchor systems 2 ea. anchor stakes <b>Vessels/Personnel/Shift</b> Same as N-12-01 <b>Tending Vessels/Personnel/Shift</b> Same as N-12-01	Egegik	Via marine waters  Chart 16323	Same as N-12-01	Vessel master should have local knowledge.  Title 41 permitting required from ADNRR.
N-12-03 <div>FO-S</div>	<b>Egegik Bay</b>  Nearshore waters in the general area of:  Lat. 58° 12.45'N Lon. 157°27.07'W	<b>Free-oil Recovery</b>  Maximize free-oil recovery in the offshore & nearshore environment of Egegik Bay depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Egegik Bay.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Egegik	Via marine waters  Chart 16323	Same as N-12-01	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.

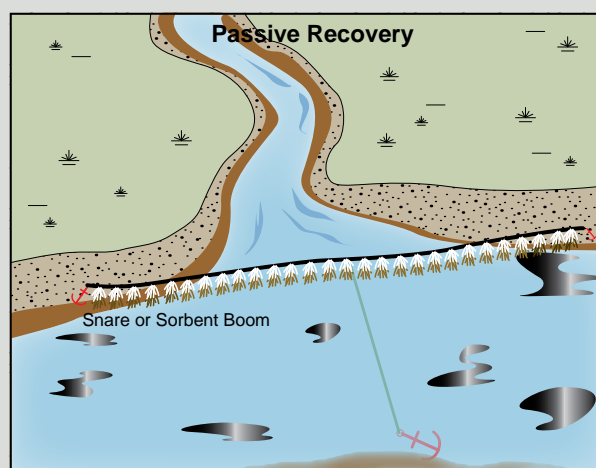




An example of the *Diversion Booming Tactic*. Actual deployment should be adjusted for local conditions.



An example of the *Free-oil Recovery Tactic*. Actual deployment should be adjusted for local conditions.



An example of the *Passive Recovery Tactic*. Actual deployment should be adjusted for local conditions.

Map Legend

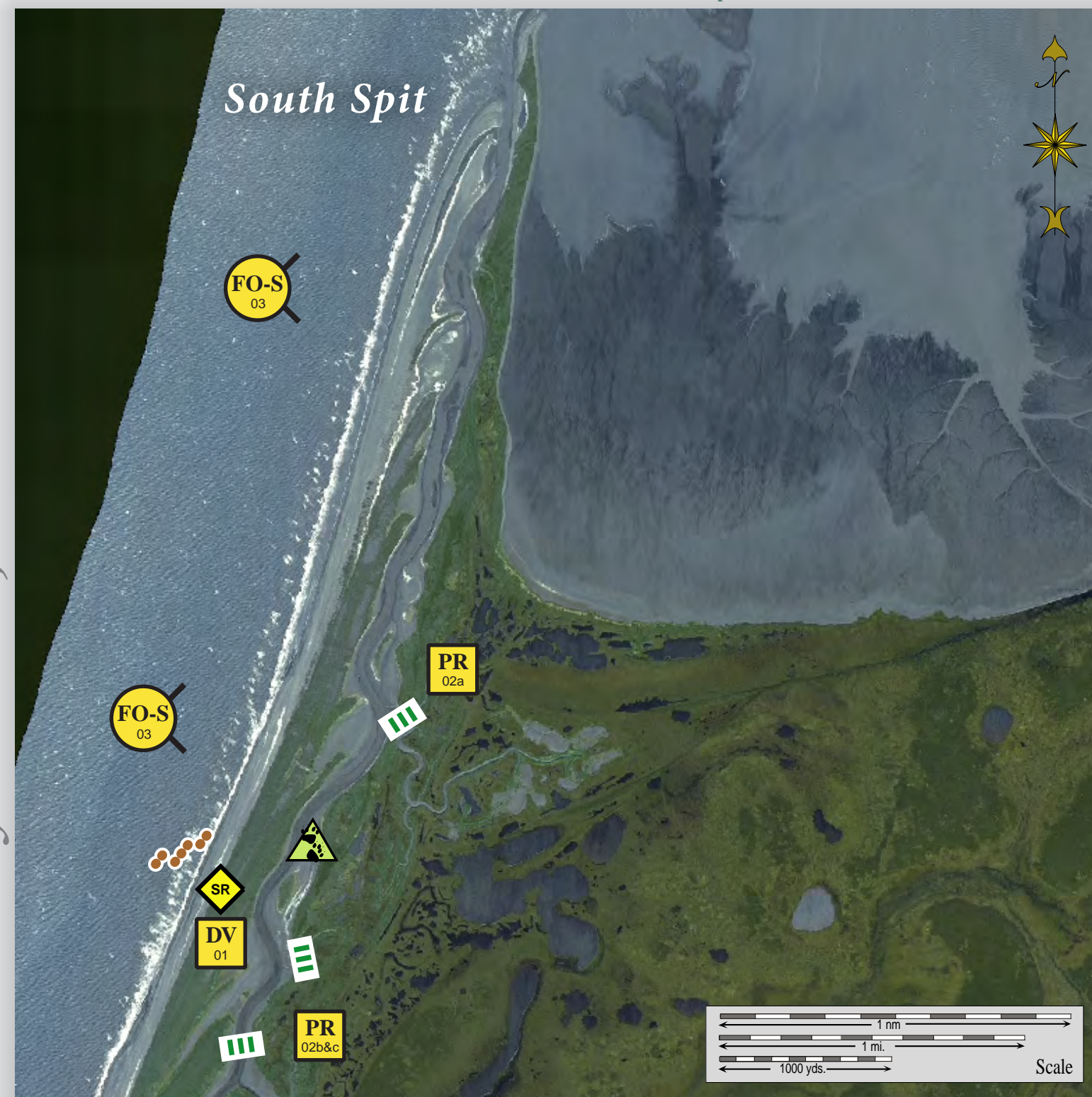
	Free-oil Recovery		Fast-water Boom
	Passive Recovery		Snare or Sorbent Boom
	Diversion Booming		Bears in Area, Guards Recommended
	Shoreside Recovery		

Aerial photography of this area is unavailable at this time, but may be included as it becomes available.

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## South Spit, BB-N13

Center of map at 58° 08.17' N Lat., 157° 34.70' W Lon.



This is not intended for navigational use.

Bristol Bay Subarea Geographic Response Strategies								DRAFT June 2012	
ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations	
N-13-01 <div>DV</div>	<b>South Spit</b> Lat.58° 09.74'N Lon.157°33.18'W	<b>Divert and Collect</b> Divert oil to shore side collection location on the shore of the South Spit.	Deploy anchors and boom with skiffs (class 6).  On the spit at a location most likely to intercept the most incoming oil cascade off the beach 3 x 300 ft sections of protected-water boom at the proper angle to divert incoming oil to the collection sites. Complete the array with 60 ft. of tidal seal boom on the beach.  Set up shore-side recovery and tend throughout the tide.	<b>Deployment Equipment</b> 900 ft. fast-water boom 60 ft. tidal seal boom 9 ea. anchor systems 2 ea. anchor stakes 1 ea. shore-side recovery systems <b>Vessels</b> 1 ea. class 3 2 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 2 ea. response techs <b>Tending Vessels</b> 2 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 1 ea. skilled tech	Egegik	Via marine waters  Chart 16343	Birds-waterfowl, seabird and shorebird concentration  Marine Mammals-otters, seals  Habitat- exposed tidal flats, marsh  Human use-subsistence, commercial fishing	Vessel master should have local knowledge.  Surveyed: not yet  Tested: not yet  THREATENED OR ENDANGERED SPECIES/HABITAT POSSIBLE. Discuss with DOI prior to on-site operations.  Take precautions to protect the shoreline as outlined in the Alaska STAR Manual.  A large population of bears are in this area. Bear guard required.	
N-13-02 <div>PR</div>	<b>South Spit</b> a. Lat.58° 10.52'N Lon.157°32.03'W b. Lat.58° 10.07'N Lon.157°32.79'W c. Lat.58° 09.69'N Lon.157°32.82'W	<b>Passive Recovery</b> Survey the area prior to deployment. Place passive recovery across entrances to the identified sloughs and streams in South Spit.	Place and anchor snare line or sorbent boom across the streams in South Spit.  Replace as necessary to maximize the recovery.  Boom Lengths: a. 600 ft b. 300 ft c. 300 ft	<b>Deployment Equipment</b> 1200 ft. snare line or sorbent boom 7 ea. anchor systems 6 ea. anchor stakes systems <b>Vessels/Personnel/Shift</b> Same as N-13-01 <b>Tending Vessels/Personnel/Shift</b> Same as N-13-01	Egegik	Via marine waters  Chart 16343	Same as N-13-01	Vessel master should have local knowledge.  Title 41 permitting required from ADNRR.	
N-13-03 <div>FO-S</div>	<b>South Spit</b> Nearshore waters in the general area of:  Lat. 58° 08.17'N Lon. 157°34.70'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of South Spit depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the South Spit.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Egegik	Via marine waters  Chart 16343	Same as N-13-01	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.	





The Ugashik River as viewed from Ugashik Bay from the northwest.

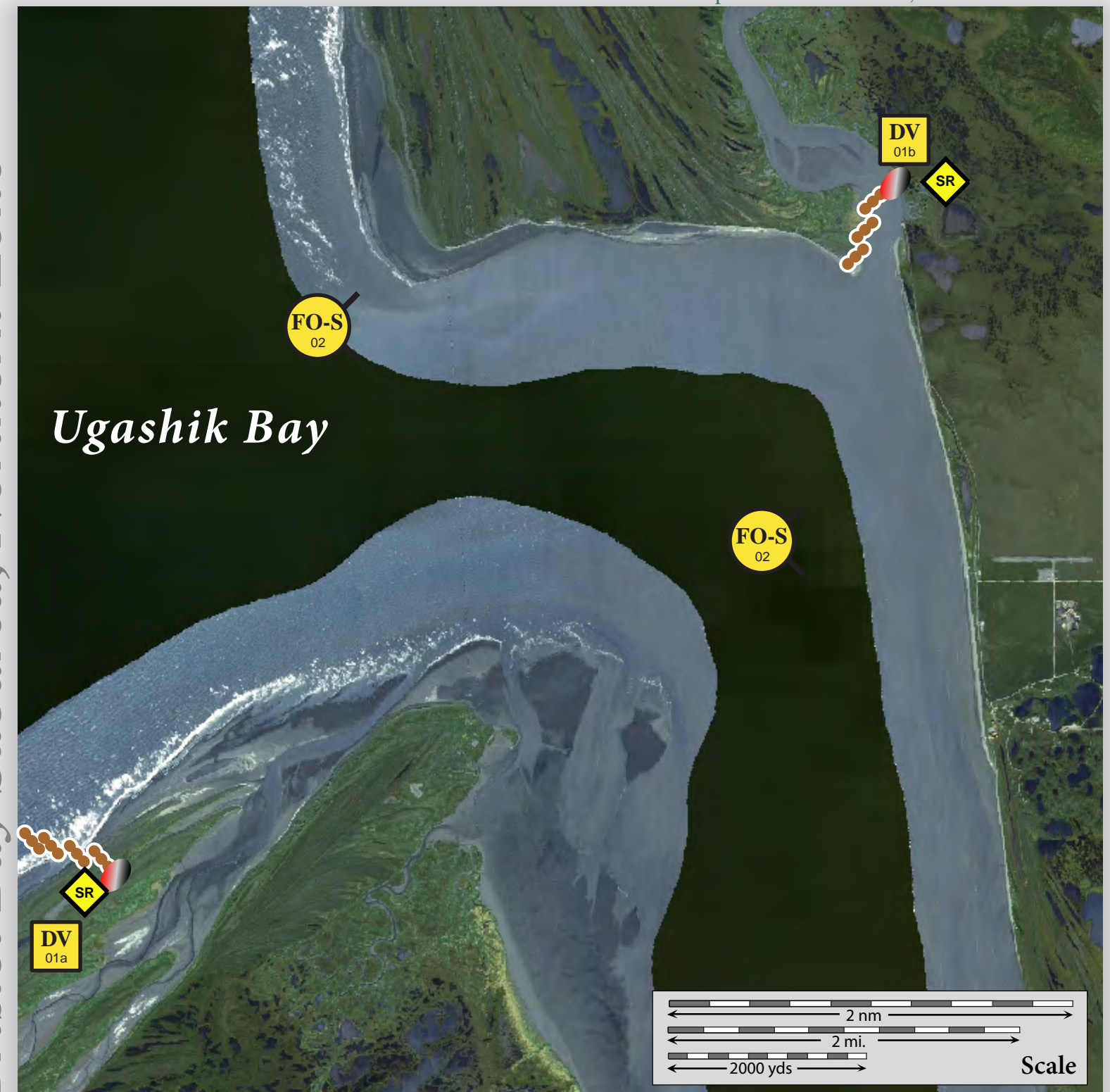


The Ugashik River as viewed from Ugashik Bay from the northwest.

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## Ugashik Bay, BB-N14

Center of map at 57° 34.27' N Lat., 157° 40.27' W Lon.



This is not intended for navigational use.

Map

Legend

	Free-oil Recovery		Shoreside Recovery
	Diversion Booming		Fast-water Boom
			Tidal-seal Boom



ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-14-01 DV	<b>Ugashik Bay</b> a. Lat. 57°36.69'N Lon.157°36.35'W  b. Lat. 57°32.91'N Lon.157°46.34'W	<b>Divert and Collect</b> Divert oil to shore side collection location on the outside beach leading into Ugashik Bay and the stream located in the north of Ugashik Bay.	Deploy anchors and boom with skiffs (class 6).  For (a) cascade 1200 ft of fast-water boom in 300 ft. sections at the proper angle to divert incoming oil to the collection sites.  For (b) cascade 900 ft. of fast-water boom in 300 ft. sections at the proper angle to divert incoming oil to the collection sites. Locate the array in the area most likely to intercept the most incoming oil.  Complete each array with 60 ft. of tidal seal boom on the shore that will be used as a collection site.  Set up shore-side recovery and tend throughout the tide.	<b>Deployment Equipment</b> 2100 ft. fast-water boom 120 ft. tidal seal boom 13 ea. anchor systems 8 ea. anchor stakes 1 ea. shore-side recovery systems <b>Vessels</b> 1 ea. class 3 2 ea. class 6 <b>Personnel/Shift</b> 7 ea. vessel crew/general techs 2 ea. skilled techs <b>Tending Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 2 ea. skilled tech	Pilot Point	Via marine waters  Chart 16338	Fish- intertidal spawning-salmon (June-Sept.)  Birds-waterfowl, seabird and shorebird concentration  Marine mammals-otters, seals  Habitat- exposed tidal flats, peat shoreline, marsh,  Human use-subsistence, commercial fishing	Vessel master should have local knowledge.  Take precautions to protect the shoreline as outlined in the Alaska STAR Manual  Title 41 permitting required from ADNDR.  THREATENED OR ENDANGERED SPECIES/HABITAT POSSIBLE. Discuss with DOI prior to on-site operations.  A large population of bears are in this area. Bear guard required.  Surveyed: not yet  Tested: not yet
N-14-02 FO-S	<b>Ugashik Bay</b> Nearshore waters in the general area of:  Lat. 57° 34.27'N Lon. 157°40.27'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Ugashik Bay depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Ugashik Bay.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Pilot Point	Via marine waters  Chart 16338	Same as N-14-01	Use extreme caution, shallow waters with shifting channels and bars.

NOTE: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the Bristol Bay Subarea Contingency Plan: [http://dec.alaska.gov/spar/perp/plans/scp\\_bb.htm](http://dec.alaska.gov/spar/perp/plans/scp_bb.htm).





The entrance to Cinder River viewed from the north.

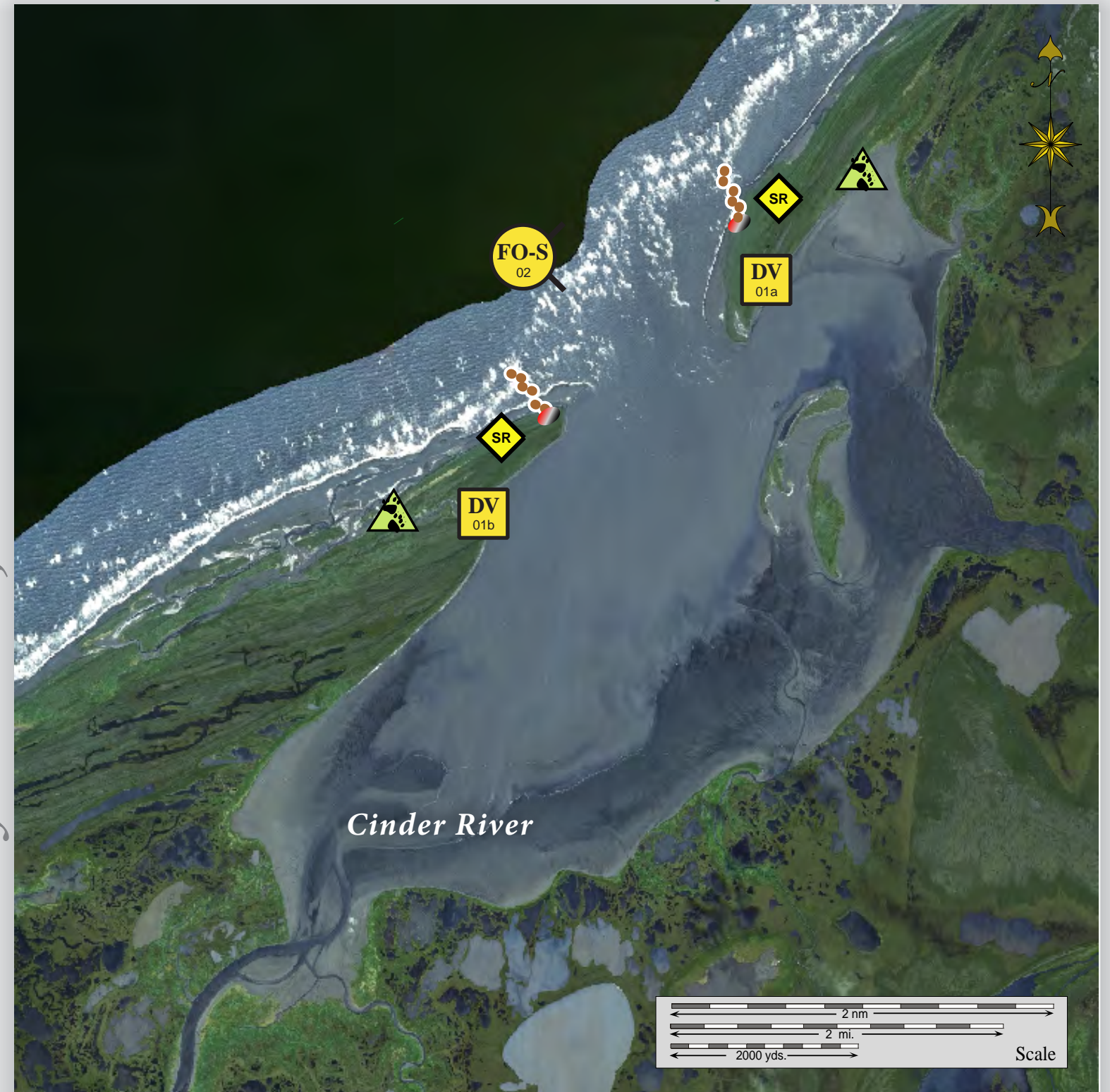


The entrance to Cinder River intertidal area viewed from the east.

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## Cinder River, BB-N15

Center of map at 57° 21.58' N Lat., 158° 06.42' W Lon.



This is not intended for navigational use.

Map

Legend

	Free-oil Recovery		Fast-water Boom
	Diversion Booming		Tidal-seal Boom
	Shoreside Recovery		Bears in Area, Guards Recommended



ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-15-01 <div>DV</div>	<b>Cinder River</b> a. Lat.57° 21.17'N Lon.158°04.96'W  b. Lat. 57°21.00'N Lon.158°06.37'W	<b>Divert and Collect</b> Divert oil to shore side collection location on the bank of the Cinder River and Mud Creek.	Deploy anchors and boom with skiffs (class 6).  At each location cascaded 3 x 300 ft. section of fast-water boom at the proper angle to divert incoming oil to the collection sites.  Complete the array with 60 ft. of tidal seal boom on the shore that will be used as a collection site.  Set up shore-side recovery and tend throughout the tide.	<b>Deployment Equipment</b> 1800 ft. fast-water boom 120 ft. tidal seal boom 9 ea. anchor systems 8 ea. anchor stakes 2 ea. shore-side recovery systems <b>Vessels</b> 1 ea. class 3 2 ea. class 6 <b>Personnel/Shift</b> 7 ea. vessel crew/general techs 2 ea. response techs <b>Tending Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 2 ea. skilled tech	Pilot Point	Via marine waters  Chart 16338	Fish- intertidal spawning- salmon (June-Sept.)  Birds-waterfowl, seabird and shorebird concentration  Marine mammals- seals, otters  Habitat- exposed tidal flats, peat shoreline, marsh  Human use- subsistence, commercial fishing	Vessel master should have local knowledge.  Take precautions to protect the shoreline as outlined in the Alaska STAR Manual.  A large population of bears are in this area. Bear guard required.  Title 41 permitting required from ADNDR.  THREATENED OR ENDANGERED SPECIES/HABITAT POSSIBLE. Discuss with DOI prior to on-site operations.  Surveyed: not yet  Tested: not yet
N-15-02 <div>FO-S</div>	<b>Cinder River</b> Nearshore waters in the general area of:  Lat. 57° 21.58'N Lon. 158°06.42'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Cinder River depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Cinder River.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Pilot Point	Via marine waters  Chart 16338	Same as N-15-01	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.





The entrance to South Cinder River viewed from the northwest.

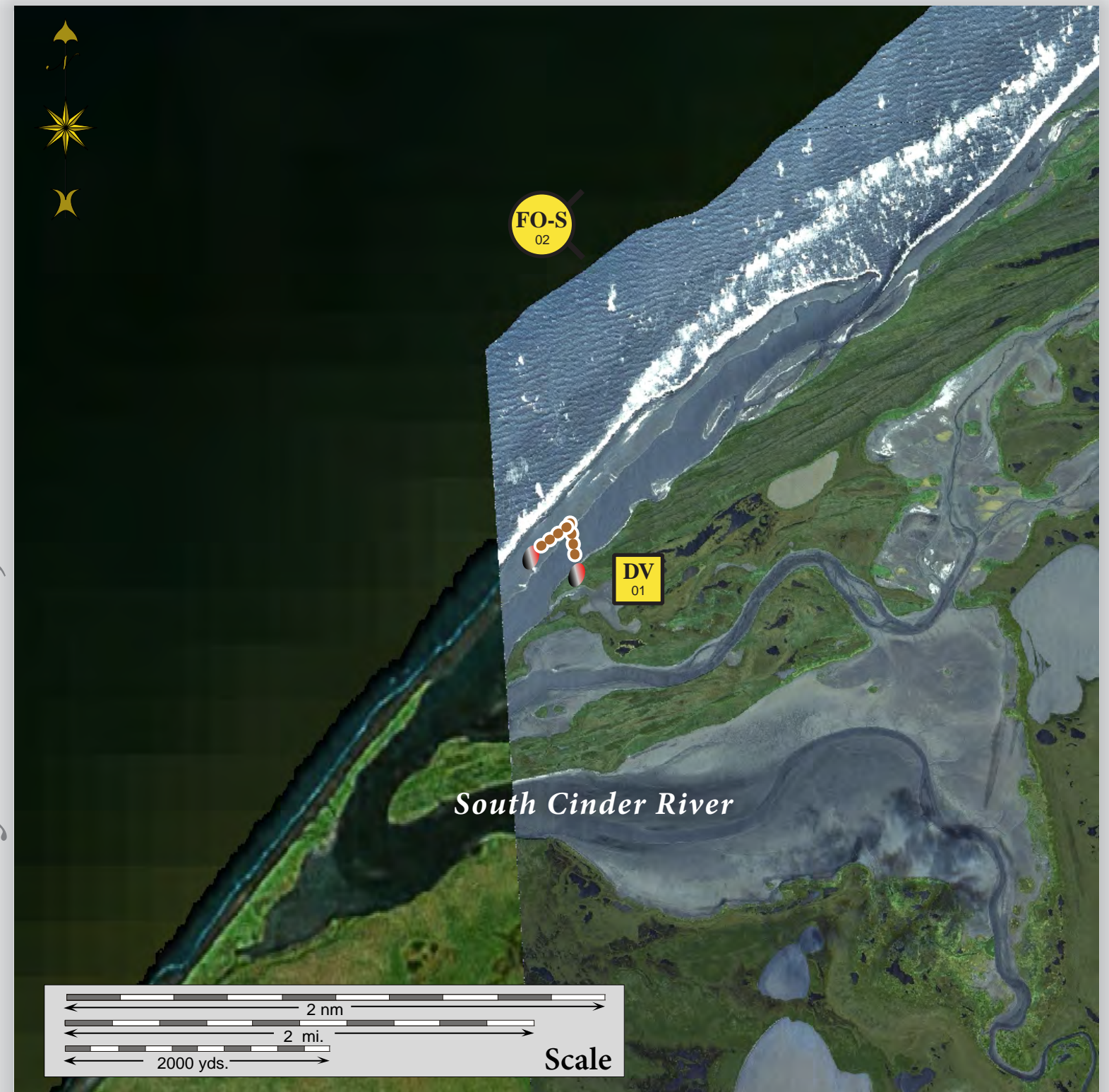


South Cinder River viewed from the east.

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## South Cinder River, BB-N16

Center of map at 57° 17.14' N Lat., 158° 19.10' W Lon.



This is not intended for navigational use.

### Map Legend



Free-oil Recovery



Diversion Booming

Fast-water Boom



Tidal-seal Boom

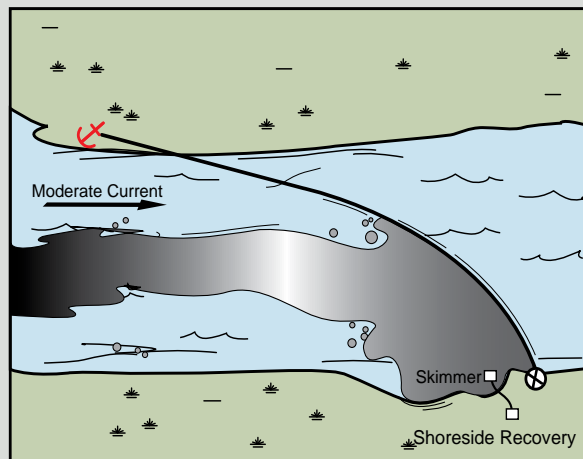


Bears in Area, Guards  
Recommended

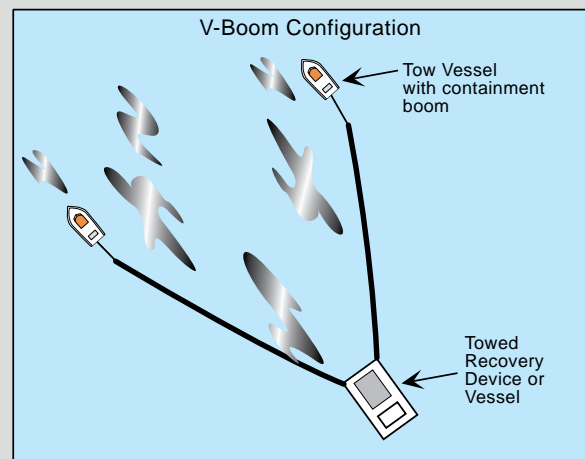


ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-16-01 <div>EX</div>	<b>South Cinder River</b> a. Lat.57° 15.97'N Lon.158°20.25'W  b. Lat.57° 16.52'N Lon.158°17.50'W	<b>Exclusion</b> Exclude oil from impacting the South Cinder River.	Deploy anchors and boom with skiffs (class 6) at high tide.  At both locations place fast-water boom in a chevron pattern in front of the entrances to the river.  Complete the array by placing 60 ft. of tidal seal boom on each leg.  Tend throughout the tide.	<b>Deployment Equipment</b> 1350 ft. fast-water boom 240 ft. tidal seal boom 8 ea. anchor systems 8 ea. anchor stakes <b>Vessels</b> 1 ea. class 3 2 ea. class 6 <b>Personnel/Shift</b> 7 ea. vessel crew/general techs <b>Tending Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs	Pilot Point/ Port Heiden	Via marine waters  Chart 16338	Fish- intertidal spawning- salmon (June-Sept.)  Birds-waterfowl, seabird and shorebird concentration  Marine mammals- seals, otters  Habitat- exposed tidal flats, sheltered tidal flats, marsh  Human use- subsistence, commercial fishing	Vessel master should have local knowledge.  A large population of bears are present in the area. A bear guard is required.  Title 41 permitting required from ADNDR.  THREATENED OR ENDANGERED SPECIES/HABITAT POSSIBLE. Discuss with DOI prior to on-site operations.  Surveyed: not yet  Tested: not yet
N-16-02 <div>FO-S</div>	<b>South Cinder River</b> Nearshore waters in the general area of:  Lat. 57° 17.14'N Lon. 158°19.10'W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of South Cinder River depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the South Cinder River.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Pilot Point/ Port Heiden	Via marine waters  Chart 16338	Same as N-16-01	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.

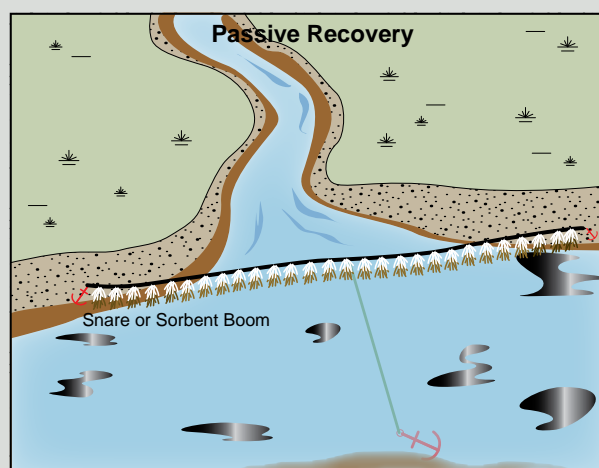




An example of the *Diversion Booming Tactic*. Actual deployment should be adjusted for local conditions.



An example of the *Free-oil Recovery Tactic*. Actual deployment should be adjusted for local conditions.



An example of the *Passive Recovery Tactic*. Actual deployment should be adjusted for local conditions.

Map Legend

Free-oil Recovery	Fast-water Boom
Passive Recovery	Tidal-seal Boom
Diversion Booming	Snare or Sorbent Boom
Shoreside Recovery	Bears in Area, Guards Recommended

Aerial photography of this area is unavailable at this time, but may be included as it becomes available.

# Geographic Response Strategies for Bristol Bay Subarea, Northern Zone

## Port Heiden, BB-N17

Center of map at 56° 53.44' N Lat., 158° 47.23' W Lon.



This is not intended for navigational use.



ID	Location and Description	Response Strategy	Implementation	Response Resources	Staging Area	Site Access	Resources Protected (months)	Special Considerations
N-17-01 <div>DV</div>	<b>Port Heiden</b> a. Lat.56° 57.30’N Lon.157°41.46’W  b. Lat.56° 53.52’N Lon.157°51.11’W	<b>Divert and Collect</b> Divert oil to shore side collection location on the outer shoreline of Port Heiden.	Deploy anchors and boom with skiffs (class 6).  Postion the actual location at a place that is most likely to collect oil moving along the shore. At each location cascade 3 x 300 ft. sections of fast-water boom at the proper angle to divert incoming oil to the collection sites.  Complete the array with 60 ft. of tidal seal boom on the shore that will be used as a collection site.  Set up shore-side recovery and tend throughout the tide.	<b>Deployment</b> <b>Equipment</b> 1800 ft. fast-water boom 120 ft. tidal seal boom 18 ea. anchor systems 4 ea. anchor stakes 2 ea. shore-side recovery systems <b>Vessels</b> 1 ea. class 3 2 ea. class 6 <b>Personnel/Shift</b> 6 ea. vessel crew/general techs 2 ea. response techs <b>Tending</b> <b>Vessels</b> 1 ea. class 3 1 ea. class 6 <b>Personnel/Shift</b> 4 ea. vessel crew/general techs 2 ea. skilled tech	Port Heiden	Via marine waters  Chart 16343	Same as N-17-02	Vessel master should have local knowledge.  Take appropriate measures as outlined in the STAR Manual to protect the shoreline at the collection site.  A large population of bears are in the area. Bear guards are required.  THREATENED OR ENDANGERED SPECIES/HABITAT POSSIBLE. Discuss with DOI prior to on-site operations.”  Surveyed: not yet  Tested: not yet
N-17-02 <div>PR</div>	<b>Port Heiden</b> a. Lat.56° 53.25’N Lon.158°39.90’W  b. Lat.56° 51.61’N Lon.158°40.19’W  c. Lat.56° 47.25’N Lon.158°44.05’W  d. Lat.56° 49.83’N Lon.158°39.14’W  e. Lat.56° 47.32’N Lon.158°44.14’W  f. Lat.56° 46.98’N Lon.158°44.16’W  g. Lat.56° 48.09’N Lon.158°53.90’W	<b>Passive Recovery</b> Survey the area prior to deployment. Place passive recovery across entrances to the identified sloughs and streams in Port Heiden.	Place and anchor snare line or sorbent boom across the streams in Port Heiden.  Replace as necessary to maximize the recovery.  Boom Lengths: a. 600 ft b. 300 ft c. 400 ft d. 300 ft e. 600 ft f. 200 ft g. 600 ft	<b>Deployment</b> <b>Equipment</b> 3000 ft. snare line or sorbent boom 10 ea. anchor systems 28 ea. anchor stakes systems <b>Vessels/Personnel/Shift</b> Same as N-17-01 <b>Tending</b> <b>Vessels/Personnel/Shift</b> Same as N-17-01	Port Heiden	Via marine waters  Chart 16343	Fish- intertidal spawning-salmon (June-Sept.)  Birds-waterfowl, seabird and shorebird concentration  Marine Mammals-otters,seals  Habitat- exposed tidal flats, peat shoreline, marsh  Human use-subsistence, commercial fishing	Vessel master should have local knowledge.  Title 41 permitting required from ADNRR.  A large population of bears are in the area. Bear guards are required.
N-17-03 <div>FO-S</div>	<b>Port Heiden</b> Nearshore waters in the general area of:  Lat. 56° 53.44’N Lon. 158°47.23’W	<b>Free-oil Recovery</b> Maximize free-oil recovery in the offshore & nearshore environment of Port Heiden depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the Port Heiden.  Use aerial surveillance to locate incoming slicks.	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Port Heiden	Via marine waters  Chart 16343	Same as N-17-02	Vessel master should have local knowledge.  Use extreme caution, shallow waters with shifting channels and bars.