SUMAS RIVER

Geographic Response Plan

(SUMR-GRP)

CHAPTER 4

Response Strategies and Priorities

JUNE 2017

Before you print this document

This chapter and its appendices, as well as the appendix at the end of Chapter 6, are provided in "landscape" page orientation. The detailed 2-page information sheets for response strategies, notification strategies, staging areas, and boat launch locations in appendices 4A though 4D (pages 49–68) have been designed for duplex printing (front and back side of paper), "open to top" configuration.

4.1 CHAPTER INTRODUCTION

This chapter provides information on GRP response strategies and the order they should be implemented, based on Potential Oil Spill Origin Points (POSOPs) and the proximity and relative priority of sensitive resources near those point locations. Area maps, sector maps, and information on staging areas and boat launch locations are also provided in this chapter. During a spill incident, GRP response strategies should be implemented as soon as possible. Unless circumstances unique to a particular spill situation dictate otherwise, the priority tables in Section 4.3 should be used to decide the order that GRP strategies are deployed. The downstream movement of oil and the time it takes to mobilize response resources to deploy GRP strategies must always be considered when setting implementation priorities. Information on resources at risk, sensitive areas, and flight restrictions can be found in Chapter 6 of this plan. Information on shoreline countermeasures can be found in the Northwest Area Shoreline Countermeasures Manual (NWACP Section 9420). The Northwest Area Contingency Plan (NWACP) is available online at http://www.rrt10nwac.com/NWACP/Default.aspx.

The GRP strategies provided in this chapter have been created to reduce spilled oil's impact on sensitive resources. They are not everything that should or could be done during a response to lessen the chance of injury to natural, cultural, and economic resources at risk from oil spills. Control and containment of an oil spill is always a higher priority than the implementation of GRP response strategies. Although designed to be implemented during the initial phase of an oil spill, GRP strategies may continue to be used throughout a response at the discretion of the Incident Commander, Unified Command, or the Environmental Unit.

4.1.1 On-site Considerations

Naturally occurring asbestos in this area. Call Whatcom County Health Department: 360-778-6000

Before Deploying a GRP Strategy (Questions to Ask)

- Are conditions safe? Response managers and responders must first determine if efforts to implement a response strategy would pose an undue risk to worker safety or the public, based on conditions present during the time of the emergency. No strategy should be implemented if doing so would threaten public safety or present an unreasonable risk to the safety of responders.
- Additional information about the asbestos risk is available online at https://yosemite.epa.gov/r10/cleanup.nsf/sites/sumasmtn Whatcom County Health can provide seasonal information about recent flooding and dust risk, and offer advice about the safety precautions usually taken by health department staff while working in this area. Additional PPE may be advised.

- Has initial control and containment been sufficiently achieved? Control and containment of the spill at or near the source are always higher priorities than the deployment of GRP response strategies, especially when concurrent response activities are not possible.
- How far downstream or out into the river, lake, or marine environment is the spilled oil likely to travel before response personnel will be ready and able to deploy GRP response strategies?
- Are permits required? Consult the Northwest Area Contingency Plan Permit Summary Table (NWACP Section 9401) for information specific to your location and circumstance.
- Will equipment or vehicles need to be staged on or near a roadway? If so, traffic control may be required. Contact the Washington State Patrol, or local, county, municipality, or tribal police for assistance. At minimum, Washington Department of Transportation (WSDOT) guidelines for work zone traffic control should be followed when working on or near a roadway.
    - City of Everson Police Department (serves City of Nooksack) (360) 966-4212
    - City of Sumas Police Department (800) 556-1345
    - Washington State Patrol District #7 (360) 654-1204
    - Whatcom County Sheriff's Office (360) 778-6600

During Strategy Implementation (Things to Remember)

- On-scene conditions (weather, currents, tides, waves, river speed, and debris) may require that strategies be modified in order to be effective. There is a significant chance that weather and conditions experienced at a particular strategy location during an actual spill event will be different from that when data was gathered during field visits. Response managers and responders must remain flexible and may modify the strategies provided in this chapter as needed to meet the challenges experienced during an actual response.
- Certain strategies may call for access points or staging areas that are not easily reached at all times of the year or in all conditions.
- The GRP response strategies provided in this chapter were designed for use with persistent heavy oils that float on water and may not be suitable for other petroleum products or hazardous substances. For information about non-floating oil spill response, refer to the Non-Floating Oil Spill Response Tool in the Northwest Area Contingency Plan (NWACP), Section 9412.

After Strategy Implementation (Things to Understand)

- Oil containment boom should be maintained and periodically monitored to ensure its effectiveness. Changes in river or current speed will likely require modifications to boom deflection angles (see Table 4.1). Depending on conditions, some booming strategies may require around-the-clock tending.

Water Speed and Boom Deflection Angle

Measure the speed that water is moving by anchoring a line with two floating markers/buoys attached that are spaced 100 feet apart. Time the movement of floating debris between the two buoys, and then use Table 4.1 to estimate the water speed based on the travel time of the debris between the two buoys. You can also measure 100 feet along a straight portion of riverbank or shoreline, and time the movement of debris between those points, but this method is generally less accurate than using the buoys. The maximum boom deflection angle is also provided in the table, based on the water speed measurements.

Table 4.1: Water Speed Drift Measurement Table

Time to Drift 100 Feet (seconds)	Velocity (ft/sec)	Velocity (m/sec)	Velocity (knots)	Max Boom Deflection Angle (degrees)	Boom required for 100-foot Profile to Current (feet)	Anchors needed if Placed Every 50 feet (number)
6	16.7	5.1	10.00	4.0	1,429	30
8	12.5	3.8	7.50	5.4	1,071	22
10	10.0	3.1	6.00	6.7	857	18
12	8.3	2.5	5.00	8.0	714	15
14	7.1	2.2	4.29	9.4	612	13
17	5.9	1.8	3.53	11.4	504	11
20	5.0	1.5	3.00	13.5	429	10
24	4.2	1.3	2.50	16.3	357	8
30	3.3	1.0	2.00	20.5	286	7
40	2.5	0.8	1.50	27.8	214	5
60	1.7	0.5	1.00	44.4	143	4
>86	≤1.2	≤0.35	≤0.70	90.0	100	3

Source: Oil Spill Response in Fast Currents. A Field Guide. U.S. Coast Guard Research and Development Center. October, 2001

4.1.2 Historical River Flow Ranges

Streamflow data from U.S. Geological Survey (USGS) was used to determine the mean monthly discharge for rivers and streams in the planning area. Stream discharge is recorded in cubic feet per second (cfs); velocities in miles per hour (mph) or nautical miles per hour (knots) are not available. Table 4.1 provides information that can be used to calculate local river velocities on-site, based on the time it takes a floating object to drift 100 feet downstream from any given point in a river or creek. Additional information for USGS gage stations in the planning area are provided below, and may include real-time or near real-time streamflow data. The USGS National Water System Mapper is useful for locating gage stations of interest, and is available online at http://maps.waterdata.usgs.gov/mapper/index.html.

Table 4.2: Historical River Streamflow Ranges

Monthly average flow in Cubic Feet per Second (cfs)	
	Sumas River near Sumas **USGS 12214500** (data from 1948 to 1955, 2011 to 2013)
Jan	89
Feb	122
Mar	136
Apr	111
May	69
Jun	40
Jul	26
Aug	21
Sep	18
Oct	30
Nov	85
Dec	106

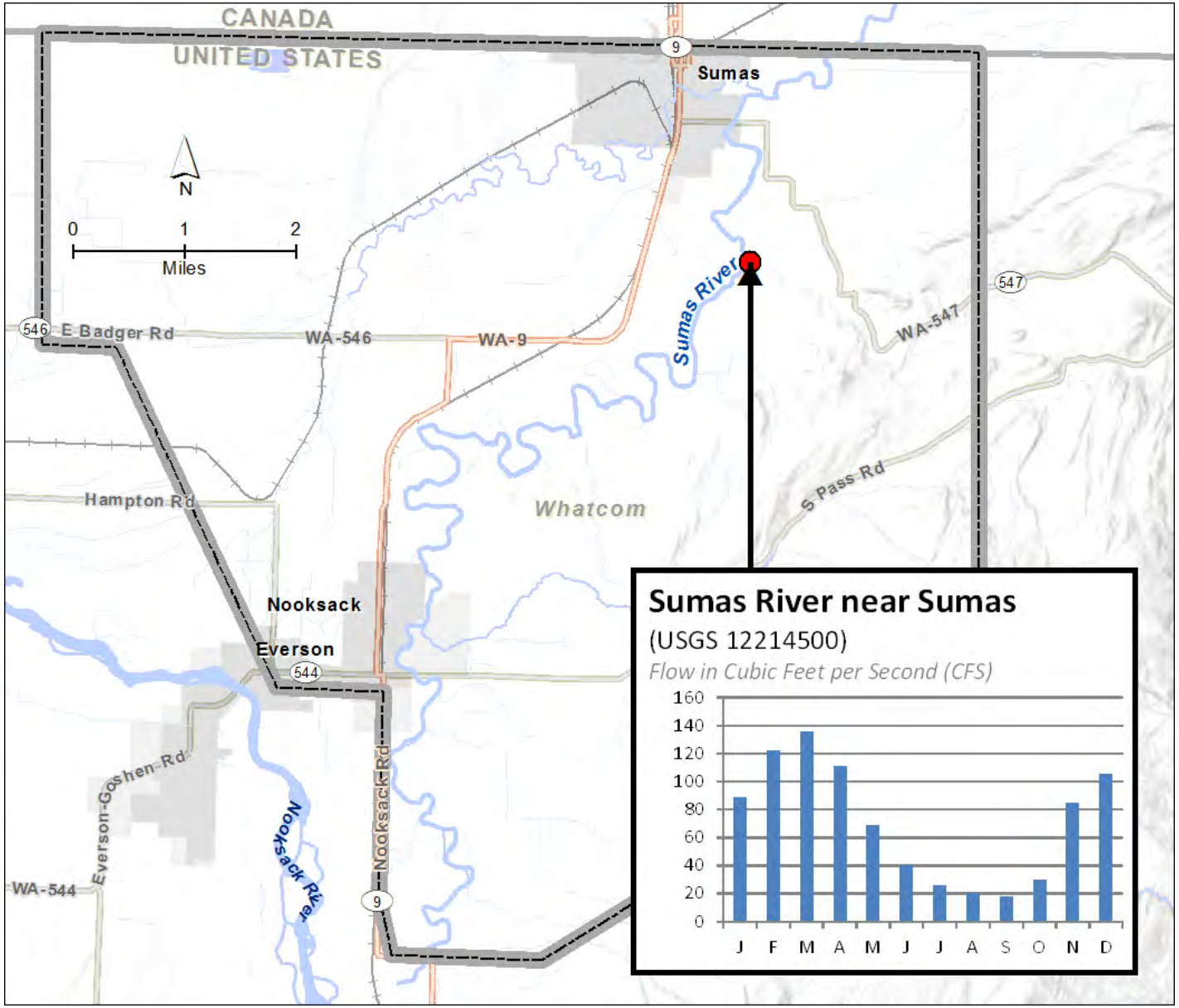


Figure 4-1: Mean Monthly Outflow for the Sumas River

4.2 AREA OVERVIEW MAPS

The following maps provide a geographic overview of the Sumas River. Sector maps in Section 4.4 of this chapter provide more detail on the location of response strategies, notification strategies, staging areas, boat launch locations, and Potential Oil Spill Origin Points (POSOPs). Detailed information for each location can be found in the matrices of Section 4.5 or in the chapter appendices. Priority tables for potential oil spill origin points can be found in Section 4.3.2.

The following area maps are provided for reference:

- Response Strategy Locations
- Notification Strategy Locations
- Staging Areas
- Boat Launch Locations
- Potential Oil Spill Origin Points

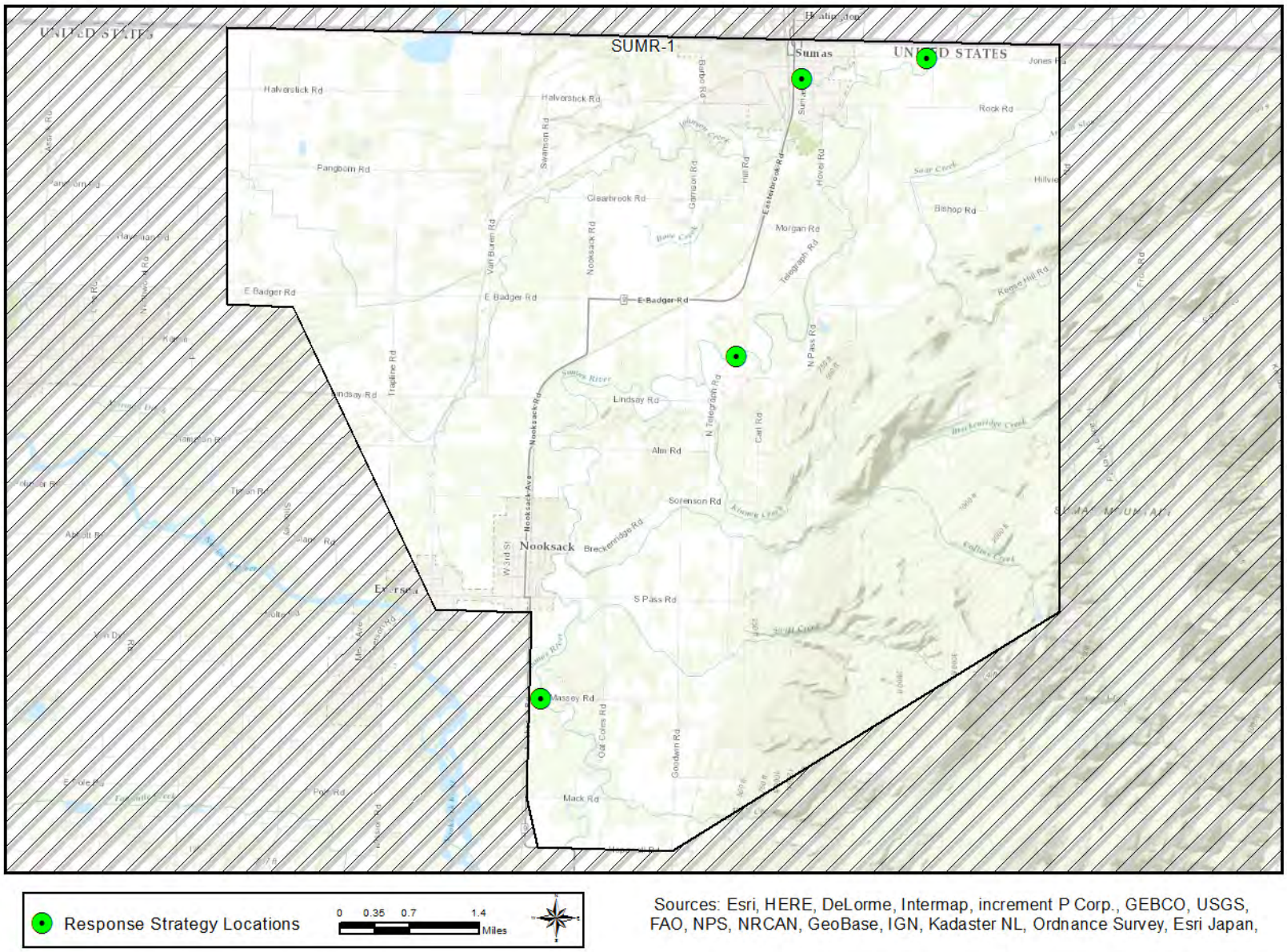


Figure 4-2: Response Strategy Locations

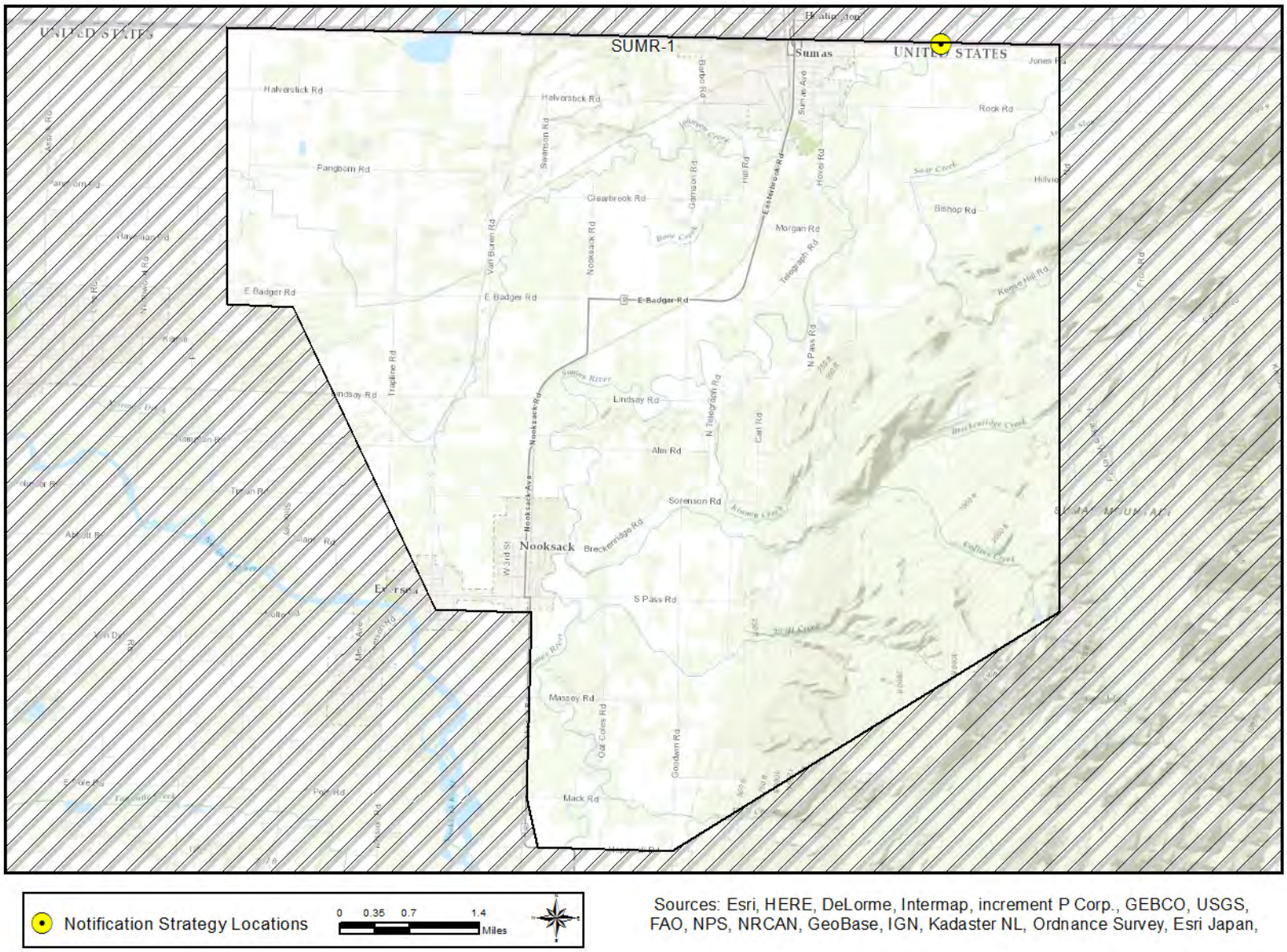


Figure 4-3: Notification Strategy Locations

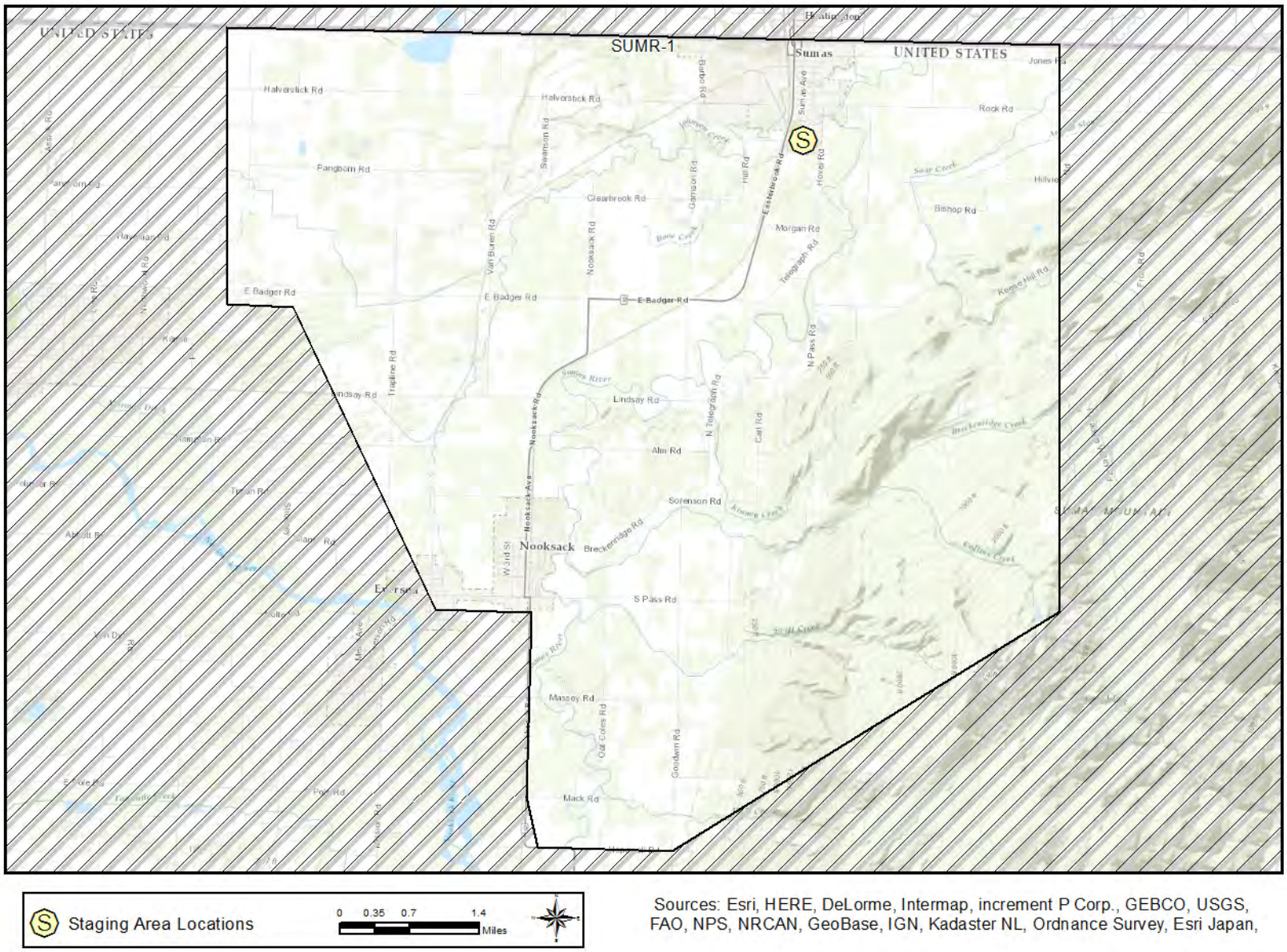


Figure 4-4: Staging Area Locations

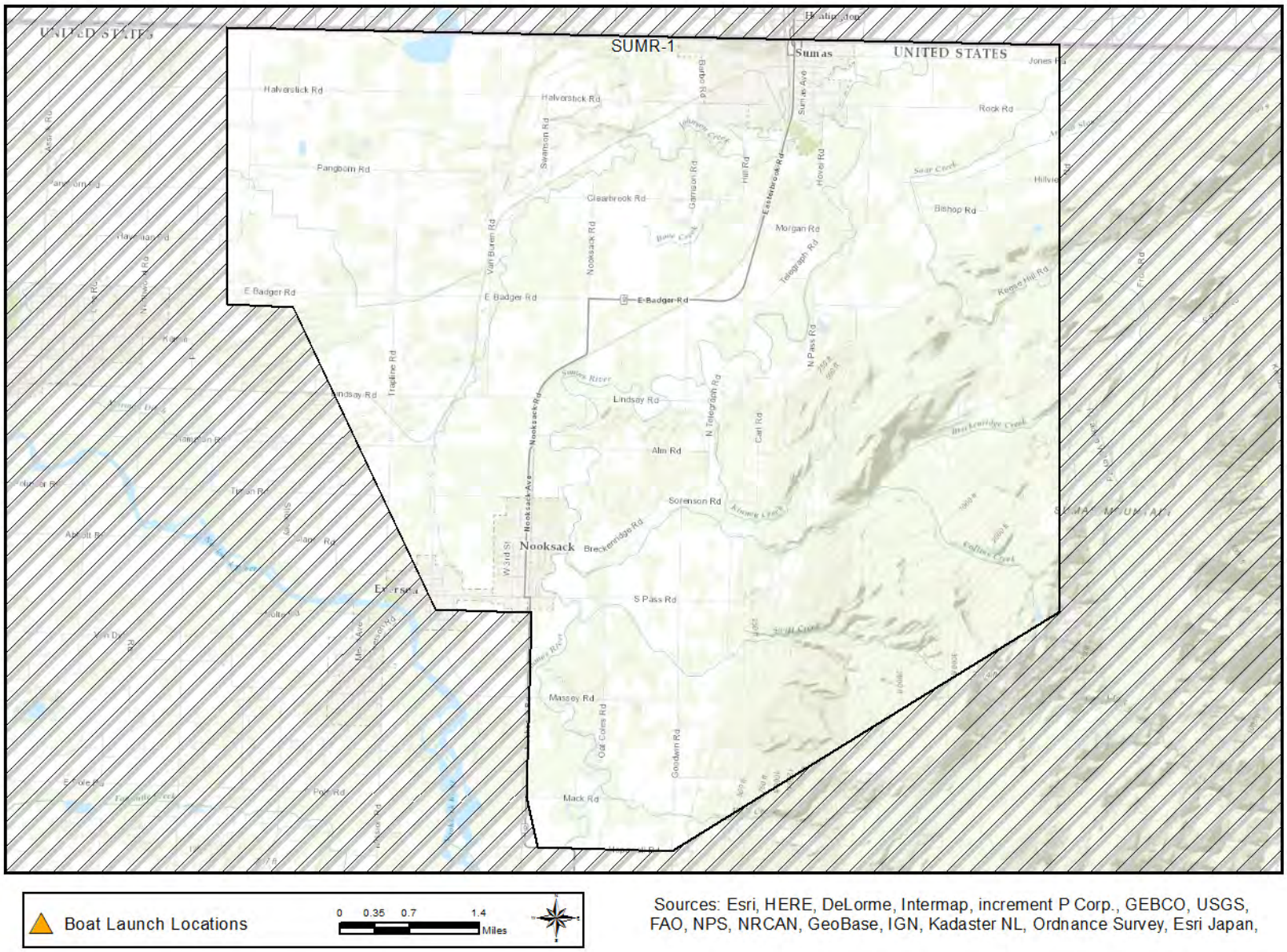


Figure 4-5: Boat Launch Locations

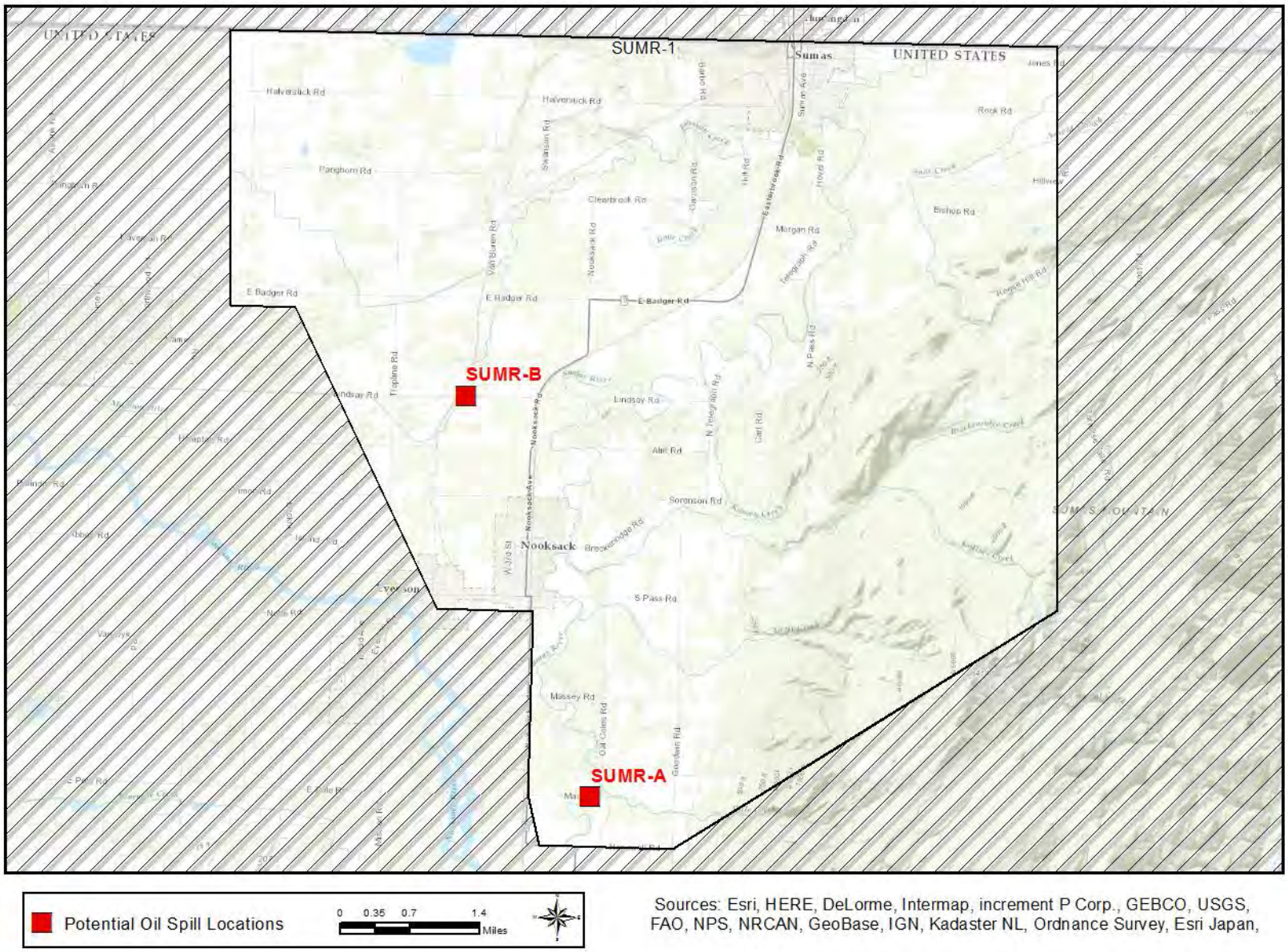


Figure 4-6: Potential Oil Spill Origin Points

4.3 STRATEGY AND RESPONSE PRIORITIES

4.3.1 General Response Priorities

The following list provides the order of response priorities after an oil spill occurs in the planning area.

- Safety is always the number one priority. Do not implement GRP strategies or take actions that will unduly jeopardize public, worker, or personal safety.
- Notify local public health and safety personnel.
- Control and contain the source of the spill; mobilize resources to the spill location. Source control and containment are always a higher priority than the implementation of GRP strategies.
- Determine the priority or order GRP strategies should be implemented based on the location of the spill or affected area. Priorities based on POSOPs are included in this chapter and should be used unless the situation or circumstances dictate otherwise (see Section 4.3.2).
- As response resources become available, implement the GRP Strategies in order of priority or as necessary based on the scenario, trajectory, or conditions of the day.
- Permits may be required. Consult the Northwest Area Contingency Plan Permit Summary Table (NWACP Section 9401) for information.

4.3.2 Strategy Priorities based on Potential Oil Spill Origin Points

Potential Oil Spill Origin Points (POSOPs) are geographic locations that have a defined list of response strategy implementation priorities provided in a table within Section 4.3. The placement of each POSOP is often based on spill risks in the area. Occasionally POSOPs are generalized to ensure implementation priorities are developed throughout an entire planning area.

These points are displayed on area overview and sector maps as red boxes. In establishing priorities during a response, or selecting an appropriate POSOP, the downstream and/or tidal movement of spilled oil and the time it takes to mobilize and deploy response resources must be considered. Generally, on streams, creeks, and rivers, GRP strategies should first be implemented downstream, well beyond the furthest extent of the spill, with deployments continuing upstream towards the spill source and in some cases slightly beyond. POSOPs are alphabetically designated.

The following tables provide the strategy implementation order for Potential Oil Spill Origin Points in the Sumas River GRP: points SUMR-A and SUMR-B. The priority tables provided in this section were developed using a combination of variables, including: notification time, travel time for responders and equipment, average and seasonal flow rates, average winds, deployment time, proximity to the spill source, trustee input, the relative priority of the resources at risk, and other considerations.

Source control and containment are a higher priority than GRP strategy implementation

Table 4.3: SUMR-A (Sumas River at Mack Rd ~SUMR-31.0)

SUMR-A (Sumas River at Mack Rd ~SUMR-31.0)				
Implementation Priority	**Strategy Number**	**Sector Map**	**Strategy Matrix**	**Strategy Details**
1	**SUMR-12.2**	43	45	53
2	**SUMR-19.2**	43	45	55
3	**SUMR-28.7**	43	45	57

Table 4.4: SUMR-B (Johnson Creek at Lindsay Rd ~JONC-10.2 /~SUMR-12.0)

SUMR-B (Johnson Creek at Lindsay Rd ~JONC-10.2 /~SUMR-12.0)				
Implementation Priority	**Strategy Number**	**Sector Map**	**Strategy Matrix**	**Strategy Details**
1	**JONC-1.1**	43	45	51
2	**SUMR-12.2**	43	45	53

4.4 SECTOR MAPS (STRATEGY LOCATIONS)

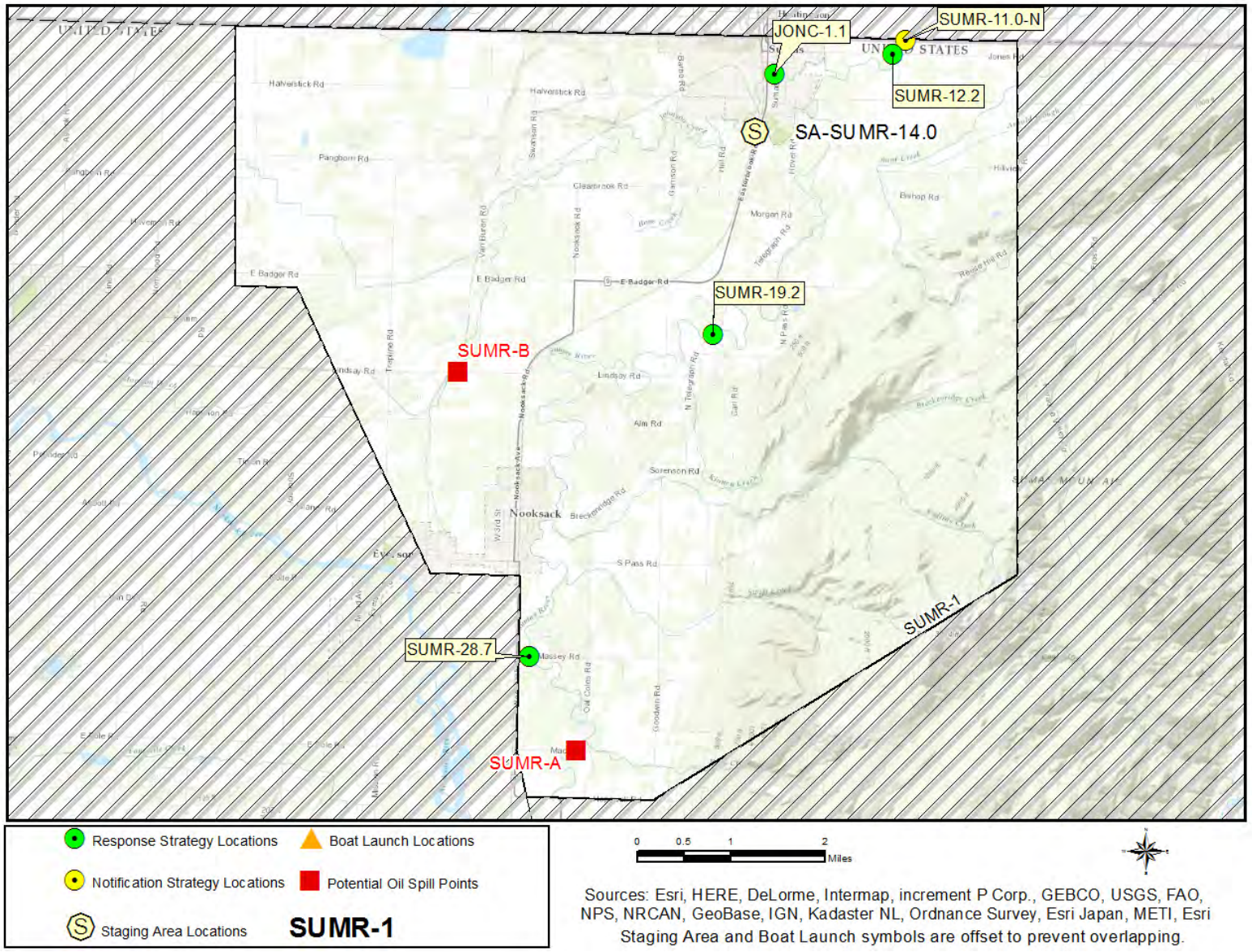
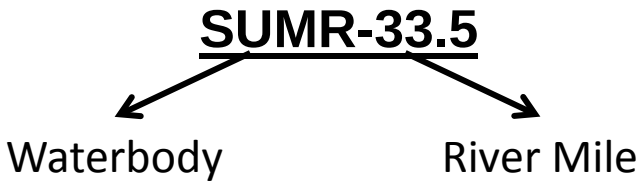


Figure 4-7: Sector Map SUMR-1

4.5 MATRICES

4.5.1 Naming Conventions (Short Names)

Each strategy, staging area, and boat launch location in this document has been given a unique "Short Name" which includes one to six letters denoting the associated waterbody. Following the letters are numbers that specify the location. On rivers or other linear waterbodies, the location is named by river mile: the distance from the mouth of the river or creek upstream to the site location. Some short names indicate whether the site is located on river right, river left, or mid-river by an "R", "L" or "M" after the river mile. On lakes, the numbers indicate the location by shoreline mile, typically starting at the northernmost point and increasing clockwise around the lake. In marine areas, the numbers do not have a geographic meaning. Notification strategies are indicated by an "-N" at the end of the name. Staging Areas and Boat Launches are indicated by the prefix "SA" or "BL".



"SUMR" for the Sumas River and "JONC" for Johnson Creek are the only short name waterbody designations associated with this plan (SUMR-GRP).

4.5.2 Response Strategy Matrices

Strategy Name	Location	Strategy Type	Boom Length	Boat Req?	Staging Area	Resources At Risk	Comments	Sector Map (Page #)	Strategy Details (Page#)
JONC-1.1	Johnson Creek at Sumas Rd Bridge 48.99663 -122.26329	Collection	Boom 200ft, Sorbent 200ft	No	Onsite Stage onsite at public park on river left.	Reptiles and Amphibians, Salmonids, Sensitive Resources Nearby, T/E Species, Waterfowl	Located at public park (river left) with firehouse on river right. Pedestrian access to both sides. River right has steeper bank with blackberry.	43	51
SUMR-12.2	Sumas River at Jones Rd (KM SU-25.2) 49.00003 -122.23569	Collection	Boom 200ft, Sorbent 200ft	No	Onsite Stage onsite, using road surface. Lane closure required.	Reptiles and Amphibians, Salmonids, T/E Species, Waterfowl	Contact Whatcom Health about asbestos risk before arriving at site. Stay on hardened surfaces. Minimize soil disturbance. Follow WSDOT work zone traffic control guidelines when working on or near roadway.	43	53
SUMR-19.2	Sumas River at Telegraph Rd (KM SU-32.8) 48.95600 -122.27661	Collection	Boom 200ft, Sorbent 100ft	No	Onsite Stage onsite, using road surface. Lane closure required.	Reptiles and Amphibians, Salmonids, Sensitive Resources Nearby, T/E Species, Waterfowl	Contact Whatcom Health about asbestos risk before arriving at site. Low bridge, not safe to pass under. Barbed-wire livestock fence downstream. Follow WSDOT work zone traffic control guidelines when working on or near roadway.	43	55
SUMR-28.7	Sumas River at Massey Rd 48.90560 -122.31778	Collection	Boom 200ft, Sorbent 200ft	No	Onsite Stage onsite, using road surface and shoulder. Lane closure required.	Freshwater Wetlands, Great Blue Heron, Reptiles and Amphibians, Salmonids, T/E Species, Waterfowl	Main channel is narrow and may be obscured by vegetation in low water. In high water, chest waders required for muddy banks.	43	57

4.5.3 Notification Strategy Matrices

Notification Strategy	Location	Strategy Type	Resources at Risk	Implementation	Comments	Sector Map (Page #)	Strategy Details (Page#)
SUMR-11.0-N	British Columbia Canadian Oil Spill Response 49.00222 -122.23262	Notification	Downstream Resources, Tribal Lands/Resources	Call Emergency Management British Columbia at 1-800-663-3456 so they can take action to protect the resources under their control, which may include making additional notifications, closure of water intakes, or activation of Canadian oil spill response plans.	Notify British Columbia of a spill, or potential spill, that may cross the border into Canada.	43	61

4.5.4 Staging Area Matrices

Staging Area	Location	Position	Nearest Address	Contact	Strategies Served	Comments	Sector Map (Page #)	Strategy Details (Page#)
SA-SUMR-14.0	Howard Bowen Memorial Park East	48.98764 -122.26260	9603 Hovel Rd Sumas, WA 98295	City of Sumas Parks - Utility Superintendent Sumas, WA 98295 360-988-5711	As needed	Coordinate use of staging area with City of Sumas Parks - Utility Superintendent; call 360-988-5711.	43	65

4.5.5 Boat Launch Matrices

No GRP Boat Launch Locations Currently Exist for this Planning Area

APPENDIX 4A

Response Strategy 2-Pagers

RESPONSE STRATEGIES LIST

JONC-1.1 **SUMR-19.2** **SUMR-19.2** **SUMR-28.7**

Johnson Creek at Sumas Rd Bridge — JONC-1.1

Position - Location:	48° 59.798', -122° 15.797'	48° 59' 47.9", -122° 15' 47.8"	48.99663, -122.26329	Sumas

Strategy Objective: Collection : Collect oil moving downstream on Johnson Creek

Implementation: Anchor 200ft section of boom to creek right near Point A, upstream of Sumas Rd bridge. Use line to extend boom downstream and across creek, securing remaining end of boom to shore on river left near Point B, at bridge. Back downstream side of boom with sorbent. Vac truck or skimmer/storage collection at Point B. Use anchor posts, trees, or existing structures to secure boom to shore. Adjust boom angle as needed for conditions.

Staging Area: Onsite: Stage onsite at public park on river left.

Site Safety: Slips, Trips, Falls; Water Hazard; Power Lines; Heavy Vegetation

Field Notes: Located at public park (river left) with firehouse on river right. Pedestrian access to both sides. River right has steeper bank with blackberry.

Watercourse: Creek - Johnson Creek

Resources at Risk: Reptiles and Amphibians, Salmonids, Waterfowl

Recommended Equipment

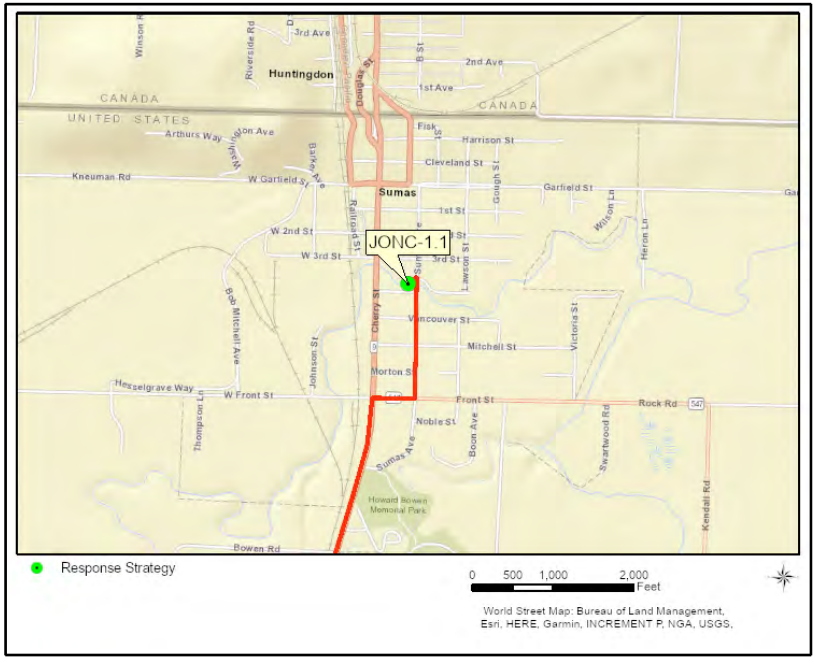
2	Each	Anchoring System(s)- Shoreside
200	Feet	Boom - B3 (River Boom) or equivalent
200	Feet	Boom - Sorbent
1	Each	Heaving Line(s)
1	Each	Machete(s) - (or other vegetation cutting tool)
1	Each	Vac Truck or Skimmer and Storage

Recommended Personnel

2	Laborer
1	Supervisor

Johnson Creek at Sumas Rd Bridge JONC-1.1

JONC-1.1 Photo: From bridge, looking upriver/west. Taken in Spring (May).



Site Contact

City of Sumas
Primary Contact : Parks - Utility Superintendent

Sumas, WA 98295
360-988-5711

Nearest Address

759 Sumas Ave
Sumas, WA 98295

Driving Directions

1. From Seattle, take I-5 N to exit 256A.
2. Merge onto WA-539 N/Meridian St (0.5 mi)
3. Continue on WA-539 N/Guide Meridian/Meridian St, through the next 4 roundabouts. (12.4 miles)
4. Turn right onto WA-546 E. Continue on WA-546 E, through the next 2 roundabouts (8 miles)
5. Continue onto WA-9 N (3.5 miles)
6. Turn right onto Columbia St (0.1 miles)
7. Turn left onto Sumas Ave (0.01 miles)
8. Site is located in the city park on the left, just past the bridge.

Sumas River at Jones Rd (KM SU-25.2) SUMR-12.2

Position - Location:	49° .002', -122° 14.141'	49° 0' .1", -122° 14' 8.5"	49.00003, -122.23569	Sumas

Strategy Objective:	Collection : Collect oil moving downstream on Sumas River
Implementation:	Secure 100ft section of boom to upstream side of bridge, tying to bridge or other existing structures. Deploy second 100ft section of boom to downstream side of bridge, also securing to existing structures. Deploy multiple lengths of sorbent boom under bridge, between two hard boom segments. Minimize soil and sediment disturbance. Remain on paved surfaces. Replace saturated sorbents as needed.
Staging Area:	Onsite : Stage onsite, using road surface. Lane closure required.
Site Safety:	ASBESTOS IN SOILS: Contact Whatcom County Health; Traffic Hazard; Slips, Trips, Falls; Water Hazard
Field Notes:	Contact Whatcom Health about asbestos risk before arriving at site. Stay on hardened surfaces. Minimize soil disturbance. Follow WSDOT work zone traffic control guidelines when working on or near roadway.
Watercourse:	River - Sumas River
Resources at Risk:	Reptiles and Amphibians, Salmonids, T/E Species, Waterfowl

Recommended Equipment

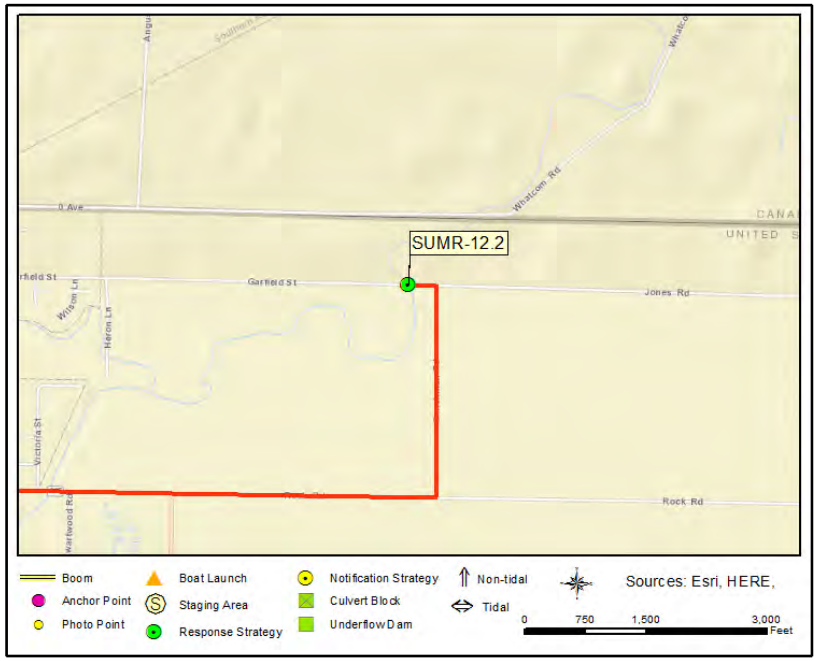
200	Feet	Boom - B3 (River Boom) or equivalent
200	Feet	Boom - Sorbent
1	Each	Heaving Line(s)
200	Feet	Line - 1/2" poly line

Recommended Personnel

2	Laborer
1	Supervisor

Sumas River at Jones Rd (KM SU-25.2) SUMR-12.2

SUMR-12.2 Photo: On Sumas River right, looking NW downstream at strategy location. Taken 5/31/17.



Site Contact

Whatcom County Health Department
Emergency Contact : Asbestos Sediment Information
360-778-6000

Whatcom County Public Works
Municipality (County/City) :
360-778-6200

Nearest Address

4519 Jones Rd
Sumas, WA 98295

Driving Directions

1. From Seattle, take I-5 N to exit 256A.
2. Merge onto WA-539 N/Meridian St (0.5 mi)
3. Continue on WA-539 N/Guide Meridian/Meridian St, through the next 4 roundabouts. (12.4 miles)
4. Turn right onto WA-546 E. Continue on WA-546 E, through the next 2 roundabouts (8 miles)
5. Continue onto WA-9 N (3.5 miles)
6. Turn right onto WA-547/Front St (0.8 miles)
7. Continue straight onto Rock Rd (0.6 miles)
8. Turn left onto Conchman Rd (0.5 miles)
9. Turn left on Garfield St (Jones Rd) (0.09 miles)
10. Site is at bridge, near 4519 Jones Rd, 98295

Sumas River at Telegraph Rd (KM SU-32.8) SUMR-19.2

Position - Location:	48° 57.360', -122° 16.586'	48° 57' 21.6", -122° 16' 35.2"	48.95600, -122.27644	Everson

Strategy Objective:	Collection : Collect oil moving downstream on Sumas River
Implementation:	Secure 100ft section of boom to upstream side of bridge, tying to bridge or other existing structures. Deploy second 100ft section of boom to downstream side of bridge, also securing to existing structures. Deploy multiple lengths of sorbent boom under bridge, between two hard boom segments. Minimize soil and sediment disturbance. Remain on paved surfaces. Replace saturated sorbents as needed.
Staging Area:	Onsite : Stage onsite, using road surface. Lane closure required.
Site Safety:	ASBESTOS IN SOILS: Contact Whatcom Health Dept; Traffic Hazard; Slips, Trips, Falls; Water Hazard
Field Notes:	Contact Whatcom Health about asbestos risk before arriving at site. Low bridge, not safe to pass under. Barbed-wire livestock fence downstream. Follow WSDOT work zone traffic control guidelines when working on or near roadway.
Watercourse:	River - Sumas River
Resources at Risk:	Reptiles and Amphibians, Salmonids, T/E Species, Waterfowl

Recommended Equipment

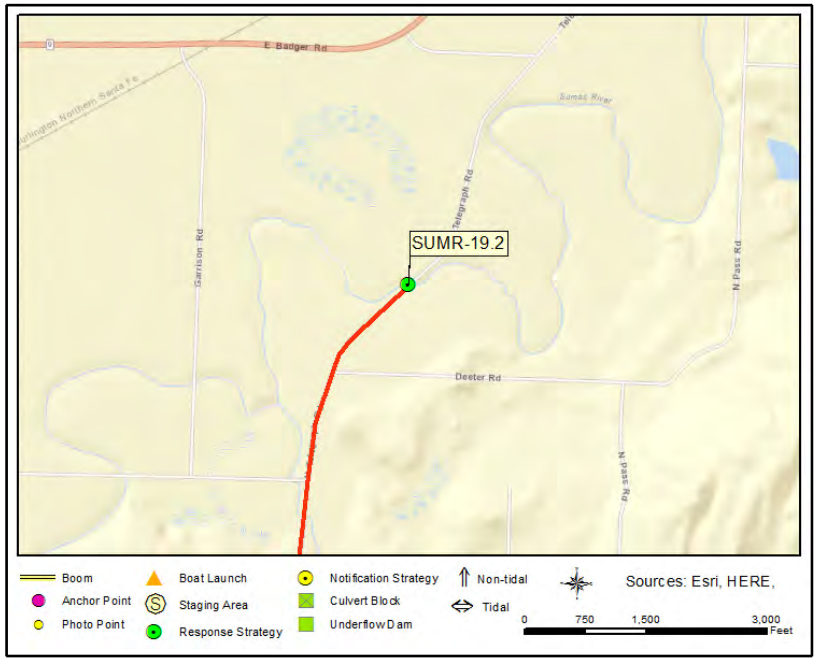
200	Feet	Boom - B3 (River Boom) or equivalent
100	Feet	Boom - Sorbent
1	Each	Heaving Line(s)
100	Feet	Line - 1/2" poly line

Recommended Personnel

2	Laborer
1	Supervisor

Sumas River at Telegraph Rd (KM SU-32.8) SUMR-19.2

SUMR-19.2 Photo: From river left near Point B (collection point), looking SW upstream at strategy location. Taken 3/7/17.



Site Contact

Whatcom County Health Department
Emergency Contact : Asbestos Sediment Information
360-778-6000

Whatcom County Public Works
Municipality (County/City) :
360-778-6200

Nearest Address

8676 N Telegraph Rd
Everson, WA 98247

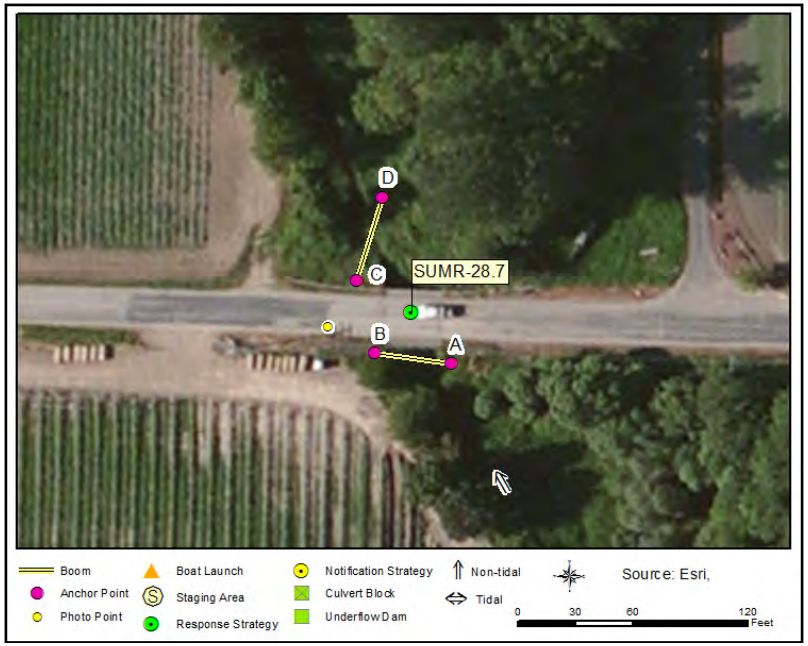
Driving Directions

1. From Seattle, take I-5 N to exit 255.
2. At exit 255, take ramp right for WA-542 East toward Mt Baker (0.2 mi)
3. Turn right onto WA-542 / E Sunset Dr. Continue straight through 1 roundabout. (9.9 mi)
4. At roundabout, take 2nd exit onto WA-9 / Lawrence Rd (6.3 mi)
5. Turn right onto S Pass Rd (1.5 mi)
6. Turn left onto Goodwin Rd (1.0 mi)
7. Turn right onto Sorenson Rd (0.3 mi)
8. Turn left onto N Telegraph Rd (1.6 mi)
9. Site is located at bridge, near 8676 N Telegraph Rd, 98247

Sumas River at Massey Rd — SUMR-28.7

Position - Location:	48° 54.336', -122° 19.067'	48° 54' 20.2", -122° 19' 4.0"	48.90560, -122.31778	Everson

Strategy Objective:	Collection : Collect oil moving downstream on Sumas River
Implementation:	Deploy one length of hard boom across Sumas River, upstream of bridge. Deploy additional length of boom across river, downstream o bridge. Deploy multiple lengths of sorbent/sweep across river, upstream of hard boom. Use shoreside anchoring systems or existing features to secure boom to banks. Replace saturated sorbents as needed. If product collecting beyond capacity sorbents can handle, use vac truck or skimmer/storage for collection from road shoulder.
Staging Area:	Onsite : Stage onsite, using road surface and shoulder. Lane closure may be required.
Site Safety:	Roadway Hazard; Slips, Trips, Falls; Water Hazard; Active Farms and Workers
Field Notes:	Follow WSDOT work zone traffic control guidelines when working on or near roadway. Main channel is narrow. In high water, chest waders required for muddy banks.
Watercourse:	River - Sumas River
Resources at Risk:	Freshwater Wetlands, Great Blue Heron, Reptiles and Amphibians, Salmonids, T/E Species, Waterfowl



Recommended Equipment

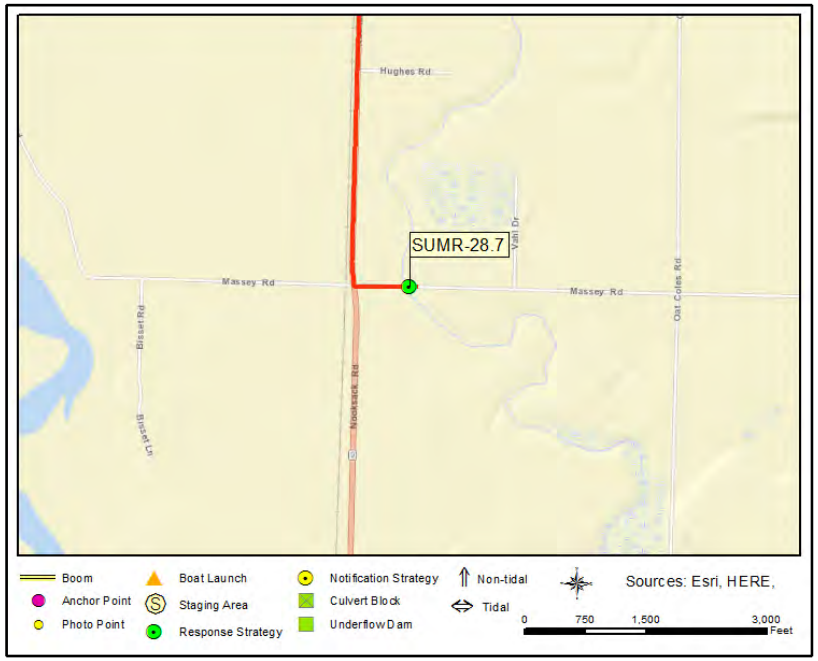
4	Each	Anchoring System(s)- Shoreside
200	Feet	Boom - B3 (River Boom) or equivalent
200	Feet	Boom - Sorbent
1	Each	Heaving Line(s)
1	Each	Machete(s) - (or other vegetation cutting tool)
1	Each	Vac Truck or Skimmer and Storage
2	Each	Waders

Recommended Personnel

2	Laborer
1	Supervisor

Sumas River at Massey Rd SUMR-28.7

SUMR-28.7 Photo: From river left, looking SE upstream at strategy location. Taken 3/7/17.



Site Contact

Whatcom County Public Works
Municipality (County/City) :
360-778-6200

Nearest Address

3150 Massey Rd
Everson, WA 98247

Driving Directions

1. From Seattle, take I-5 N to exit 256A.
2. Turn right onto WA-539 N/Meridian St (0.5 mi)
3. Continue on WA-539 N/Guide Meridian/Meridian St, through the next 1 roundabouts. (7.5 miles)
4. At second roundabout, take the 1st exit onto WA-544 E (7.9 miles)
5. Turn right on Nooksack Rd (WA-9) (1.01 miles)
6. Turn left on Massey Rd (0.15 miles)
7. Strategy is located at bridge, near 3150 Massey Rd, 98247

APPENDIX 4B

Notification Strategy 2-Pagers

NOTIFICATION STRATEGIES – LIST

SUMR-11.0-N

British Columbia Canadian Oil Spill Response — SUMR-11.0-N

Position - Location:	49° .133', -122° 13.957'	49° 0' 8.0", -122° 13' 57.4"	49.00222, -122.23262	Victoria

Strategy Objective: Notification : Notify British Columbia of a spill, or potential spill, that may cross the border into Canada.

Implementation: Call Emergency Management British Columbia at 1-800-663-3456 so they can take action to protect the resources under their control, which may include making additional notifications, closure of water intakes, or activation of Canadian oil spill response plans.

Field Notes: The Sumas River flows north into Canada; 11 miles after crossing the border, it empties into the Fraser River. Nearest Canadian settlements are Huntingdon (at border), Abbotsford, and Sumas First Nation land (Upper Sumas Reserve 6).

Watercourse: River - Sumas River

Resources at Risk: Downstream Resources, Tribal Lands/Resources

Communication Process and Action:

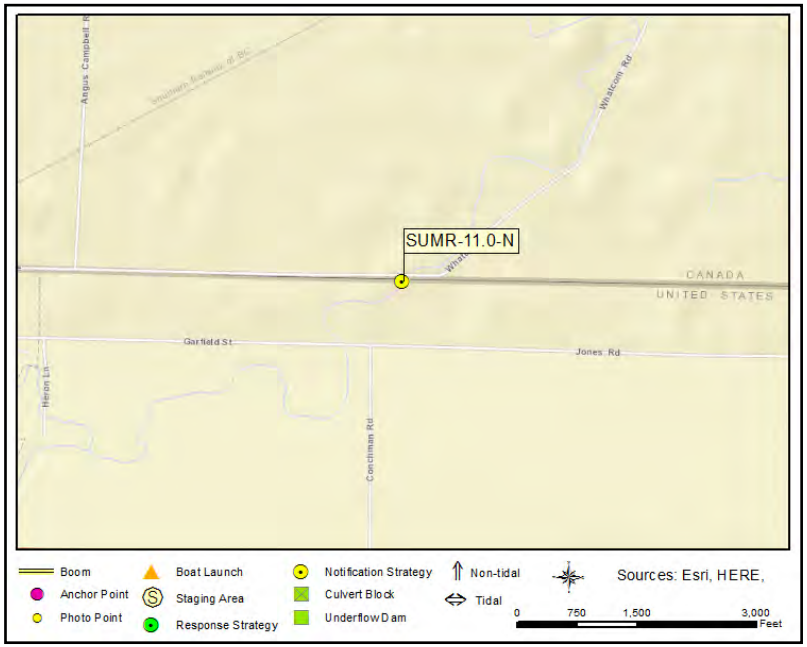
Call British Columbia's Environmental Emergency Line at 1-800-663-3456 so they can take action to protect the resources under their control, which may include activation of Canadian oil spill response plans.

When reporting a spill, provide the dispatcher with as much of the following as possible:

-Your name and phone number
-Name and phone number of the person who caused the spill
-Location and time of the spill
-Type and quantity of the substance spilled
-Cause and effect of the spill
-Details of action taken or proposed
-Description of the spill location and the surrounding area

British Columbia Canadian Oil Spill Response SUMR-11.0-N

SUMR-11.0-N Photo: Canada



Site Contact

British Columbia's Environmental Emergency Hotline
Emergency Contact : BC Oil Spill Report Hotline

Victoria, BC
800-663-3456

Nearest Address

3rd Fl 2975 Jutland St
Victoria, BC V8T 5J9

Driving Directions

1. From Anacortes, take Sidney-Anacortes ferry to Sidney, BC.
2. Turn left on Ocean Ave (0.15 miles)
3. At roundabout, take the first exit to proceed on 5th St (0.31 miles)
4. Turn left on Beacon Ave (0.31 miles)
5. Make sharp left on HWY-17 S (Patricia Bay Hwy) (14.28 miles)
6. Turn right on Cloverdale Ave (0.21 miles)
7. Turn left on Douglas St (HWY-1) (0.32 miles)
8. Turn right on Finlayson St (0.15 miles)
9. Continue on Jutland Rd (0.23 miles)
10. At roundabout, take the second exit to proceed on Jutland Rd (0.14 miles)
11. At roundabout, take the second exit to proceed on Jutland Rd (0.03 miles)
12. Finish at 3rd Fl 2975 Jutland St, V8T 5J9, on the left

APPENDIX 4C

Staging Area 2-Pagers

STAGING AREAS - LIST

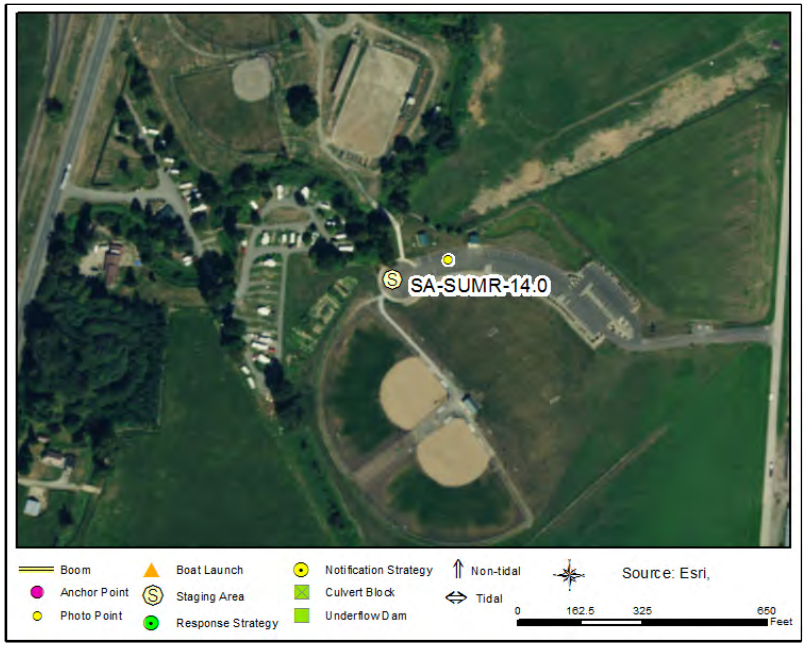
SA-SUMR-14.0

Howard Bowen Memorial Park East — SA-SUMR-14.0

Staging Area

Position - Location:	48° 59.258', -122° 15.756'	48° 59' 15.5", -122° 15' 45.4"	48.98764, -122.26260	Sumas

Comments: Coordinate use of staging area with City of Sumas Parks - Utility Superintendent; call 360-988-5711.

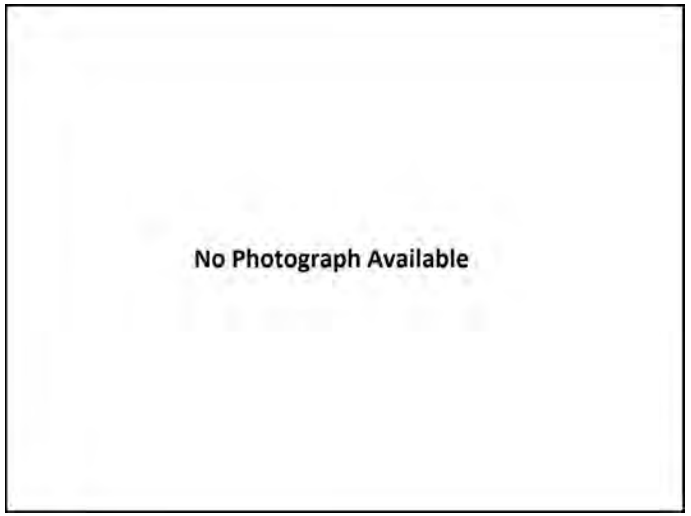


GRP Response Strategies Served:

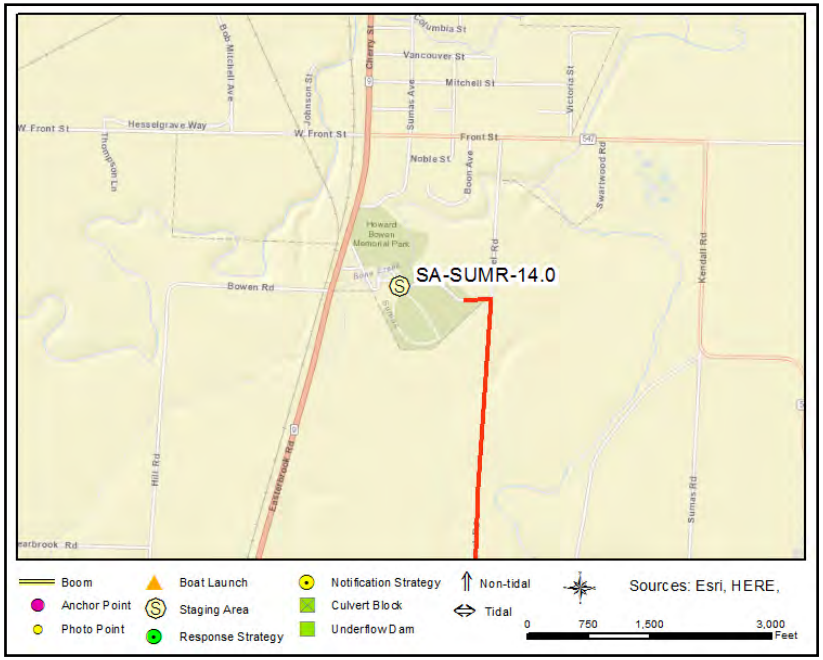
Location Information

Asset	Type/Status	Amount/Number
Boat Dock(s)	No	
Boat Ramp(s)	None	
Cell Phone Coverage	Yes	3 Bars LTE Verizon
Covered Spaces	Yes	1 Gazebo
Estimated Lot Size		50000 Sq Ft
Fuel	No	
Lot Cover (Primary)	Asphalt	100 %
Parking - Car	Marked	130
Parking - Trailer	Field	50 West Park/Rodeo
Power	Yes	
Restroom	Restroom - Flush	1
User Fee	No	
Waste Disposal	Dump Station	1 West Park/Rodeo
Water (potable)	Yes	

Howard Bowen Memorial Park East SA-SUMR-14.0



SA-SUMR-14.0 Photo: No photograph available.



Site Contact

City of Sumas
Municipality (County/City) : Parks - Utility Superintendent

Sumas, WA 98295
360-988-5711

Nearest Address

9603 Hovel Rd
Sumas, WA 98295

Driving Directions

1. From Seattle, take I-5 North towards Bellingham.
2. Take exit 255 for WA-542 E/Sunset Dr toward Mt Baker (0.2 miles)
3. Use the right 2 lanes to turn right onto WA-542 E/E Sunset Dr; Continue to follow WA-542 E (4.7 miles)
4. Turn left onto Everson Goshen Rd (2.0 miles)
5. At the traffic circle, continue straight to stay on Everson Goshen Rd (4.1 miles)
6. Turn right onto WA-544 E (2.1 miles)
7. Turn right onto Kale St (0.3 miles)
8. Continue onto Everson Rd (0.4 miles)
9. Everson Rd turns right and becomes W Main St (1.0 miles)
10. Continue onto W Columbia St (0.1 miles)
11. Turn left onto WA-9 N/Nooksack Ave (3.3 miles)
12. Turn right onto WA-9 N (2.2 miles)
13. Turn right onto Morgan Rd (0.6 miles)
14. Turn left onto Hovel Rd (0.9 miles)
15. Turn left into Howard Bowen Park at 9603 Hovel Rd, Sumas, WA 98295

APPENDIX 4D

Boat Launch 2-Pagers

No Boat Launch Locations Currently Exist for the Sumas River