Lower Deschutes River Geographic Response Plan (GRP)

What is a GRP?

GRPs identify, describe and prioritize sensitive natural and cultural resources that need protecting during an oil spill

How are GRPs used?

Emergency Phase

(First 12 - 24 hrs)

Provide a pre-planned set of responses strategies to be implemented immediately

How are they used as a spill response develops?

Planning Phase

GRP is used as a guidance document

The GRP Protection Strategies are refined based on “real time” information

Limitations of the GRPs

- GRPs – address mostly public natural and cultural resources at this time
  - Work is ongoing to identify resources of economic significance (i.e., shell fish beds, aquaculture, ports, etc)
- Protection strategies identified in GRPs are designed for use with persistent oils
- Not all sensitive areas can be protected

Where have GRPs been developed in the Northwest?

- Fourteen GRPs for Puget Sound, Strait of Juan de Fuca, and the outer-coast of Washington and Oregon
- Nine for the Columbia and Snake Rivers
- Five for inland rivers:
  - Lower Deschutes (OR), Lower Nisqually (WA), Spokane (WA), Clearwater/Lochsa (ID), and Pend Oreille (ID) Rivers

How are they developed?

Public workshops are held and participants include:

- Federal, state, tribal, local representatives
- Environmental organizations
- Oil spill response contractors
- Industry representatives
- Ports, pilots, etc.
- Recreational and other water users

How are they developed?

At the workshops, participants:

1. Identify and describe the major public natural and cultural resources in area
2. Devise protection strategies
3. Identify & document the equipment and logistical needs to protect the resources

Contents of the GRPs

- Spill response contact information
- Site descriptions
- Reference maps
- Prioritized protection strategies
- Shoreline information
- Sensitive resource information
- Logistical information
- Appendices

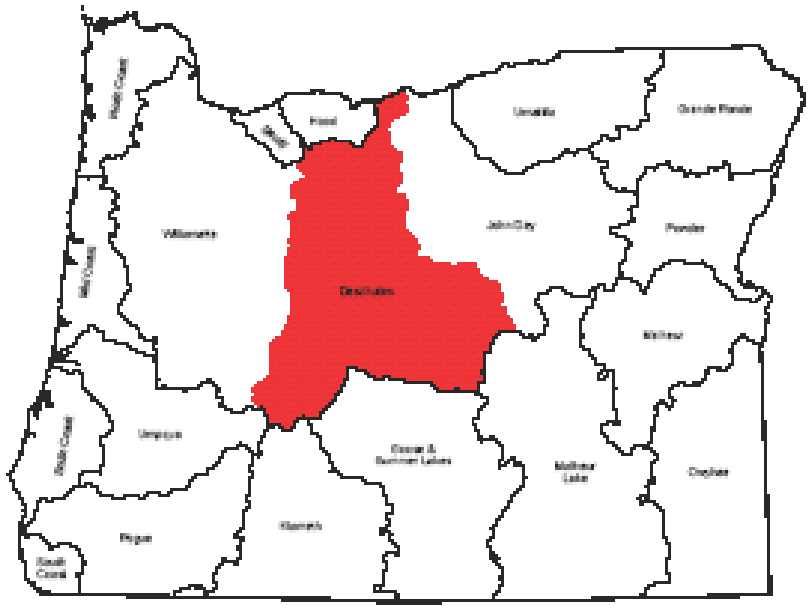
Lower Deschutes River GRP

Central Oregon

Lower Deschutes River GRP

- Unique partnership with Burlington Northern Railroad
- Unique participants
  - Recreational boaters and fly fishing industry
  - Confederated Tribes of the Warm Springs
  - City and County Emergency Managers
- Great partnership with other federal agencies, especially BLM

LOWER DESCHUTES RIVER GEOGRAPHIC RESPONSE PLAN (GRP)



1. Spill Response Contact Information

Spill Response Contact Sheet
Notifications For Hazardous Substance Or Oil Spills

National Response Center	(800) 424-8802
Oregon Emergency Response System (OERS)	(800) 452-0311 (800) OILS-911

Environmental Protection Agency (EPA)

National Response Center	(800) 424-8802
Region 10 Spill Response	(206) 553-1263
Oregon Ops Office	(503) 326-3250

U.S. Coast Guard

Marine Safety Office Portland	
Watchstander	(503) 240-9301
Port Operations	(503) 240-9379
Pacific Strike Team	(415) 883-3311
District 13:	
MEP	(206) 220-7210
Command Center	(206) 220-7001
Safety Officer	(206) 220-7242
Public Affairs	(206) 220-7237

National Oceanic Atmosphere Administration

Scientific Support Coordinator	(206) 526-6829
Weather	(206) 526-6087

Department of the Interior

Regional Environmental Officer	
Preston Sleeger	(503) 231-6157
Allison O'Brien	(503) 231-6157
Bureau of Land Management	
District HazMat Coordinator	
Larry Thomas	(541) 416-6734
Deschutes Resource Area Field Manager	
Robert Towne	(541) 416-6766
Lower Deschutes River Manager	
Lynette Ripley	(541) 416-6781
Central Oregon Interagency Dispatch Center	(541) 416-6800

Oregon State

Emergency Response System (OERS)	
	(800) 452-0311
	(503) 378-6377
(In state)	(800) OILS-911
Department of Environmental Quality	
Headquarters (Portland)	(503) 229-5153
Northwest Region (Portland)	(503) 229-5263
Eastern Region (Bend)	(541) 338-6146
Eastern Region (Pendleton)	(541) 278-4063
State Historic Preservation Officer – contact via OERS	
Oregon Department of Fish and Wildlife – contact via OERS	

Local Government

City of Maupin	(541) 395-2698
Sherman County	(541) 565-3100

Burlington Northern Santa Fe Railway

Emergency Response	(800) 832-5452

Portland General Electric

Emergency	(503) 464-8343
Pelton Dam	
Control Room	(541) 475-2277

Fish Hatcheries

Warm Springs National Fish Hatchery	(541) 553-1692, x22
Oak Springs Hatchery	(541) 395-2546
Round Butte Hatchery	(541) 475-6393

Response Contractors

Clean Rivers Cooperative	(503) 220-2040
Cowlitz Clean Sweep, Inc.	(360) 423-6316
National Response Corporation Environmental	(503) 283-1150 (800) 337-7455
Fred Devine	(503) 283-5285
Global Diving and Salvage	(206) 623-0621
Rick Franklin Corporation	(800) 428-1516 (541) 451-1275
Tidewater Environmental	(503) 289-4274

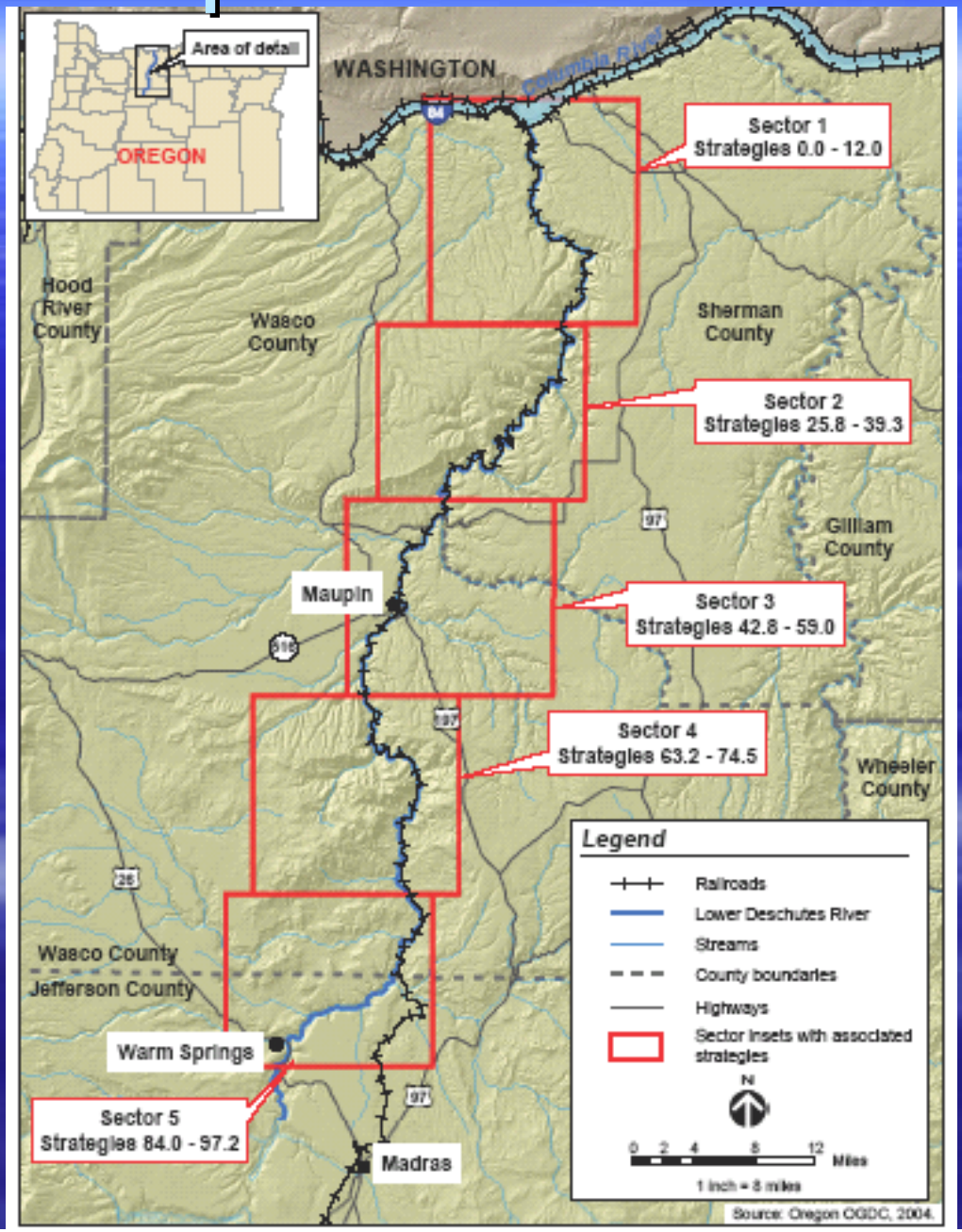
Confederated Tribes of the Warm Springs

Chief of Police:		
Don Courtney		(541) 553-1171
Chief of Fire & Safety:		
Dan Martinez		(541) 553-1634
Tribal Historic Preservation Officer:		
Sally Bird	Work	(541) 553-2002
	Cell	(541) 980-9802
	Home	(541) 475-1899
THPO (alternate):		
Maralee Wemz	Cell	(541) 980-9802
	Home	(541) 475-1899
Environmental Resources:		
Richard Craig	Work	(541) 553-2018
	Cell	(541) 419-8386
	Home	(541) 553-2018
Bureau of Indian Affairs:		
Jerry Henricksen	Cell	(541) 980-3038

2. Site Description

- General description of GRP area
- Physical features
- Hydrology (links to real time flow data)
- Winds
- Climate
- Risk assessment (vessels, facilities, roads, pipelines, rail corridors)

3. Reference Maps



4.Protection/Collection Strategies

- Strategies
- Maps
- Protection techniques
- Equipment requirements
- Access points
- Photos

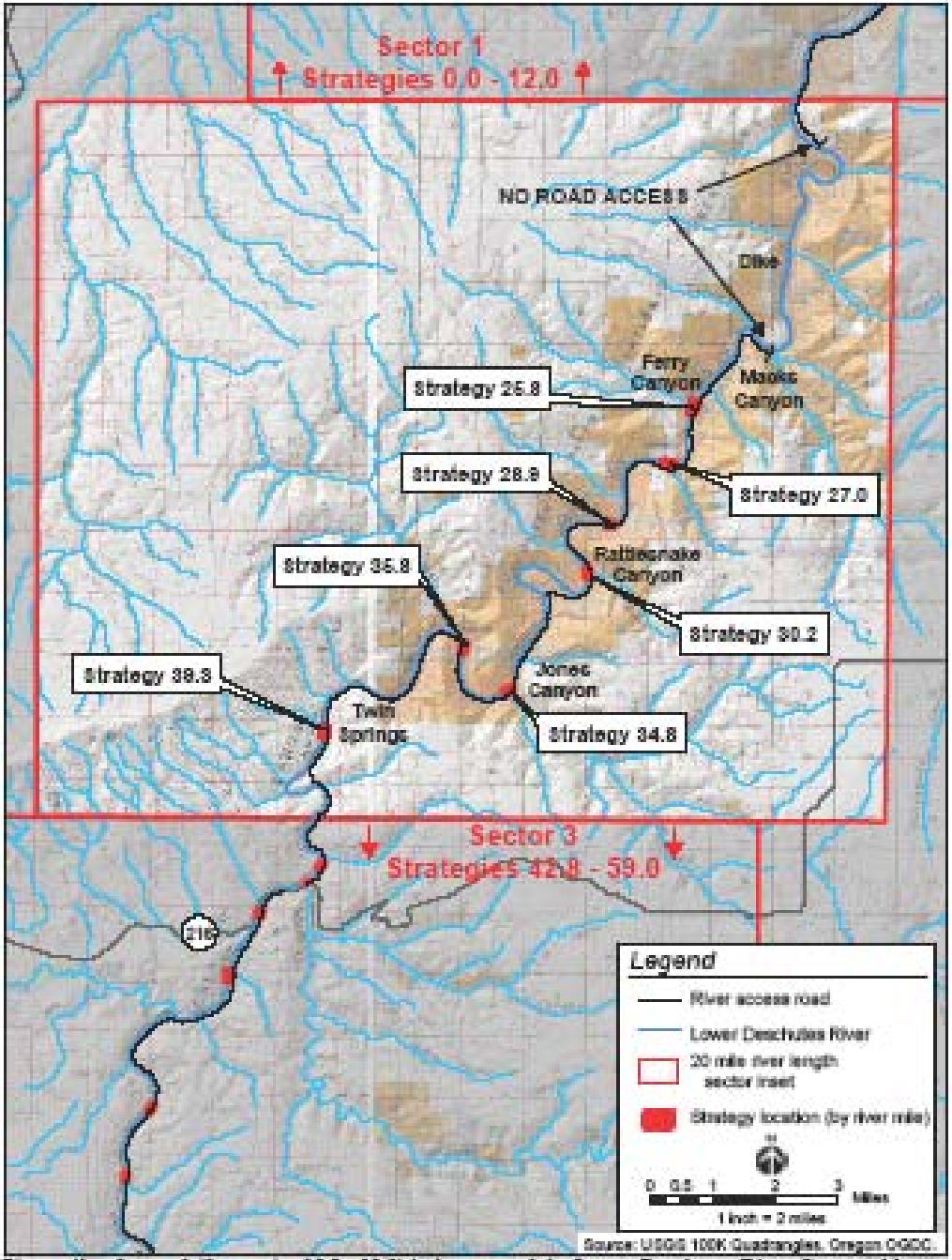
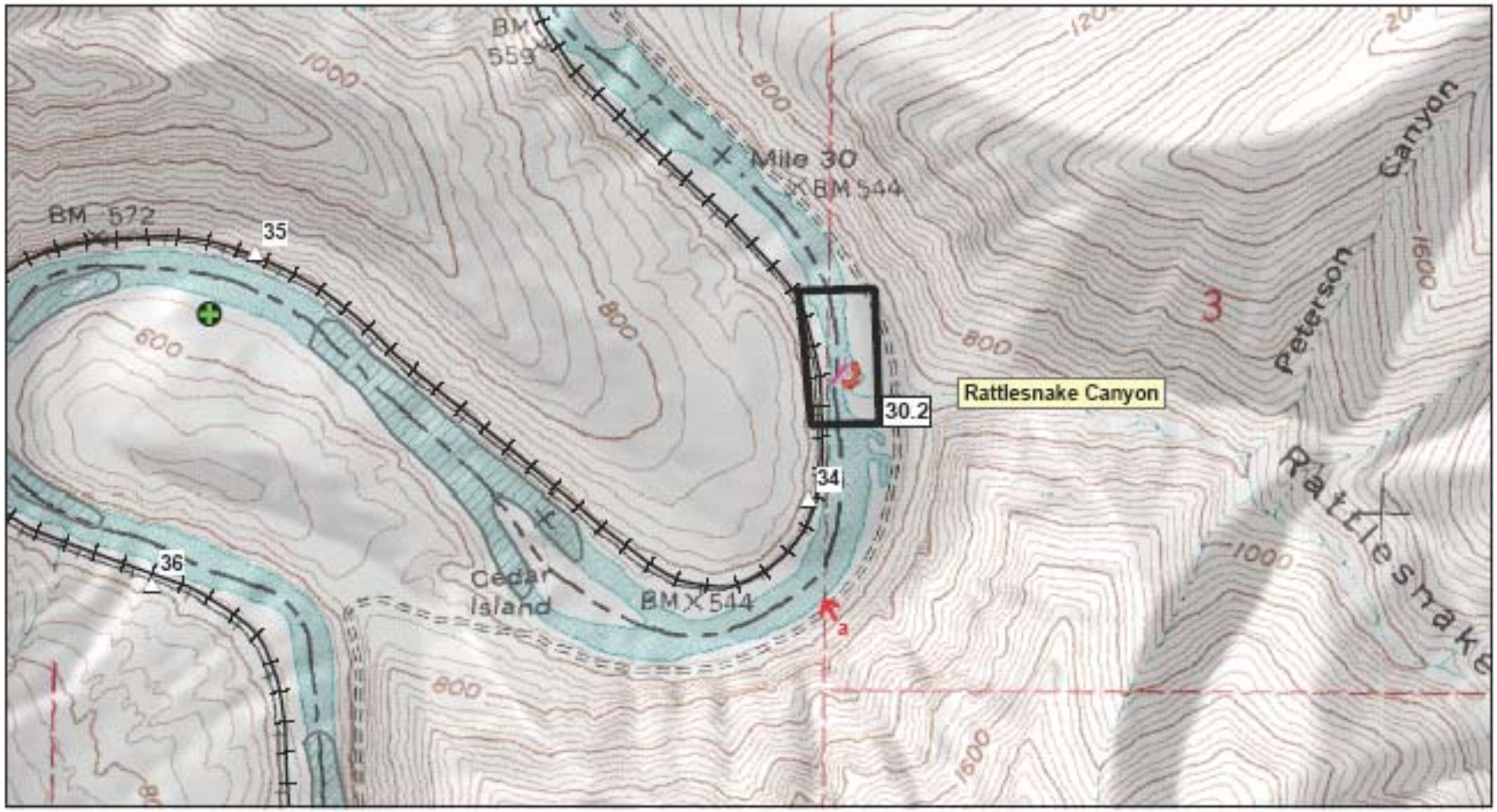


Figure 4b. Sector 2 (Strategies 25.8 - 39.3) index map of the Lower Deschutes River Geographic Response Plan.

Table 4b. Strategies 25.8 to 39.3 – Booming Strategies and Resources Protected

Strategy Number	Response Strategy	Number of Booms and Length of Each	Strategy Implementation	Staging Area	Site Access	Resources Protected	Comments	Status	Lat/Long (NAD27)
RM 25.8	Collection	(14) 50'	Use 14 sections of 50' collection boom off of east bank	Macks Canyon	East bank dirt road, approximately 15.3 miles north from Hwy. 216	Downstream habitat, salmon spawning beds (see Table 6-1 for seasonal fish presence)	RR milepost 29.2	Unverified	-120.89660, 45.37466
RM 27.0	Collection	(16) 50'	Use 16 sections of 50' collection boom off of east bank	Macks Canyon	East bank dirt road, approximately 14.1 miles north from Hwy. 216	Downstream habitat	RR milepost 30.3	Unverified	-120.90480, 45.36130
RM 28.9	Collection	(12) 50'	Use 12 sections of 50' collection boom off of east bank	Private land, east bank	East bank dirt road, approximately 12.4 miles north from Hwy. 216	Downstream habitat	RR milepost 32.1	Unverified	-120.92384, 45.34737
RM 30.2	Collection	(10) 50'	Use 10 sections of 50' collection boom off of east bank	Rattlesnake Canyon	East bank dirt road, approximately 10.8 miles north from Hwy. 216	Downstream habitat	RR milepost 33.8	Unverified	-120.93110, 45.33618
RM 34.8	Collection	(11) 50'	Use 11 sections of 50' collection boom off of east bank	Jones Canyon Camp	East bank dirt road, approximately 8.0 miles north from Hwy. 216	Downstream habitat, salmon spawning beds (see Table 6-1 for seasonal fish presence)	RR milepost 37.8	Unverified	-120.95662, 45.30875
RM 35.8	Collection	(11) 50'	Use 11 sections of 50' collection boom off of east bank	Oakbrook	East bank dirt road, approximately 6.5 miles north from Hwy. 216	Downstream habitat	RR milepost 39.2	Unverified	-120.97169, 45.31873
RM 39.3	Collection	(11) 50'	Use 11 sections of 50' collection boom off of east bank	Pine Tree	East bank dirt road, approximately 3.0 miles north from Hwy. 216	Downstream habitat, salmon spawning beds (see Table 6-1 for seasonal fish presence)	RR milepost 43.0	Unverified	-121.01695, 45.28920

- Strategy Number
- Response Strategy Status
- Length of Boom
- Implementation
- Staging Area
- Site Access
- Resources Protected
- Comments
- Status
- Lat/Long



Link to specific strategy information

Link to previous strategy

Link to next strategy

Link to overview map

Strategy 30.2

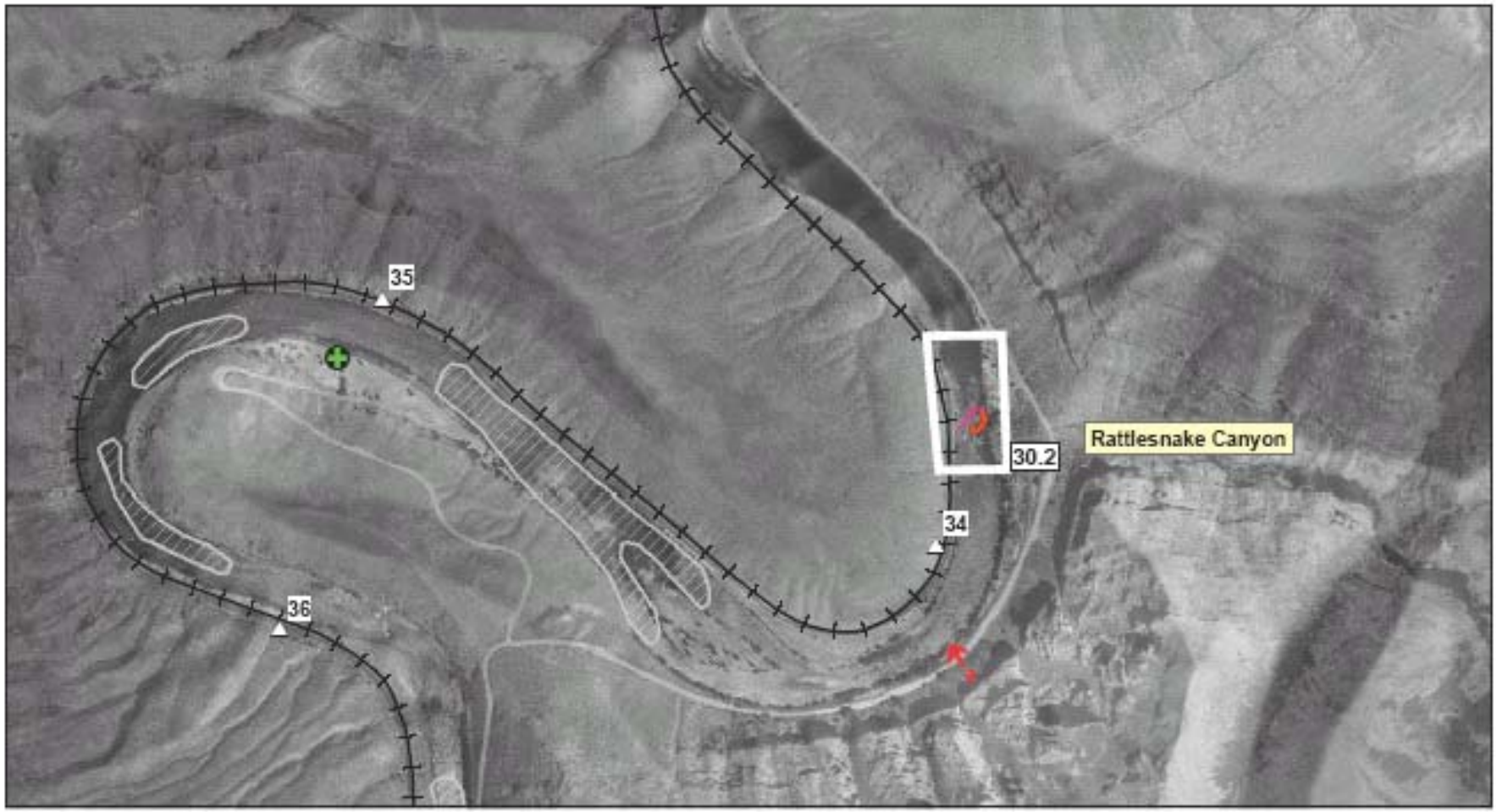
Proposed Booming and Collection Strategies
Lower Deschutes River Geographic Response Plan

N

0 250 500 1,000 1,500 2,000 Feet

Legend

- Response strategy area
- Response Objective
  - Collection
  - Deflection
  - Diversion
- Boat ramp
- 5 Railroad milepost
- a Photograph location and direction
- Location where roads cross railroad tracks
- 2001 Osprey nest sighting (approximate location)
- Salmon spawning bed



Link to specific strategy information

Link to previous strategy

Link to next strategy

Link to overview map

Strategy 30.2

Proposed Booming and Collection Strategies
Lower Deschutes River Geographic Response Plan

N

0 250 500 1,000 1,500 2,000 Feet

Legend

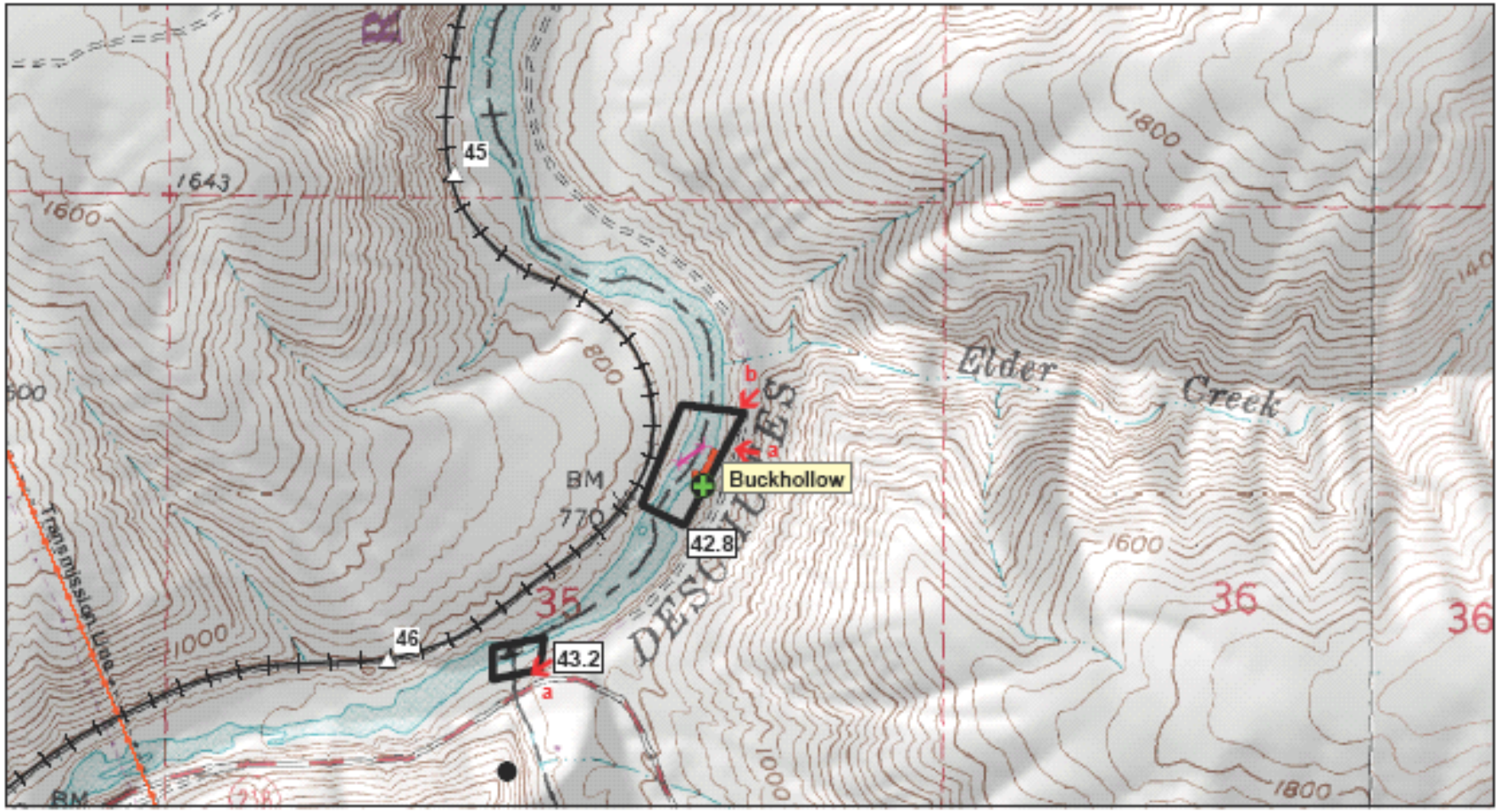
- Response strategy area
- Response Objective
- Collection
- Deflection
- Diversion
- Boat ramp
- 5 Railroad milepost
- a Photograph location and direction
- Location where roads cross railroad tracks
- 2001 Osprey nest sighting (approximate location)
- Salmon spawning bed

Table 4-9. Strategy 30.2 – Booming Strategies and Resources Protected

Strategy Number	Response Strategy	Number of Booms and Length of Each	Strategy Implementation	Staging Area	Site Access	Resources Protected	Comments	Status	Lat/Long (NAD27)
RM 30.2	Collection	(10) 50'	Use 10 sections of 50' collection boom off of east bank	Rattlesnake Canyon	East bank dirt road, approximately 10.8 miles north from Hwy. 216	Downstream habitat	RR milepost 33.8	Unverified	-120.93110, 45.33618

No photo available at this time

River Mile 30.2a: Looking north from east side bank. Strategy 30.2 is around corner, downstream.



Link to specific strategy information

Link to previous strategy

Link to next strategy

Link to overview map

Strategies 42.8 and 43.2

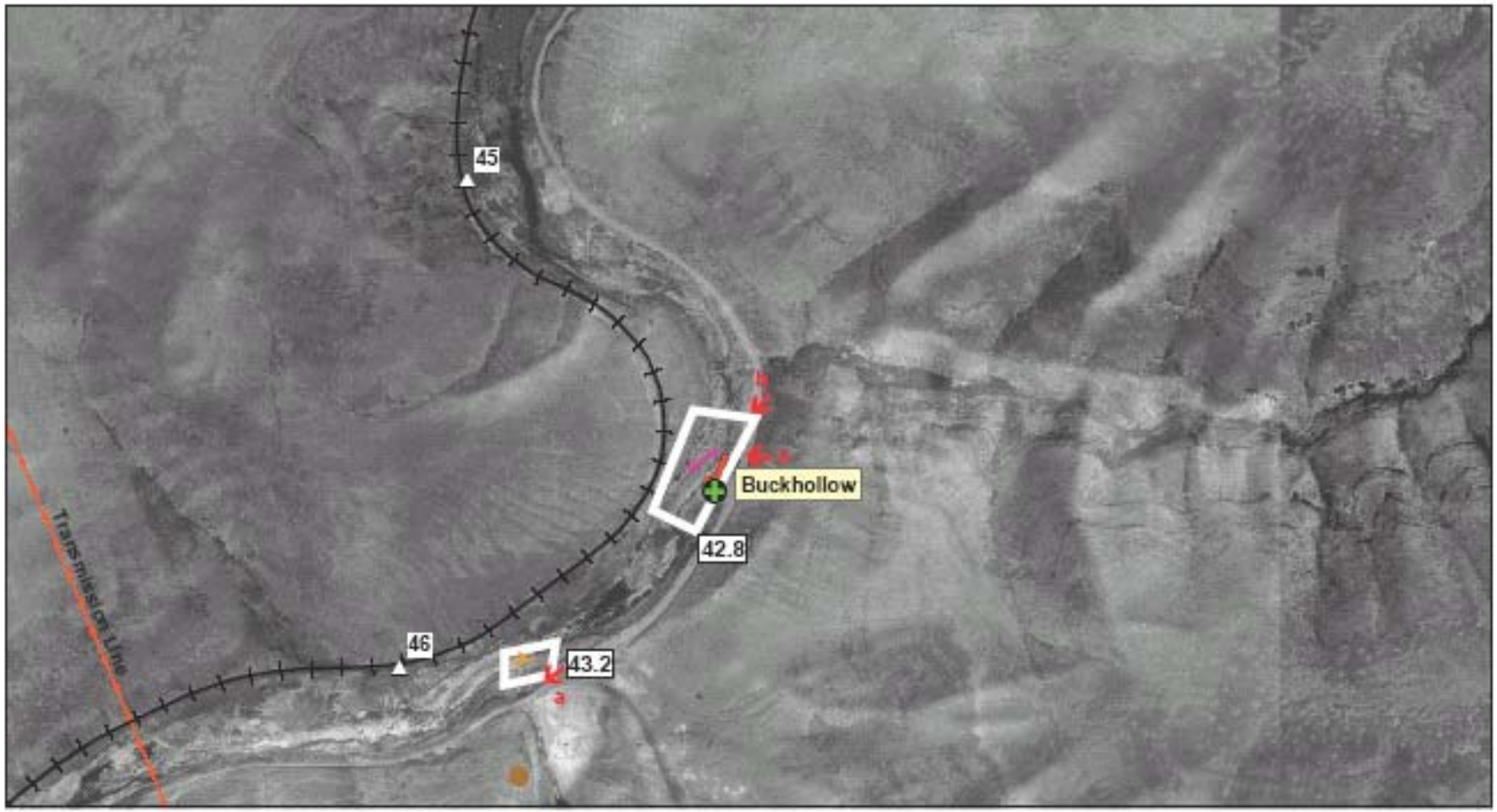
Proposed Booming and Collection Strategies
Lower Deschutes River Geographic Response Plan

N

0 250 500 1,000 1,500 2,000 Feet

Legend

- Response strategy area
- Response Objective
  - Collection
  - Deflection
  - Diversion
- Boat ramp
- 5 Railroad milepost
- a Photograph location and direction
- Location where roads cross railroad tracks
- 2001 Osprey nest sighting (approximate location)
- Salmon spawning bed



Link to specific strategy information

Link to previous strategy

Link to next strategy

Link to overview map

Strategies 42.8 and 43.2

Proposed Booming and Collection Strategies
Lower Deschutes River Geographic Response Plan

N

0 250 500 1,000 1,500 2,000 Feet

Legend

- Response strategy area
- Response Objective
- Collection
- Deflection
- Diversion
- Boat ramp
- 5 Railroad milepost
- a Photograph location and direction
- Location where roads cross railroad tracks
- 2001 Osprey nest sighting (approximate location)
- Salmon spawning bed

Table 4-13. Strategies 42.8 and 43.2 – Booming Strategies and Resources Protected

Strategy Number	Response Strategy	Number of Booms and Length of Each	Strategy Implementation	Staging Area	Site Access	Resources Protected	Comments	Status	Lat/Long (NAD27)
RM 42.8	Collection	(8) 50'	Use 5 sections (50') of short skirt boom to deflect oil to east side; use 3 sections (50') of short skirt boom to collect oil at shore	Buck Hollow	East bank of river, dirt road approximately 0.4 miles north from Hwy. 216 to Buck Hollow	Downstream habitat	RR milepost 45.6 Osprey nest nearby	Unverified	-121.01810, 45.26777
RM 43.2	Deflection	(1) 200'	Use 1 section (200') to send oil into main channel and protect Buck Hollow Creek	Buck Hollow	Hwy. 216 on east bank near Sherars Bridge	Buck Hollow Creek	RR milepost 45.8 Osprey nest nearby	Unverified	-121.02260, 45.26407

River Mile 42.8a: Looking west from east side road. Note river access and use of trees and rocks to anchor boom.

River Mile 42.8b: Looking south at Strategy 42.8. Trees and rocks were useful in exercise.

5. Shoreline Information

- Shoreline type and sensitivity maps
- Oil countermeasures matrix

Shoreline Type 1: Exposed rock shores and vertical, hard man-made structures.

Shoreline Type 3: Fine to medium grained sand beaches and steep unvegetated river banks.

Shoreline Type 6B: Gravel beaches – cobbles to boulders.

5.3.1 Shoreline Countermeasures Matrices

Table 5-1. Very Light Oil (Jet fuels, Gasoline)

- Highly volatile (should all evaporate within 1-2 days).
- High concentration of toxic (soluble) compounds.
- Result: Localized, severe impacts to water column and shoreline resources.
- Duration of impact is a function of the resource recovery rate.
- No dispersion necessary.

SHORELINE TYPES CODES

1 - Exposed rock shores and vertical, hard man-made structure	6C - Exposed rip rap
2 - Exposed wave-cut platforms	7 - Exposed tidal flat
3 - Fine to medium grained sand beaches and steep unvegetated river banks	8A - Sheltered vertical rock shores and vertical, hard man-made structures (e.g., docks, bulkheads)
4 - Coarse grained sand beaches	8B - Sheltered rubble slope
5 - Mixed sand and gravel beaches, including artificial fill containing a range of grain size and material	9A - Sheltered sand and mud flats
6A - Gravel beaches - pebbles to cobble	9B - Sheltered vegetated low bank
6B - Gravel beaches - cobbles to boulders	10 - Marshes

SHORELINE TYPES

COUNTERMEASURES	1	2	3	4	5	6A	6B	6C	7	8A	8B	9A	9B	10
CONVENTIONAL METHODS														
No action	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Manual removal of oil														
Passive collection of oil			C	C	C	C	C	C						
Oiled debris removal	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Trenching/recovery wells			C	C	C									
Oiled sediment removal														
Ambient water flooding (deluge)														C
Ambient water flush <50 psi														
Ambient water flush <100 psi														
Warm water flush <90°F														
Hot water flush >90°F														
Vacuum removal of oil														
Sediment reworking			C	C	C	C								
Sediment Removal - cleaning - replacement														
Cutting oiled vegetation														
ALTERNATIVE METHODS*														
In-situ burning on shore														
Chemical stabilization, protection, or cleaning														
Nutrient enhancement														
Microbial addition														

R Recommend - May be Preferred Alternative
C Conditional (Refer to NW Shoreline Countermeasures Manual)
Shaded areas are Not Applicable or Not Generally Recommended
* Follow approved process defined in National Contingency Plan (NCP) and NW Area Contingency Plan

This countermeasure advisability matrix is only a general guide for removal of oil from shoreline substrates. It must be used in conjunction with the entire Shoreline Countermeasures Manual in the NW Area Contingency Plan plus field observations and scientific advice. The countermeasures listed are not necessarily the best under all circumstances, and any listed technique may need to be used in conjunction with other techniques (including ones not listed herein). The Federal On-Scene Coordinator (FOSC) or the state OSC operating with the FOSC's authorization has the responsibility for and the authority to determine which countermeasure(s) are appropriate for various situations encountered. Selection of countermeasures is based on the degree of oil contamination, the shoreline type, and the presence of sensitive resources.

6. Sensitive Resources/Wildlife Flight Restriction Information

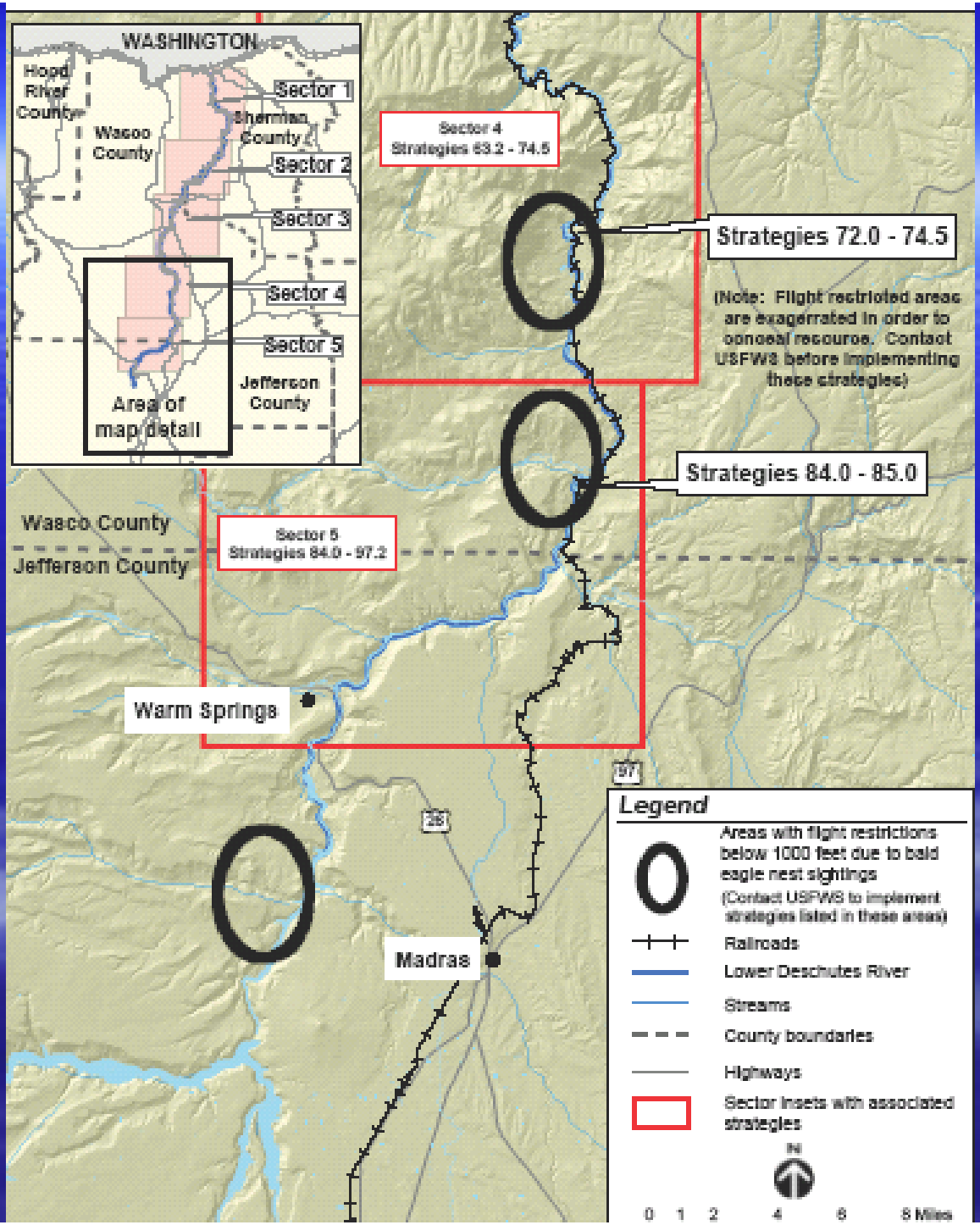
- Information provided by fish and wildlife agencies (state and federal)
  - Birds, mammals, fish, etc.
  - Flight restriction maps and tables
- Cultural resources
- Commercial aquaculture

Table 6.1. Life cycles of selected fish species in the Lower Deschutes River

Fish Species/ Month	January	February	March	April	May	June	July	August	September	October	November	December
Spring chinook (*Oncorhynchus tshawytscha*)	Emerge from gravel: Juveniles in system for 1 to 2 years.	Emerge from gravel: Juveniles in system for 1 to 2 years.	Emerge from gravel: Juveniles in system for 1 to 2 years.	Adults enter to spawn. Juveniles in system for 1 to 2 years.	Adults enter to spawn. Juveniles in system for 1 to 2 years.	Adults enter to spawn. Juveniles in system for 1 to 2 years.	Adults in the system. Juveniles in system for 1 to 2 years.	Adults in the system. Juveniles in system for 1 to 2 years.	Juveniles in system for 1 to 2 years. Eggs in gravel.	Juveniles in system for 1 to 2 years. Eggs in gravel.	Juveniles in system for 1 to 2 years. Eggs in gravel.	Juveniles in system for 1 to 2 years. Eggs in gravel.
Fall chinook (*Oncorhynchus tshawytscha*)	Eggs in gravel. Juveniles in system for 1 to 2 years.	Eggs in gravel. Juveniles in system for 1 to 2 years.	Emerge from gravel: Juveniles in system for 1 to 2 years.	Emerge from gravel: Juveniles in system for 1 to 2 years.	Emerge from gravel: Juveniles in system for 1 to 2 years.	Adults enter to spawn. Juveniles in system for 1 to 2 years.	Adults enter to spawn. Juveniles in system for 1 to 2 years.	Adults enter to spawn. Juveniles in system for 1 to 2 years.	Adults in the system. Juveniles in system for 1 to 2 years.	Eggs in gravel. Juveniles in system for 1 to 2 years.	Eggs in gravel. Juveniles in system for 1 to 2 years.	Eggs in gravel. Juveniles in system for 1 to 2 years.
Coho (*Oncorhynchus kisutch*)	Eggs in gravel. Juveniles in system for 1 to 2 years.	Eggs in gravel. Juveniles in system for 1 to 2 years.	Juveniles first emerge and are in system for 1 to 2 years.	Juveniles first emerge and are in system for 1 to 2 years.	Juveniles first emerge and are in system for 1 to 2 years.	Juveniles first emerge and are in system for 1 to 2 years.	Juveniles in system for 1 to 2 years.	Adults enter to spawn. Juveniles in system for 1 to 2 years.	Adults enter to spawn. Juveniles in system for 1 to 2 years.	Adults enter to spawn. Eggs in gravel.	Adults enter to spawn. Eggs in gravel. Juveniles in system for 1 to 2 years.	Adults enter to spawn. Eggs in gravel. Juveniles in system for 1 to 2 years.
Sockeye (*Oncorhynchus nerka*)				Juveniles migrate to ocean from rearing lakes.	Juveniles migrate to ocean from rearing lakes.	Adults enter to spawn. Juveniles in system for 1 to 2 years. Juveniles migrate to ocean from rearing lakes.	Adults enter to spawn.	Adults enter to spawn.				Few returning sockeye due to hydroelectric complex. Spawning and rearing of juveniles would occur in Suttle Lake, Deschutes is only used for migration.
Summer steelhead (*Oncorhynchus mykiss*)	Adults overwinter in system. Juveniles in the system for approximately 2 years.	Adults overwinter in system. Juveniles in the system for approximately 2 years.	Adults overwinter in system. Juveniles in the system for approximately 2 years. Eggs in gravel for approximately 4 to 7 weeks before hatching.	Adults overwinter in system. Juveniles in the system for approximately 2 years. Eggs in gravel for approximately 4 to 7 weeks before hatching.	Adults overwinter in system. Juveniles in the system for approximately 2 years. Eggs in gravel for approximately 4 to 7 weeks before hatching.	Adults overwinter in system. Juveniles in the system for approximately 2 years. Eggs in gravel for approximately 4 to 7 weeks before hatching.	Adults enter to spawn, overwinter in system. Juveniles in the system for approximately 2 years.	Adults enter to spawn, overwinter in system. Juveniles in the system for approximately 2 years.	Adults enter to spawn, overwinter in system. Juveniles in the system for approximately 2 years.	Adults enter to spawn, overwinter in system. Juveniles in the system for approximately 2 years.	Adults overwinter in system. Juveniles in the system for approximately 2 years.	Adults overwinter in system. Juveniles in the system for approximately 2 years.

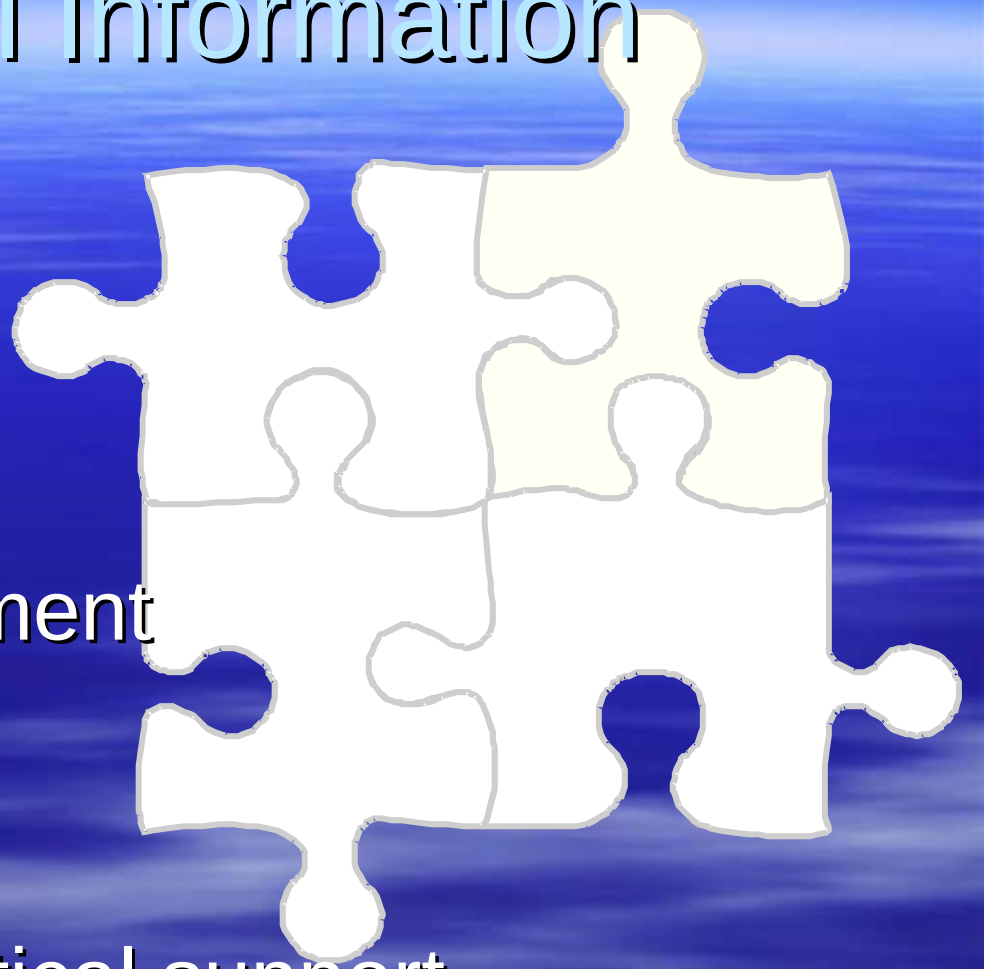
Shaded areas indicate likely period that eggs can be expected in spawning areas identified in maps in Section 4.

Flight restrictions to protect wildlife



7. Logistical Information

- Command posts
- Communications
- Equipment locations
- Local support equipment
- Air support
- Access points
- Other pertinent logistical support



7. Logistical Information

The following list was originally compiled at the Lower Deschutes River Geographic Response Plan Workshop, held in The Dalles, Oregon, on January 28-29, 2004. Areas of information include command posts, communications, equipment cache locations, inventory of local support equipment, air support, access points to the bay, and other pertinent logistical support. Use Appendix C to report corrections or updates.

Table 7-1. Logistical Information.

Subject	Name	Characteristics	Contact	Phone #
Command Posts:	City of Maupin	City Park Building	Jon Halquist	541-395-2765
	Northern Wasco Fire, The Dalles		Chief Joe Richardson	541-296-4314
	City of Morrow, 309 Dewey St., Morrow	60 X 40	Shawn Payne	541-565-3100
	Deschutes State Park, Mouth of Deschutes	Mobile Command location	Darryl Fitzwater	541-739-2322
Communications:	City of Maupin	FM Emergency NET		541-395-2698
	Tri County Dispatch, Sherman, Gilliam, Wheeler			800-277-1929
	Oregon Emergency Response Systems	Fire Net, Sat Phone, ARES	Dan Malin	800-452-0311
	Oregon State Police		The Dalles Patrol Office	541-296-2750
	Oregon National Guard			541-296-1827
	National Interagency Fire Cache	Boise		
	Redmond Fire Cache			
	DEQ			
Cellphones:	Edge Wireless			866-350-3343
Equipment Cache Locations:	Moody, OR (potential)	Conex Storage container, fast water boom, line throwers, small tools, fast water boom equipment	BNSF	800-832-5452
	Maupin, OR (potential)	Conex Storage container, fast water boom, line throwers, small tools, fast water boom equipment	BNSF	800-832-5452
Inventory of Local Support Equipment:	NRC Environmental, State Contractor	Full complement of response equipment including booms, boats, tanks, vac trucks		503-283-1150
	Cowlitz Clean Sweep		Bob Matson	888-423-6316
	Global Diving and Salvage		Devon Grennan	206-623-0821
	MFSA		Brent Way	503-220-2697
	Tidewater Environmental		Holly Robinson	800-562-1607
	RPC Corporation		Rick Franklin	800-428-1516
	EQM, USEPA contractor	Full complement of response equipment including booms, boats, tanks, vac trucks	Ron McMannamy	425-673-2900
	RM Cat		Bob Janik	

- Type of Resource
- Name
- Characteristics
- Contact Name
- Phone Number

Other Activities

- Strategies tested during drills and spills
  - Test feasibility, deploy equipment and train people
- Fast water boom training conducted for responders and to test strategies
- Equipment pre-staged by BNSF

How are GRPs maintained?

- Northwest Area Committee, GRP Workgroup coordinates the development and content of GRPs
  - Agencies, contractors, industry, etc.
- Documents are maintained, updated and distributed by Washington Department of Ecology, Oregon Department of Environmental Quality, and EPA

Where can I get a copy of a GRP?

- Links to all GRPs provided on Regional Response Team 10/Northwest Area Committee website
  - www.rrt10nwac.com