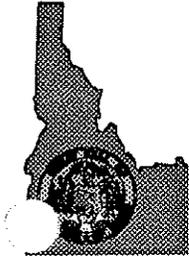


Northwest Area Committees

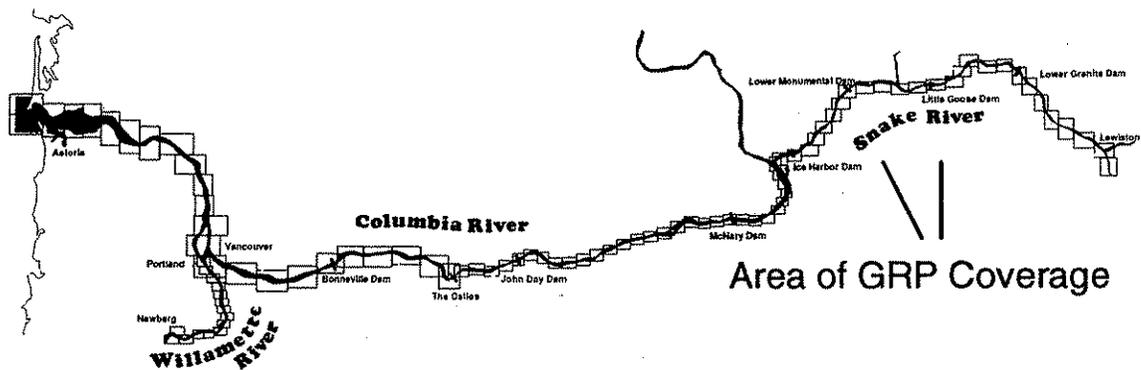
Puget Sound Area Committee

Portland Area Committee

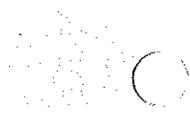
Inland Area Committee



**Snake River
LOWER MONUMENTAL POOL AREA
GEOGRAPHIC RESPONSE PLAN (GRP)**



Map reproduced with permission from the *Evergreen Pacific Cruising Atlas*



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Snake River Lower Monumental Area Geographic Response Plan

**Prepared for the Northwest Area Committee by a joint committee comprised of local, state and federal government, tribal and industry representatives.
(For specific contributors, see Appendix B.)**

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SPILL RESPONSE CONTACT SHEET

Required Notifications For Hazardous Substance or Oil Spills

USCG National Response Center(800) 424-8802
In Oregon:
Department of Emergency Management(800) 452-0311
In Washington:
Emergency Management Division.....(800) 258-5990
Department of Ecology Eastern Regional Office(509) 456-2926

U.S. Coast Guard

National Response Center (800) 424-8802
Marine Safety Office Puget Sound:
Watchstander (206) 217-6232
Safety Office (206) 217-6232
Marine Safety Office Portland:
Watchstander (503) 240-9301
Safety Office (503) 240-9379
Pacific Strike Team (415) 883-3311
District 13:
MEP/drat (206) 220-7210
Command Center (206) 220-7021
Safety Officer (206) 220-7242
Public Affairs (206) 220-7237
Vessel Traffic Service (VTS) (206) 217-6050

Environmental Protection Agency (EPA)

Region 10 Spill Response (206) 553-1263
Washington Ops Office (360) 753-9083
Oregon Ops Office (503) 326-3250
Idaho Ops Office (208) 334-1450
RCRA/ CERCLA Hotline (800) 424-9346
Public Affairs (206) 553-1203

National Oceanic & Atmospheric Administration

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

Canadian

Marine Emergency Ops/Vessel Traffic (604) 666-6011
Environmental Protection (604) 666-6100
B.C. Environment (604) 356-7721

Department of Interior

Environmental Affairs (503) 231-6157

U.S. Navy

Supervisor of Salvage (202) 695-0231

Army Corps of Engineers

Hazards to Navigation (206) 764-3754
Walla Walla District Office (509) 527-7700
Lwr Monumental Dam Control Room (509) 282-3218

Columbia County

Columbia County Sherriff (509) 382-2518
Columbia County D.E.M. (509) 382-2534

Franklin County

Franklin County D.E.M. (509) 545-3500
Franklin County Sheriff (509) 545-3501

Walla Walla County

Walla Walla County D.E.M. (509) 527-3750
Walla Walla County Sherriff (509) 527-3268

Whitman County

Whitman County Sherriff/D.E.M. (509) 397-6266

Federal O.S.R.O./

State Approved Response Contractors

Airo Services (206)383-4916
Anchorage Launch Service Co. (503) 297-4588
Clean Sound Coop (206) 744-0948
Cowlitz Clean Sweep, Inc. (360) 423-6316
FOSS Environmental (206) 767-0441
Fred Devine (503) 283-5285
Global Environmental (206) 623-0621
Island Oil Spill Association (360) 378-5322
MSRC (206) 252-1300
Northwest EnviroField Services (206) 762-1190
Olympus Environmental (206) 735-6625
Olympus Environmental/Spokane (509) 927-1239
Pacific Link Environmental (360) 733-2483
Riedel Environmental Service (800) 334-0004
Roar Tech, Inc. (509) 535-6757
Spencer (503) 655-0896
Temco (360) 371-2052
Tidewater Environmental (503) 289-4274
& (360) 695-8088

Washington State

Department of Ecology Headquarters (360) 407-6900
Southwest Region (360) 407-6300
Northwest Region (206) 649-7000
Central Region (509) 575-2490
Eastern Region (509) 456-2926

Department of Fish and Wildlife (360) 534-8233

Emergency Management Division (360) 438-8639
(800) 258-5990

State Patrol/Yakima Dispatch (509) 575-2320

Oregon State

Department of Environmental Quality (503) 229-5733

Emergency Management (503) 378-6377
(800) 452-0311

Stop Oregon Littering/Vandalism (503) 647-9855

Idaho State

Division of Environmental Quality (208) 334-5879
(208) 334-3266
Department of Emergency Services (208) 334-3460

HOW TO USE THIS GEOGRAPHIC RESPONSE PLAN

Purpose of Geographic Response Plan (GRP)

This plan prioritizes resources to be protected and allows for immediate and proper action. By using this plan, the first responders to a spill can avoid the initial confusion that generally accompanies any spill.

Geographic Response Plans are used during the emergent phase of a spill which lasts from the time a spill occurs until the Unified Command is operating and/or the spill has been contained and cleaned up. Generally this lasts no more than 24 hours. The GRPs constitute the federal on-scene coordinators' and state on-scene coordinators' "orders" during the emergent phase of the spill. During the project phase the GRP will continue to be used, but with input from natural resource trustees.

Strategy Selection

Chapter 4 contains complete strategy descriptions in matrix form, response priorities, and strategy maps. The strategies depicted in Chapter 4 will be implemented after reviewing on scene information including: tides, currents, weather conditions, oil type, initial trajectories, etc.

It is assumed that control and containment at the source is the number one priority of any response. If, in the responder's best judgment, this type of response is infeasible then the priorities laid out in Chapter 4, Section 2 take precedence over containment and control.

It is important to note that strategies rely on the spill trajectory. A booming strategy listed as a high priority would not necessarily be implemented if the spill trajectory and booming location did not warrant action in that area.

The strategies discussed in this GRP have been designed for use with persistent oils and may not be suitable for other petroleum or hazardous substance products. The Northwest Area Contingency Plan will address releases of hazardous substances in the future. At that time this GRP may also address hazardous substances.

On Scene

After determining which strategies will be used, assignments are made. Once developed, each responder, contractor, and/or cooperative will be provided with an individual strategy sheet and map containing the information necessary for implementation. This "tear-out" section can then be taken directly to the field by the responder. Strategy Tear-Out Sheets are not complete and are therefore not included in this version of the GRP.

Standardized Response Language

In order to avoid confusion in response terminology, this GRP uses standard Unified Command terminology and strategy names which are defined in Appendix A, Table A-1 (e.g. diversion, collection, exclusion).

Response Equipment

A table outlining equipment availability and response times is being developed for this geographic response plan. In the interim, strategies will be deployed in the order equipment arrives on scene and as directed/selected by the on-scene commander.

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Snake River/Lower Monumental Pool, Washington

GEOGRAPHIC RESPONSE PLAN

1. Introduction: Scope of this Project

Geographic Response Plans are intended to help the first responders to a spill avoid the initial confusion that generally accompanies any spill. This document serves as the federal and state on-scene-coordinators "orders" during a spill in the area covered by this GRP (see Chapter 3 for area covered). As such, it has been approved by the U.S. Coast Guard, Environmental Protection Agency and the Washington State Department of Ecology Spill Program. Changes to this document are expected as more testing is conducted through drills, site visits, and actual use in spill situations. To submit comments/corrections/suggestions please use Appendix C.

GRPs have been developed for the marine waters of Washington and are in the process of being developed for the Columbia River, the marine waters of Oregon, and the inland areas of Washington, Oregon and Idaho. They are prepared through the efforts and cooperation of the Washington Department of Ecology, Washington Department of Fish and Wildlife, Oregon Department of Environmental Quality, Idaho State Emergency Response Commission, the U.S. Coast Guard, the Environmental Protection Agency, tribes, response contractors and local emergency responders.

GRPs were developed through workshops involving federal, state, and local oil spill emergency response experts, response contractors, and representatives from tribes, industry, ports, environmental organizations, and pilots. Workshop participants identified resources which require protection, developed operational strategies, and pinpointed logistical support.

Following the workshops, the data gathered was processed and reproduced in the form of maps and matrices which appear in Chapters 4 through 6. The maps were generated using MacIntosh Canvas while the matrices were created using Excel for Windows. The balance of each GRP was produced using Word for Windows.

The first goal of a GRP was to identify, with the assistance of the Washington State Natural Resource Damage Assessment Team, resources needing protection; response resources (boom, boat ramps, vessels, etc.) needed, site access and staging, tribal and local response community contacts, and local conditions (e.g. physical features, hydrology, currents and tides, winds and climate) that may affect response strategies.

Secondly, response strategies were developed based on the sensitive resources noted, hydrology, and climatic considerations. Individual response strategies identify the amount and type of equipment necessary for implementation. The response strategies are then applied to likely spill scenarios for oil movement, and prioritized, taking into account factors such as feasibility, wind, and tidal conditions.

Draft strategy maps and matrices were then sent out for review and consideration of strategy viability. Field verification was conducted, and changes proposed by the participants were included in a semi-final draft which was offered for final review to all interested parties and the participants of the field verification.

Finally, the general text of the GRP was compiled along with the site description, reference maps and logistical support.

Items included in Logistical Support:

- Location of operations center for the central response organization;
- Local equipment and trained personnel;
- Local facilities and services and appropriate contacts for each;
- Site access & contacts;
- Staging areas;
- Helicopter and air support;
- Local experts;
- Volunteer organizations;
- Potential wildlife rehabilitation centers;
- Marinas, docks, piers, and boat ramps;
- Potential interim storage locations, permitting process;
- Damaged vessel safehavens;
- Vessel repairs & cleaning;
- Response times for bringing equipment in from other areas.

2. Site Description

This plan covers the 29 mile reach of the Lower Monumental Pool Area (from the Little Goose Dam downstream to the Lower Monumental Dam), also known as Lake Herbert G. West within the Snake River.

The Lower Monumental Pool Area is divided into 8 subregions: S-13, River Miles 69-74; S-12b, River Miles 67-70; S-12, River Miles 61-67; S-11b, Palouse River; S-11, River Miles 55-61; S-10, River Miles 51-56; S-9, River Miles 45-50; and S-8, River Miles 41-44.

Refer to Chapter 6 for detailed resource information.

2.1. Physical Features

The Lower Monumental Lock and Hydroelectric Dam Project is located approximately 41 miles upstream from the mouth of the Snake River at the west end of the pool area. Lower Monumental Pool (also known as Lake Herbert G. West) is 29 miles long and contains approximately 6,600 surface acres. The dam is 3,800 feet long at the crest, with a 335 foot long spillway (see page 2-4 for map of dam).

Mainstem, side channel, and island shorelines within the 8 subregions of the Lower Monumental Pool Area may include the following habitat types:

- Exposed rocky headlands
- Wave-cut platforms
- Pocket beaches along exposed rocky shores
- Sand beaches
- Sand and gravel beaches
- Sand and cobble beaches
- Sheltered rocky shores
- Sheltered marshes

2.2. Hydrology

The Snake River originates in Yellowstone Park and travels approximately 1,000 miles west through Wyoming, Idaho, and Washington before finally emptying into the Columbia River at Pasco. The Snake River is the largest tributary to the Columbia River and is itself one of the major rivers in the United States.

There is usually a perceptible current in both the Snake and Clearwater Rivers at the Lewiston-Clarkston area. Flow will have a perceptible affect on spill drift. Perceptible current will gradually disappear as a spill progresses downstream toward the next dam. As the spill travels downstream, the wind will begin to affect spill drift far more than the current.

It is nearly impossible to make a general rule-of-thumb to help predict wind behavior on the Snake River. The twists and turns of the canyon force the river to point toward, away, and crosswise to the wind. At any given instant, the wind can be calm in a sheltered stretch, blowing upstream in one place and downstream in another. In the immediate vicinity of the dam, there may be a perceptible current flowing toward the powerhouse and/or the spillway.

The Snake River Dams are run-of-the-river projects. The Corps of Engineers North Pacific Division Reservoir Control Center (RCC) has regulatory control over river operations. Specific requests for changing flows or pool elevations must be directed to approved by the RCC. The dam operators do not have the authority to determine river/pool operation. They can, however, relay to RCC any public requests for special reservoir regulation. The best way for an Incident Commander or On Scene Coordinator to obtain immediate and accurate river flow and pool elevation data is to call the duty power plant operator at the dam(s).

2.3. Currents and Tides

As this GRP includes the Lower Snake River area, there are no tidally influenced areas. Also, the Lower Monumental Pool Area has no free-flowing water, with water flow being governed strictly as a matter of when and how much water is allowed to pass through the spillways of the various dams.

Nearly all flow into the Lower Monumental Pool comes from the Clearwater and Snake Rivers, after having passed through the Little Goose and Lower Granite Dams; the Palouse and Tucannon Rivers provide additional input. The low flows typically occur during the late summer, autumn, and winter months. The high flows occur during the spring snow melt. The upper reach of the reservoir is essentially a river and has strong runoff, especially during spring runoff. Nearer to the dam, the current is essentially nil, except for the area in front of the spillway and powerhouse. The area there may have very dangerous strong currents and undertows. River flows below the dam can vary from near zero to very fast and hazardous depending on: Flow into the reservoir; or, demand for electrical power.

2.4. Winds

Throughout the year, wind gusting at high velocities can be expected in this area. Winds are generally from the east-southeast in the morning, shifting to the west in the afternoon. Wind, even a slight breeze, can have a big effect upon the movement of spills on the water. In the slack water behind the dam, the movement of the spill is almost entirely dependent upon the wind. Where the current is strong below the dam, both river current and wind will affect the drift.

Additional information may be available from the National Weather Service.

2.5. Climate

The climate of the region is temperate and moderate during most of the year. During the winter months, the onset of winter storms has been know to abruptly change conditions along the river from moderate to severe. Most of the annual precipitation occurs during the months of November through June. The average total annual precipitation is 12.43 inches.

2.6. Risk Assessment

The Snake River, in conjunction with the Columbia River, is one of the principal environmental and economic resources found in the Pacific Northwest. Protection of this river is critical to the vast natural and cultural resources and populations which are dependent upon it.

Native anadromous and resident fish species, including endangered sockeye salmon, depend on the Snake River and tributaries for their existence. Various species of waterfowl and other fauna are also dependent upon the Snake River. The waters of the Snake are used to irrigate crops and fill domestic, municipal, and industrial water needs.

Railroad/Barge Movements of Oils and Hazardous Substances

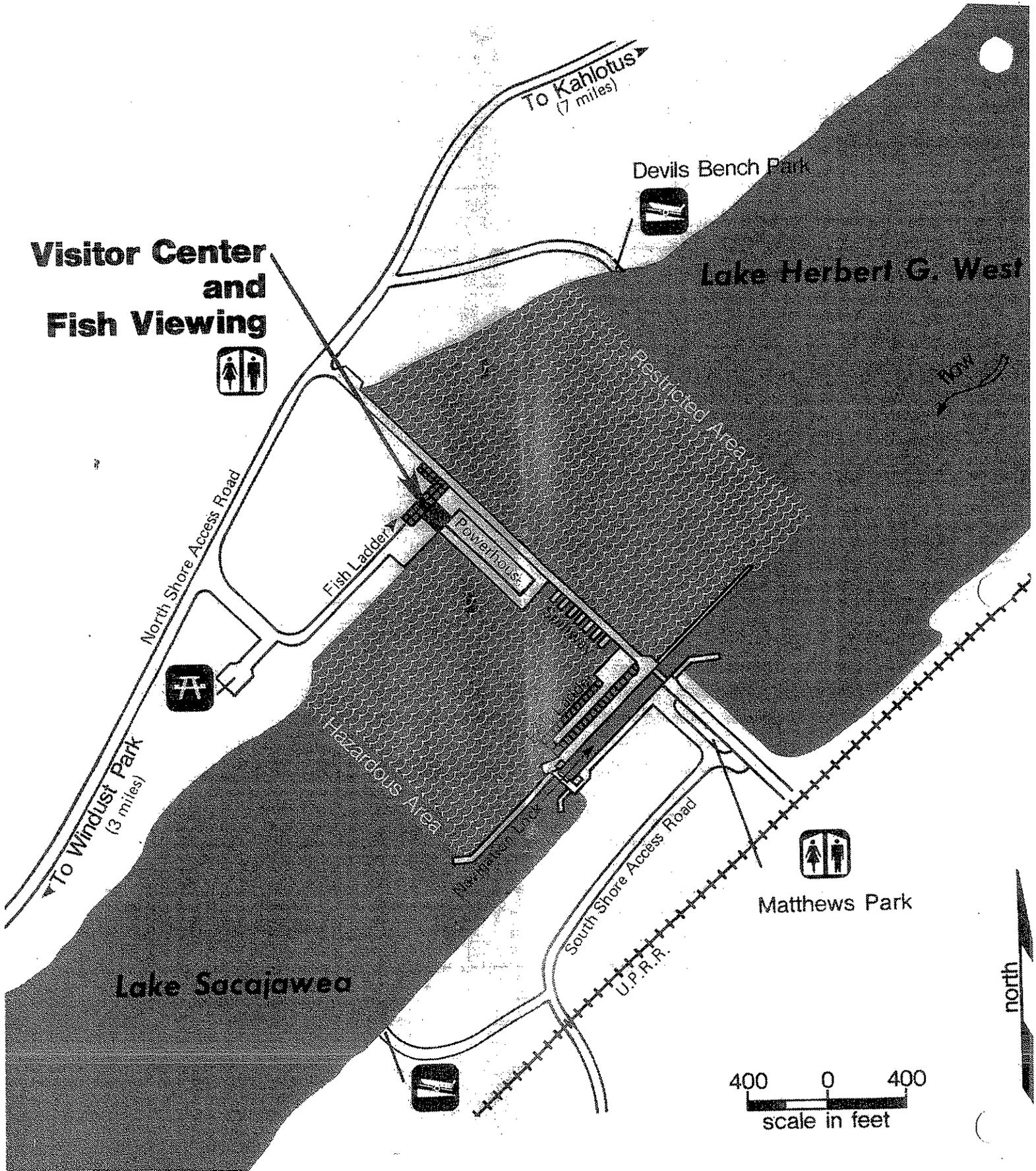
Union Pacific's rail line runs along the southern and southeastern bank in the subject area. While this GRP is primarily concerned with responses to oil spills, basic information on hazardous substances movements through the region may also prove useful. This information is limited to basic emergency actions to take in response to an accidental chemical release.

The ten most abundantly transmitted hazardous substances on both rail lines includes:

- 1) Chlorine CAS # 7782-5-5
- 2) Sodium Hydroxide CAS # 1310-72-2
- 3) Butane CAS # 106-97-8
- 4) Propane CAS # 74-98-6
- 5) Methyl Alcohol CAS # 108-11-2
- 6) Asbestos CAS # 1332-21-4
- 7) Anhydrous Ammonia CAS # 7664-41-7
- 8) Phosphoric Acid # 7664-38-2
- 9) Ammonium Nitrate CAS # 7664-93-9
- 10) Sulfuric Acid CAS # 7664-93-9

In addition to the movement of hazardous substances by rail, a vast amount of materials are also transported by waterborne vessels (primarily barges). Today, the navigable waters of the Snake are increasingly being used as a means of transport, especially tugs moving barges filled with commodities. Commodities are shipped up and down the river year round. In addition to the products listed above, a partial listing of the petroleum products which move on the river includes:

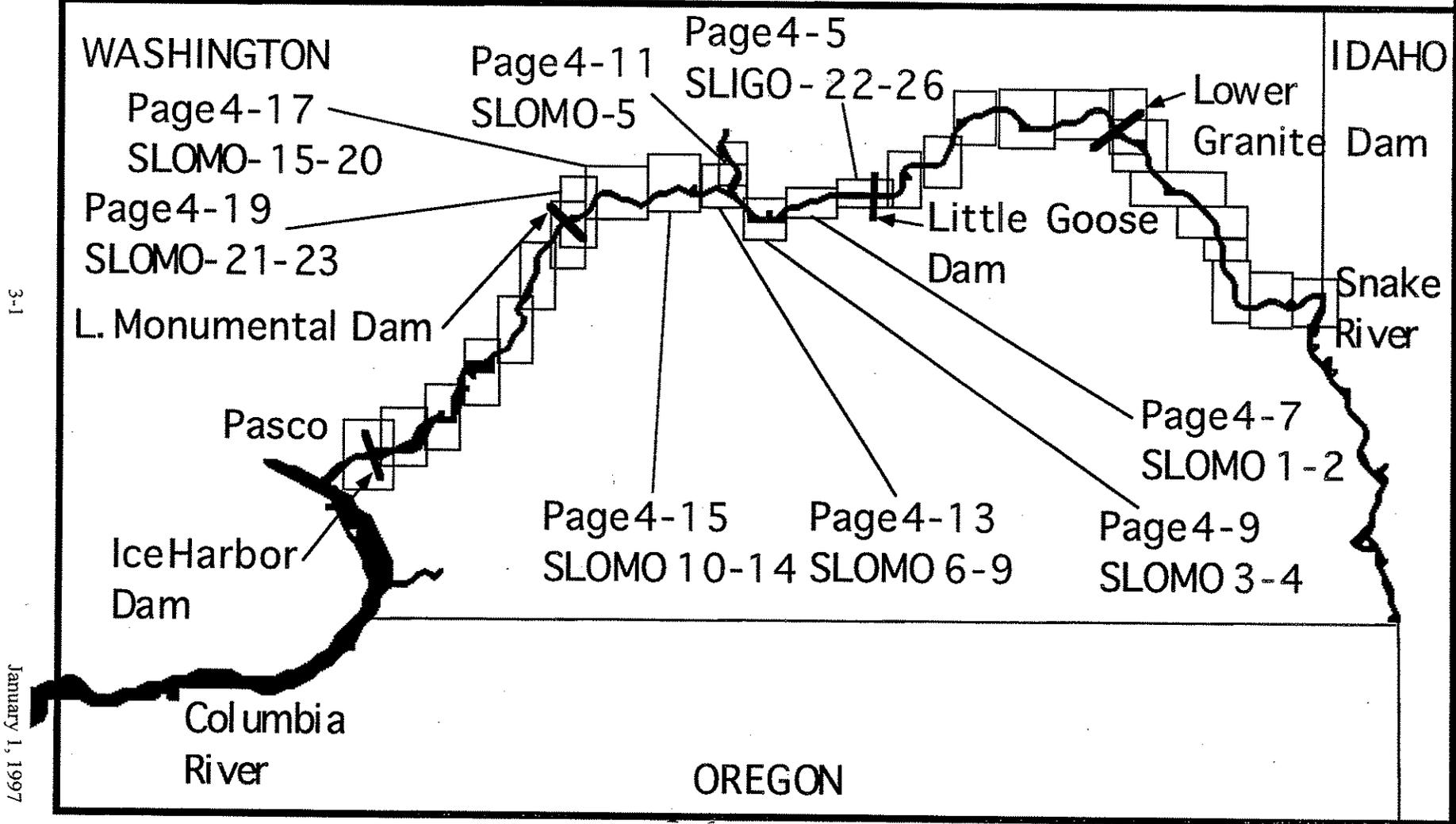
- 1) Asphalt
- 2) Gasoline
- 3) Jet Fuel
- 4) Kerosene
- 5) Diesels
- 6) Crude Oil



LOWER MONUMENTAL DAM POOL KEY MAP

3.0 Reference Map

This map lists all response strategies for the Lower Monumental Pool
Refer to Section 4.2 for Priorities and Section 4.3 for strategies



3-1

January 1, 1997

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4. General Protection/Collection Strategies

4.1. Chapter Overview

This chapter details the specific response strategies and resources to protect as outlined by the participants of the GRP workshop for the Snake River area. It describes the strategies determined for each area and the prioritization of those strategies.

Maps & Matrices

The maps in this chapter provide information on the specific location of strategy points. They are designed to help the responder visualize response strategies. Each Booming and Collection Strategy map includes a matrix on the facing page. Each matrix indicates the exact location, intent and implementation of the strategy indicated on the map.

Strategy Tear Out Sheets, when developed, will detail the information necessary for a particular response action. Strategy Tear Out Sheets are not included in this version of the GRP.

Major Protection Techniques

All response strategies fall into one of three major techniques that may be utilized either individually or in combination. The strategies listed in 4.2 are based on the following techniques, and are explained in detail in section 4.3:

Dispersants: Washington State Policy currently does not allow use of dispersants in this area. Certain chemicals break up slicks on the water. Dispersants can decrease the severity of a spill by speeding the dissipation of certain oil types. Their use will require approval of the Unified Command. Dispersants will only be used in offshore situations under certain conditions, until further determinations are made by the Area Committee and published in the Area Contingency Plan.

In Situ Burning: Approval to burn in this area is possible due to the relatively few populated areas in proximity to a potential burn site. Burning requires the authorization of the Unified Command, who determine conformance of a request to burn with the guidelines set forth in the Area Plan. This option is preferable to allowing a slick to reach the shore provided that population areas are not exposed to excessive smoke. Under the right atmospheric conditions, a burn can be safely conducted in relative close proximity to human population. This method works on many types of oil, and requires special equipment including a fire boom and ignitors.

Mechanical Recovery Strategies: If a spill is too close to shore to use In Situ burning or dispersants, the key strategies are to use collection, diversion, or exclusion booming to contain the slick and prevent it from entering areas with sensitive wildlife and fisheries resources. This will be attempted through the use of various booming strategies. These options are described in detail in Table A-1 in Appendix A.

Priorities

The strategy priority matrices (Section 4.2.) were developed for subregions within the overall GRP area in order to reflect certain geographic divisions and specific scenarios. The response strategies indicated in the priority matrices are explained in detail in the Maps & Matrices section (Section 4.3.). It is implied that control and containment at the source is the number one priority of any response. If in the responder's best judgment this is not feasible, then the priorities laid out in the priority matrices take precedence over containment and control.

4.2. Strategy Prioritization

Priorities for the Lower Monumental Pool of the Snake River generally reflect the downstream movement of oil discharged into the river. Therefore, the first strategy downstream from the spilled oil which can be deployed before the oil arrives ranks higher in priority than strategies further downstream. However, the following table lists the top three strategies for this section of the Snake River which rank highest in importance. **Note that these priorities may change at any time during a spill based on prevailing conditions and resource agency input,**

Intent is to protect downstream and particularly vulnerable resources			
SOURCE OF OIL: Upstream end of pool			
PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
BOOMING PRIORITIES			
1	SLOMO-22	4-19	Protect fish structures/resources in lower pools
1	SLOMO-4	4-9	Tucannon River Mouth
2	SLOMO-1	4-7	Riparia HMU
2	SLOMO-2	4-7	Alkali Flat Creek
2	SLOMO-10	4-15	55 Mile HMU

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LITTLE GOOSE DAM TO RM 74 PROPOSED BOOMING AND COLLECTION STRATEGIES

Snake River Mile 69 - 74

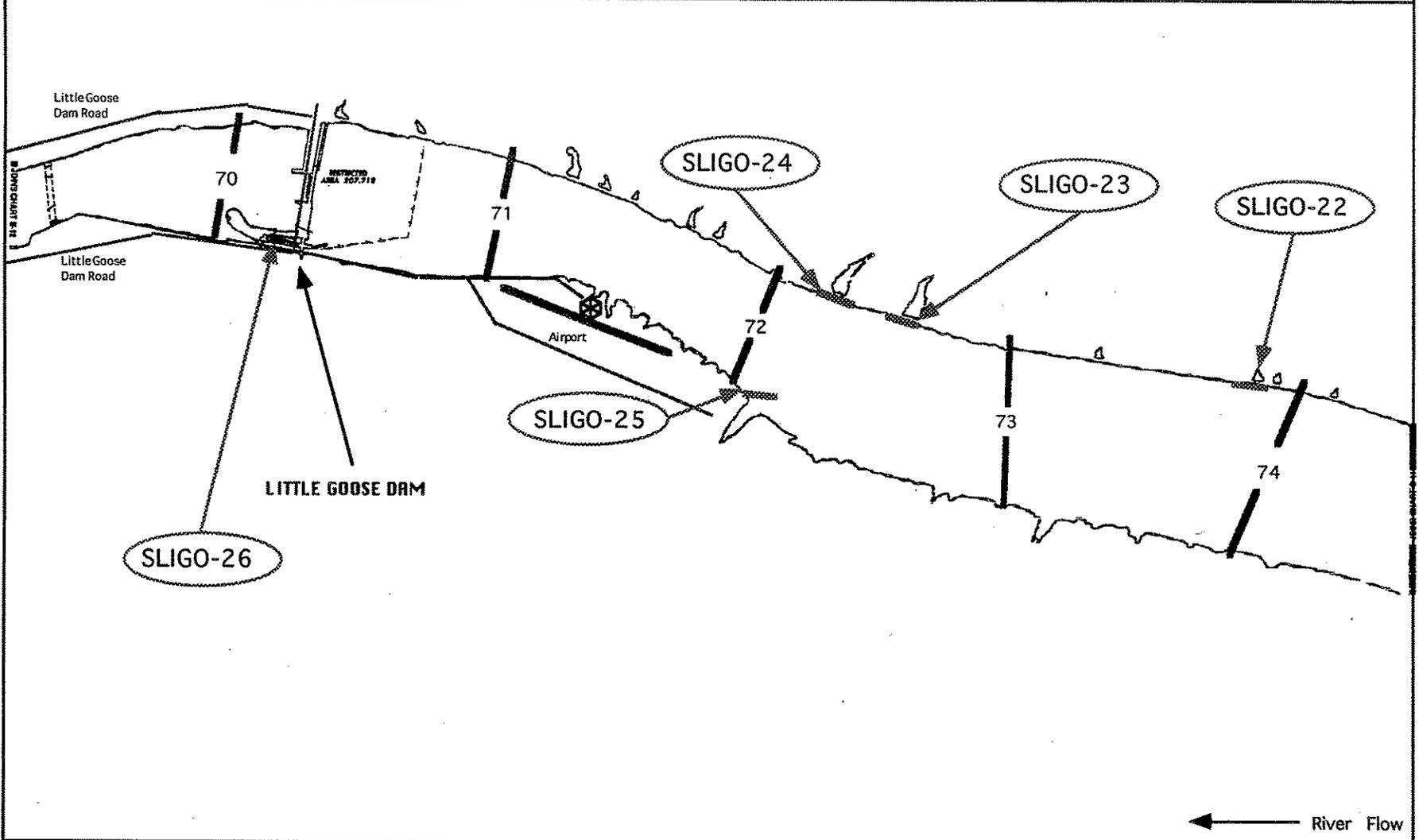
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
74	SLIGO-22	North shore inlet at RM 74	Exclusion	50' sorbents	Deploy sorbent on both sides of trestle to close off inlet		By boat	Riparian habitat
72	SLIGO-23	North shore inlet - east of Flagpole Gulch	Exclusion	100' sorbents	High water strategy only - close off both openings of 3 culverts using sorbents		By boat	Waterfowl concentrations
72	SLIGO-24	Flagpole Gulch - upstream from Marker "3"	Exclusion	50'	Close off gulch	Little Goose Dam	By boat	High priority - valuable quiet water area; fish and waterfowl concentrations
72	SLIGO-25	Little Goose Landing Gulch - across from Flagpole Gulch	Deflection/Collection	300'	Deflect into inlet - collect inside with skimmers/vac trucks. Do not attempt if waterfowl present	Little Goose Dam	Little Goose Dam Road; Airstrip located adjacent to dam	Downstream resources
70	SLIGO-26	Little Goose Dam Fish Structures	Exclusion; collection	500'	Close off entrance to fish passage facilities; collect behind dam where possible	Little Goose Dam	Little Goose Dam Road; Airstrip located adjacent to dam	Salmonid concentrations; downstream resources

LOWER MONUMENTAL DAM POOL - RM 69-74 LITTLE GOOSE DAM TO RM 74

PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***

 Boom
 Boat Launch  Town or City  Roads  Power Line  70 River Mile



SNAKE RIVER/LOWER MONUMENTAL POOL GRP

OVHD PWR CABS (2 miles below Little Goose Dam) TO RIPARIA PROPOSED BOOMING AND COLLECTION STRATEGIES

Snake River Mile 67 - 70

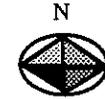
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
68	SLOMO-1	46 34 33.43 118 4 28.15 Riparia HMU	Exclusion	600'	Protect shoreline by deploying boom from rocky shore east of marsh area to next outcropping/debris pile further west		Good road access from Riparia Road; no boat ramp	Riparia Habitat Management Unit - good riparian habitat along river bank; waterfowl concentrations
67	SLOMO-2	46 34 38.17 118 5 11.84 Alkali Flat Creek across river from Marker "40"	Exclusion	300' exclusion	Boom across inlet - anchor in gravel shore on both sides of mouth (also can use piling on east side of mouth)		Good road access on Long Hollow Road; no boat ramp	Alkali Flat Creek; good riparian habitat, waterfowl concentrations

LOWER MONUMENTAL DAM POOL - RM 67-70 RIPARIA TO 2 MILES BELOW LITTLE GOOSE DAM

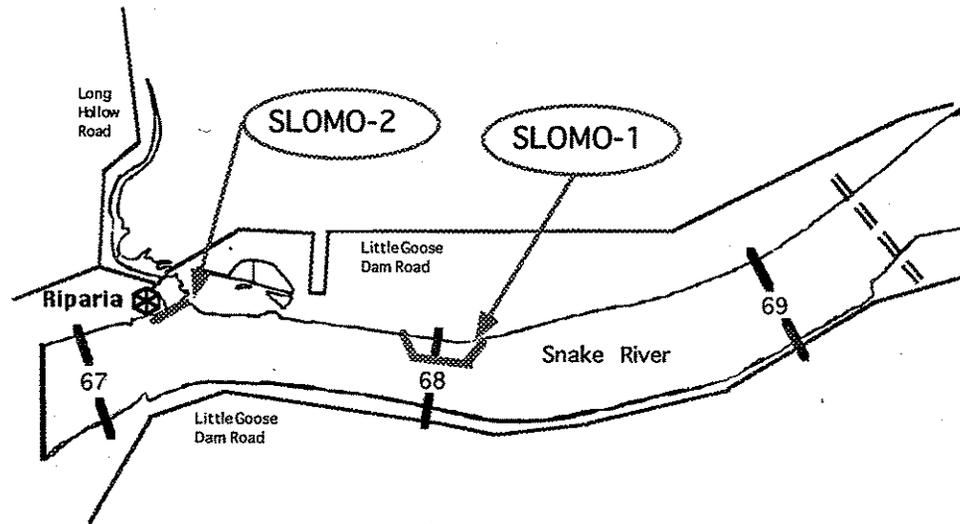
PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***

 Boom
 Boat Launch  Town or City  Road  Power Line  68  River Mile



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← River Flow

BELOW RIPARIA TO TUCANNON PROPOSED BOOMING AND COLLECTION STRATEGIES

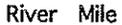
Snake River Mile 61 - 67

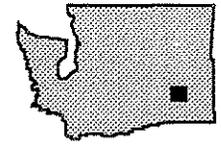
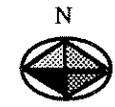
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
67	SLOMO-3	Texas Rapids Boat Basin	46 33 51.66 118 5 56.12 Exclusion	100'	Close off entrance to boat basin	Texas Rapids Park - campground, boat ramp, shelters	Texas Rapids Park - boat ramp; access from Little Goose Dam Rd.	Corps of Engineers boat basin/park; small riparian area; eagle roosting
64	SLOMO-4	Tucannon River mouth - Marker "34"	46 33 17.22 118 10 34.36 Exclusion	1,500'	Close off mouth from innermost pier structure on SE side to NW shore. Calm current - water backs up into Tucannon mouth.		Launch @ Texas Rapids (upstream on south side) or Lyons Ferry launch; Hwy 261 road access is one-fourth way in	High priority - waterfowl concentrations; extensive marshes; fish habitat

LOWER MONUMENTAL DAM POOL - RM 55-61 - BELOW & ABOVE PALOUSE RIVER

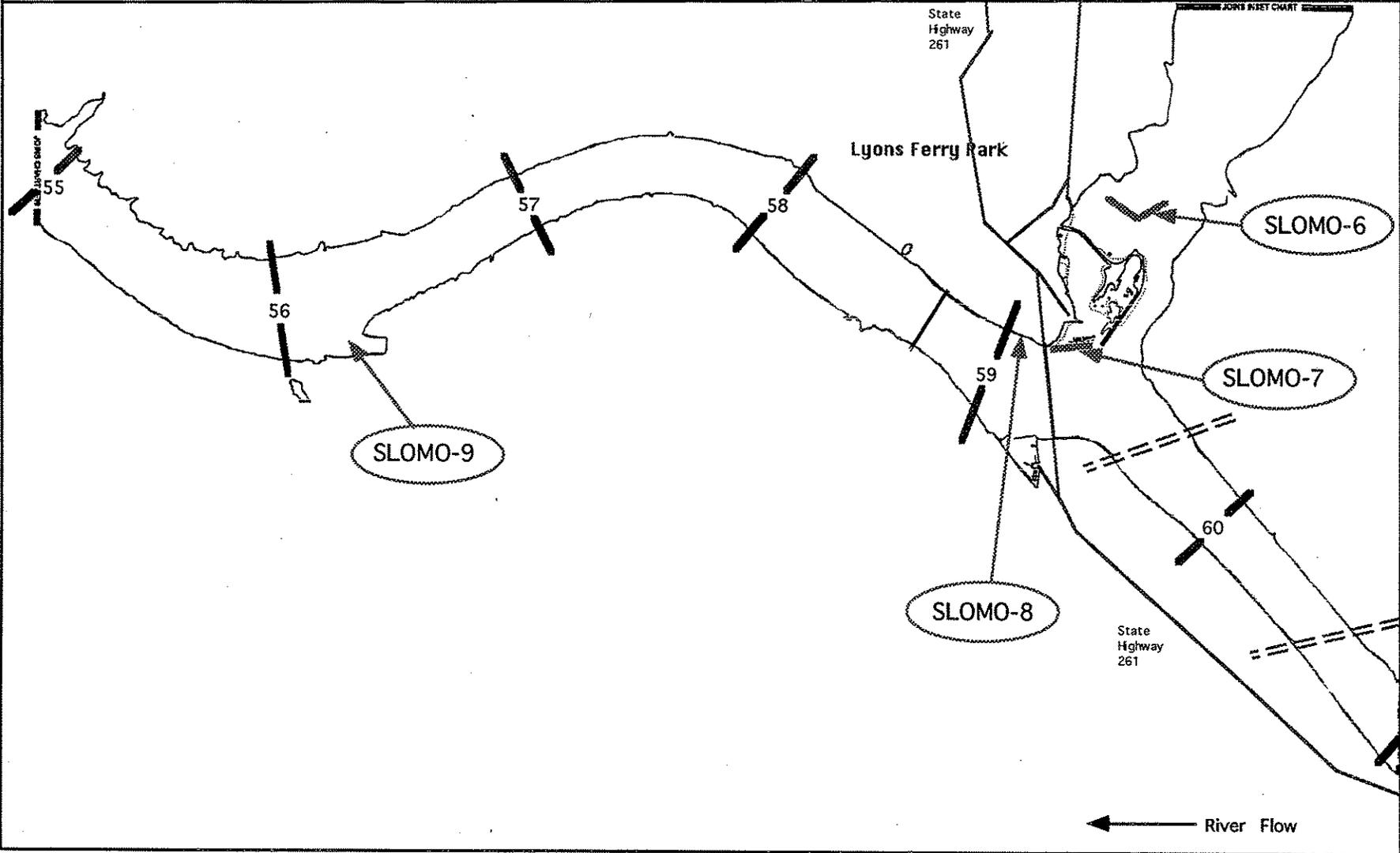
PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***

 Boom
 Boat Launch  Town or City  Road  Power Line  57  River Mile



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AYER'S BOAT BASIN TO RM 56 PROPOSED BOOMING AND COLLECTION STRATEGIES

Snake River Mile 51 - 56

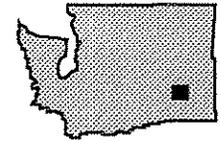
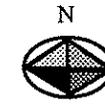
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
55	SLOMO-10	46 36 8.14 18 17 37.71 55 Mile HMU - side channel at east end	Exclusion	300'	Contact Lower Mon. Dam control room - shut down Habitat Management Unit intake pumps. Booming impractical given current/fetch. Note - natural collection area Run boom from small dock to sandy bank on opposite side of mouth to block off side channel		Dirt road currently used by large trucks	55 Mile Habitat Management Unit/water intake; waterfowl concentrations
54	SLOMO-12	46 36 14.46 118 19 22.25 Ayer Habitat Management Unit	Exclusion	(2) 100'	Angle boom to shore from both west and east ends of small island to keep oil out of backwater area.		Boat access from Ayer Boat Basin launch ramp	Backwater area behind small island - fish/waterfowl concentrations
50	SLOMO-14	46 35 17.02 118 22 19.97 Ayer's Boat Basin	Exclusion	< 100'	Block entrance to boat basin at trestle	Ayer's Boat Basin sun shelters, dock, launch ramp	Ayer's Boat Basin - launch ramp; Ayer Road access	Corps of Engineers public recreation site
SKIMMING STRATEGIES								
54	SLOMO-11	Upper end of 55 Mile HMU	Collection		Use portable skimmers; natural collection area due to back eddies		By boat	Downstream resources
52	SLOMO-13	Upper end of 55 Mile HMU	Collection		Use portable skimmers - poor quality side channel/quiet water	Ayer's Boat Basin sun shelters, dock, launch ramp	By boat	Downstream resources

LOWER MONUMENTAL DAM POOL - RM 51-56 - AYER'S BOAT BASIN TO RM 56

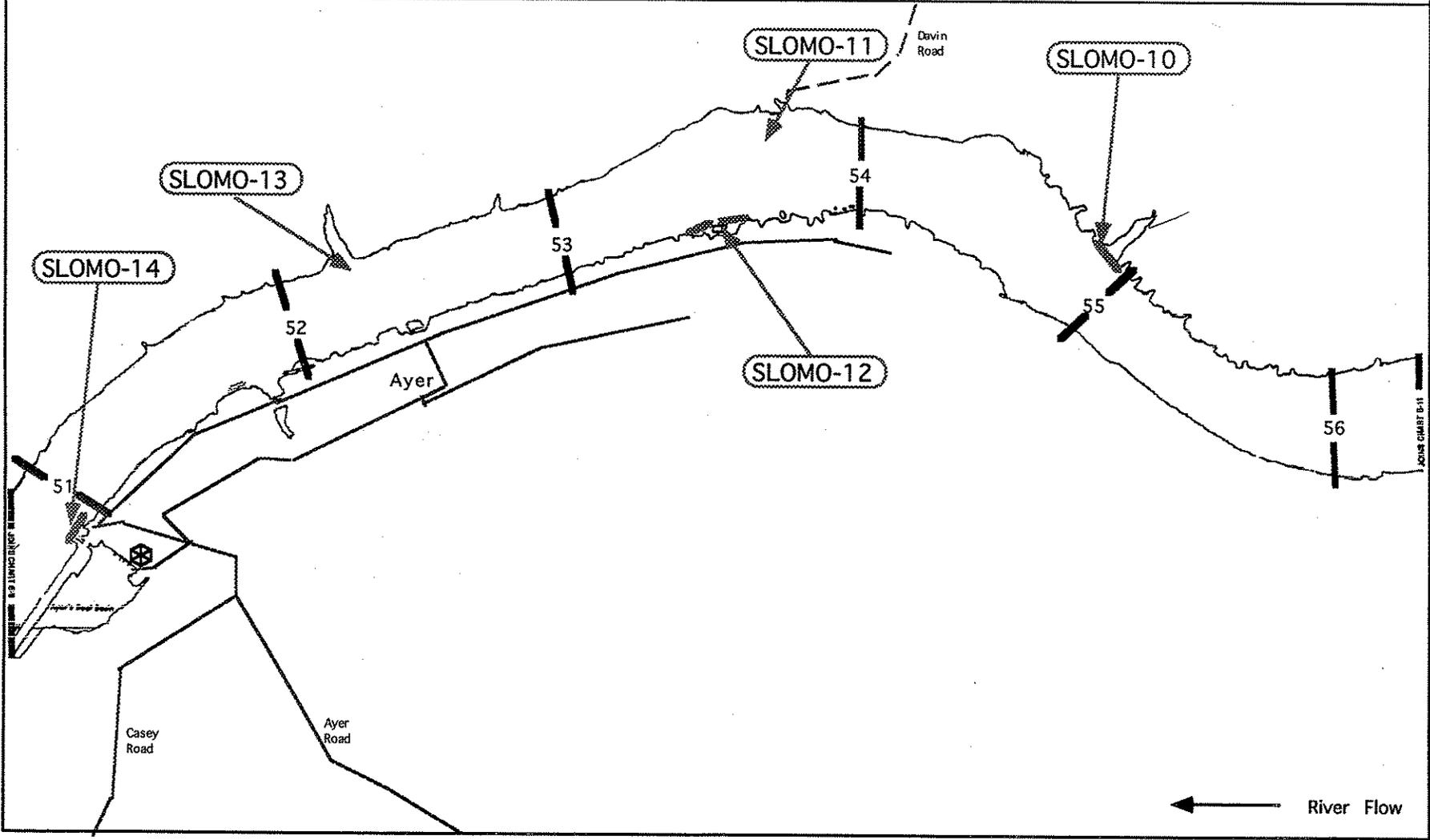
PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***

 Boom
 Boat Launch  Town or City  Road  Primitive Road  54  River Mile



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MAGALLAN TO RM 50 PROPOSED BOOMING AND COLLECTION STRATEGIES

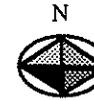
Snake River Mile 45 - 50

River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
49	SLOMO-16	Cove opposite River Marker "14"	46 35 5.22 118 24 32.67 Deflection	100'	Deflect oil away from small inlet to west		By boat	Protect small marsh and goose nesting area
47	SLOMO-18	North shore inlet just upstream of River Marker "11"	40 35 59.82 118 27 17.10 Exclusion/ collection	300'	Close off inner part of inlet; collect with portable skimmers outside the boom		By boat	Good riparian habitat at head of inlet
46	SLOMO-19	North shore inlet at river mile 45.5; across river from Marker "10"	46 35 59.60 118 28 11.21 Exclusion/ collection	300'	Close off inner part of inlet; collect with portable skimmers outside the boom		By boat	Good riparian habitat at head of inlet
45	SLOMO-20	North shore inlet at River Marker "9"	46 35 48.72 118 28 40.91 Exclusion	200'	Deploy boom midway inside inlet to close off inner portion		By boat	Good riparian habitat at head of inlet
SKIMMING STRATEGIES								
50	SLOMO-15	River mile 49-50	Collection	Portable skimmers	Skim along several sites in natural collection area; rip-rap shore			Downstream resources
50	SLOMO-17	Skookum Canyon	Collection	Portable skimmers	Collect in inlet (poor habitat quality) if SE wind pushes oil inside		Private road - need to contact owner (Harder family); water access also	Skookum HMU (irrigated) intakes; Downstream resources

LOWER MONUMENTAL DAM POOL - RM 45-50 - MAGALLON TO RM 50 PROPOSED BOOMING AND COLLECTION STRATEGIES

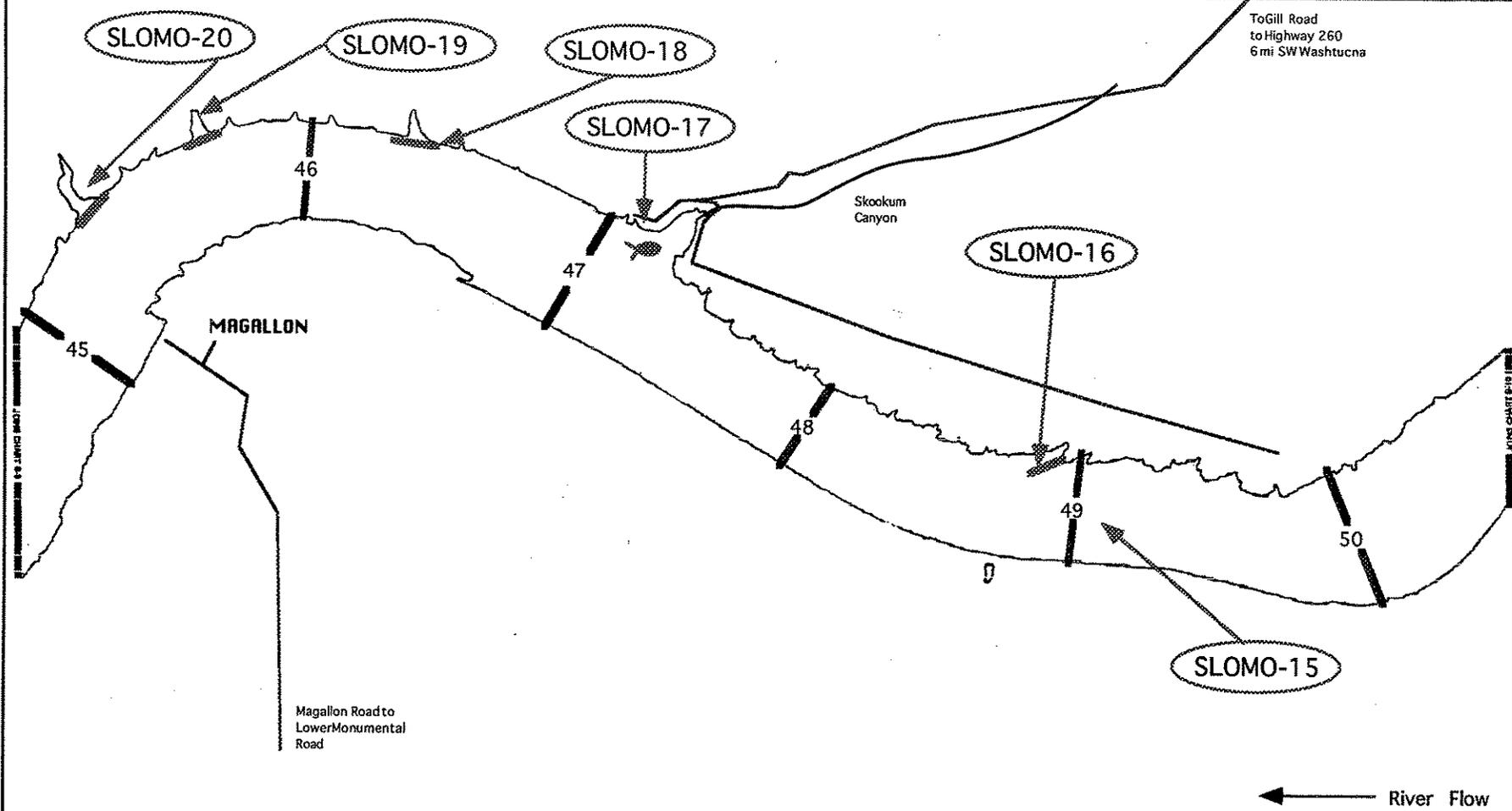
*** Strategies not drawn to scale ***

Boom
Boat Launch Town or City Roads 47 River Mile



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ToGill Road
to Highway 260
6 mi SW Washtucna



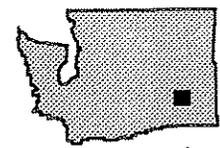
SNAKE RIVER MILE 44 TO LOWER MONUMENTAL DAM PROPOSED BOOMING AND COLLECTION STRATEGIES								
Snake River Mile 41 - 44								
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
42	SLOMO-22	46 33 48.12 118 32 16.32 Lower Monumental Dam	Exclusion; collection	500'	Close off entrance to fish passage facilities; collect behind dam where possible	Lower Monumental Dam	Lower Monumental Dam; Devil's Bench boat ramp (cement)	Salmonid concentrations; downstream resources
SKIMMING STRATEGIES								
43	SLOMO-21	Behind Lower Monumental Dam	Collection		Use portable skimmers in natural collection area. Steep slopes.	Lower Monumental Dam	Lower Monumental Dam; Devil's Bench boat ramp (cement)	Downstream resources
42	SLOMO-23	Opposite side of locks from fish ladder	Collection		Collect using vac trucks, portable skimmers	Lower Monumental Dam	Lower Monumental Dam; Devil's Bench boat ramp (cement)	Downstream resources

LOWER MONUMENTAL DAM POOL - RM 61-67 TUCANNON TO BELOW RIPARIA

PROPOSED BOOMING AND COLLECTION STRATEGIES

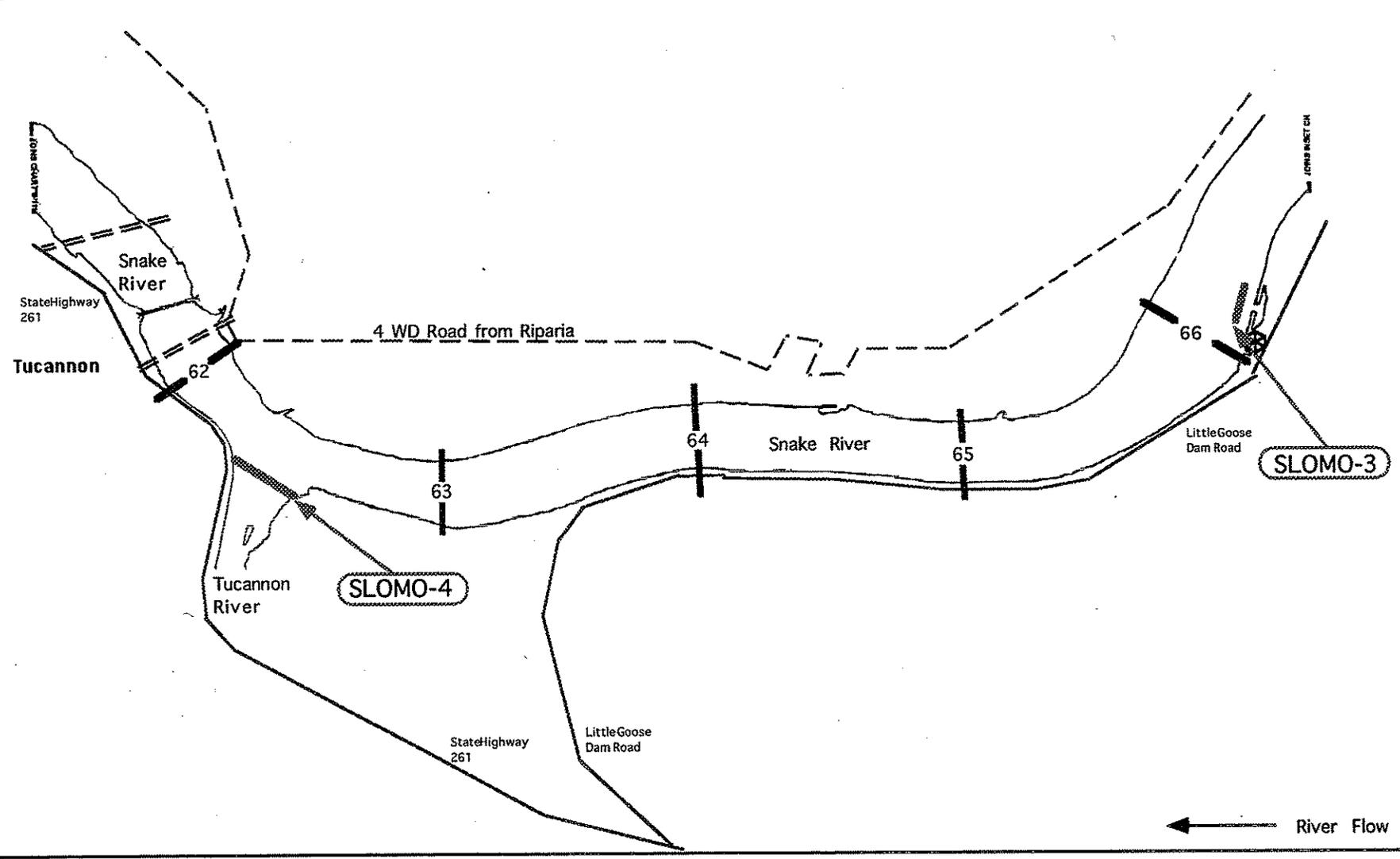
*** Strategies not drawn to scale ***

-  Boom
-  Boat Launch
-  Town or City
-  Roads
-  Primitive Road
-  Power Lines
-  River Mile



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4-9



January 1, 1997

Snake River Lower Monumental Pool GRP

PALOUSE RIVER PROPOSED BOOMING AND COLLECTION STRATEGIES

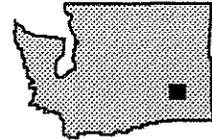
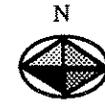
Palouse River

River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
			None identified					
SKIMMING STRATEGIES								
	SLOMO-5	Palouse River/Marmes Rock	Collection strategy(if spill comes from within Palouse River)		Natural collection area - collect with skimmers		By boat from Lyons Ferry	Archaeological resources (submerged)

LOWER MONUMENTAL DAM POOL - PALOUSE RIVER

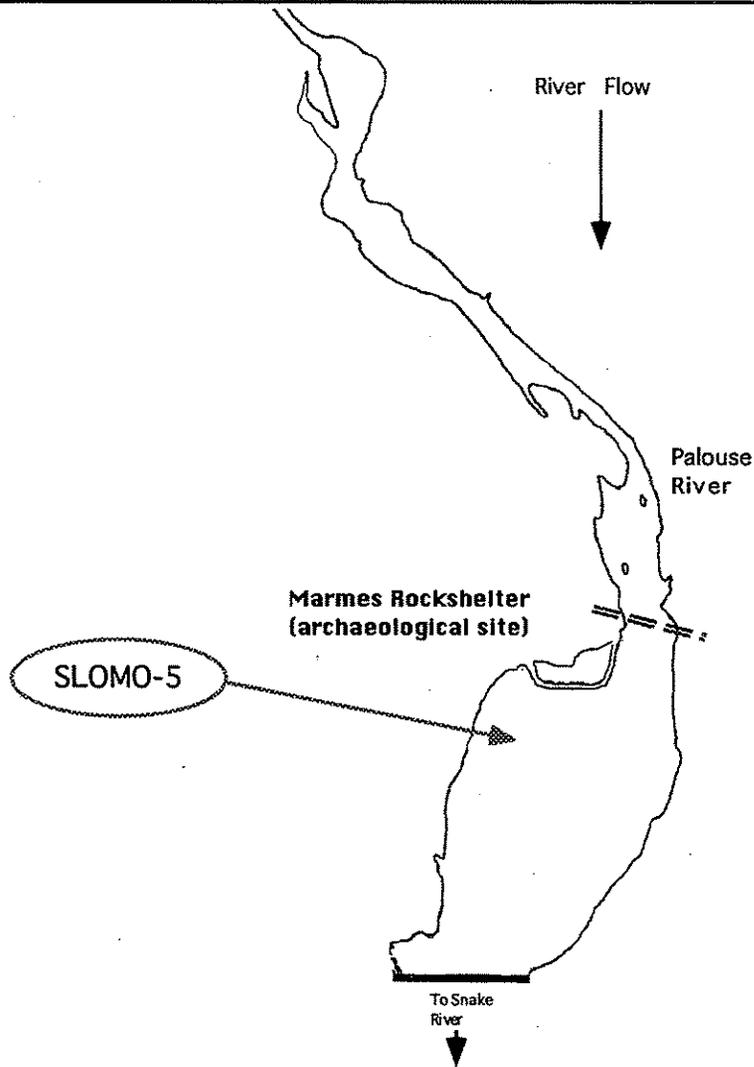
PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***



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- Boom
- Boat Launch
- Town or City
- Road
- Power Line

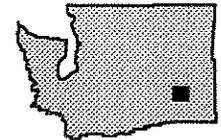
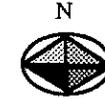


RM 61 TO RM 55 BY PALOUSE RIVER PROPOSED BOOMING AND COLLECTION STRATEGIES								
Snake River Mile 55 - 61								
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
59	SLOMO-7	Lyons Ferry Park	Exclusion	800' sorbent/sausage boom	Line existing log boom in front of park/swimming area with sorbents. River flows naturally exclude oil from mouth of Palouse.	Lyons Ferry State Park - camping, shelters, parking; Lyons Ferry Marina	Good road access off Hwy 261; Lyons Ferry State Park boat launch	Lyons Ferry State Park/public recreation area
59	SLOMO-8	Trout hatchery in Palouse River	Close intake		Shut down water intake (may be ground water based) and warn regarding fish releases			Trout hatchery
SKIMMING STRATEGIES								
59	SLOMO-6	Palouse River	Collection		Collect with skimmers at swimming area if spill source in Palouse River	Lyons Ferry State Park - camping, shelters, parking; Lyons Ferry Marina	Good road access off Hwy 261; Lyons Ferry State Park boat launch; 4 wheel drive road on west side	Waterfowl concentrations; downstream resources
56	SLOMO-9	West of Joso Point	Collection		Collect with portable skimmers; back eddy currents occur at site of old gravel quarry.		Boat access from Lyons Ferry	Downstream resources

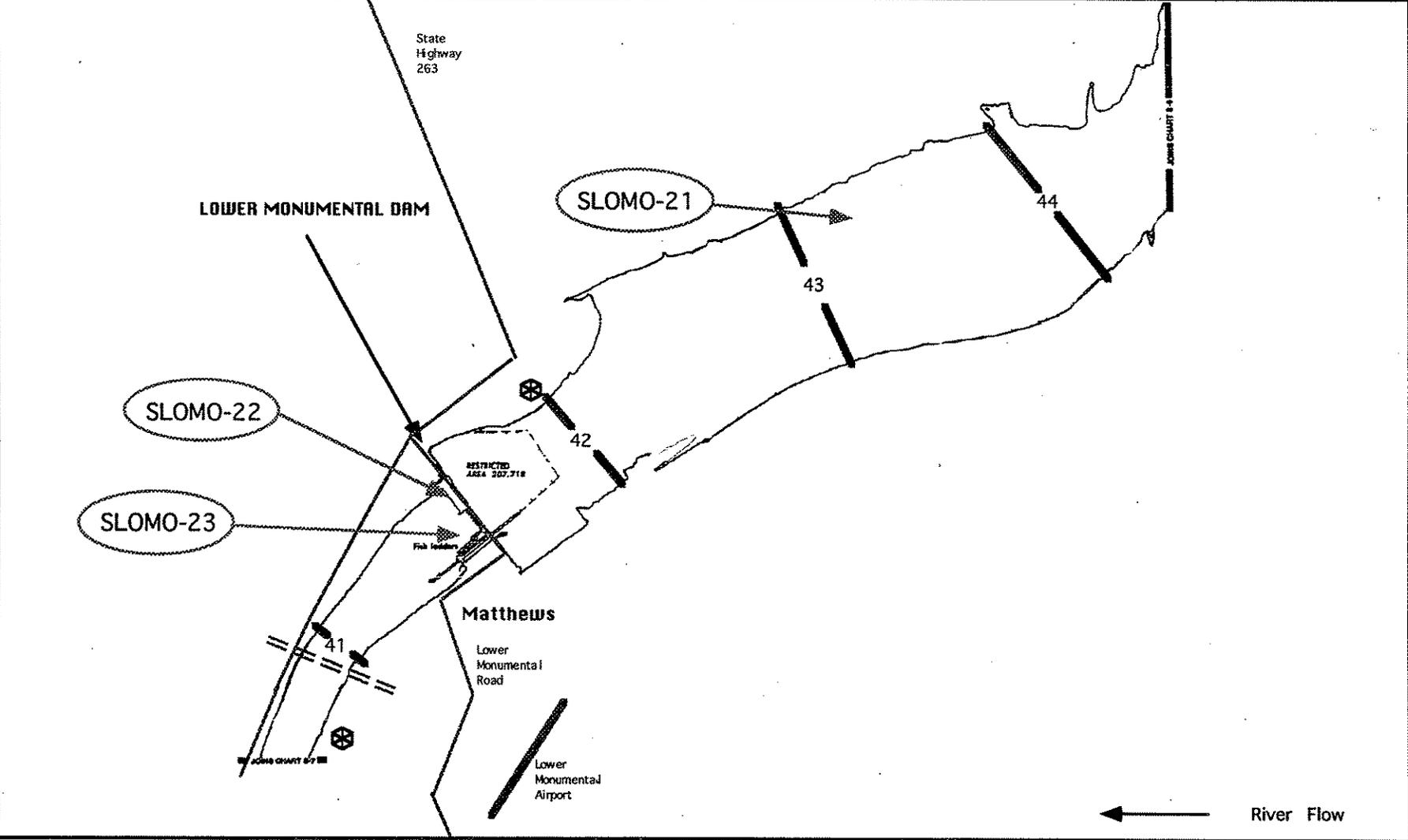
LOWER MONUMENTAL DAM POOL - RM 41-44 - RM 44 TO LOWER MONUMENTAL DAM PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***

-  Boom
-  Boat Launch
-  Town or City



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4.4. Strategy Tear Out Sheets

Not available at this time.

5. Shoreline Information

5.1. Shoreline Types and Sensitivity

The type of shoreline, degree of exposure to waves and currents, and biological sensitivity are the main criteria for selecting appropriate treatment techniques. Each shoreline type has particular properties (including vegetation types) which facilitate or resist the penetration and persistence of oil. Areas of comparatively uniform sediment type and grain size experience a deeper penetration of oil. Grain size definitions are:

Mud	<0.0625 mm
Fine Sand	0.0625 - 2 mm
Medium to Coarse Sand	2 -4 mm
Pebble/Cobble	4 - 256 mm

Persistence of oil in a particular area is directly related to the intensity of wave action, tides, and currents. Based on numerous oil spill studies of shoreline characteristics, treatment, and oil impact, the matrices in Chapter 6 were formulated following the basic prototype of the Environmental Sensitivity Index Atlas.

The environmental sensitivity index (ESI) system ranks coastal environments on a scale of 1-10 or 11 (less sensitive to more sensitive) with respect to oil spill sensitivity and potential biological injury is being used for mapping extensive areas of the coastline of the U.S. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, rank low on the scale while sheltered areas have the highest ranking. The shoreline types used in this manual are a combination of the two similar systems used for the Delaware/Pennsylvania/New Jersey ESI Atlas, and the Maryland and Virginia atlases. The numbering system for the Countermeasure Manual Shoreline Types does not correspond exactly to either atlas; however, the corresponding shoreline types can be identified easily from the ESI maps and reassigned the appropriate number (after field verification.) The shoreline ranking system provides a useful first step in the design of contingency plans because it identifies the priority areas that require maximum effort for protection and cleanup. Strike teams and contractors with this document can focus their activities on environmental priorities, particularly during the first few hours and days of the spill.¹

¹Regional Response Team III. Draft, *Shoreline Countermeasures Manual*. (Department of the Interior, March 22, 1991).

5.2. Shoreline Maps

Not available at this time

5.3. Oil Countermeasure Matrix

The Northwest Area Committee has developed a manual and a series of matrices as a tool for shoreline countermeasure response. The shoreline countermeasures matrices and manual can be found in the main body of the Northwest Area Contingency Plan.

Shoreline countermeasures following an oil spill are a critical element in determining the ultimate environmental impact and cost resulting from a spill. Local response organizations and agencies have developed mechanisms for identifying shorelines requiring treatment, establishing treatment priorities, monitoring the effectiveness and impacts of treatment, and for resolving problems as the treatment progresses.

Each section of the manual has been adapted to the specific environments, priorities, and treatment methods appropriate to the planning area. These elements provide the information needed to select cleanup methods for specific combinations of shoreline and oil types. Local information on shoreline types (Discussed in Chapter 2) can be obtained from Environmental Sensitivity Index (ESI) atlases prepared by NOAA for northern and southern Puget Sound, the Washington & Oregon coast, and the Columbia River. At this time, shoreline information for the Columbia River offers the closest analogy for shoreline cleanup questions on the Snake River.

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6. Sensitive Resource Description

6.1. Wildlife

Because moisture is limited in much of the lands surrounding the project area, the waters provided by the Snake River provide an important part of the food, water and cover for numerous wildlife species. Wildlife that typically use the riparian and wetland areas associated with the project area include waterfowl, raptors, upland game birds, aquatic furbearers, and big game. Waterfowl, raptors, and aquatic furbearers warrant special concern in the event of an oil spill in this region.

In an effort to improve habitat, the Corps of Engineers has established numerous Habitat Management Units (HMUs) along the Snake River. The size and complexity of these HMUs varies, but many of them include irrigation, tree and shrub plantings, food plots, nesting and brooding cover, brush piles, and nesting structures.

The HMUs established within the Lower Monumental Pool Area include (with river mile locations):

- Megallon HMU - RM 45
- No Name HMU - RM 45
- Skookum HMU - RM 48
- No Name 2 HMU - RM 51
- Ayer HMU - RM 51
- 55-mile HMU - RM 55
- Joso HMU - RM 57
- Lyon's Ferry HMU - RM 58
- Tucannon HMU - RM 62
- Texas Rapids HMU - RM 66
- Riparia HMU - RM 67

Other significant wildlife areas, in addition to those habitats provided by HMUs, include shorelines with natural riparian vegetation, islands, wetlands, stream and river mouths (both free-flowing and impounded), and shallow backwater areas - especially those adjacent to natural shorelines.

Waterfowl

Waterfowl are present in the Snake River dam pools throughout the year. Canada geese and mallard ducks constitute the bulk of locally nesting waterfowl. Availability of nesting and brood-rearing habitat are the most significant factors limiting the nesting productivity of this region. Natural nesting tends to be concentrated on islands rather than on the river banks. One notable exception to this generalization is the fact that many of the Canada geese in the upper Snake River pools nest on cliffs and ledges adjacent to the river. In some areas, nesting opportunities have been enhanced by providing artificial nest structures.

The greatest abundance and species diversity of waterfowl occur during those months when birds from other areas move into the region for overwintering. These include large numbers of Canada geese, as well as both dabbling ducks and diving ducks. These birds heavily utilize adjacent agricultural lands, lakes, marshes, backwater areas, and the Corps of Engineers HMUs for foraging and loafing.

Raptors

The birds of prey most likely to be found in the immediate vicinity of the river include the prairie falcon, golden eagle, osprey, and bald eagle. Only the first two actually nest along the river. Because of their food and habitat preferences, however, these species are not likely to be at significant risk during an oil spill. Ospreys and bald eagles, the species that would be at greatest risk due to an oil spill, are generally uncommon along the Snake River except for migratory or transient individuals.

Aquatic Furbearers

Aquatic furbearers occur in each dam pool. They include muskrat, beaver, river otter, and mink. In general, this group is dependent on riverine areas, embayments, ponds, tributaries, and riparian forests for den sites and foraging areas. The presence of a water barrier around den sites provides essential protection from predators, and is especially important when young are present in the early spring and summer.

Other Wildlife

The project reservoirs provide essential habitat for numerous reptiles, amphibians, small mammals, bats, shorebirds, and songbirds. In general, riparian and wetland areas support higher population densities and species diversity than dryland shrub-steppe, talus, cliff, and/or grassland habitat, which are also prevalent along the project reservoirs. Habitats associated with the river generally support trees or dense grass/forb cover that provide more structurally complex areas and more abundant forage resources than adjacent uplands.

Threatened and Endangered Species

Of the wildlife species likely to be found along the Snake River in this region, only the bald eagle is federally listed as a threatened species. It is anticipated that bald eagles will be downlisted in the near future.

6.2. Fish

The Snake River is used for rearing and transportation by many fish stock groups. A brief description of these fish groups can be found on the following pages; see page 6-5 for a salmonid migration chart.

The focus of response in the event of a spill of oil or hazardous materials into the Snake River should be the protection of the juvenile populations and the food web that supports them. Juvenile fish rear and feed in a shallow water environment, and are not sufficiently mobile to escape the effects of oil. The major food source for all juvenile fish is also located in this environment. Destroying this habitat can have a devastating effect on the survival of juvenile populations thereby impacting the survival of the total fish population and ultimately other organisms that depend on these fish for food. Oil spill response strategies should include priority protection of shallow water habitat.

Coho (Silver) Salmon

Adult Coho enter their spawning areas starting in late August and lasting until December. The major migration occurs from August to mid September. Rearing takes place in smaller tributaries. Juvenile Coho spend about a year in the stream they were spawned, feeding mainly on zooplankton and emerging insects. Migration downriver generally occurs from April to June, with the juveniles utilizing shoreline cover and open waters.

Chinook (King) Salmon (Threatened Species)

Spring chinook:

Adult spring chinook begin entering the Columbia River in February and reach the Snake River by April. The peak migration occurs from April through June. Spawning occurs in many of the Snake River tributaries. Young chinook feed on aquatic insect larvae, terrestrial insects, and small invertebrates. Juveniles outmigrate/rear as yearlings from April through May, and utilize a deep water environment and are dependent upon benthic prey.

Summer chinook:

Adult summer chinook begin entering the Columbia River in May and reach the Snake River by June. The peak migration occurs from June through August. Spawning occurs in many of the Snake River tributaries. Young chinook feed on aquatic insect larvae, terrestrial insects, and small invertebrates. Juveniles outmigrate/rear as yearlings from April through May. Some fingerlings from the spring and summer runs may stay in the river up to 1 1/2 years before migrating to the ocean.

Fall chinook:

Adult fall chinook begin entering the Columbia River in July and reach the Snake River by August. The peak migration occurs from August through October. There are two basic races of fall chinook - tules and upriver-brights. Tules spawn in September, and generally outmigrate in the spring. Upriver-brights are a late spawning, November through January, upriver variety including hatchery and wild fish. Wild stock rear in shallow water rapids within the dam reservoir pools.

Sockeye Salmon (Endangered Species)

Adult sockeye begin entering the Columbia River in April and reach the Snake River by May. The peak migration occurs from June through August. All sockeye are wild stock, and require spawning grounds in streams lying adjacent to lakes. After the eggs hatch, juveniles migrate to a lake and spend 1 to 3 years there before they outmigrate to the ocean. Outmigration generally occurs in May and June.

Steelhead Trout

Steelhead can be found in the Columbia and Snake Rivers year round. There are two runs of steelhead, summer and winter. Summer steelhead begin entering the Columbia River in February and reach the Snake River by April, with the peak migration occurring from June through October. Summer steelhead spend the winter in the Columbia and Snake until they move into their home streams to spawn in the spring. Winter steelhead migration begins in November and continues through April. Juvenile steelhead generally outmigrate in March through June.

Other Resident Fish

Other resident fish can be found in the waters of the Snake River year round. These fish rear in slower side water pools where there is more cover and a slower water flow rate. Juveniles would be most vulnerable to the effects of an oil spill.

6.3. Flight Restriction Zones/ Sensitive Wildlife

Flight restriction zones have been designated in the GRP to minimize disturbance to certain wildlife species. An identified location could represent a heron colony or the individual nest of a sensitive species such as bald eagle. While some zones may be restricted year around, others will be in effect only during months listed in the matrix. The no-fly bubble is the area within a 1,500 foot radius and below 1,000 feet in altitude around the location.

All aircraft, including those from the government, contractors or media, are expected to avoid these zones when restrictions are in effect. In the event that one of these zones must be entered during a spill response in the Lower Monumental Pool, clearance must be obtained from the Washington Department of Fish and Wildlife (WDF&W) and the United States Fish and Wildlife Service (USFWS). During oil spills, pilots are also asked to avoid disturbing any large concentrations of birds and other wildlife. By keeping a safe distance or altitude, pilots can prevent the accidental hazing of unaffected wildlife into oiled areas and minimize the risk of aircraft/ bird collisions.

6.4. Hazing

Hazing or directed harassment, is a method used to drive or herd wildlife out of an area where they are at risk of becoming oiled. Hazing techniques include the use of visual and audio devices, personnel for herding, vessels and aircraft. In the right circumstances it can be an effective tool for protecting some wildlife species. In other cases it can be disastrous as unaffected wildlife can be driven into oiled areas, or forced to abandon nests or young.

Before hazing can begin for all species of wildlife in the Lower Monumental Pool, clearance must be obtained from the Washington Department of Fisheries and Wildlife and the United States Fish and Wildlife Service. All hazing efforts during a spill will be directed by these agencies. The deliberate harassment of wildlife without first securing permission from these agencies is a violation of Federal and State laws.

The following information must be provided for a determination on whether hazing might be authorized in a given situation.

1. Description of the situation where hazing authorization is being sought
2. Location to be hazed
3. Species of wildlife to be hazed and number of animals
4. Methods and equipment used
5. Date and time of hazing
6. Name, phone number, radio frequency, pager number and the amount of hazing experience of the individual requesting permission

The responsible agencies will evaluate each request on a case by case basis. All hazing of marine mammals, threatened and endangered species, and all hazing by aircraft will be performed only under authority and general supervision of WDF&W, U.S. Fish and Wildlife Service, National Marine Fisheries Service, or persons designated by these agencies. Representatives of these agencies can be contacted through the planning section of the Unified Command System during the spill event.

Salmonid Migration - Snake River

Species	Migration	J	F	Ma	Ap	My	Jn	Jl	Au	S	O	N	D
Coho salmon	Upstream - spawning								■	■			
	Downstream - juvenile outmigration												
Chinook salmon	Upstream - spawning												
	Downstream - juvenile outmigration				■	■							
Sockeye salmon	Upstream - spawning						■	■	■				
	Downstream - juvenile outmigration												
Steelhead	Upstream - spawning	■	■	■		■	■	■	■			■	■
	Downstream - juvenile outmigration												

Key: ■ = Peak of activity

LOWER MONUMENTAL POOL WILDLIFE RESOURCES																				
Snake River Mile 69 - 74										PERIOD OF SENSITIVITY										
Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WLOMO-				Yes		Yes		Yes												

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

Flights below 1000 feet require clearance

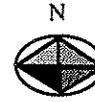
Sensitive season - Minimize overflight disturbance

LOWER MONUMENTAL DAM POOL - FM 69-74 LITTLE GOOSE DAM TO FM 74

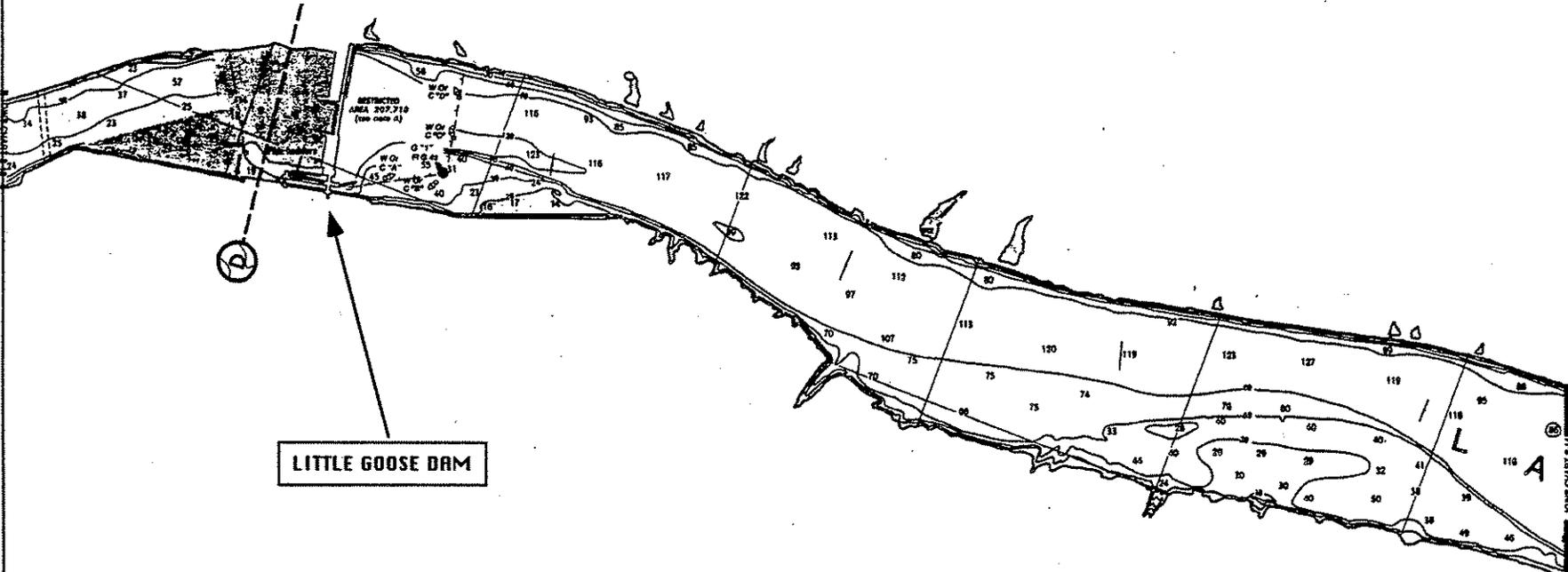
FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

1. Pilots refer to chapter 6.3 Flight Restriction Zones
2. All ground entry within 100 yards of sensitive nesting species is restricted
3. All boaters are requested to approach no closer than 100 yards from seal and waterfowl concentrations

 Boat Launch
  Town or City
  Bird Concentration Area
  Sensitive Species Nesting



WASHINGTON



LITTLE GOOSE DAM

← River Flow

LOWER MONUMENTAL POOL FISHERY RESOURCES																				
Snake River Mile 69 - 74										PERIOD OF SENSITIVITY										
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

Flights below 1000 feet require clearance

Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

C - CRITICAL

D - DEPRESSED

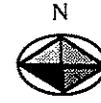
H - HEALTHY

U - UNKNOWN

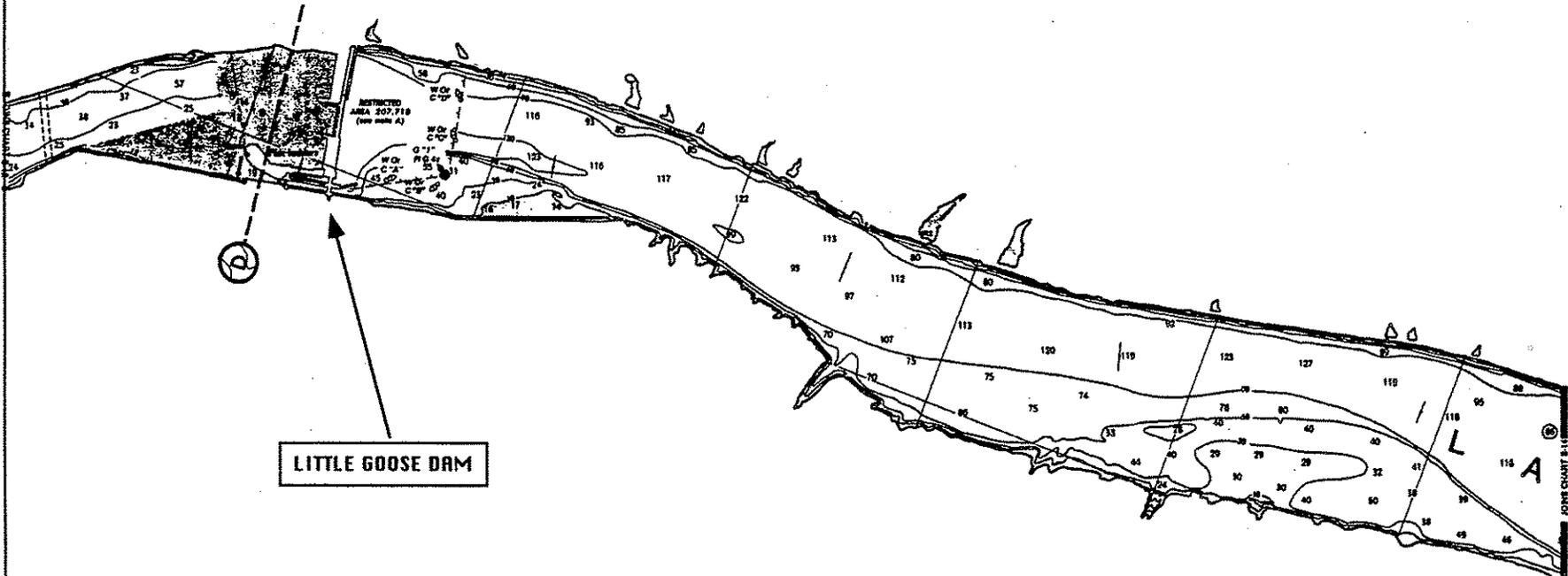
LOWER MONUMENTAL DAM POOL - FM 69-74 LITTLE GOOSE DAM TO FM 74

FISH RESOURCES

⊠ Boat Launch ⚙ Town or City [Stippled Box] Sensitive Fish Resources



WASHINGTON



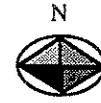
LITTLE GOOSE DAM

← River Flow

LOWER MONUMENTAL POOL CULTURAL AND RECREATIONAL RESOURCES			
Snake River Mile 69 - 74			
Code	Location	Point of Interest	Degree of Use
CLOMO-	No resources areas identified		
CLOMO-			

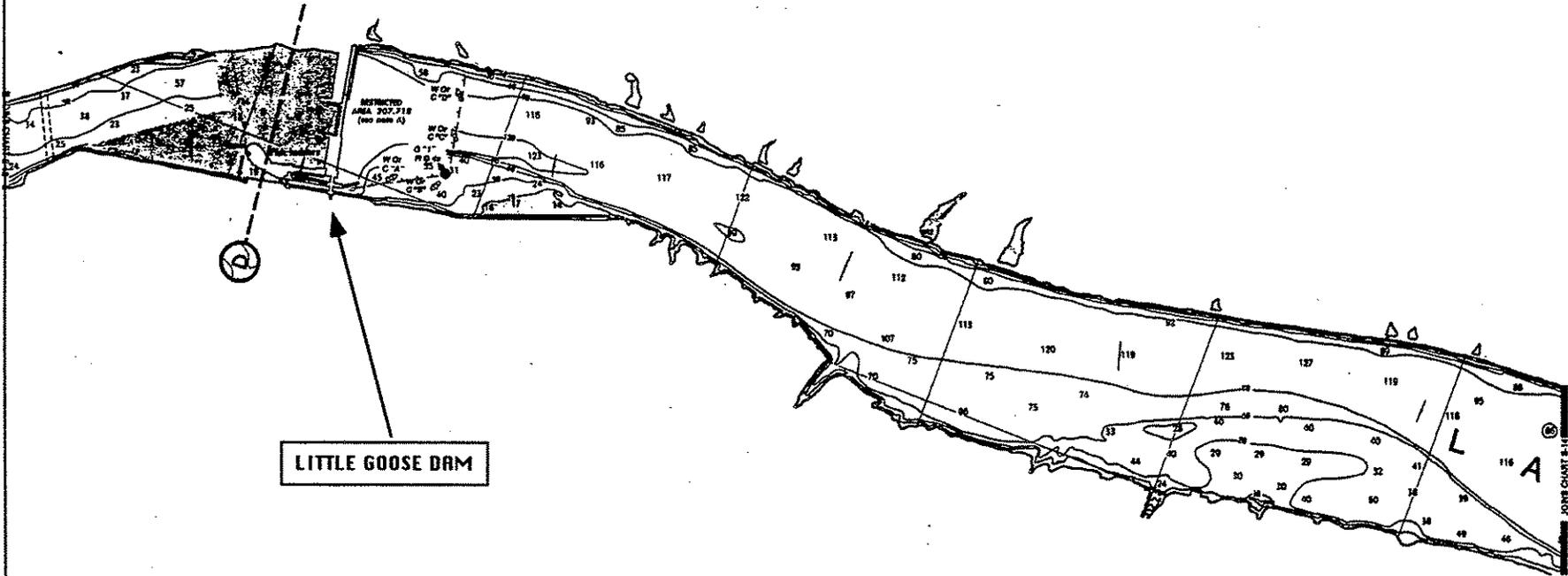
LOWER MONUMENTAL DAM POOL - FM 69-74 LITTLE GOOSE DAM TO FM 74

CULTURAL AND RECREATIONAL RESOURCES



WASHINGTON

Boat Launch Town or City Use Area



LITTLE GOOSE DAM

← River Flow

LOWER MONUMENTAL POOL WILDLIFE RESOURCES																					
Snake River Mile 67 - 70										PERIOD OF SENSITIVITY											
Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
WLOMO-1	Riparian HMU			Yes		Yes		Yes	■	■	■	■	■	■	■					■	
WLOMO-2	Alkali Flat Creek			Yes		Yes		Yes	■	■	■	■	■	■	■					■	

* FLIGHT AND GROUND ENTRY RESTRICTIONS

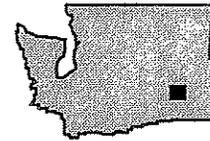
■ Flights below 1000 feet require clearance

■ Sensitive season - Minimize overflight disturbance

LOWER MONUMENTAL DAM POOL - FM 67-70 RIPARIA TO 2 MILES BELOW LITTLE GOOSE DAM

FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

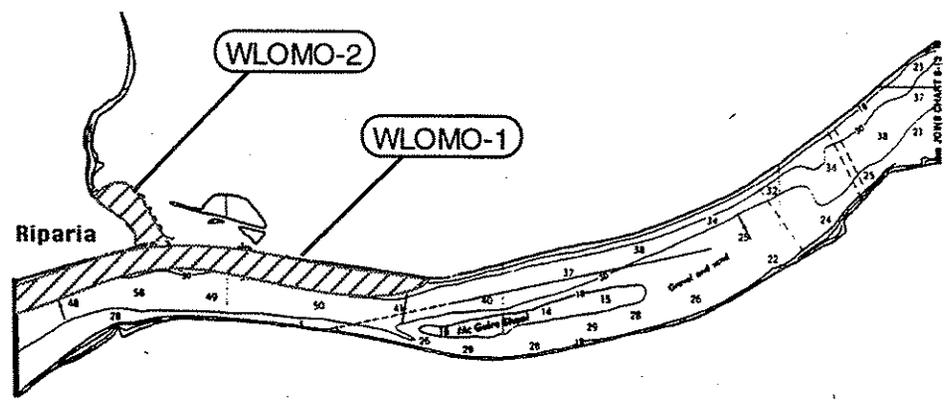
1. Pilots refer to chapter 6.3 Flight Restriction Zones
2. All ground entry within 100 yards of sensitive nesting species is restricted
3. All boaters are requested to approach no closer than 100 yards from seal and waterfowl concentrations



WASHINGTON

- Boat Launch
- Town or City
- Bird Concentration Area
- Sensitive Species Nesting

LITTLE GOOSE DAM



← River Flow

LOWER MONUMENTAL POOL FISHERY RESOURCES																					
Snake River Mile 67 - 70										PERIOD OF SENSITIVITY											
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
FLOMO-		U	U	U	U	U	U														
FLOMO-		U	U	U	U	U	U														
FLOMO-		U	U	U	U	U	U														

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

 Flights below 1000 feet require clearance

 Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

C - CRITICAL

D - DEPRESSED

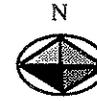
H - HEALTHY

U - UNKNOWN

LOWER MONUMENTAL DAM POOL - FM 67-70 RIPARIA TO 2 MILES BELOW LITTLE GOOSE DAM

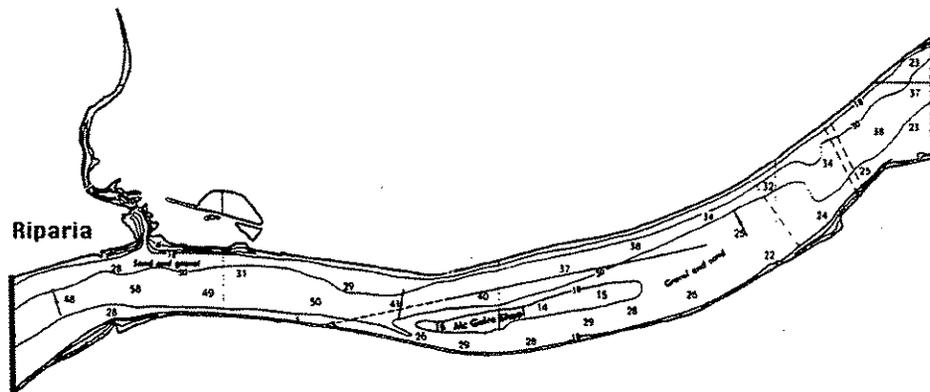
FISH RESOURCES

⊗ Boat Launch ⚙ Town or City ▨ Sensitive Fish Resources



WASHINGTON

LITTLE GOOSE DAM



LOWER MONUMENTAL POOL CULTURAL AND RECREATIONAL RESOURCES			
Snake River Mile 67 - 70			
Code	Location	Point of Interest	Degree of Use
CLOMO-	No resources areas identified		
CLOMO-			

LOWER MONUMENTAL DAM POOL - FM 67-70 RIPARIA TO 2 MILES BELOW LITTLE GOOSE DAM

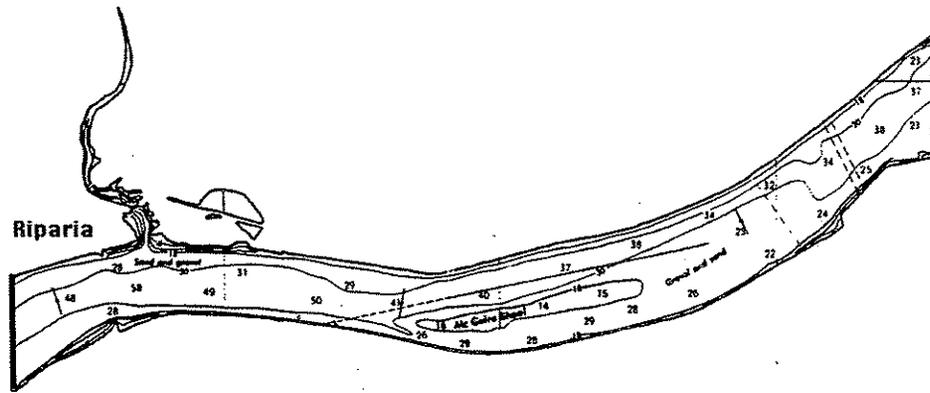
CULTURAL AND RECREATIONAL RESOURCES



WASHINGTON

Boat Launch Town or City Use Area

LITTLE GOOSE DAM



← River Flow

LOWER MONUMENTAL POOL WILDLIFE RESOURCES																					
Snake River Mile 61 - 67										PERIOD OF SENSITIVITY											
Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
WLOMO-3	South shore at RM 66			Yes		Yes		Yes	■	■	■	■	■	■	■					■	
WLOMO-4	Tucannon River			Yes		Yes		Yes	■	■	■	■	■	■	■					■	

* FLIGHT AND GROUND ENTRY RESTRICTIONS

■ Flights below 1000 feet require clearance

■ Sensitive season - Minimize overflight disturbance

LOWER MONUMENTAL DAM POOL - FM 61-67 TUCANNON TO BELOW RIPARIA

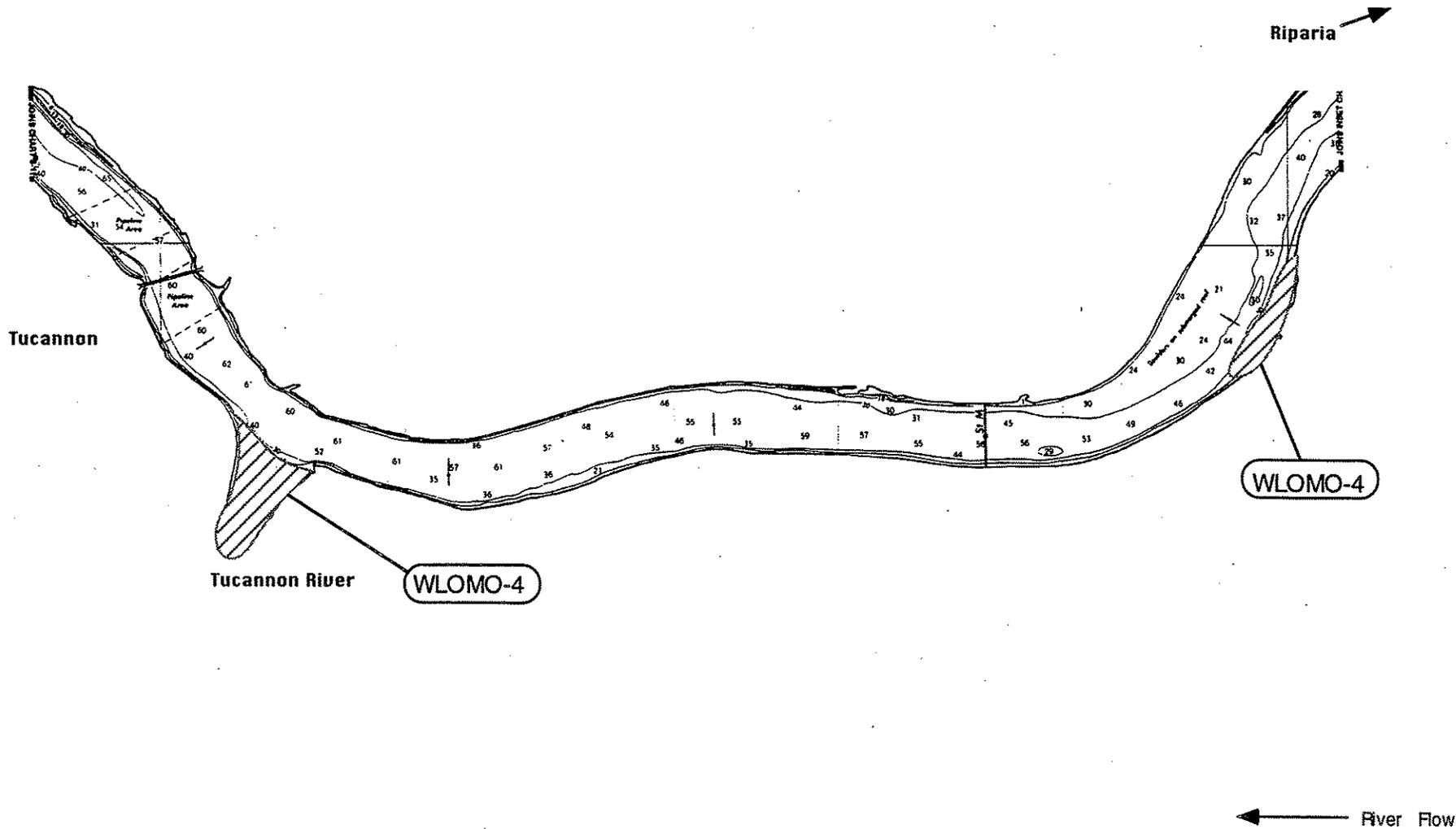
FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

1. Pilots refer to chapter 6.3 Flight Restriction Zones
2. All ground entry within 100 yards of sensitive nesting species is restricted
3. All boaters are requested to approach no closer than 100 yards from seal and waterfowl concentrations

 Boat Launch
  Town or City
  Bird Concentration Area
  Sensitive Species Nesting



WASHINGTON



LOWER MONUMENTAL POOL FISHERY RESOURCES																				
Snake River Mile 61 - 67										PERIOD OF SENSITIVITY										
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

Flights below 1000 feet require clearance

Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

C - CRITICAL

D - DEPRESSED

H - HEALTHY

U - UNKNOWN

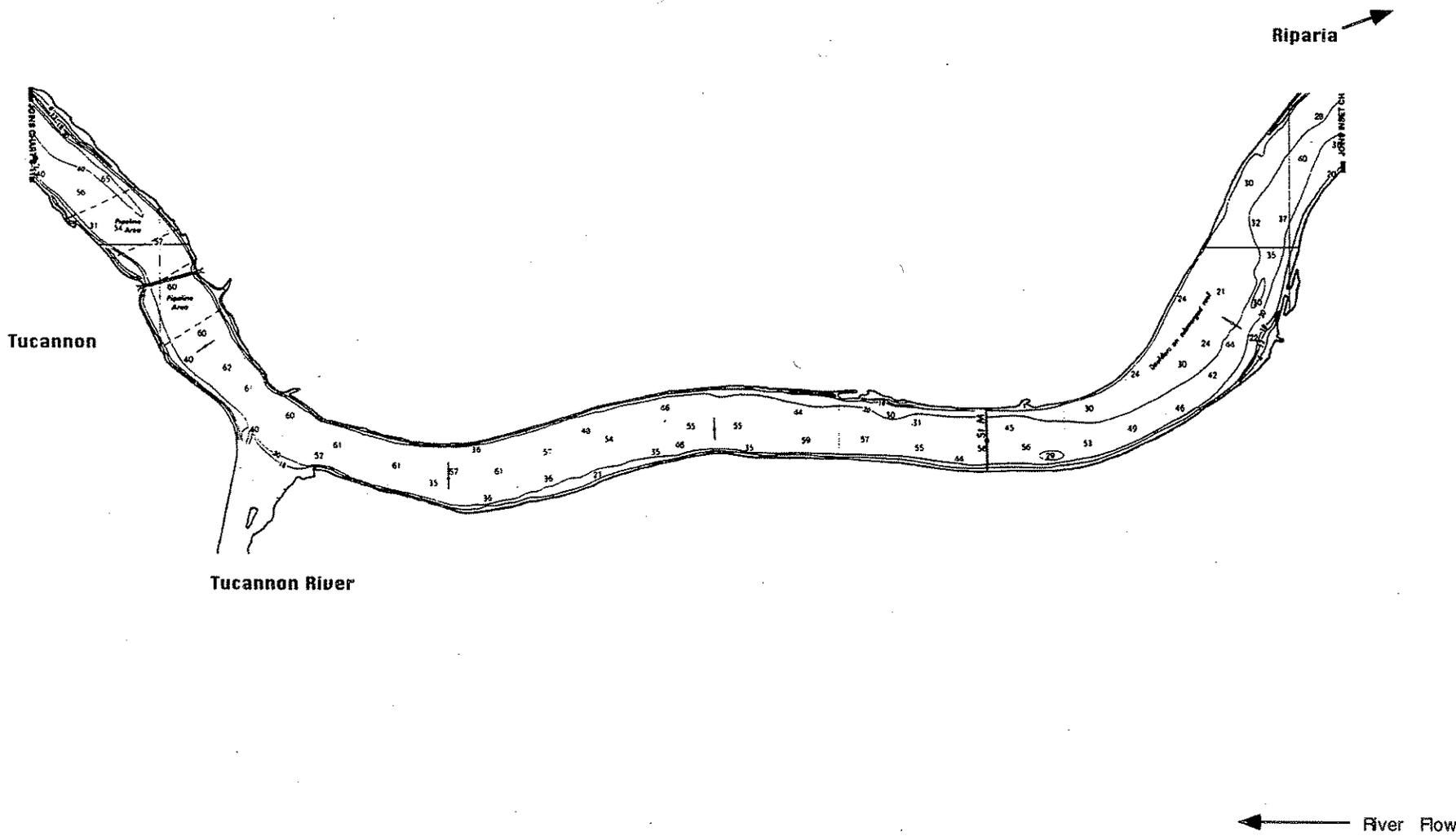
LOWER MONUMENTAL DAM POOL - FM 61-67 TUCANNON TO BELOW RIPARIA

FISH RESOURCES

⊗ Boat Launch ⚡ Town or City [Stippled Box] Sensitive Fish Resources



WASHINGTON

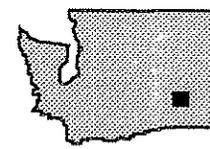


LOWER MONUMENTAL POOL CULTURAL AND RECREATIONAL RESOURCES			
Snake River Mile 61 -67			
Code	Location	Point of Interest	Degree of Use
CLOMO-	No resources areas identified		
CLOMO-			

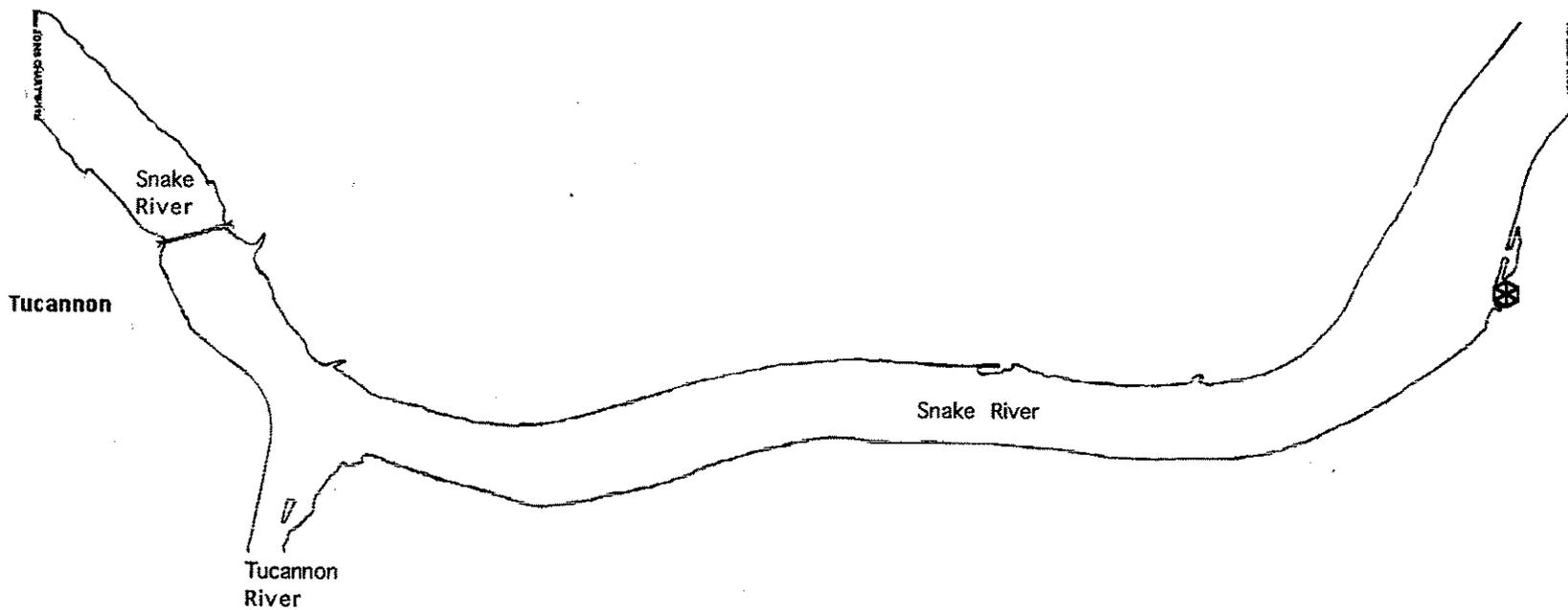
LOWER MONUMENTAL DAM POOL - RM 61-67 TUCANNON TO BELOW RIPARIA

CULTURAL AND RECREATIONAL RESOURCES

 Boat Launch  Town or City  Use Area



WASHINGTON



6-23

January 1, 1997

LOWER MONUMENTAL POOL WILDLIFE RESOURCES																					
Palouse River										PERIOD OF SENSITIVITY											
Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	None identified																				

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

 Flights below 1000 feet require clearance

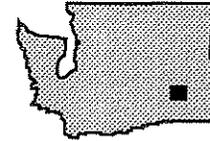
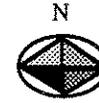
 Sensitive season - Minimize overflight disturbance

LOWER MONUMENTAL DAM POOL - PALOUSE RIVER

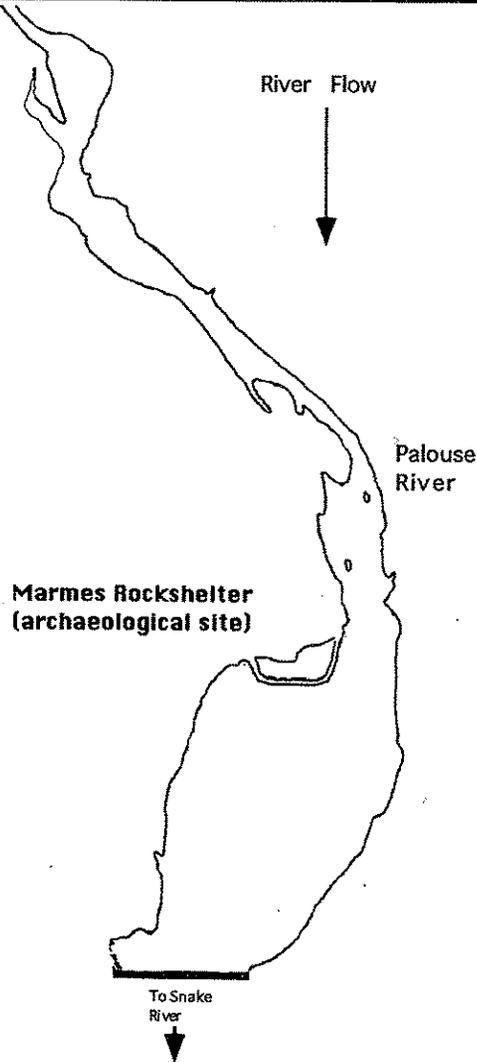
FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

1. Pilots refer to chapter 6.3 Flight Restriction Zones
2. All ground entry within 100 yards of sensitive nesting species is restricted
3. All boaters are requested to approach no closer than 100 yards from seal and waterfowl concentrations

 Boat Launch  Town or City  Bird Concentration Area  Sensitive Species Nesting



WASHINGTON



LOWER MONUMENTAL POOL FISHERY RESOURCES																				
Palouse River											PERIOD OF SENSITIVITY									
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

Flights below 1000 feet require clearance

Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

C - CRITICAL

D - DEPRESSED

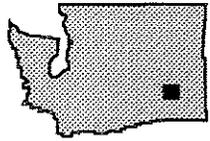
H - HEALTHY

U - UNKNOWN

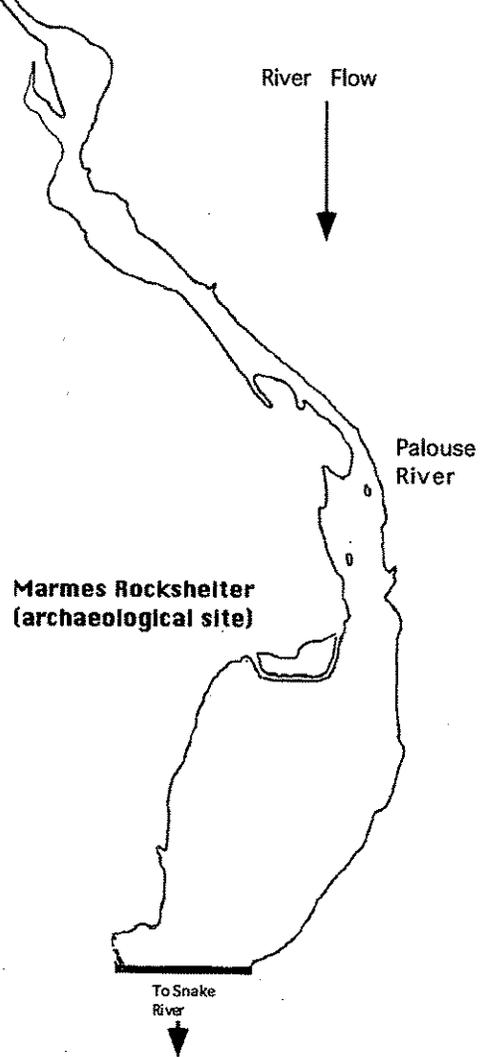
LOWER MONUMENTAL DAM POOL - PALOUSE RIVER

FISH RESOURCES

 Boat Launch  Town or City  Sensitive Fish Resources



WASHINGTON

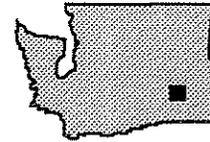


LOWER MONUMENTAL POOL CULTURAL AND RECREATIONAL RESOURCES			
Palouse River			
Code	Location	Point of Interest	Degree of Use
CLOMO-	No resources areas identified		
CLOMO-			

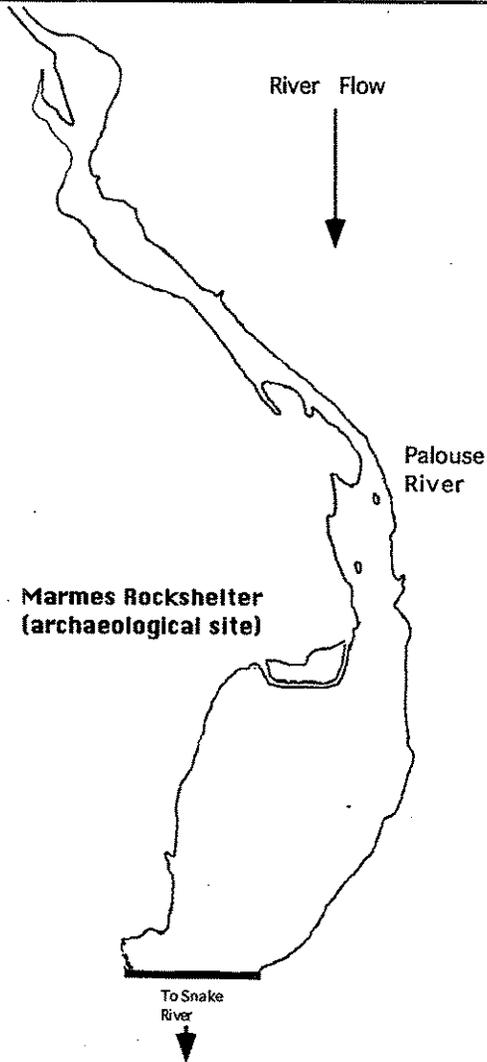
LOWER MONUMENTAL DAM POOL - PALOUSE RIVER

CULTURAL AND RECREATIONAL RESOURCES

 Boat Launch  Town or City  Use Area



WASHINGTON



LOWER MONUMENTAL POOL WILDLIFE RESOURCES																				
Snake River Mile 55 - 61										PERIOD OF SENSITIVITY										
Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WLOMO-5	Boat Ramp S shore from Palouse River			Yes		Yes		Yes	[Shaded Area]											
WLOMO-6	Palouse River			Yes		Yes		Yes	[Shaded Area]											
WLOMO-7	Joso HMU			Yes		Yes		Yes	[Shaded Area]											
WLOMO-8	Irrigated 55 HMU			Yes		Yes		Yes	[Shaded Area]											

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

[Shaded Area] Flights below 1000 feet require clearance

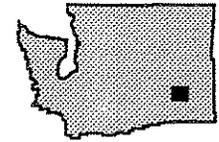
[Shaded Area] Sensitive season - Minimize overflight disturbance

LOWER MONUMENTAL DAM POOL - RM 55-61 - BELOW & ABOVE PALOUSE RIVER

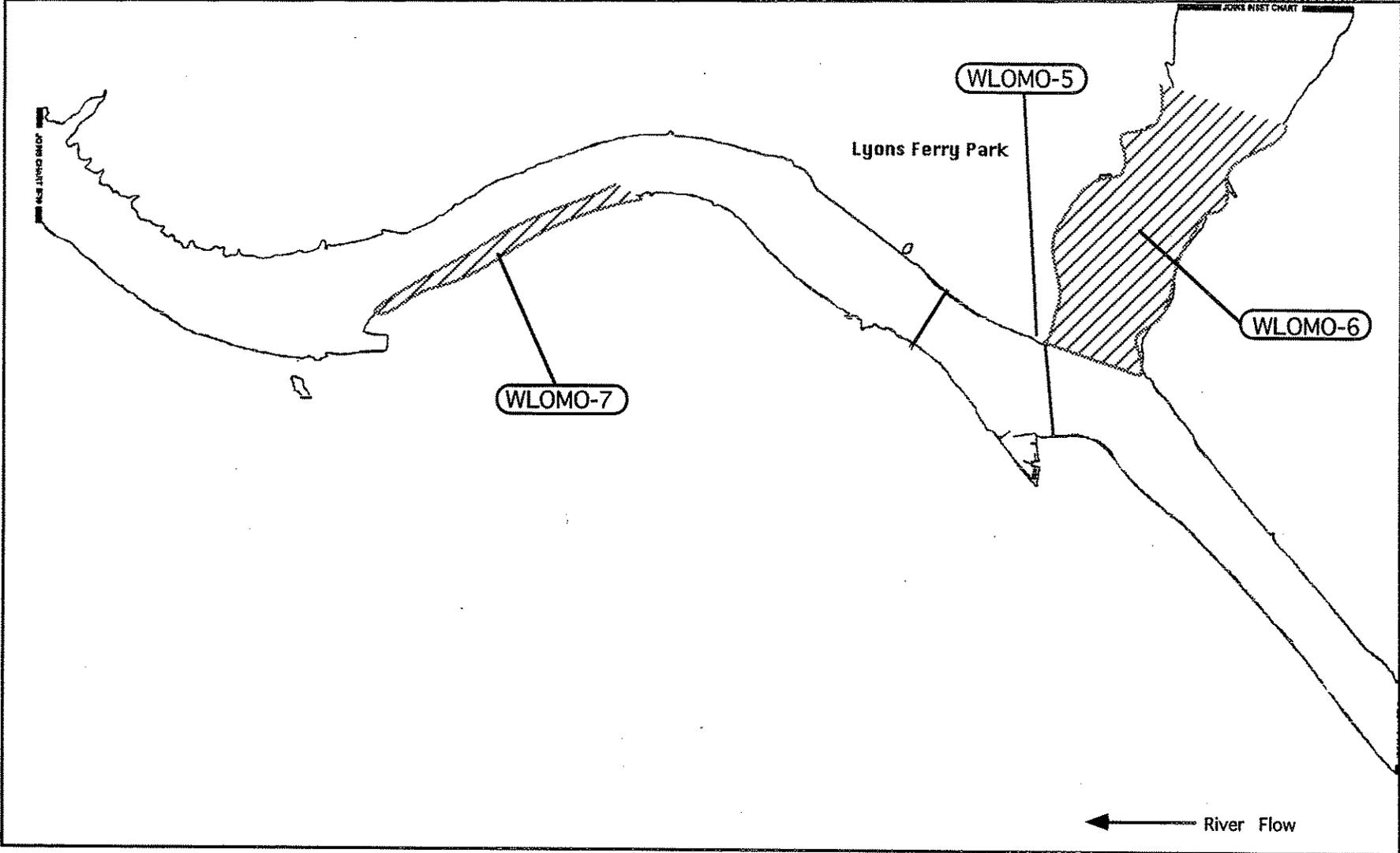
FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

1. Pilots refer to chapter 6.3 Flight Restriction Zones
2. All ground entry within 100 yards of sensitive nesting species is restricted
3. All boaters are requested to approach no closer than 100 yards from seal and waterfowl concentrations

 Boat Launch
  Town or City
  Bird Concentration Area
  Sensitive Species Nesting



WASHINGTON



LOWER MONUMENTAL POOL FISHERY RESOURCES																				
Snake River Mile 55 - 61										PERIOD OF SENSITIVITY										
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

Flights below 1000 feet require clearance

Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

C - CRITICAL

D - DEPRESSED

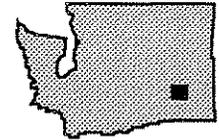
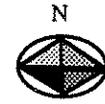
H - HEALTHY

U - UNKNOWN

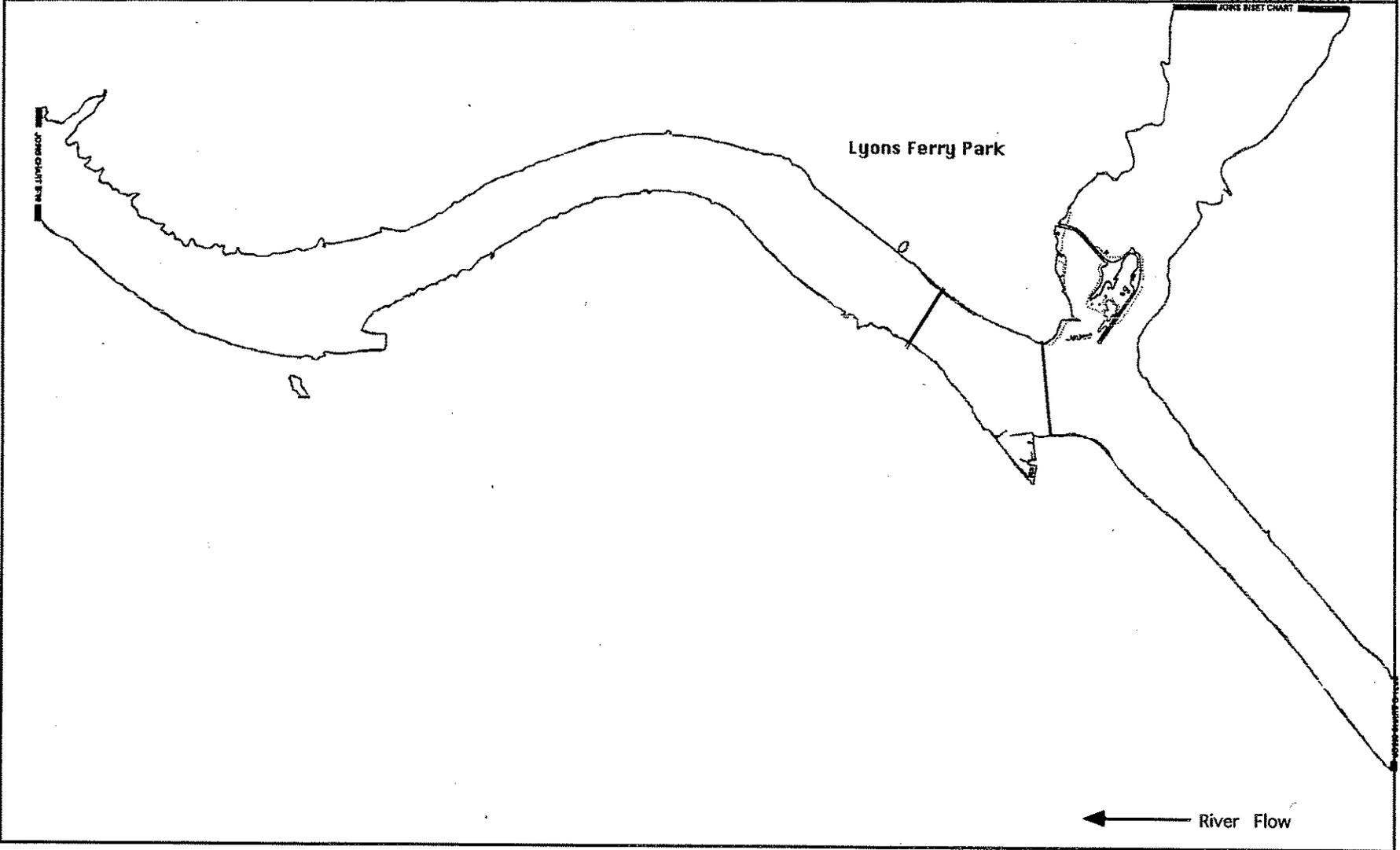
LOWER MONUMENTAL DAM POOL - RM 55-61 - BELOW & ABOVE PALOUSE RIVER

FISH RESOURCES

 Boat Launch  Town or City  Sensitive Fish Resources



WASHINGTON

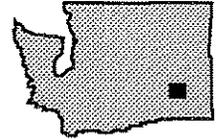
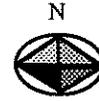


LOWER MONUMENTAL POOL CULTURAL AND RECREATIONAL RESOURCES			
Snake River Mile 55 - 61			
Code	Location	Point of Interest	Degree of Use
CLOMO-	No resources areas identified		
CLOMO-			

LOWER MONUMENTAL DAM POOL - RM 55-61 - BELOW & ABOVE PALOUSE RIVER

CULTURAL AND RECREATIONAL RESOURCES

 Boat Launch  Town or City  Use Area



WASHINGTON

JOHN BRET CHART

Lyons Ferry Park

 River Flow

LOWER MONUMENTAL POOL WILDLIFE RESOURCES																					
Snake River Mile 51 - 56										PERIOD OF SENSITIVITY											
Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WLOMO-9	North shore around 55 Mile HMU			Yes		Yes		Yes													
WLOMO-10	South shore below 55 Mile HMU			Yes		Yes		Yes													
WLOMO-11	North shore Gulch across from Ayer			Yes		Yes		Yes													
WLOMO-12	Ayer's Boat Basin			Yes		Yes		Yes													

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

 Flights below 1000 feet require clearance

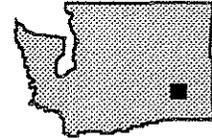
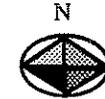
 Sensitive season - Minimize overflight disturbance

LOWER MONUMENTAL DAM POOL - RM 51-56 - AYER'S BOAT BASIN TO RM 56

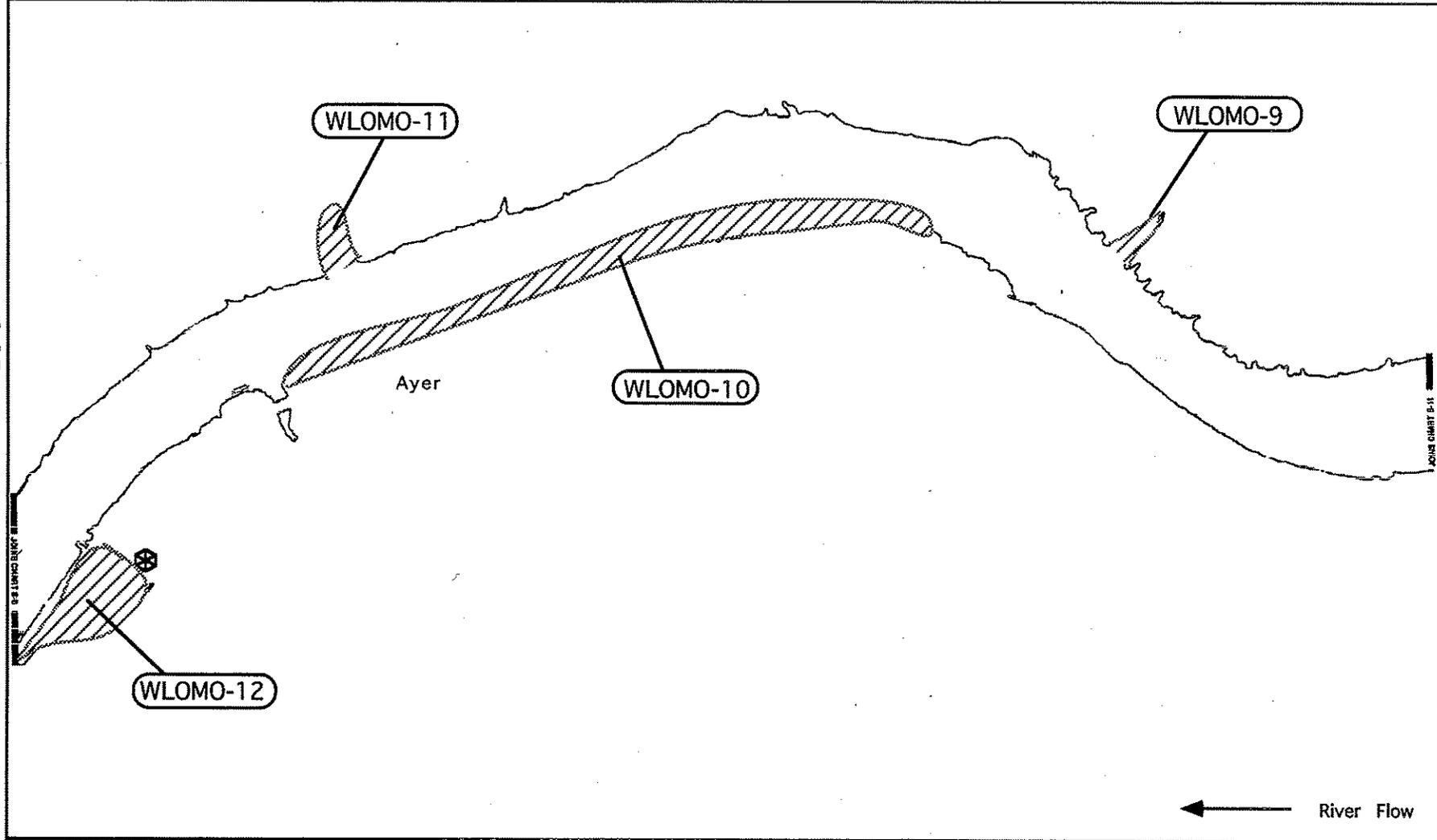
FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

1. Pilots refer to chapter 6.3 Flight Restriction Zones
2. All ground entry within 100 yards of sensitive nesting species is restricted
3. All boaters are requested to approach no closer than 100 yards from seal and waterfowl concentrations

 Boat Launch
  Town or City
  Bird Concentration Area
  Sensitive Species Nesting



WASHINGTON



LOWER MONUMENTAL POOL FISHERY RESOURCES																				
Snake River Mile 51 - 56										PERIOD OF SENSITIVITY										
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

 Flights below 1000 feet require clearance

 Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

C - CRITICAL

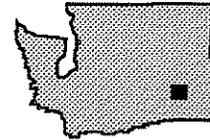
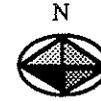
D - DEPRESSED

H - HEALTHY

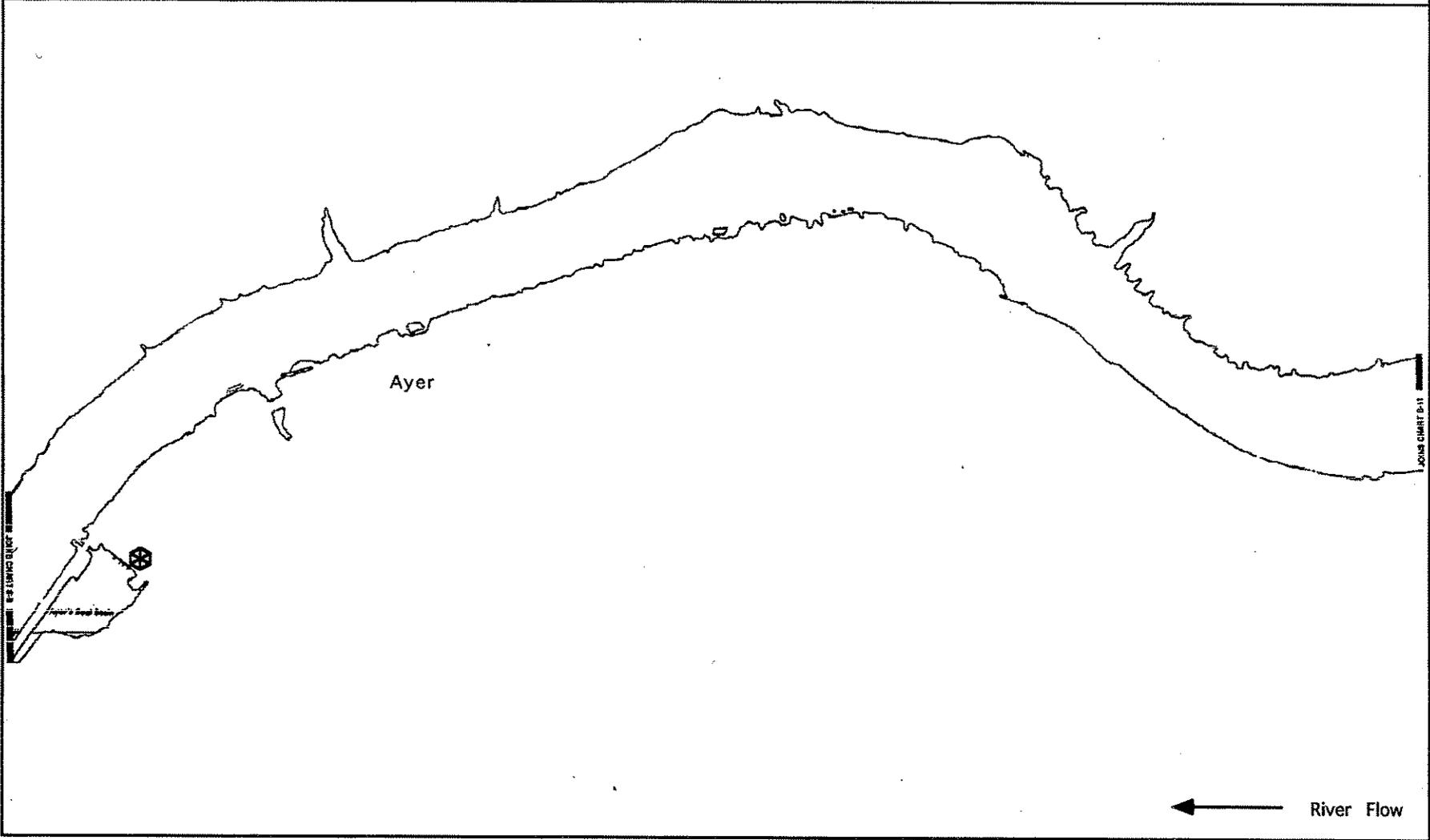
U - UNKNOWN

LOWER MONUMENTAL DAM POOL - RM 51-56 - AYER'S BOAT BASIN TO RM 56 FISH RESOURCES

 Boat Launch  Town or City  Sensitive Fish Resources



WASHINGTON

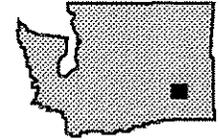


LOWER MONUMENTAL POOL CULTURAL AND RECREATIONAL RESOURCES			
Snake River Mile 51 - 56			
Code	Location	Point of Interest	Degree of Use
CLOMO-	No resources areas identified		
CLOMO-			

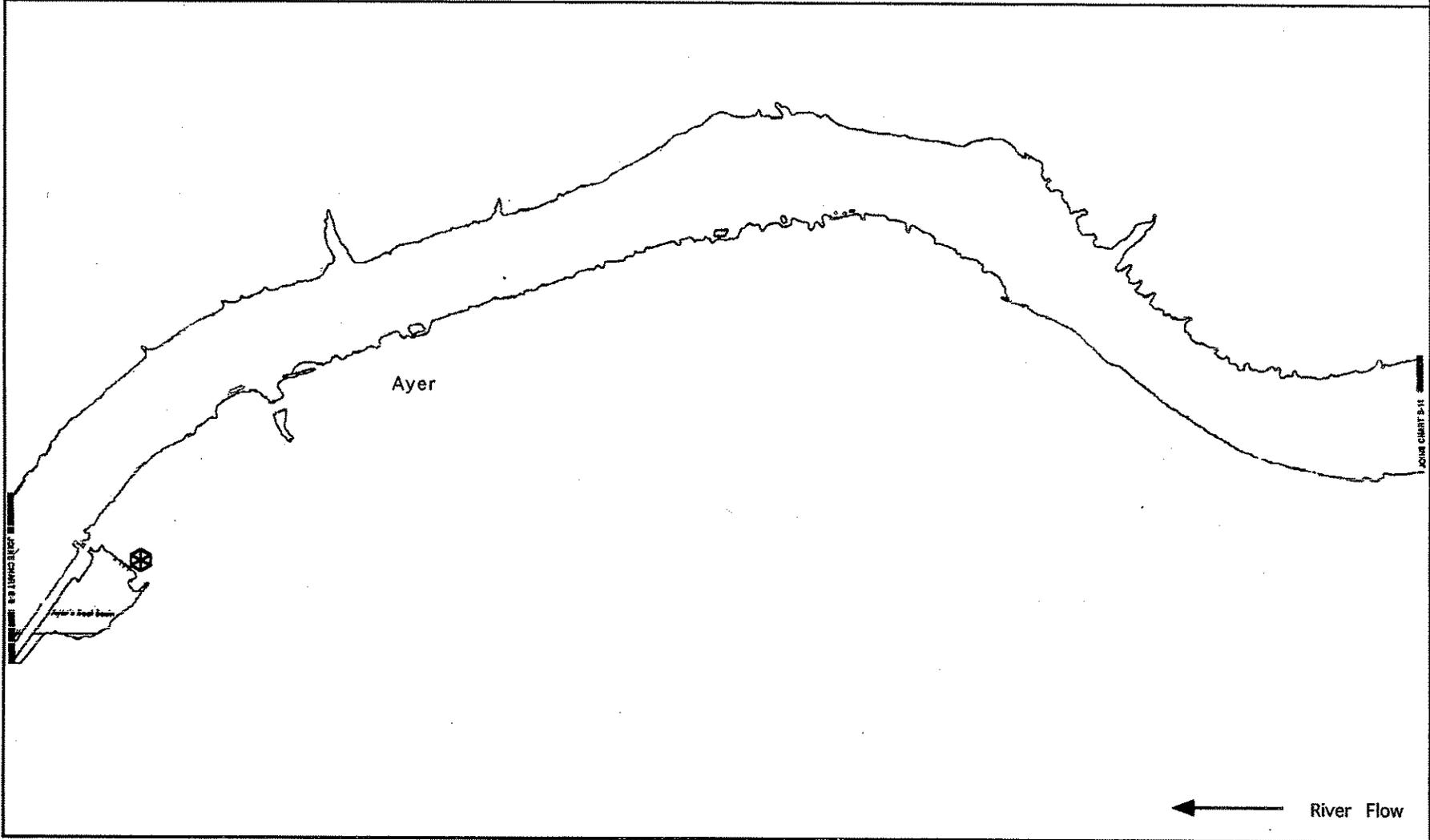
LOWER MONUMENTAL DAM POOL - RM 51-56 - AYER'S BOAT BASIN TO RM 56

CULTURAL AND RECREATIONAL RESOURCES

 Boat Launch  Town or City  Use Area



WASHINGTON



← River Flow

6-41

January 1, 1997

LOWER MONUMENTAL POOL WILDLIFE RESOURCES

Snake River Mile 45 - 50										PERIOD OF SENSITIVITY											
Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WLOMO-13	Skookum HMU South shore, bend at			Yes		Yes		Yes													
WLOMO-14	RM 46			Yes		Yes		Yes													
WLOMO-15	Gulch, North shore, RM 46			Yes		Yes		Yes													
WLOMO-16	Gulch, North shore, RM 45			Yes		Yes		Yes													

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

 Flights below 1000 feet require clearance

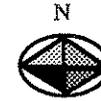
 Sensitive season - Minimize overflight disturbance

LOWER MONUMENTAL DAM POOL - RM 45-50 - MAGALLON TO RM 50

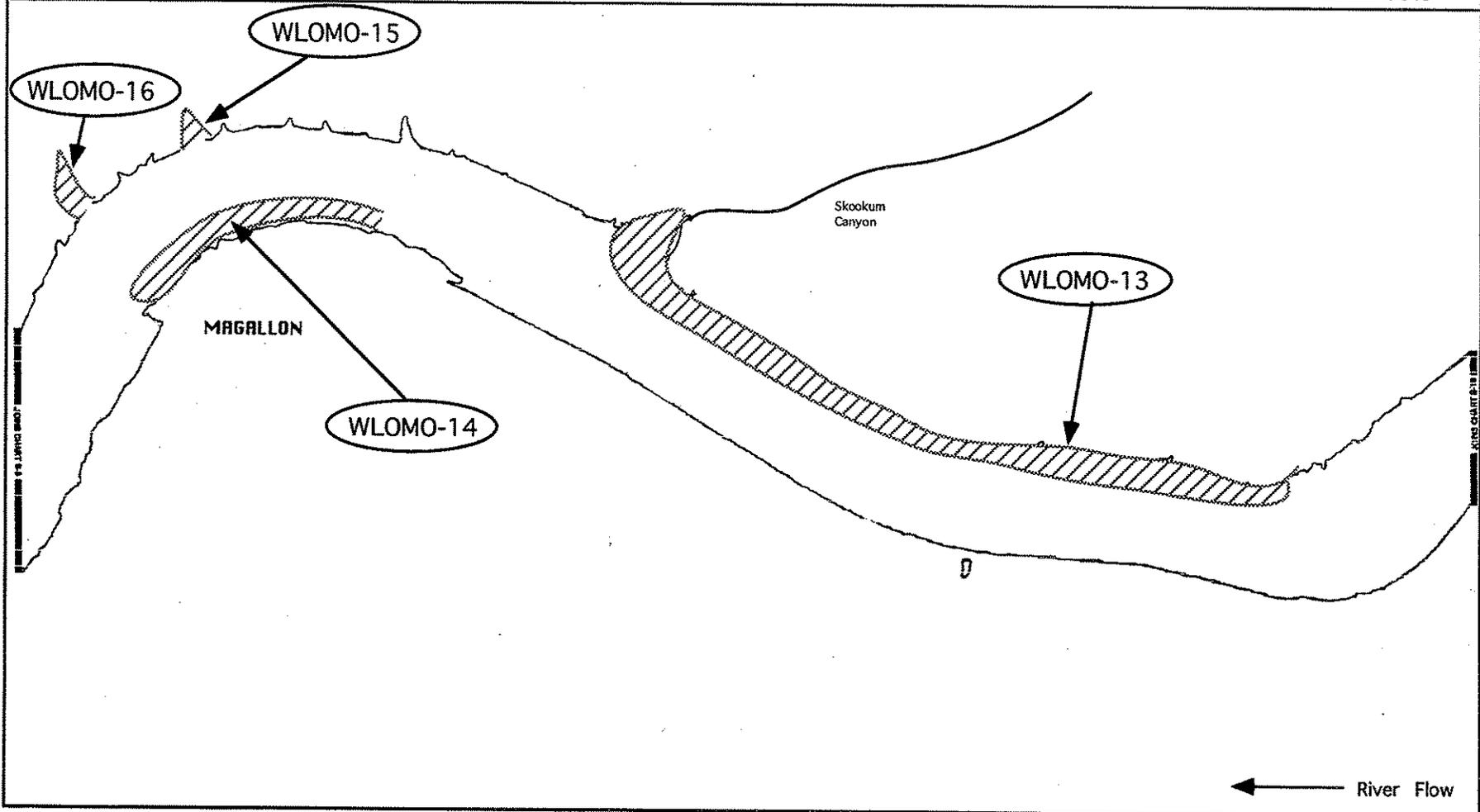
FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

1. Pilots refer to chapter 6.3 Flight Restriction Zones
2. All ground entry within 100 yards of sensitive nesting species is restricted
3. All boaters are requested to approach no closer than 100 yards from seal and waterfowl concentrations

 Boat Launch
  Town or City
  Bird Concentration Area
  Sensitive Species Nesting



WASHINGTON



LOWER MONUMENTAL POOL FISHERY RESOURCES																				
Snake River Mile 45 - 50		PERIOD OF SENSITIVITY																		
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

Flights below 1000 feet require clearance

Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

C - CRITICAL

D - DEPRESSED

H - HEALTHY

U - UNKNOWN

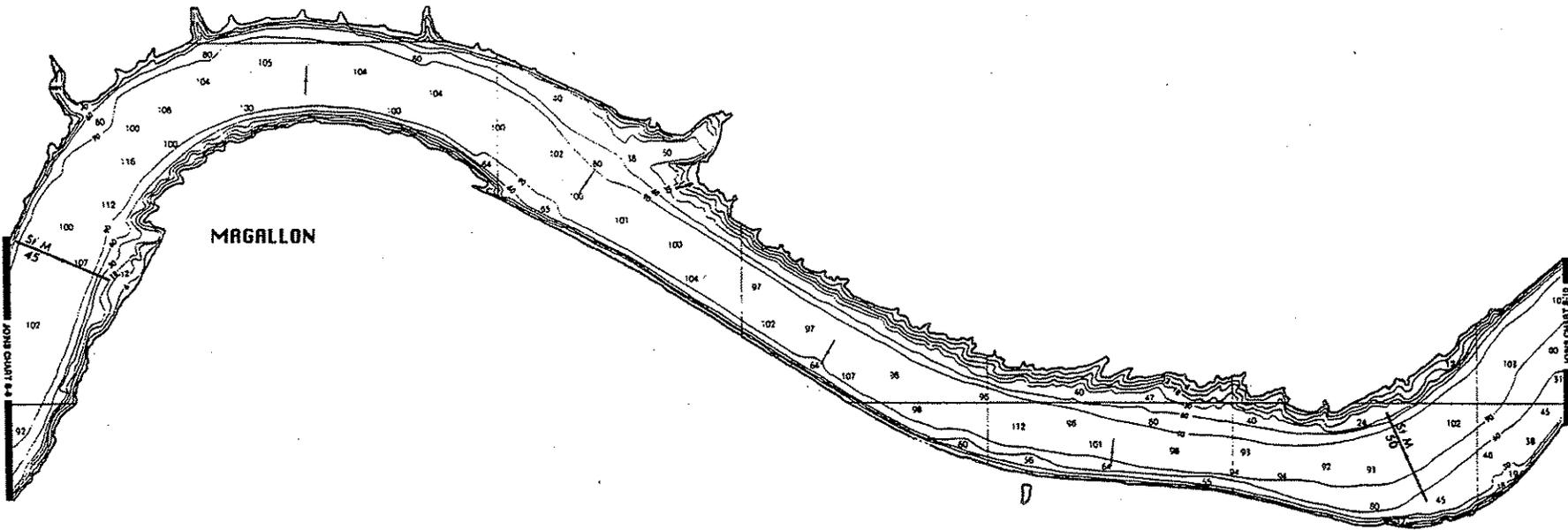
LOWER MONUMENTAL DAM POOL - RM 45-50 - MAGALLON TO RM 50

FISH RESOURCES

⊠ Boat Launch ⚙ Town or City ▨ Sensitive Fish Resources



WASHINGTON



6 - 45

November 3, 1995

Snake River/Lower Monumental Pool GRP

← River Flow

LOWER MONUMENTAL POOL CULTURAL AND RECREATIONAL RESOURCES			
Snake River Mile 45 - 50			
Code	Location	Point of Interest	Degree of Use
CLOMO-	No resources areas identified		
CLOMO-			

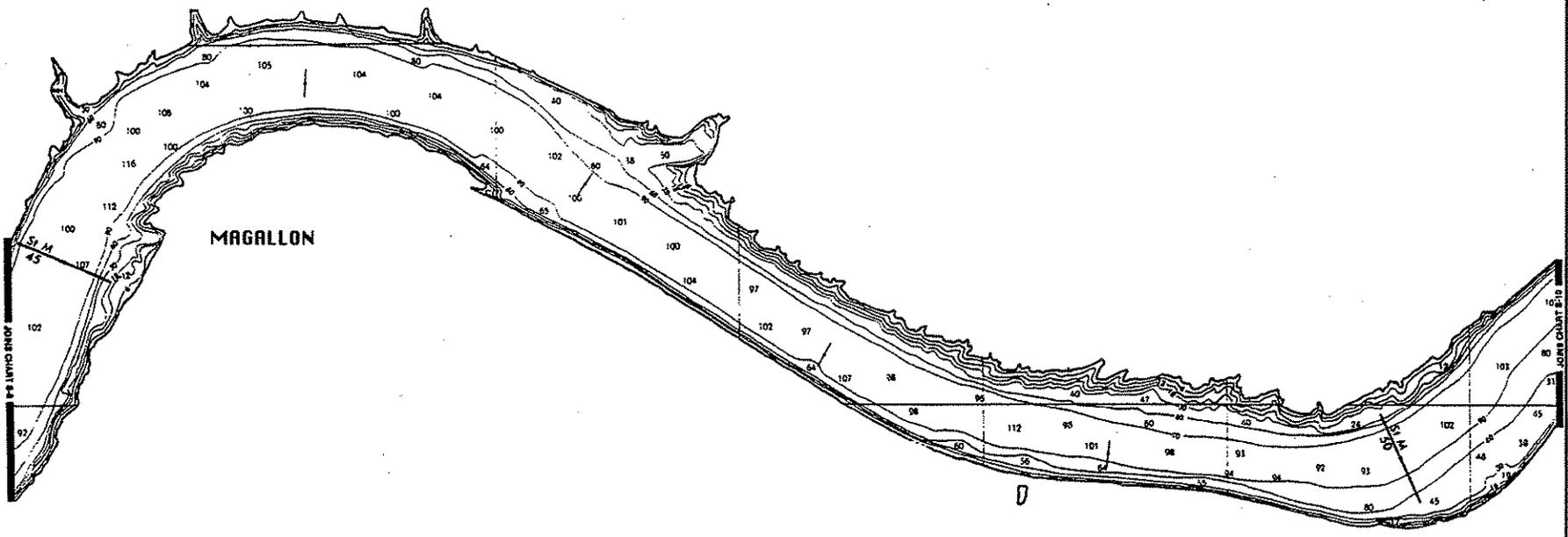
LOWER MONUMENTAL DAM POOL - RM 45-50 - MAGALLON TO RM 50

CULTURAL AND RECREATIONAL RESOURCES



WASHINGTON

Boat Launch Town or City Use Area



6-47

November 3, 1995

← River Flow

SNAKE RIVER/LOWER MONUMENTAL POOL GRP

LOWER MONUMENTAL POOL WILDLIFE RESOURCES																					
Snake River Mile 41 - 44											PERIOD OF SENSITIVITY										
Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

 Flights below 1000 feet require clearance

 Sensitive season - Minimize overflight disturbance

LOWER MONUMENTAL DAM POOL - RM 41-44 - RM 44 TO LOWER MONUMENTAL DAM

FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

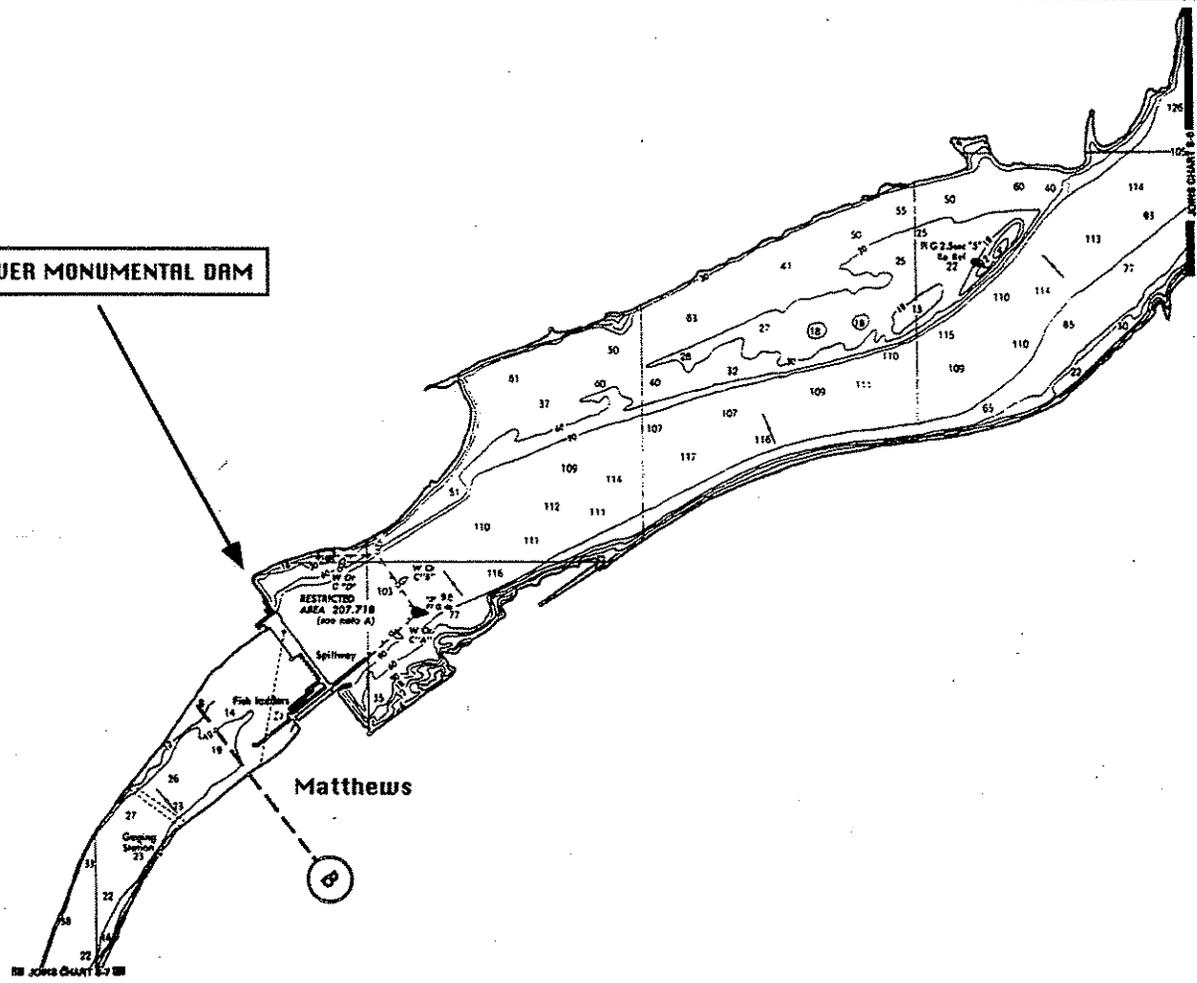
1. Pilots refer to chapter 6.3 Flight Restriction Zones
2. All ground entry within 100 yards of sensitive nesting species is restricted
3. All boaters are requested to approach no closer than 100 yards from seal and waterfowl concentrations

 Boat Launch
  Town or City
  Bird Concentration Area
  Sensitive Species Nesting



WASHINGTON

LOWER MONUMENTAL DAM



← River Flow

SNAKE RIVER/LOWER MONUMENTAL POOL GRP

LOWER MONUMENTAL POOL FISHERY RESOURCES																				
Snake River Mile 41 - 44										PERIOD OF SENSITIVITY										
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLOMO-1	LOMO Fish Ladder	U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													
FLOMO-		U	U	U	U	U	U													

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

 Flights below 1000 feet require clearance

 Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

C - CRITICAL

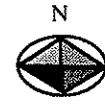
D - DEPRESSED

H - HEALTHY

U - UNKNOWN

LOWER MONUMENTAL DAM POOL - RM 41-44 - RM 44 TO LOWER MONUMENTAL DAM

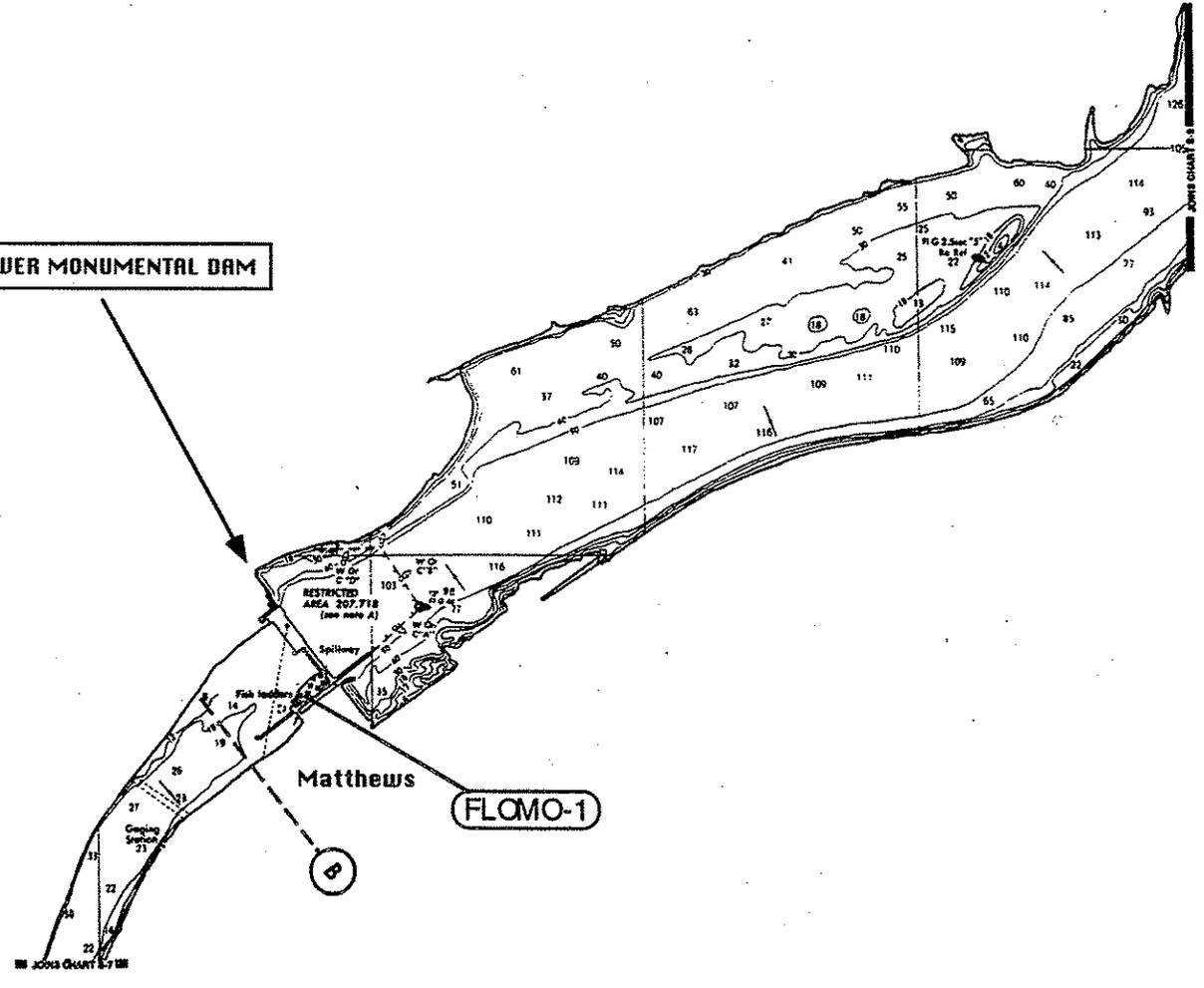
FISH RESOURCES



WASHINGTON

Boat Launch Town or City Sensitive Fish Resources

LOWER MONUMENTAL DAM



← River Flow

LOWER MONUMENTAL POOL CULTURAL AND RECREATIONAL RESOURCES			
Snake River Mile 41 - 44			
Code	Location	Point of Interest	Degree of Use
CLOMO-	No resources areas identified		
CLOMO-			

LOWER MONUMENTAL DAM POOL - RM 41-44 - RM 44 TO LOWER MONUMENTAL DAM

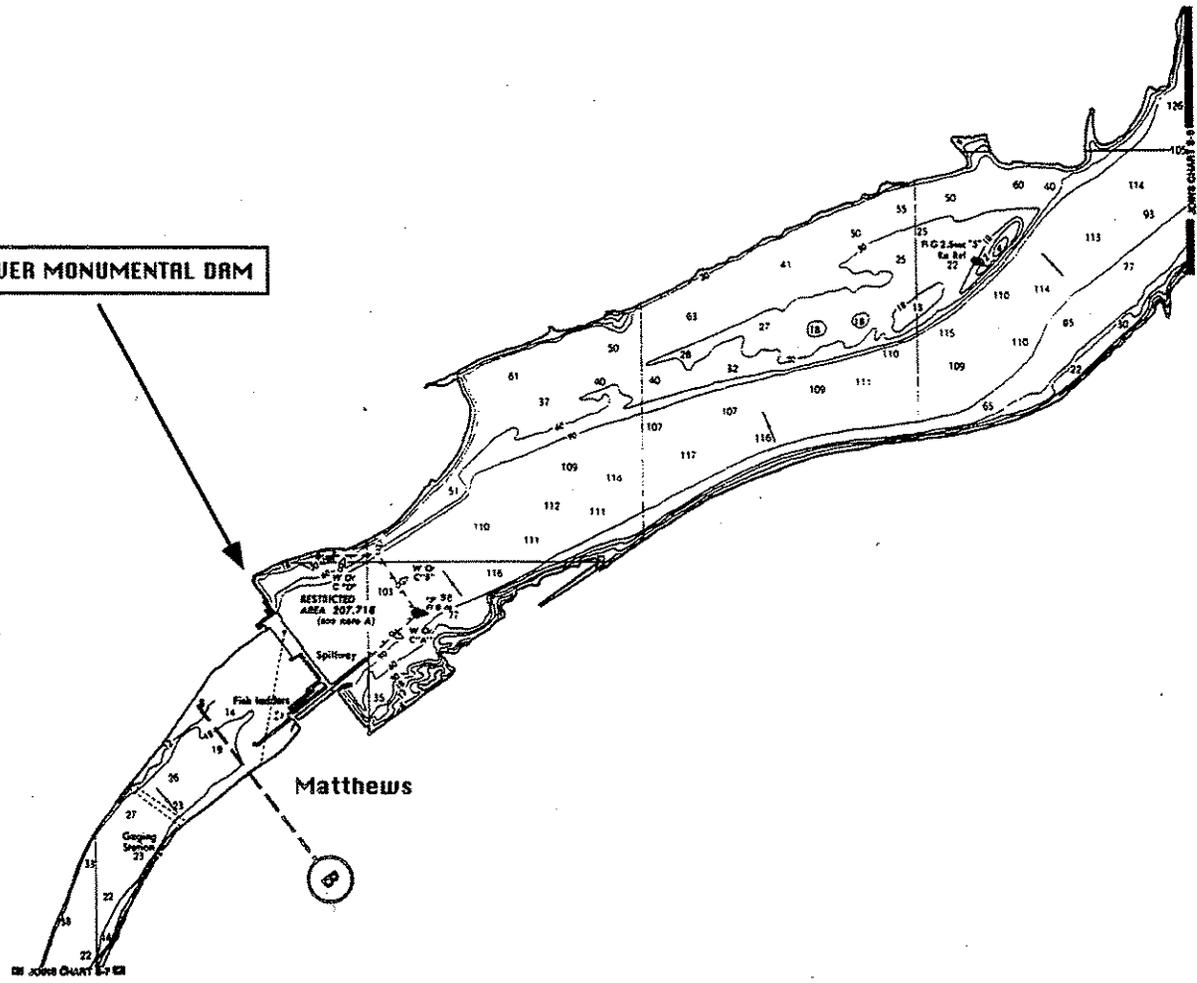
CULTURAL AND RECREATIONAL RESOURCES



WASHINGTON

Boat Launch Town or City Use Area

LOWER MONUMENTAL DAM



SNAKE RIVER/LOWER MONUMENTAL POOL GRP

6.6 Downstream Water Users

Because GRPs focus only on protection of public resources, the numerous private water intakes along the Snake River are not listed in this plan. Public recreation/habitat areas with water intakes in this pool include:

- Lyons Ferry State Park
- Lyons Ferry Marina/Port of Columbia
- Fifty-five Mile Habitat Management Unit
- Skookum Habitat Management Unit

These sites are also identified under the "Resources Protected" sections of applicable strategy matrices in Section 4.3.

7. Logistical Information

The following is not a complete list of logistical resources - for more information please refer to the Area Contingency Plan, Summary of Area Resources Chapter 6. The subject headings which have an asterisk (*) are being developed; please consult local DEM officials (phone numbers listed in ACP) for specific information.

To submit data for this section, please use Comments/ Corrections/ Suggestions (Appendix C).

7.1. Logistical Information

Subject	Name	Characteristics	Contact	Phone #
Command Posts *	Little Goose Lock & Dam Project (Control Room)	Meeting rooms, telephones, parking	Corps of Engineers	(509) 399-2233
	Texas Rapids	Shelters, parking	Corps of Engineers	
	Lyons Ferry State Park	Shelters, camping, parking	State Parks	
	Lower Monumental Lock & Dam Project (Control Room)	Meeting rooms, telephones, parking	Corps of Engineers	(509) 282-3218
Communications				
See NWACP, Chapter 6				
Equipment Cache Locations				
See NWACP, Chapter 6				
Inventory of Local Support Equipment*				
Helicopter Support/ Air Support	Little Goose Lock & Dam Airport	Columbia County		
	Lower Monumental Airport	Walla Walla County		

LOWER SNAKE RIVER/LOWER MONUMENTAL POOL AREA GRP

Subject	Name	Characteristics	Contact	Phone #
	Peot Airport (Kahlotus, Wa)	Franklin County		
	Fisher Ranch Airport (Washtuca, Wa)	Adams County		
Access Points	Mathews Landing	Walla Walla County		
	Windust Park	Franklin County		
	Devil's Bench Landing	Franklin County		
	Ayer Landing	Walla Walla County		
	Skookum Boat Access	Franklin County		
	Fifty-Five Mile Boat Access	Franklin County		
	Lyon's Ferry Marina	Columbia County		
	Lyon's Ferry State Park	Franklin County		
	Texas Rapids Landing	Columbia County		
	Little Goose Landing	Columbia County		
Property Access Information and Contacts *				
Staging Areas	Parks, Landings, and Dams already identified above			
Recreational Activities which could interfere *				
Tribal Resources				

LOWER SNAKE RIVER/LOWER MONUMENTAL POOL AREA GRP

Subject	Name	Characteristics	Contact	Phone #
Key Local Elected Officials *				
Fire Department	#5 Burbank Fire District	Walla Walla County		(509) 547-8341
	Starbuck Fire Department	Columbia County		(509) 399-2311
	Dayton Fire Department	Columbia County		(509) 382-4281
Local Emergency Support Personnel	Franklin County Sheriff's Dept	Franklin County		(509) 545-3500
	Emergency Services	Franklin County		(509) 545-3501
	Columbia County Sheriff's Dept.	Columbia County		(509) 382-2518
	Emergency Services	Columbia County		(509) 382-2534
	Emergency Services	Whitman County		(509) 397-6266
	Walla Walla County Sheriff's Department	Walla Walla County		(509) 527-3268
	Walla Walla County EMD	Walla Walla County		(509) 527-3750
	Tri-County HazMat Team	Richland, WA		(509) 943-9161
Volunteers *				
Wildlife Rehab Facilities *				
Marinas/Port Docks	Lyon's Ferry Marina	Columbia County	Port of Columbia	
Housing/Feeding/Response Community Support	St. Mary Medical Center	Walla Walla County	401 W. Poplar St. Walla Walla	(509) 525-3320

LOWER SNAKE RIVER/LOWER MONUMENTAL POOL AREA GRP

	Veterans' Medical Center	Walla Walla County	Walla Walla	(509) 525-5200
	Walla Walla General Hospital	Walla Walla County	1025 S. 2nd Walla Walla	(509) 525-0488
Interim Storage/Permits *				
Fishing Fleets & Affiliated Organizations*				
Boat Cleaning Capability *				
Safe Havens *				

Appendices

Appendix A: Summary of Protection Techniques

Protection Techniques	Description	Primary Logistical Requirements	Limitations
ONSHORE			
Beach Berms	A berm is constructed along the top of the mid-inter tidal zone from sediments excavated along the downgradient side. The berm should be covered with plastic or geo-textile sheeting to minimize wave erosion.	<ul style="list-style-type: none"> • Bulldozer/Motor grader -1 • Personnel - equipment operator & 1 worker • Misc. - plastic or geotextile sheeting 	<ul style="list-style-type: none"> • High wave energy • Large tidal range • Strong along shore currents
Geotextiles	A roll of geotextile, plastic sheeting, or other impermeable material is spread along the bottom of the supra-tidal zone & fastened to the underlying logs or stakes placed in the ground.	<ul style="list-style-type: none"> • Geotextile - 3 m wide rolls • Personnel - 5 • Misc. - stakes or tie-down cord 	<ul style="list-style-type: none"> • Low sloped shoreline • High spring tides • Large storms
Sorbent Barriers	A barrier is constructed by installing two parallel lines of stakes across a channel, fastening wire mesh to the stakes & filling the space between with loose sorbents.	Per 30 meters of barrier <ul style="list-style-type: none"> • Wire mesh - 70 m x 2 m • Stakes - 20 • Sorbents - 30 m² • Personnel - 2 • Misc. - fasteners, support lines, additional stakes, etc. 	<ul style="list-style-type: none"> • Waves > 25 cm • Currents > 0.5 m/s • Tidal range > 2 m
Inlet Dams	A dam is constructed across the channel using local soil or beach sediments to exclude oil from entering channel.	<ul style="list-style-type: none"> • Loader - 1 • Personnel - equipment operator & 1 worker or several workers w/shovels 	<ul style="list-style-type: none"> • Waves > 25 cm • Tidal range exceeding dam height • Freshwater outflow

NEARSHORE			
Containment Booming	Boom is deployed in a "U" shape in front of the oncoming slick. The ends of the booms are anchored by work boats or drogues. The oil is contained within the "U" & prevented from reaching the shore.	For 150 meters Slick: <ul style="list-style-type: none"> • Boom - 280 m • Boats - 2 • Personnel - boat crews & 4 boom tenders • Misc. - tow lines, drogues, connectors, etc. 	<ul style="list-style-type: none"> • High winds • Swells > 2 m • Breaking waves > 50 cm • Currents > 1.0 m/s
Exclusion Booming	Boom is deployed across or around sensitive areas & anchored in place. Approaching oil is deflected or contained by boom.	Per 300 meters of Boom <ul style="list-style-type: none"> • Boats - 1 • Personnel - boat crew & 3 boom tenders • Misc.- 6 anchors, anchor line, buoys, etc. 	<ul style="list-style-type: none"> • Currents > 0.5 m/s • Breaking waves > 50 cm • Water depth > 20 m
Deflection Booming	Boom is deployed from the shoreline away from the approaching slick & anchored or held in place with a work boat. Oil is deflected away from shoreline.	Single Boom, 0.75 m/s knot current <ul style="list-style-type: none"> • Boom - 60 m • Boats - 1 • Personnel - boat crew + 3 • Misc. - 3 anchors, line, buoys, recovery unit 	<ul style="list-style-type: none"> • Currents > 1.0 m/s • Breaking waves > 50 cm
Diversion Booming	Boom is deployed from the shoreline at an angle towards the approaching slick & anchored or held in place with a work boat. Oil is diverted towards the shoreline for recovery.	Single Boom, 0.75 m/s knot current <ul style="list-style-type: none"> • Boom - 60 m • boats - 1 • Personnel - boat crew + 3 • Misc. - 3 anchors, line, buoys, recovery unit 	<ul style="list-style-type: none"> • Currents > 1.0 m/s • Breaking waves > 50 cm
Skimming	Self-propelled skimmers work back & forth along the leading edge of a windrow to recover the oil. Booms may be deployed from the front of a skimmer in a "V" configuration to increase sweep width. Portable skimmers are placed within containment booms in the area of heaviest oil concentration.	Self-propelled (None) Towed <ul style="list-style-type: none"> • Boom - 200 m • Boats - 2 • Personnel - boat crews & 4 boom tenders • Misc. - tow lines, bridles, connectors, etc. Portable <ul style="list-style-type: none"> • Hoses - 30 m discharge • Oil storage - 2000 liters 	<ul style="list-style-type: none"> • High winds • Swells > 2 m • Breaking waves > 50 cm • Currents > 1.0 m/s

Appendix B: Geographic Response Plan Contributors

Industry and Response Contractors

Tim Archer, Foss Environmental
Glen Comstock, Foss Maritime
Trygre Enger, Foss Environmental
Dave Godel, Tidewater Environmental Serv.
Pat Jensen, Tidewater Environmental Service

Local Representatives

George (Butch) Aiken, EMD Asotin County
George Brown, Clarkston Fire Dept.
Rick Davis, Port of Clarkston
Gene Kospers, Port of Wilma FD
Steven Tomson, Whitman County Sheriff

Tribal Representatives

Bill Beckley, Yakama Indian Nation

State Representatives - Washington

Washington State Department of Ecology

Jeannie Brandt
Jim Chulos
Jeff Dill
Chris Hall
Paul Heimowitz
Mark Layman
Dick Logan
Dave Lundstrom

Washington Department of Fish & Wildlife

Karin Divens
Mark Grandstaff
Berry Troutman
Roger Willms

Washington Parks & Recreation Commission

Bob Chalfart
Tom Ernsberger
Alana Hess

Washington Department of Transportation

Ronnie Mock, Walla Walla
Mike Trout, Walla Walla

State Representatives - Idaho

Patrick Frischmuthl, Bureau of Disaster Serv.
George Pekan, Dept of Env. Quality

Federal Representatives

U.S. Environmental Protection Agency

William Freutel
Sean Hyde (EPA START)
Beth Sheldrake

United States Coast Guard

Rob Myles
Randy Clark

U.S. Army Corps of Engineers

Scott Ackerman
Herb Bassey
Sandra Benz
Jimmie Brown
Jim Buck
Tom Clayson
Mike Deitrick
Orrin Iseminger
Charles Krahenbuhl
David Lance
Donna Martindale
Marty Mendiola
Randall Ryan
Jim Wood

U.S. Fish and Wildlife Service

Liz Block

Overview map from *Evergreen Pacific River Cruising Atlas: Columbia, Snake, Willamette* provided by Evergreen Pacific Publishing, 18002 15th Avenue NE, Suite B, Seattle, WA 98155 (206) 368-8157

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Appendix C: Geographic Response Plan Comments/Corrections/Suggestions

If you have any questions regarding this document or find any errors, please notify one of the following agencies: (or use tear out sheet on page C-3)

- USCG Marine Safety Office Puget Sound, Planning Department
- USCG Marine Safety Office Portland
- Washington Department of Ecology, Central Programs
- Oregon Department of Environmental Quality
- Idaho Emergency Response Commission
- Environmental Protection Agency Region 10

Phone Numbers:

USCG MSO Puget Sound	(206) 217-6213
USCG MSO Portland	(503) 240-9307
Washington DOE	(360) 407-6972
Oregon DEQ	(503) 229-5774
Idaho ERC	(208) 334-3263
EPA	(206) 553-6901

Bulletin Board System (BBS):

USCG MSO Puget Sound	(206) 217-6216
USCG MSO Portland	(503) 240-9308

Internet/E-mail Address:

WADOE	phei461@ecy.wa.gov
OR DEQ	john.w.wylie@state.or.us
USCG MSO Puget Sound	R.Loesch/Pier36Sea@CGSMTP.USCG.Mil
USCG MSO Portland	msopdx@cybernw.com
EPA	feeley.beth@epamail.epa.gov

Address:

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MSO Puget Sound
Planning Department
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Seattle, WA 98134-1192

Washington Department Of
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Central Programs
Policy and Planning Section
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Olympia, WA 98504-7600

Office Of The Governor
Idaho Emergency Response Commission
1109 Main
Statehouse
Boise, ID 83720-7000

Commanding Officer
United States Coast Guard
Planning Department
MSO Portland
6767 North Basin Ave
Portland, OR 97217-3992

Oregon Department of
Environmental Quality
Water Quality Division
811 SW Sixth Avenue
Portland, OR 97204

Environmental Protection Agency
Emergency Response Branch
1200 Sixth Avenue
Seattle, WA 98101

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**Northwest Area Committees
c/o Washington Department of Ecology
Spill Policy and Planning - GRP Corrections
P.O. Box 47600
Olympia, WA 98504-7600**