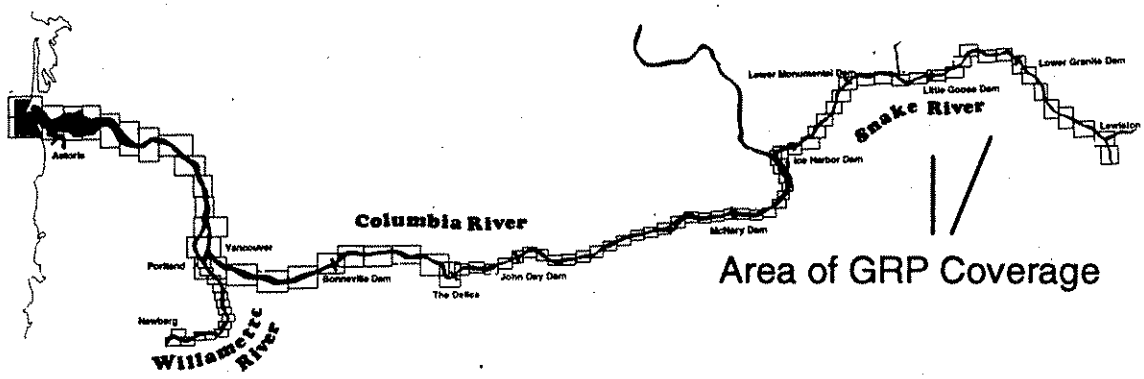
Northwest Area Committees

Puget Sound Area Committee

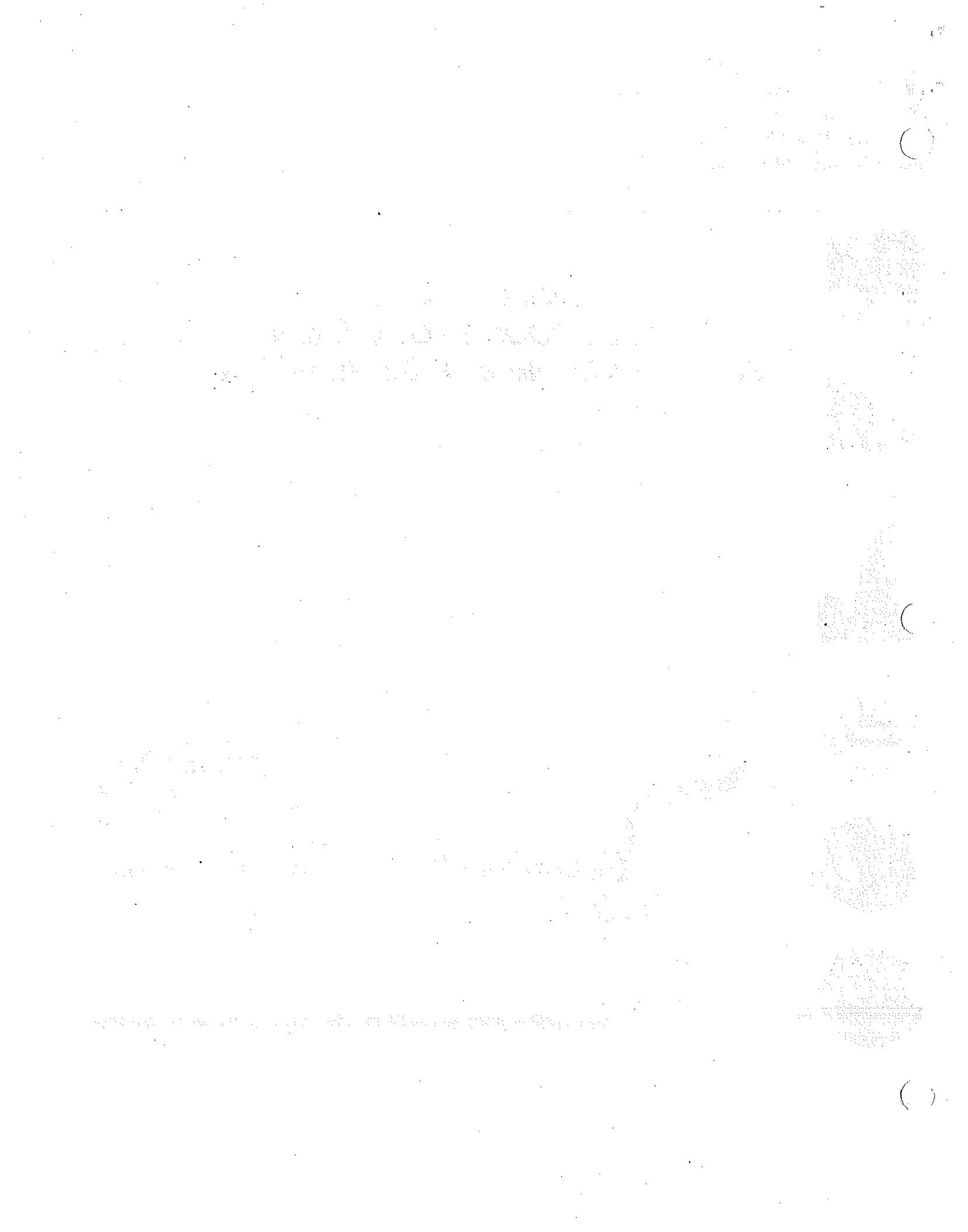
ortland Area Committee

inland Area Committee

SNAKE RIVER
LITTLE GOOSE POOL AREA
GEOGRAPHIC RESPONSE PLAN (GRP)



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



Snake River
Little Goose 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.)

Published by the Washington State Department of Ecology

Publication No. 95-263

The Department of Ecology is an equal opportunity agency and does not discriminate on the basis of race, creed, color, disability, age, religion, national origin, sex, marital status, disabled veteran's status, Vietnam Era veteran's status or sexual orientation.

If you have special accommodation needs or require this document in an alternative format, please contact Ecology's Paul Heimowitz at (360) 407-6972 (Voice) or (360) 407-6006 (TDD).

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
Little Goose Dam Control Room	**(509) 399-2233**

Columbia County

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

Garfield County

Garfield County Sherriff/D.E.M.	**(509) 843-3494**

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**

*** Boldface type are 24 hour numbers**

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 therefor 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.

Snake River/Little Goose Pool Area

Geographic Response Plan

Record of Changes

Date	Change Number	Summary of Changes	Initials of person making change
January 1, 1997	Original Release	Note that Chapter 6 maps/matrices retain November 5, 1995 date used for earlier draft	N/A

Record of Changes Continued

Date	Change Number	Summary of Changes	Initials of person making change

Table of Contents

Spill Response Contact Sheet i
How To Use This Geographic Response Plan ii
Record of Changes iii
1. Introduction: Scope of this Project 1-1
2. Site Description
2.1 Physical Features 2-1
2.2 Hydrology 2-1
2.3 Currents and Tides 2-2
2.4 Winds 2-2
2.5 Climate 2-2
2.6 Risk Assessment 2-2
Map of Little Goose Lock & Dam 2-4
3. Reference Maps
The Ice Harbor Pool Key Map 3-1
4. General Protection/Collection Strategies
4.1 Chapter Overview 4-1
4.2 Strategy Prioritization 4-2
4.3 Proposed Booming and Collection Strategies: Maps & Matrices 4-4
4.4 Strategy Tear Out Sheets (not in this printing) 4-20
5. Shoreline Information
5.1 Shoreline Types and Sensitivity 5-1
5.2 Shoreline Type Maps 5-2
5.3 Oil Countermeasure Matrix 5-3
6. Sensitive Resource Description
6.1 Wildlife 6-1
6.2 Fish 6-2
6.3 Flight Restiction Zones 6-4
6.4 Hazing 6-4
Salmonid Migration Chart 6-5
6.5 Flight Restiction Zones/ Sensitive Wildlife: Maps & Matrices 6-6
6.6 Downstream Users/Water Intakes 6-54
7. Logistical Information
7.1 Logistical Support 7-1

Appendices

Appendix A: Summary of Protection Techniques A-1
Appendix B: Geographic Response Plan Contributors B-1
Appendix C: Geographic Response Plan Comments/Corrections/Suggestions C-1

Table of Figures

Little Goose Lock & Dam Map 2-4
Little Goose Pool Strategy Key Map 3-1
Proposed Booming and Collection Strategies Map: Boyer Lower Range to Lower Granite Dam . 4-5
Proposed Booming and Collection Strategies Map: Wades Bar to Almota 4-7
Proposed Booming and Collection Strategies Map: Rice Bar to Locust Grove Canyon 4-9
Proposed Booming and Collection Strategies Map: Cottonwood Canyon to Penawawa 4-11
Proposed Booming and Collection Strategies Map: C.F State Park to Cottonwood Canyon 4-13
Proposed Booming and Collection Strategies Map: Browns Gulch to New York Bar 4-17
Proposed Booming and Collection Strategies Map: Little Goose Dam to RM 74 4-19
Wildlife Resources Map: Boyer Lower Range to Lower Granite Dam 6-7
Fish Resources Map: Boyer Lower Range to Lower Granite Dam 6-9
Cultural and Recreational Sites Map: Boyer Lower Range to Lower Granite Dam 6-11
Wildlife Resources Map: Wades Bar to Almota 6-13
Fish Resources Map: Wades Bar to Almota 6-15
Cultural and Recreational Sites Map: Wades Bar to Almota 6-17
Wildlife Resources Map: Rice Bar to Locust Grove Canyon 6-19
Fish Resources Map: Rice Bar to Locust Grove Canyon 6-21
Cultural and Recreational Sites Map: Rice Bar to Locust Grove Canyon 6-23
Wildlife Resources Map: Cottonwood Canyon to Penawawa 6-25
Fish Resources Map: Cottonwood Canyon to Penawawa 6-27
Cultural and Recreational Sites Map: Cottonwood Canyon to Penawawa 6-29
Wildlife Resources Map: Port of Garfield 6-31
Fish Resources Map: Port of Garfield 6-33
Cultural and Recreational Sites Map: Port of Garfield 6-35
Wildlife Resources Map: Central Ferry State Park to Cottonwood Canyon 6-37
Fish Resources Map: Central Ferry State Park to Cottonwood Canyon 6-39
Cultural and Recreational Sites Map: Central Ferry State Park to Cottonwood Canyon 6-41

Wildlife Resources Map: Browns Gulch to New York Bar 6-43
Fish Resources Map: Browns Gulch to New York Bar 6-45
Cultural and Recreational Sites Map: Browns Gulch to New York Bar 6-47
Wildlife Resources Map: Little Goose Dam to RM 74 6-49
Fish Resources Map: Little Goose Dam to RM 74 6-51
Cultural and Recreational Sites Map: Little Goose Dam to RM 74 6-53

Table of Tables

Proposed Booming and Collection Strategies Matrix: Boyer Lwr Range to Lwr Granite Dam 4-4
Proposed Booming and Collection Strategies Matrix: Wades Bar to Almota 4-6
Proposed Booming and Collection Strategies Matrix: Rice Bar to Locust Grove Canyon 4-8
Proposed Booming and Collection Strategies Matrix: Cottonwood Canyon to Penawawa 4-10
Proposed Booming and Collection Strategies Matrix: C.F. State Prk to Cottonwd Canyon 4-12
Proposed Booming and Collection Strategies Matrix: Browns Gulch to New York Bar 4-14
Proposed Booming and Collection Strategies Matrix: Little Goose Dam to RM 74 4-18
Salmonid Migration Chart 6-5
Wildlife Resources Matrix: Boyer Lower Range to Lower Granite Dam 6-6
Fish Resources Matrix: Boyer Lower Range to Lower Granite Dam 6-8
Cultural and Recreational Sites Matrix: Boyer Lower Range to Lower Granite Dam 6-10
Wildlife Resources Matrix: Wades Bar to Almota 6-12
Fish Resources Matrix: Wades Bar to Almota 6-14
Cultural and Recreational Sites Matrix: Wades Bar to Almota 6-16
Wildlife Resources Matrix: Rice Bar to Locust Grove Canyon 6-18
Fish Resources Matrix: Rice Bar to Locust Grove Canyon 6-20
Cultural and Recreational Sites Matrix: Rice Bar to Locust Grove Canyon 6-22
Wildlife Resources Matrix: Cottonwood Canyon to Penawawa 6-24
Fish Resources Matrix: Cottonwood Canyon to Penawawa 6-26
Cultural and Recreational Sites Matrix: Cottonwood Canyon to Penawawa 6-28
Wildlife Resources Matrix: Port of Garfield 6-30
Fish Resources Matrix: Port of Garfield 6-32
Cultural and Recreational Sites Matrix: Port of Garfield 6-34
Wildlife Resources Matrix: Central Ferry State Park to Cottonwood Canyon 6-36
Fish Resources Matrix: Central Ferry State Park to Cottonwood Canyon 6-38

Table of Tables (continued)

Cultural and Recreational Sites Matrix: Central Ferry State Park to Cottonwood Canyon 6-40
Wildlife Resources Matrix: Browns Gulch to New York Bar 6-42
Fish Resources Matrix: Browns Gulch to New York Bar 6-44
Cultural and Recreational Sites Matrix: Browns Gulch to New York Bar 6-46
Wildlife Resources Matrix: Little Goose Dam to RM 74 6-48
Fish Resources Matrix: Little Goose Dam to RM 74 6-50
Cultural and Recreational Sites Matrix: Little Goose Dam to RM 74 6-52

Snake River/Little Goose 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 37 mile reach of the Little Goose Pool Area (from the Lower Granite Dam downstream to the Little Goose Dam), also known as Lake Bryan within the Snake River.

The Little Goose Pool Area is divided into 8 subregions: S-19, River Miles 105-109; S-18, River Miles 99-104; S-17, River Miles 93-98; S-16, River Miles 86-92; S-15b, Port of Garfield; S-15, River Miles 81-87; S-14, River Miles 75-81; and S-13, River Miles 69-74.

Refer to Chapter 6 for detailed resource information.

2.1. Physical Features

The Little Goose Lock and Hydroelectric Dam Project is located approximately 70 miles upstream from the mouth of the river, and the Lower Granite Lock and Hydroelectric Dam Project is located at the east end of the pool area. Little Goose Pool (also known as Lake Bryan) is 37 miles long and contains approximately 10,000 surface acres. The dam is 2,655 feet long at the crest, with a 512 foot long spillway (see page 2-4 for map of dam).

Mainstem, side channel, and island shorelines within the 8 subregions of the Little Goose 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 Little Goose 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 Little Goose Pool comes from the Clearwater and Snake Rivers, after having passed through the Lower Granite Dam. 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

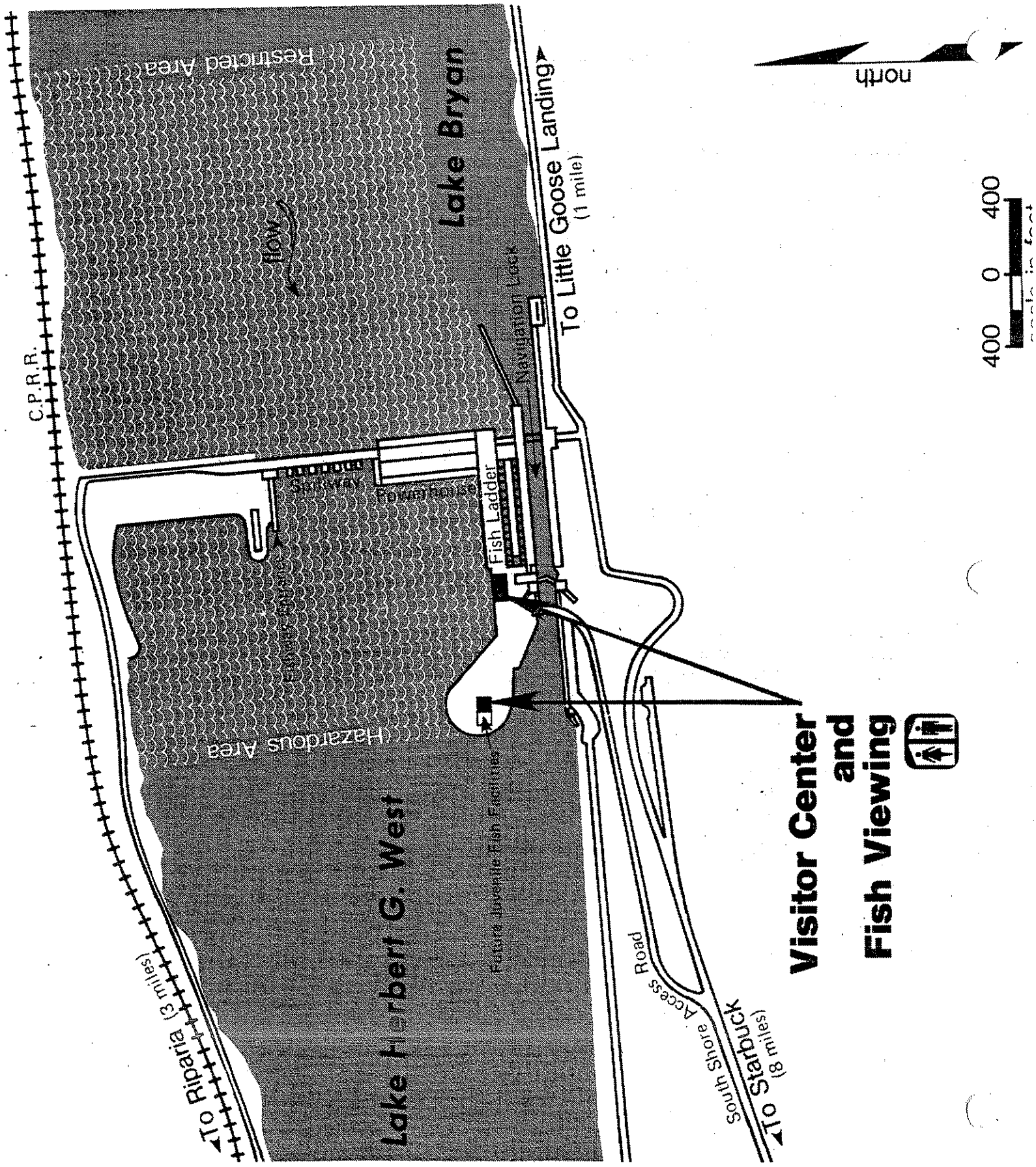
Union Pacific's rail line runs along the southern and southeastern bank of the subject area. While this GRP is primarily concerned with responses to oil spills, basic information on hazardous substances movements through the region may also prove useful. This information is limited to basic emergency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

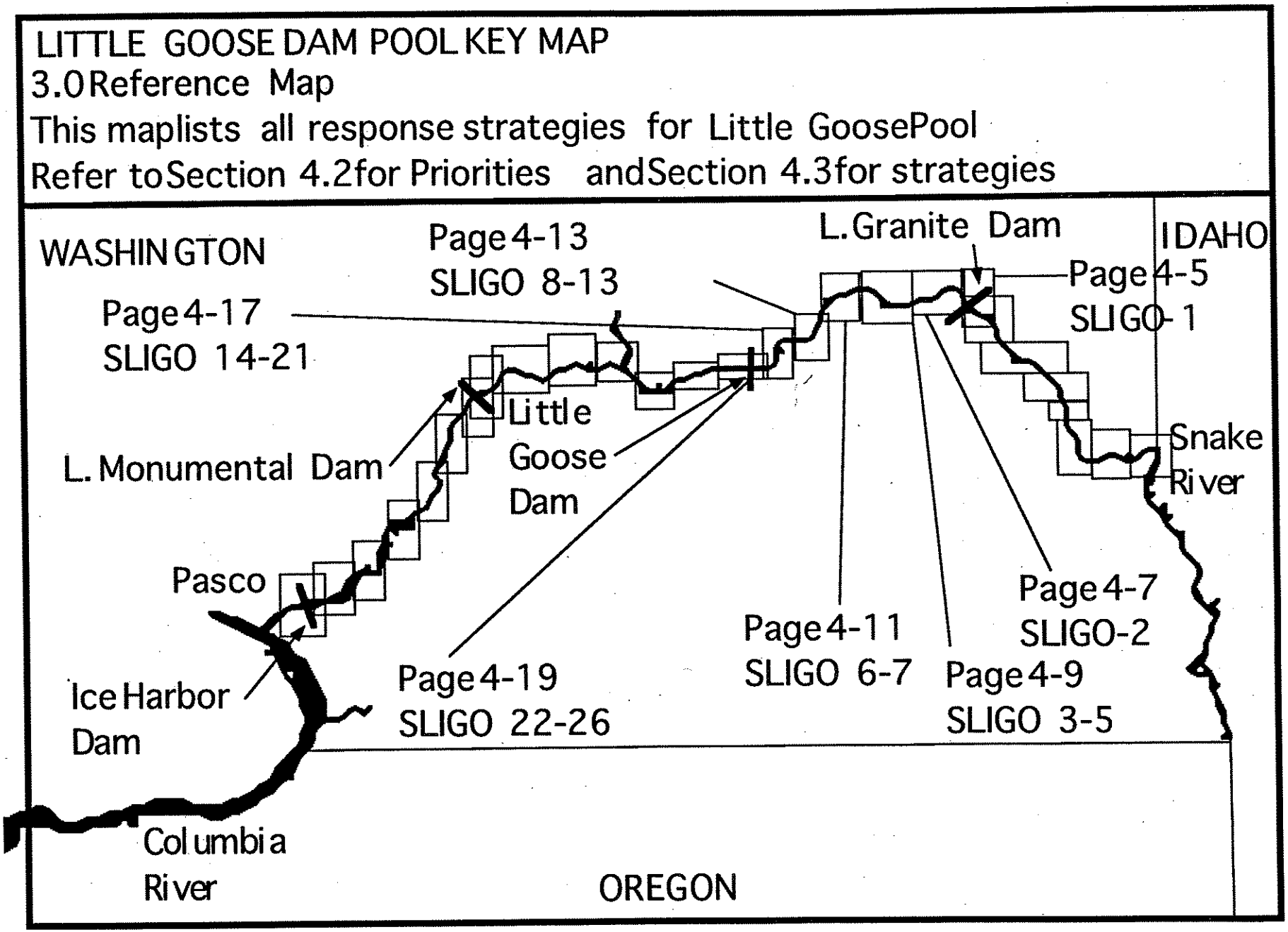
The ten most abundantly transmitted hazardous substances on both rail lines includes:

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


Restricted Area
Lake Bryan
flow
To Little Goose Landing
(1 mile)
C.P.R.R.
Navigation Lock
Powerhouse
Fish Ladder
Hazardous Area
Lake Herbert G. West
Future Juvenile Fish Facilities
To Riparia (3 miles)
Visitor Center
and
Fish Viewing
Access Road
South Shore
To Starbuck
(8 miles)
north
400 0 400


LITTLE GOOSE DAM POOL KEY MAP
3.0 Reference Map
This map lists all response strategies for Little Goose Pool
Refer to Section 4.2 for Priorities and Section 4.3 for strategies
WASHINGTON
IDAHO
OREGON
Page 4-13
SLIGO 8-13
L. Granite Dam
Page 4-5
SLIGO-1
Page 4-17
SLIGO 14-21
Little
Goose
Dam
L. Monumental Dam
Snake
River
Pasco
Page 4-7
SLIGO-2
Page 4-11
SLIGO 6-7
Page 4-9
SLIGO 3-5
Page 4-19
SLIGO 22-26
Ice Harbor
Dam
Columbia
River

This Page Left Blank

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 Little Goose 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 four 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 downstrream and particularly vulnerable resources SOURCE OF OIL: Upstream end of pool			
PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
BOOMING PRIORITIES			
1	SLIGO-26	4-19	Protect fish structures/resources in lower pools
2	SLIGO-24	4-19	Flagpole Gulch
3	SLIGO-15	4-17	New York Bar HMU
3	SLIGO-16	4-17	New York Bar HMU

This Page Left Blank

BOYER LOWER RANGE TO THE LOWER GRANITE DAM PROPOSED BOOMING AND COLLECTION STRATEGIES

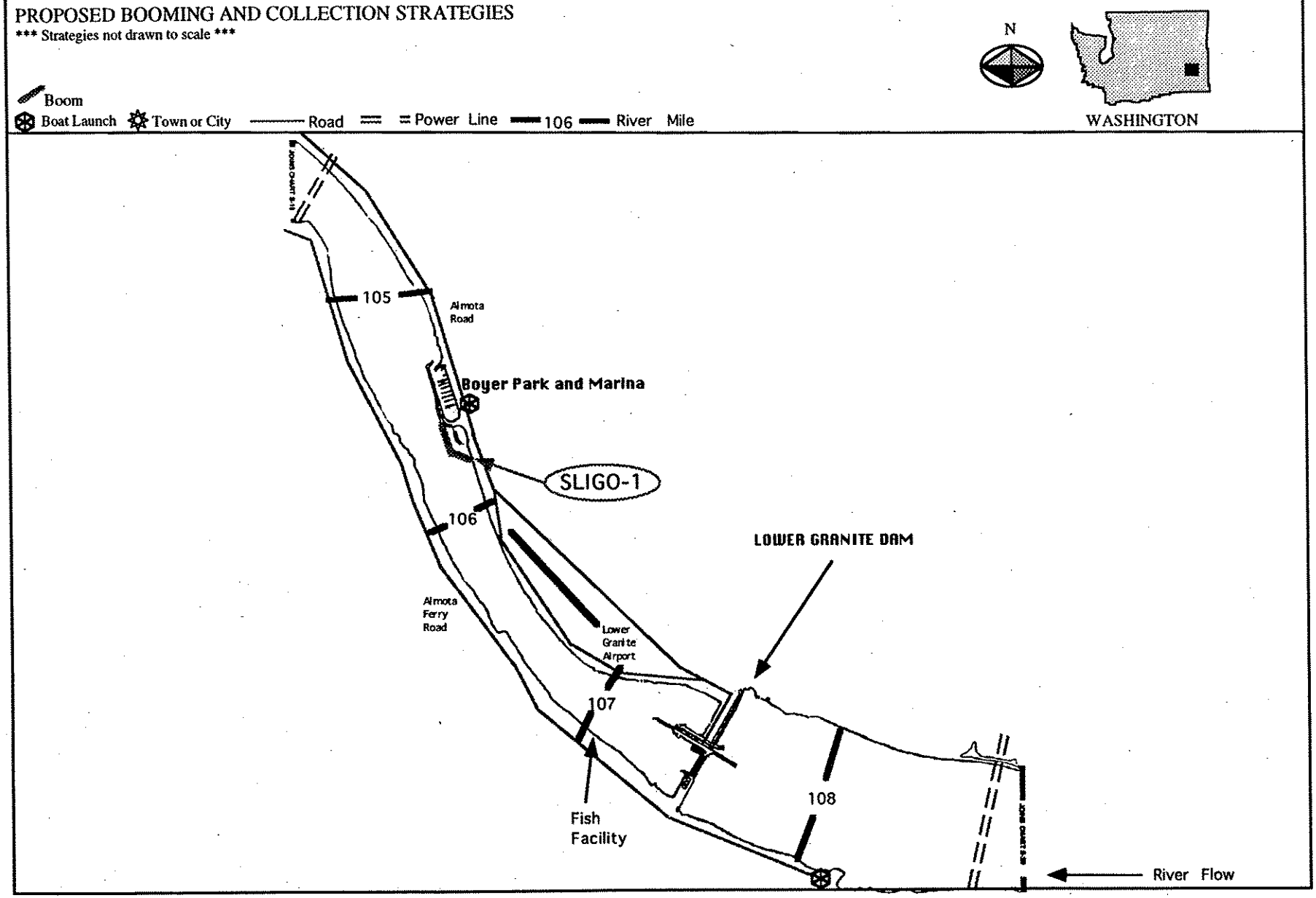
Snake River Mile 105 - 109

River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
105	SLIGO-1	46 41 35.6 117 27 12.85 Boyer Park - Port of Whitman County	Exclusion	100' boom; (2) 50' sorbent	Deploy boom across south opening to swimming area. Place 50' sorbent to block smaller northwest entrance, and place 50' sorbent in front of double culverts leading to boat basin.	Boyer Park/Marina: campsites, restaurant, fuel sales, cell phone coverage	Almota Road off State Route 194	Public swimming area; public boat basin; Canada Geese
SKIMMING STRATEGIES								

LITTLE GOOSE DAM POOL - RM 105-109 LOWER GRANITE DAM TO BOYER LOWER RANGE

PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***



WADES BAR TO ALMOTA PROPOSED BOOMING AND COLLECTION STRATEGIES

Snake River Mile 99 - 104

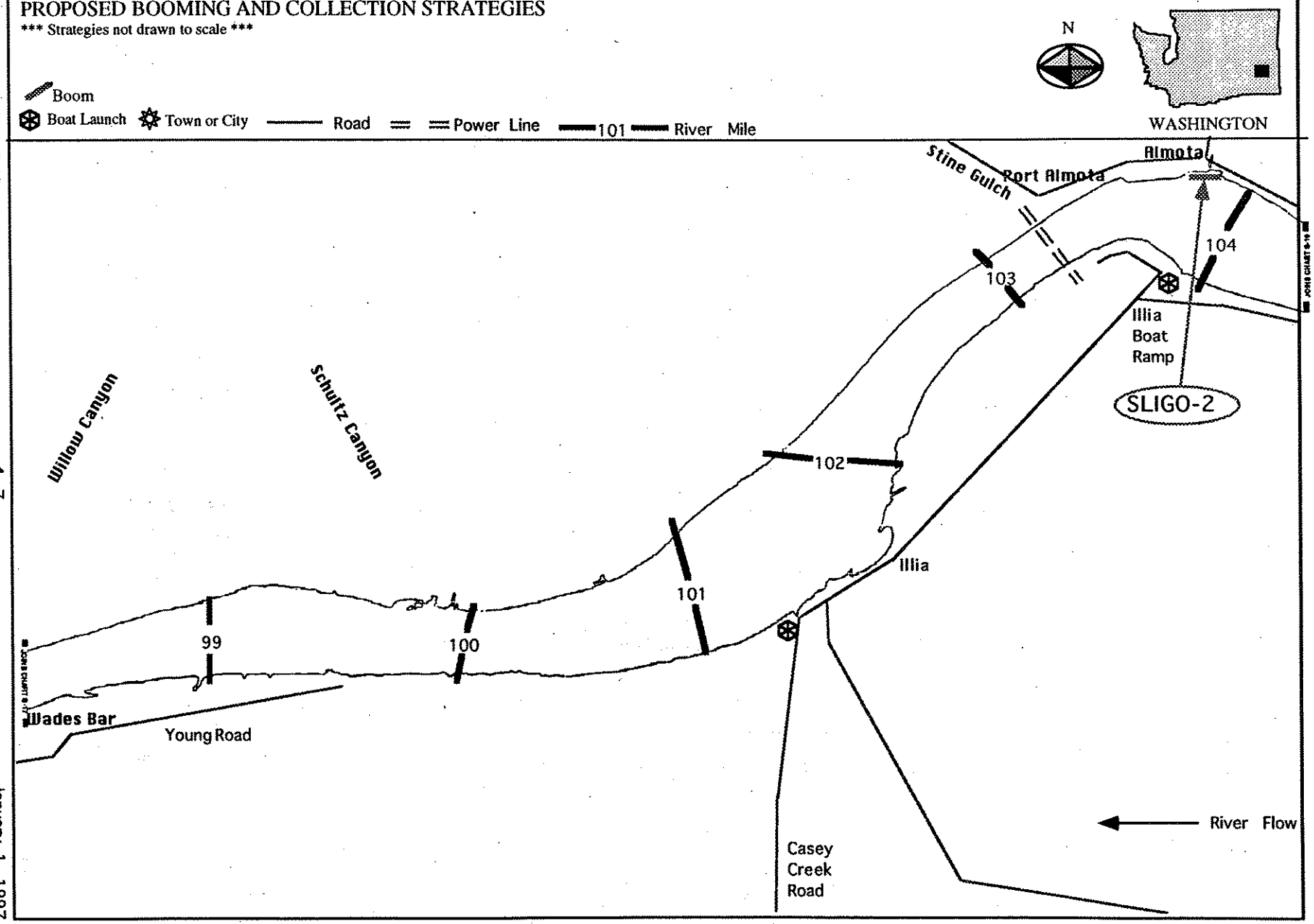
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
104	SLIGO-2	Almota Creek-north of Marker "42"	Exclusion	100'	Boom across inlet	Illia Landing - launch ramp, boat dock	Almota Road access; Illia Landing boat launch	Waterfowl concentrations; habitat at creek mouth

46 42 8.27
117 27 59.65

LITTLE GOOSE DAM POOL - RM 99-104 WADES BAR TO ALMOTA

PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***



RICE BAR TO LOCUST GROVE CANYON PROPOSED BOOMING AND COLLECTION STRATEGIES

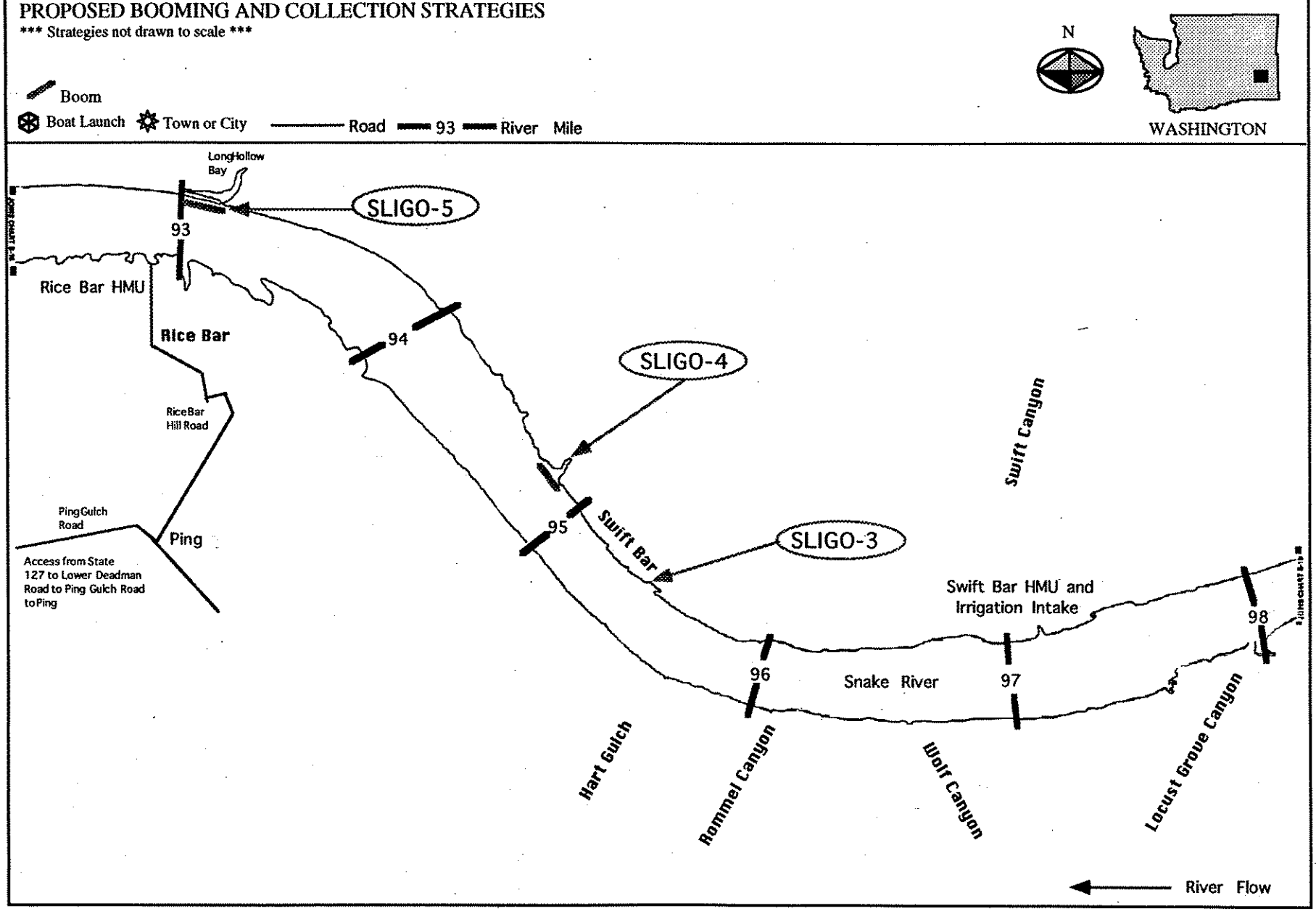
Snake River Mile 93 - 98

River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
95	SLIGO-3	Swift Bar	Shut intake pumps	N/A	Contact Little Goose Dam control room - shut down Habitat Management Unit intake pumps. Booming impractical given current/fetch. Note - natural collection area		By boat from Willow Landing (south) or Boyer (north); rough 4-wheel drive road	Swift Bar Habitat Management Unit (irrigated; intake at approximately 6 foot depth); waterfowl concentrations
95	SLIGO-4	46 41 10.61 117 37 45.36 North shore inlet just downstream from Swift Bar	Exclusion	100'	Deploy across mouth		Boat access	Small marsh - lower priority
93	SLIGO-5	46 42 10.81 117 39 19.04 Long Hollow Bay - just downstream from Marker "23"	Exclusion	100'	Boom across both sides of railroad trestle.		By boat, or access along railroad bridge	Waterfowl concentrations

LITTLE GOOSE DAM POOL - RM 93-98 LOCUST GROVE CANYON TO RICE BAR

PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***



COTTONWOOD CANYON TO PENAWAWA PROPOSED BOOMING AND COLLECTION STRATEGIES

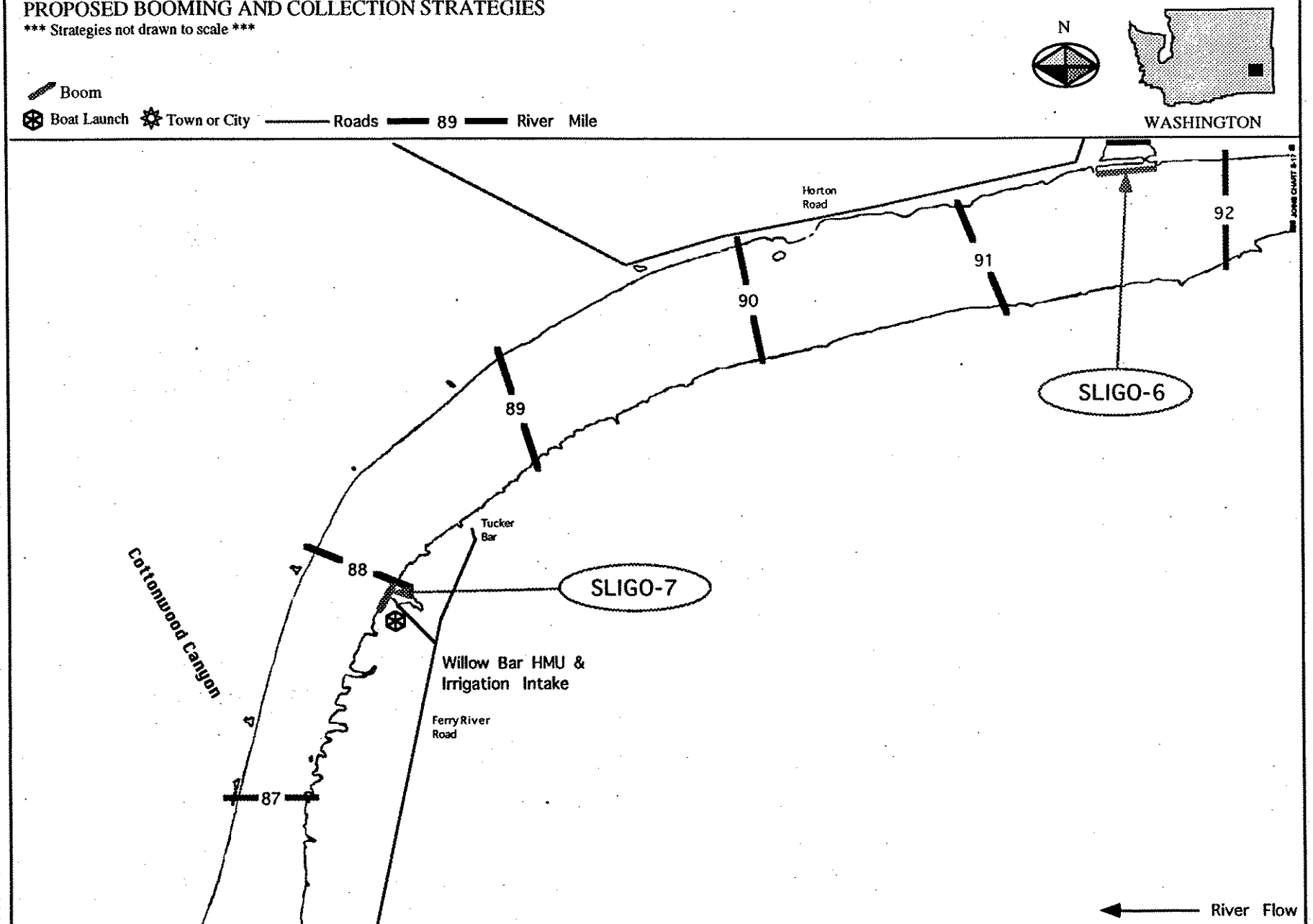
Snake River Mile 86 - 92

River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
92	SLIGO-6	46 42 16.44 117 41 3.58 Penawawa	Exclusion	100'	Run boom along trestle - block off extensive inlet		Penawawa Road goes to upper end; difficult to get all the way to the river mouth by road	Waterfowl concentrations; Penawawa creek mouth; beaver habitat
88	SLIGO-7	46 40 59.71 117 44 57.80 Willow Landing - across river from Marker "17"	Exclusion	200'	Close off inlet; also may need to close WSU research facility water intake just below Willow.	Willow Landing - launch ramp, tables, toilets	Ferry River Road (aka Hastings Hill Road); Boat ramp for shallow water craft	Waterfowl concentration; riparian inlet habitat; public water intake

LITTLE GOOSE DAM POOL - RM 86-92 COTTONWOOD CANYON PENAWAWA

PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***



CENTRAL FERRY STATE PARK TO COTTONWOOD CANYON PROPOSED BOOMING AND COLLECTION STRATEGIES

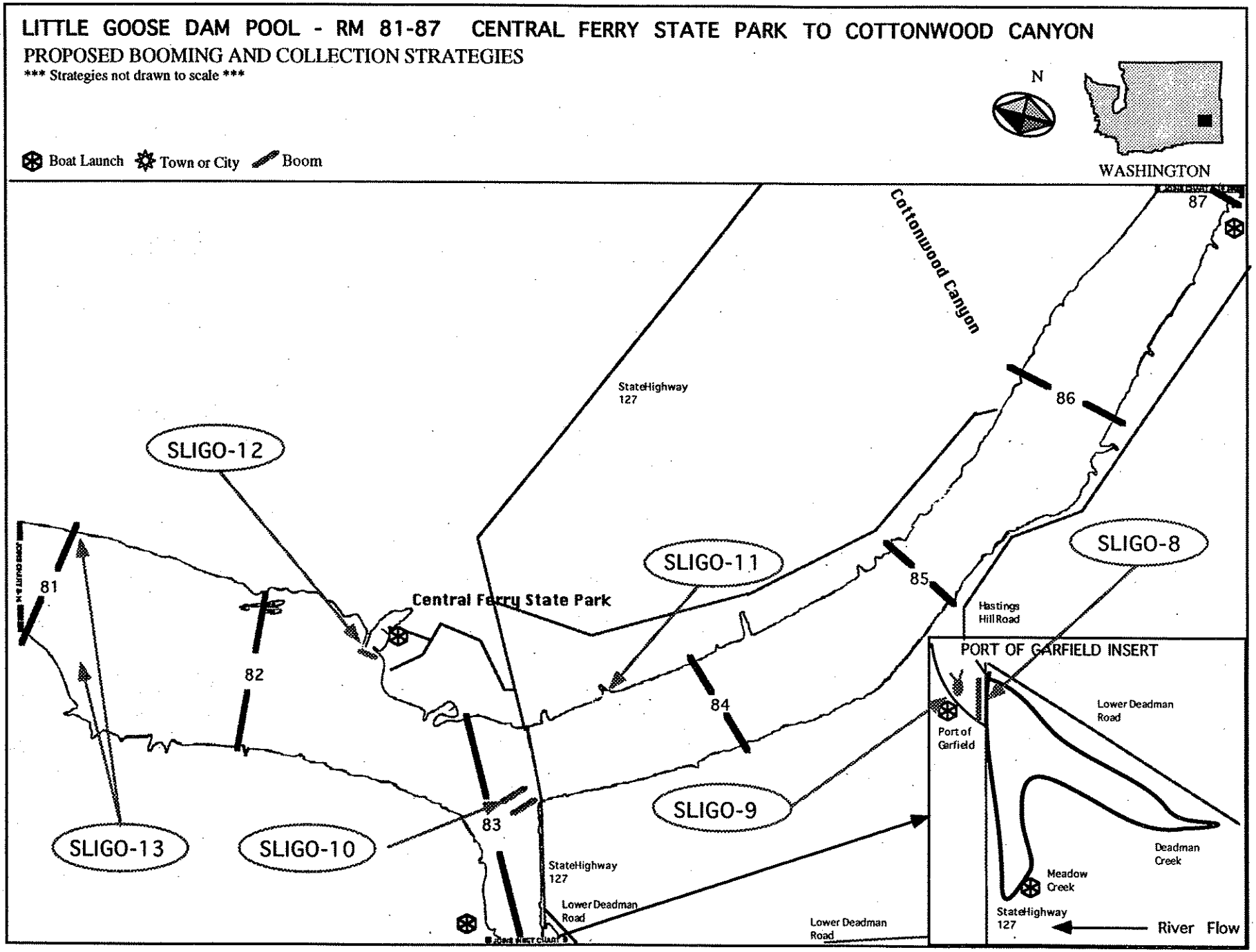
Snake River Mile 81 - 87

River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
83	SLIGO-8	~~46 37 51.63~~ ~~117 47 34.73~~ Port of Garfield - mouth of Deadman/ Meadow Creeks	46 37 0.44 117 47 27.12 Exclusion	100'	Block off at neck where road crosses; high current may occur at neck to inner bays if pool level changes.		Several boat ramps in vicinity; Road access from Lower Deadman Road or Highway 127	Waterfowl concentrations
83	SLIGO-10	46 37 29.88 117 47 43.57 Port of Garfield	Deflection/ collection	300'	Anchor to bridge; divert into outer bay at collection point identified in SLIGO-9. High current may occur at neck to inner bays if pool level changes.		Several boat ramps in vicinity; Road access from Highway 127	Waterfowl concentrations
83	SLIGO-11	46 37 51.63 117 47 34.73 Central Ferry Water Intake	[Placeholder]		Intake use not anticipated for 2 years - eventually will need protection		Central Ferry Road; boat from Central Ferry State Park	Central Ferry Habitat Management Unit (irrigated); waterfowl concentrations
82	SLIGO-12	46 37 43.58 117 48 48.98 Central Ferry State Park - Marker "13"	Exclusion	200'	Deploy boom at entrance of inlet into state park.	Central Ferry State Park - shelters, launch ramp, docks, seasonal snack bar, restrooms	Central Ferry State Park - boat ramp; road access off Hwy 127	Central Ferry State Park - water intakes, recreational swimming area
SKIMMING STRATEGIES								
83	SLIGO-9	Port of Garfield boat ramp	Collection		Collect with skimmers		Several boat ramps in vicinity; Road access from Highway 127	Downstream resources
81	SLIGO-13	Central Ferry; north and south sides	Collection		Need to use portable skimmers or transport vac truck over water		By boat from Port of Garfield	Central Ferry State Park; downstream resources

LITTLE GOOSE DAM POOL - RM 81-87 CENTRAL FERRY STATE PARK TO COTTONWOOD CANYON

PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***



BROWNS GULCH TO NEW YORK BAR PROPOSED BOOMING AND COLLECTION STRATEGIES

Snake River Mile 75 - 81

River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
BOOMING STRATEGIES								
80	SLIGO-14	46 37 22.04 117 51 3.33 West end of New York Bar	Deflection	300'	Contact Little Goose Dam control room - shut down Habitat Management Unit intake pumps. Deflect off west end of New York Bar along 30' contour		By boat	New York Bar Habitat Management Unit; waterfowl concentrations
80	SLIGO-15	46 37 18.34 117 51 8.31 New York Bar Habitat Management Unit	Exclusion	300'	Contact Little Goose Dam control room - shut down Habitat Management Unit intake pumps. If necessary, deploy boom to exclude oil		By boat	Water intake at New York Bar Habitat Management Unit (irrigated); waterfowl concentrations
79	SLIGO-16	46 36 40.32 117 52 15.32 New York Island - upstream from Marker "8"	Deflection	(3) 200'	Deflect at upstream end into north channel. Current fairly high along north shore; slow on south side		By boat	Fish in slack water; nesting geese; waterfowl concentrations
78	SLIGO-17	46 35 52.78 117 51 54.55 New York Gulch	Deflection	< 500'	Deflect into main channel - deploy on either point depending on wind/flow		By boat	Waterfowl concentrations
77	SLIGO-18	46 35 15.42 117 52 51.53 Phalen Gulch - Marker "6"	Exclusion	500'	Close off gulch - note that can fall back to deflection strategy if necessary		By boat	Waterfowl concentrations
76	SLIGO-19	46 34 58.43 117 54 39.71 Little Goose Bay	Deflection	< 500'	Deflect into main channel - deploy on either point depending on wind/flow		Archer Rd. off SR 12 (private) - Corps of Engineers may have access agreement; by boat	Waterfowl concentrations

This Page Left Blank

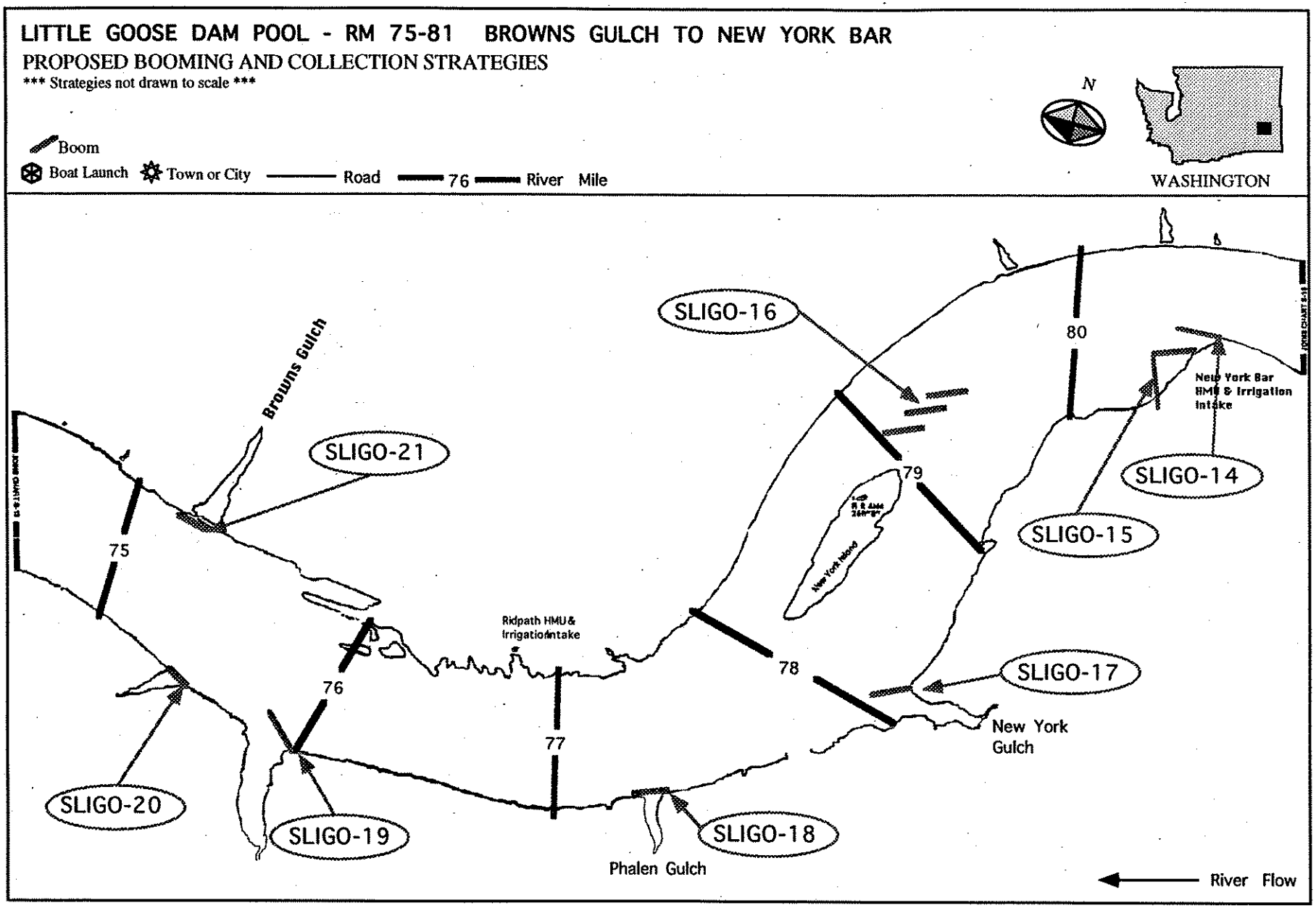
BROWNS GULCH TO NEW YORK BAR PROPOSED BOOMING AND COLLECTION STRATEGIES (continued)

River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
75	SLIGO-20	46 35 1.99 117 55 19.01 Hanger Gulch	Exclusion	600'	Close off gulch at mouth - if necessary, can use shorter span to close off further inside or deflect away		By boat	Waterfowl concentrations
75	SLIGO-21	Brown's Gulch 46 35 33.37 117 55 28.78	Exclusion	50' sorbent	Close off gulch		By boat	Waterfowl concentrations

LITTLE GOOSE DAM POOL - RM 75-81 BROWNS GULCH TO NEW YORK BAR

PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***



LITTLE GOOSE DAM TO RM 74 PROPOSED BOOMING AND COLLECTION STRATEGIES

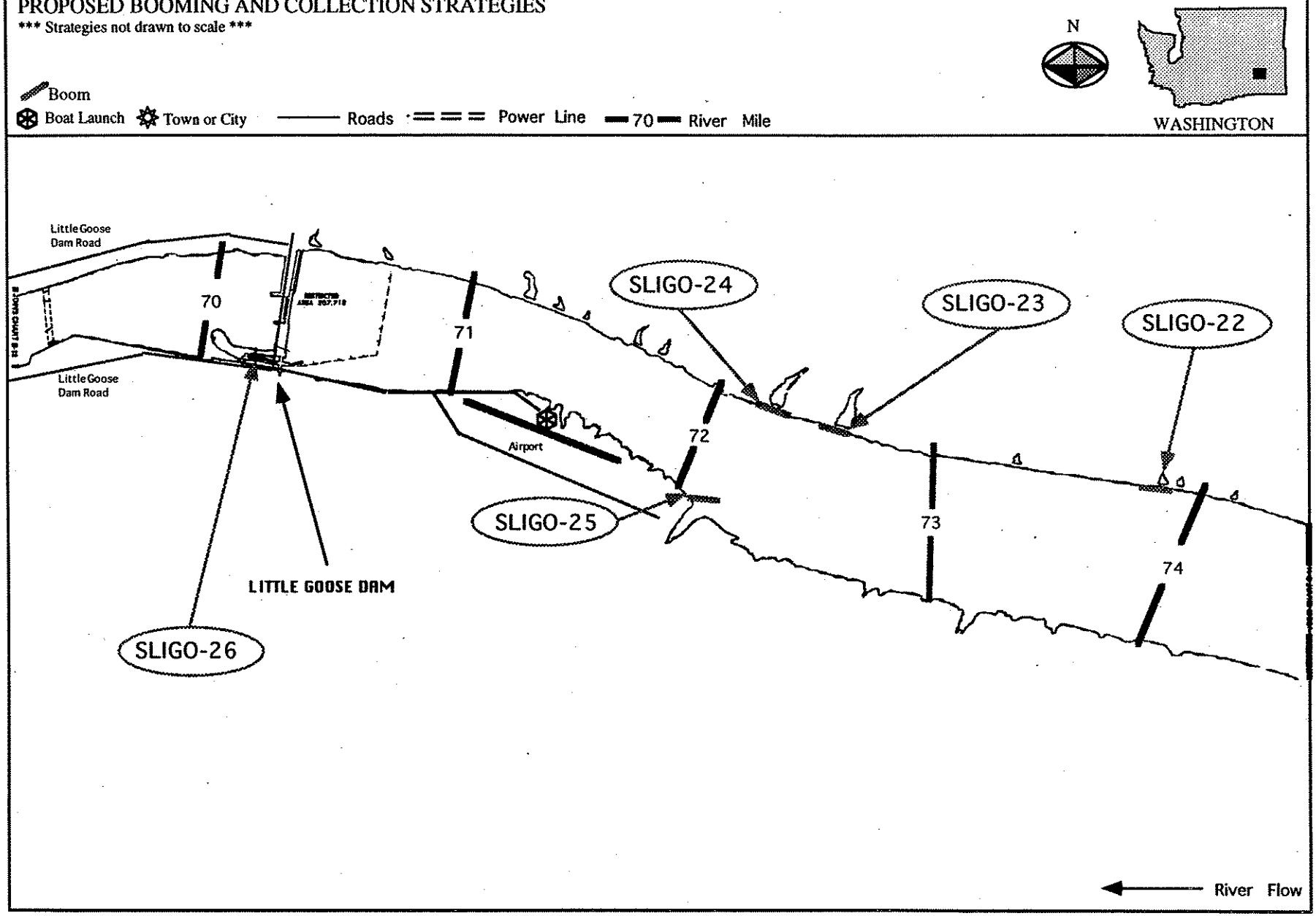
Snake River Mile 69 - 74

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	46 35 24.04 117 59 9.87 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	46 35 2.57 117 59 27.67 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	46 34 57.97 118 1 29.98 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

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

PROPOSED BOOMING AND COLLECTION STRATEGIES

*** Strategies not drawn to scale ***



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]

[1]Regional Response Team III. Draft, *Shoreline Countermeasures Manual.* (Departmentof 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.

This Page Left Blank

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 Little Goose Pool Area include (with river mile locations):

- Little Goose Landing HMU - RM 72
- Flagpole Gulch HMU - RM 72
- Brown's Gulch HMU - RM 75
- Hanger-Dry Gulch HMU - RM 76
- Ridpath HMU - RM 76
- Phalen-New York Gulch HMU - RM 77
- New York Bar HMU - RM 81
- Deadman-Meadow Creek HMU - RM 83
- Purrington HMU - RM 85
- Willow Bar HMU - RM 88
- Fincher Bar HMU - RM 90
- Penawawa HMU - RM 92
- Rice Bar HMU - RM 93
- Swift Bar HMU - RM 95
- Beckwith Bar HMU - RM 98
- Schultz Bar HMU - RM 100
- Illia HMU - RM 102
-

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 balk 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 expecially 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 structually 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 Little Goose 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 Little Goose 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**

LITTLE GOOSE POOL WILDLIFE RESOURCES

Snake River Mile 105 - 109

Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	PERIOD OF SENSITIVITY Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

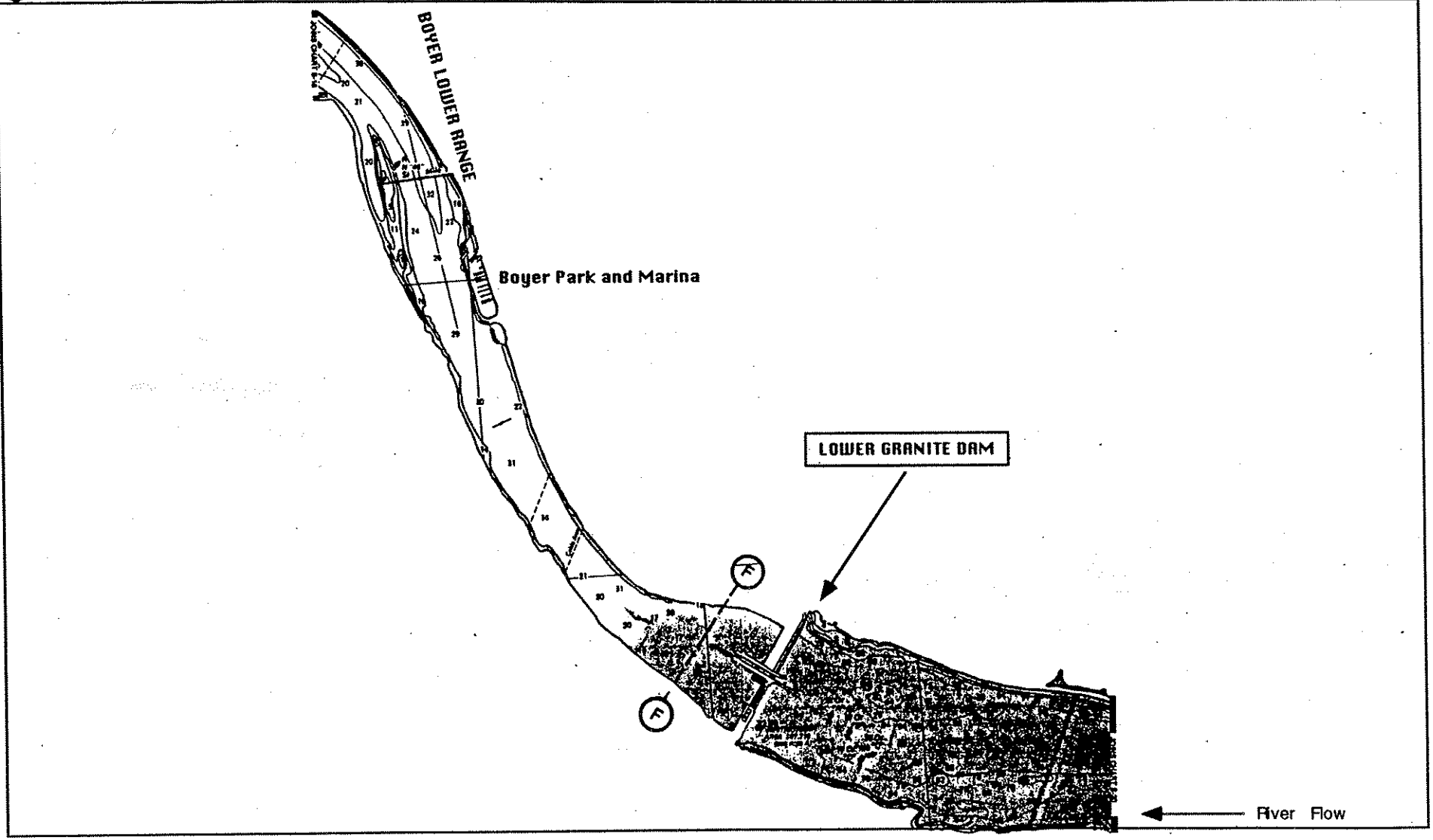
Sensitive season - Minimize overflight disturbance

LITTLE GOOSE DAM POOL - RM 105-109 LOWER GRANITE DAM TO BOYER LOWER RANGE

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



LITTLE GOOSE POOL FISHERY RESOURCES

Snake River Mile 105 - 109

Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish
FLIGO-		U	U	U	U	U	U	
FLIGO-		U	U	U	U	U	U	
FLIGO-		U	U	U	U	U	U	

PERIOD OF SENSITIVITY

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

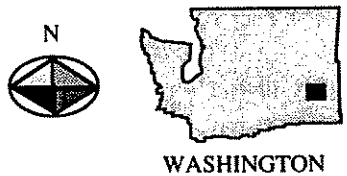
Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

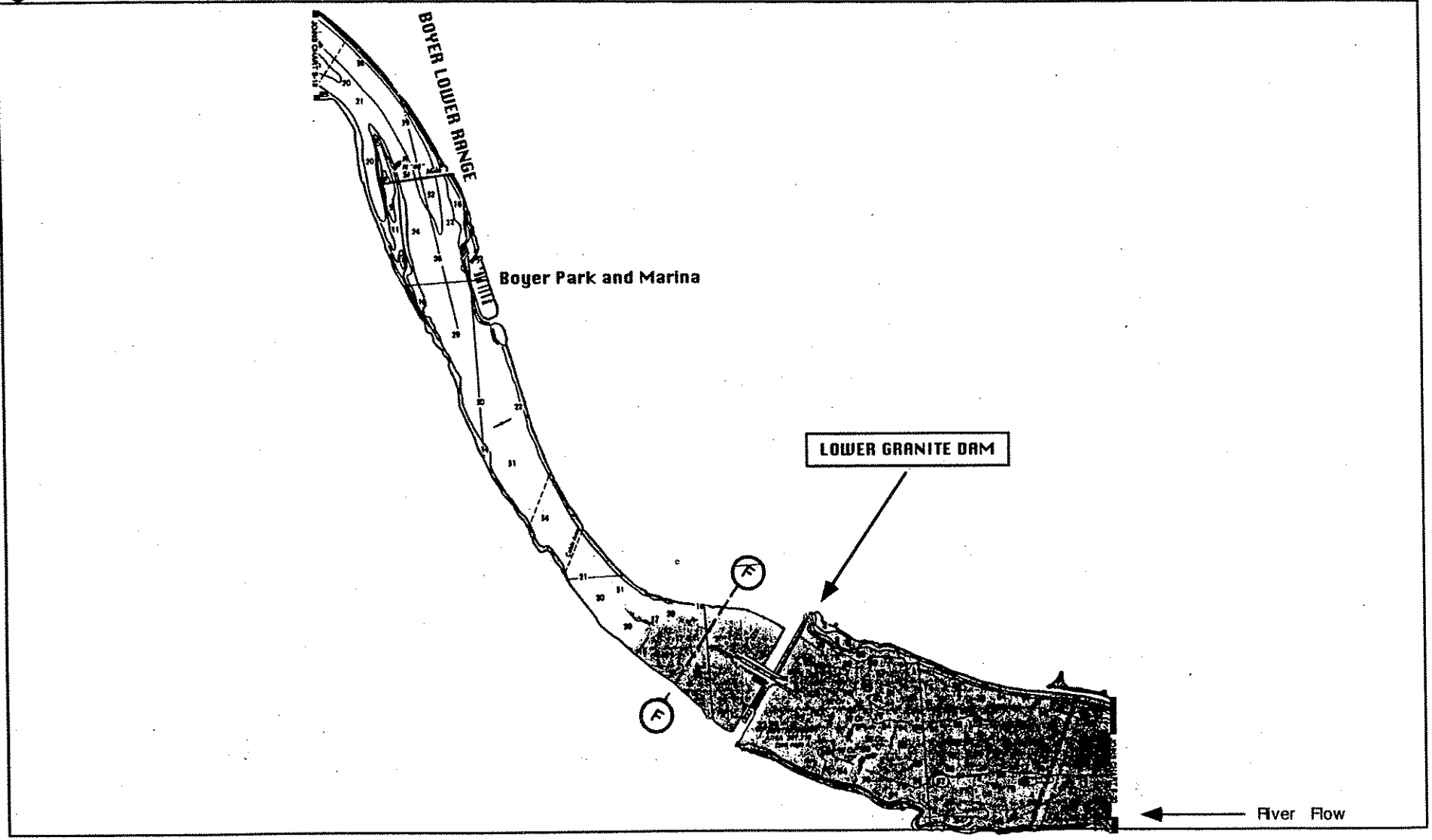
C - CRITICAL
D - DEPRESSED
H - HEALTHY
U - UNKNOWN

LITTLE GOOSE DAM POOL - RM 105-109 LOWER GRANITE DAM TO BOYER LOWER RANGE

FISH RESOURCES



Boat Launch | Town or City | Sensitive Fish Resources



LITTLE GOOSE POOL CULTURAL AND RECREATIONAL RESOURCES

Snake River Mile 105 - 109

Code	Location	Point of Interest	Degree of Use
CLIGO-1	Boyer Marina		
CLIGO-			

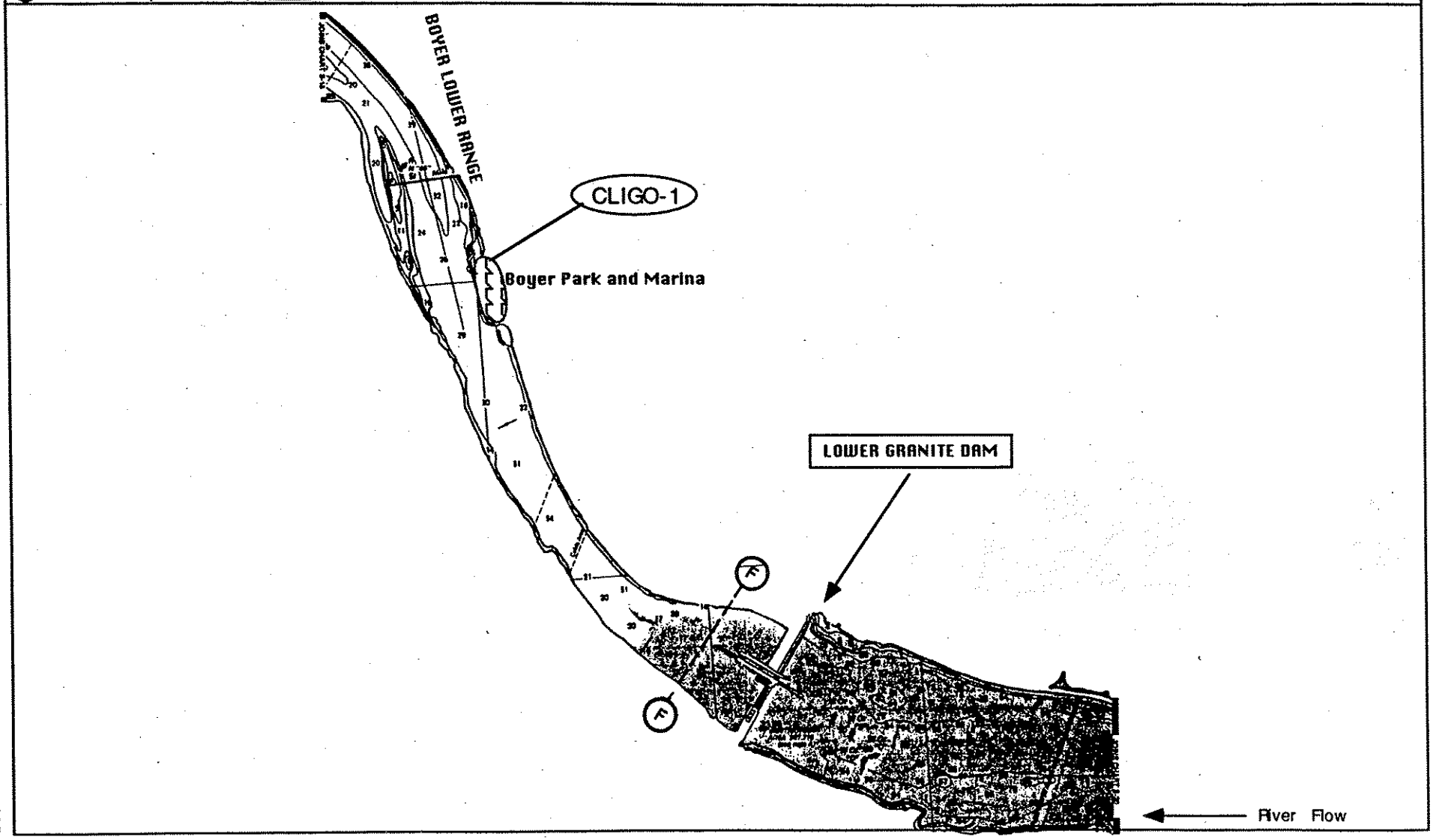
LITTLE GOOSE DAM POOL - RM 105-109 LOWER GRANITE DAM TO BOYER LOWER RANGE

CULTURAL AND RECREATIONAL RESOURCES

N

WASHINGTON

Boat Launch Town or City Use Area



LITTLE GOOSE POOL WILDLIFE RESOURCES

Snake River Mile 99 - 104

Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	PERIOD OF SENSITIVITY Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WLIGO-2	Inlet, Little Almota Creek			Yes		Yes		Yes												
WLIGO-3	Illia Riparian Habitat			Yes		Yes		Yes												
WLIGO-4	Schultz Bar			Yes		Yes		Yes												
WLIGO-5	Wades Bar			Yes		Yes		Yes												

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

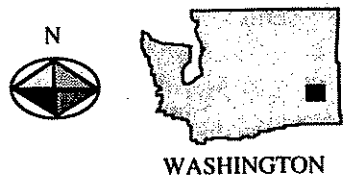
Sensitive season - Minimize overflight disturbance

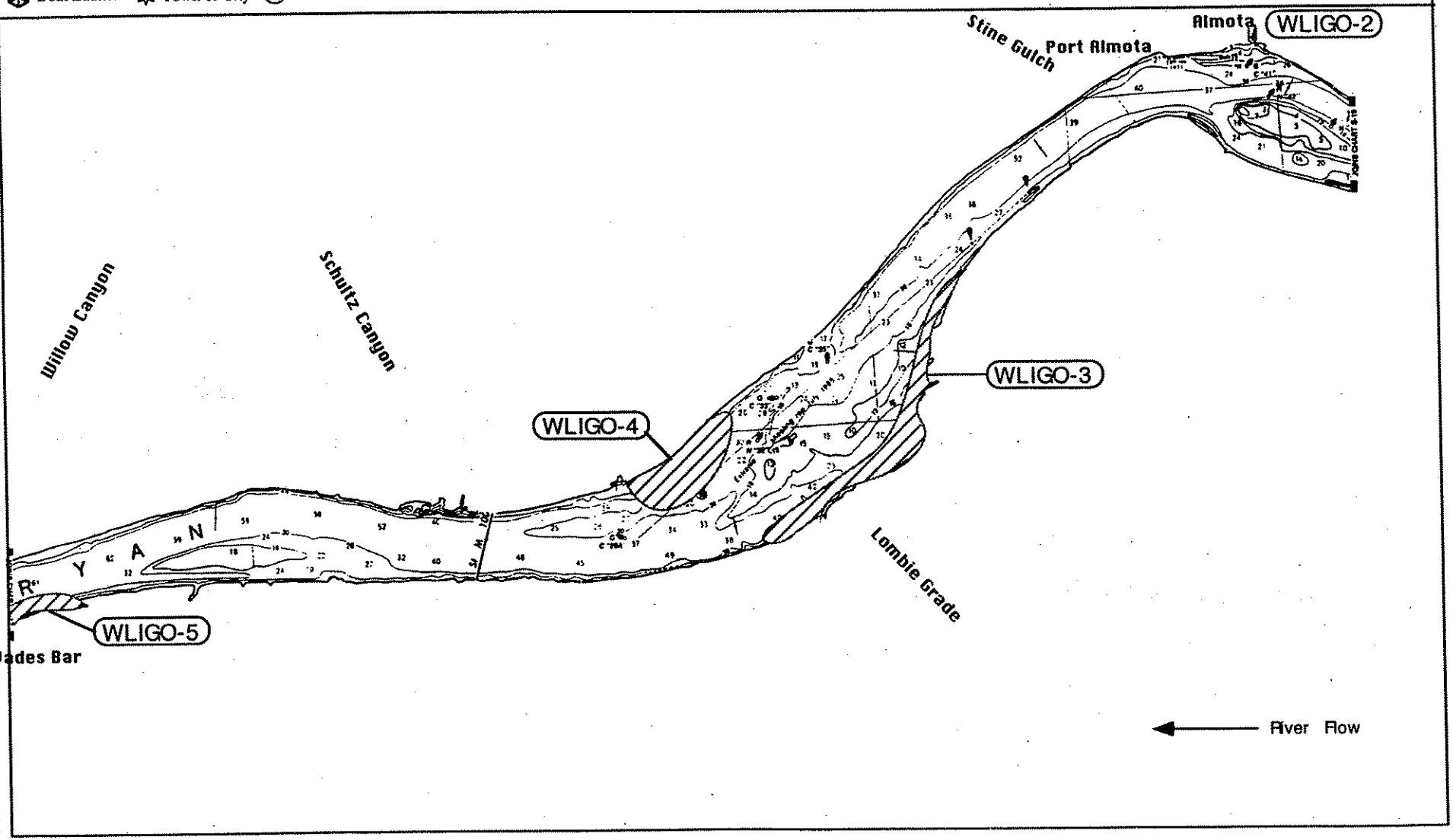
LITTLE GOOSE DAM POOL - RM 99-104 WADES BAR TO ALMOTA

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





LITTLE GOOSE POOL FISHERY RESOURCES

Snake River Mile 99 - 104

Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	PERIOD OF SENSITIVITY Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLIGO-		U	U	U	U	U	U													
FLIGO-		U	U	U	U	U	U													
FLIGO-		U	U	U	U	U	U													

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

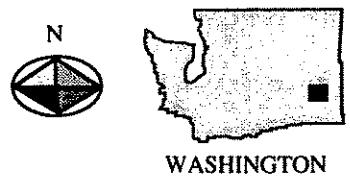
Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

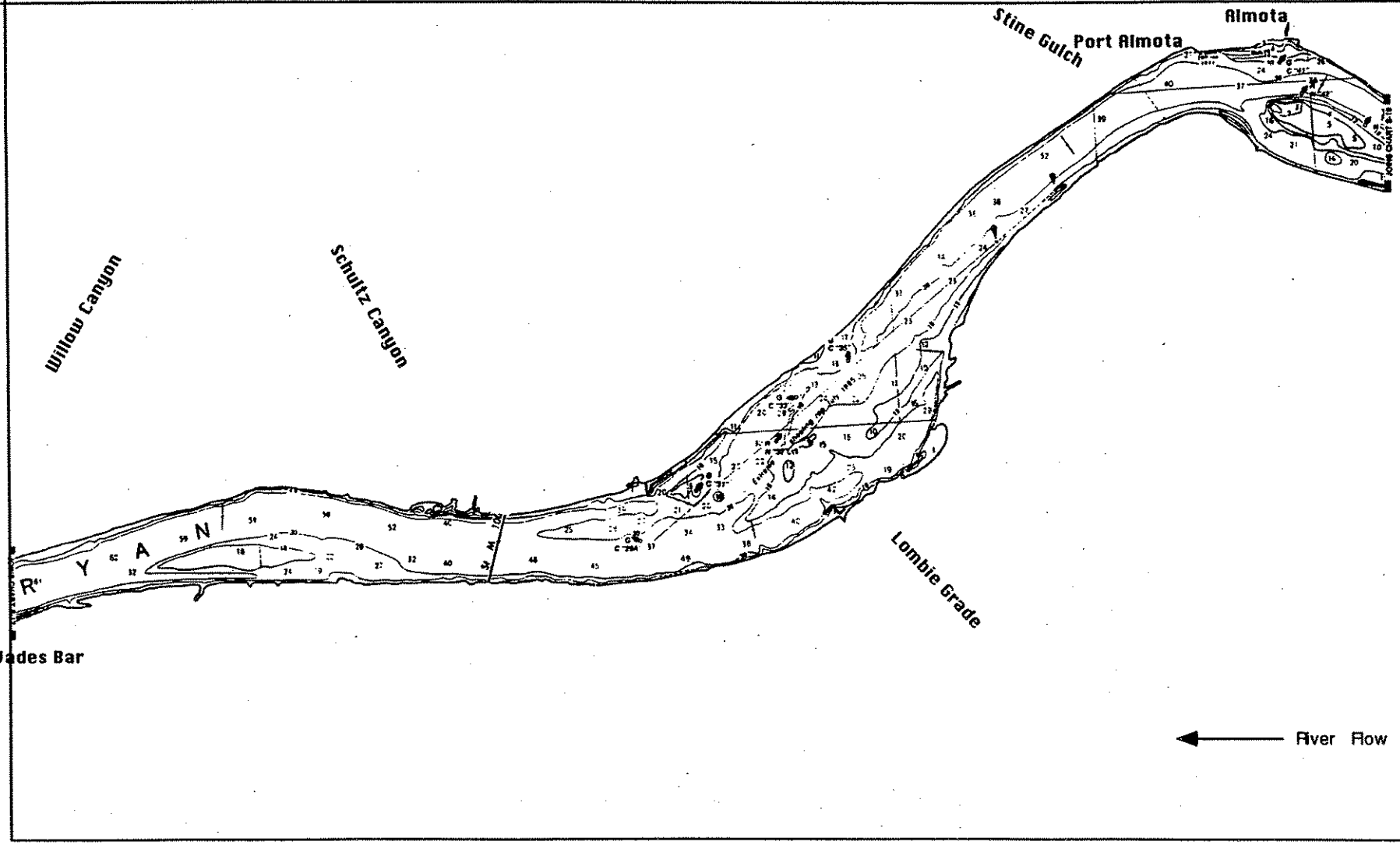
C - CRITICAL
D - DEPRESSED
H - HEALTHY
U - UNKNOWN

LITTLE GOOSE DAM POOL - RM 99-104 WADES BAR TO ALMOTA

FISH RESOURCES



Boat Launch Town or City Sensitive Fish Resources



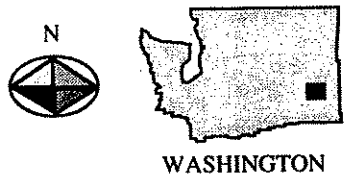
LITTLE GOOSE POOL CULTURAL AND RECREATIONAL RESOURCES

Snake River Mile 99 - 104

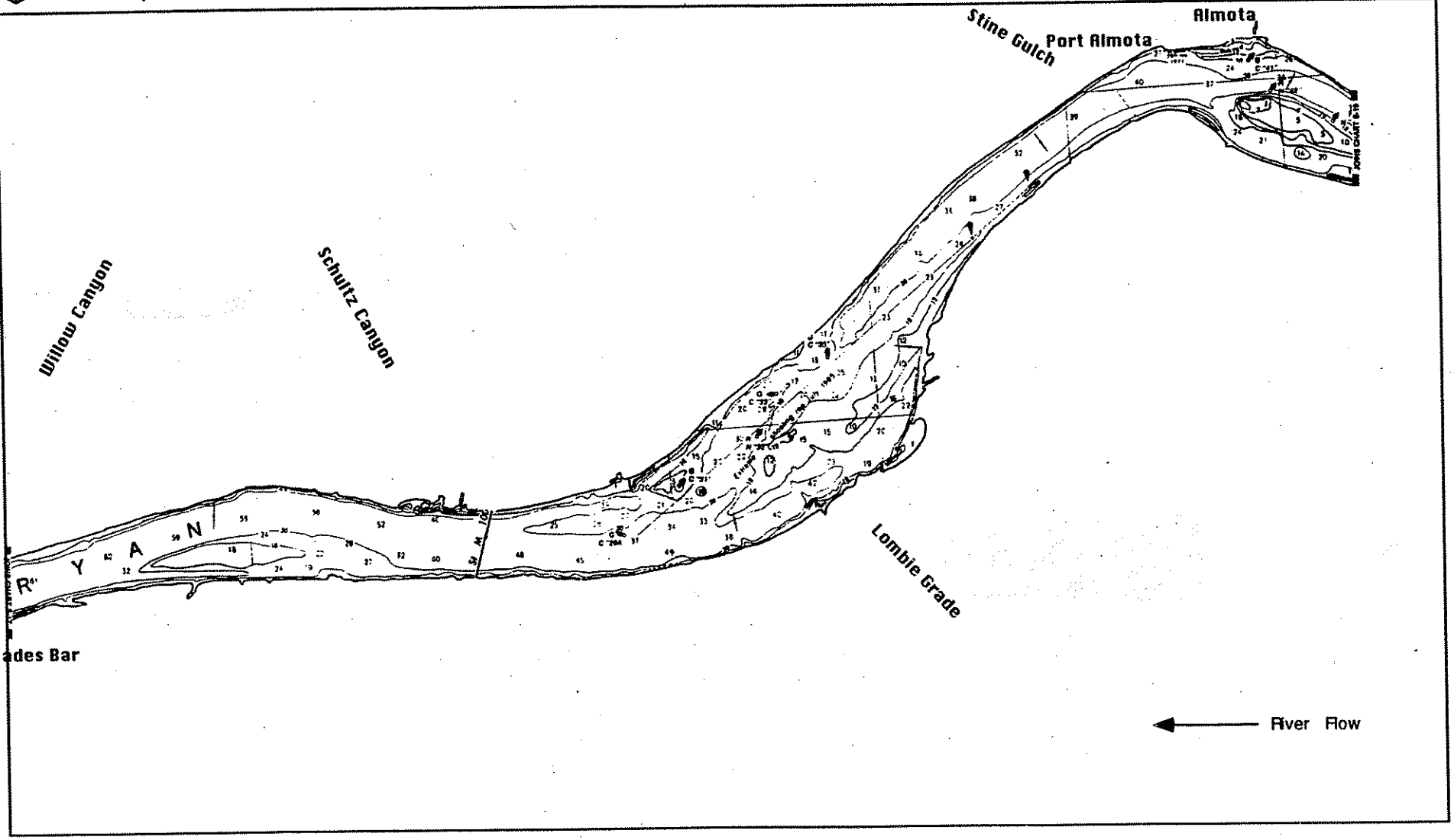
Code	Location	Point of Interest	Degree of Use
CLIGO-	No resources areas identified		
CLIGO-			

LITTLE GOOSE DAM POOL - RM 99-104 WADES BAR TO ALMOTA

CULTURAL AND RECREATIONAL RESOURCES



Boat Launch Town or City Use Area



LITTLE GOOSE POOL WILDLIFE RESOURCES

Snake River Mile 93 - 98									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
WLIGO-6	Swift Bar HMU			Yes		Yes		Yes												
WLIGO-7	Long Hollow Bay			Yes		Yes		Yes												
WLIGO-8	Rice Bar HMU			Yes		Yes		Yes												

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

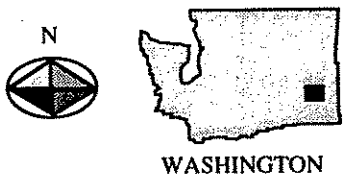
Sensitive season - Minimize overflight disturbance

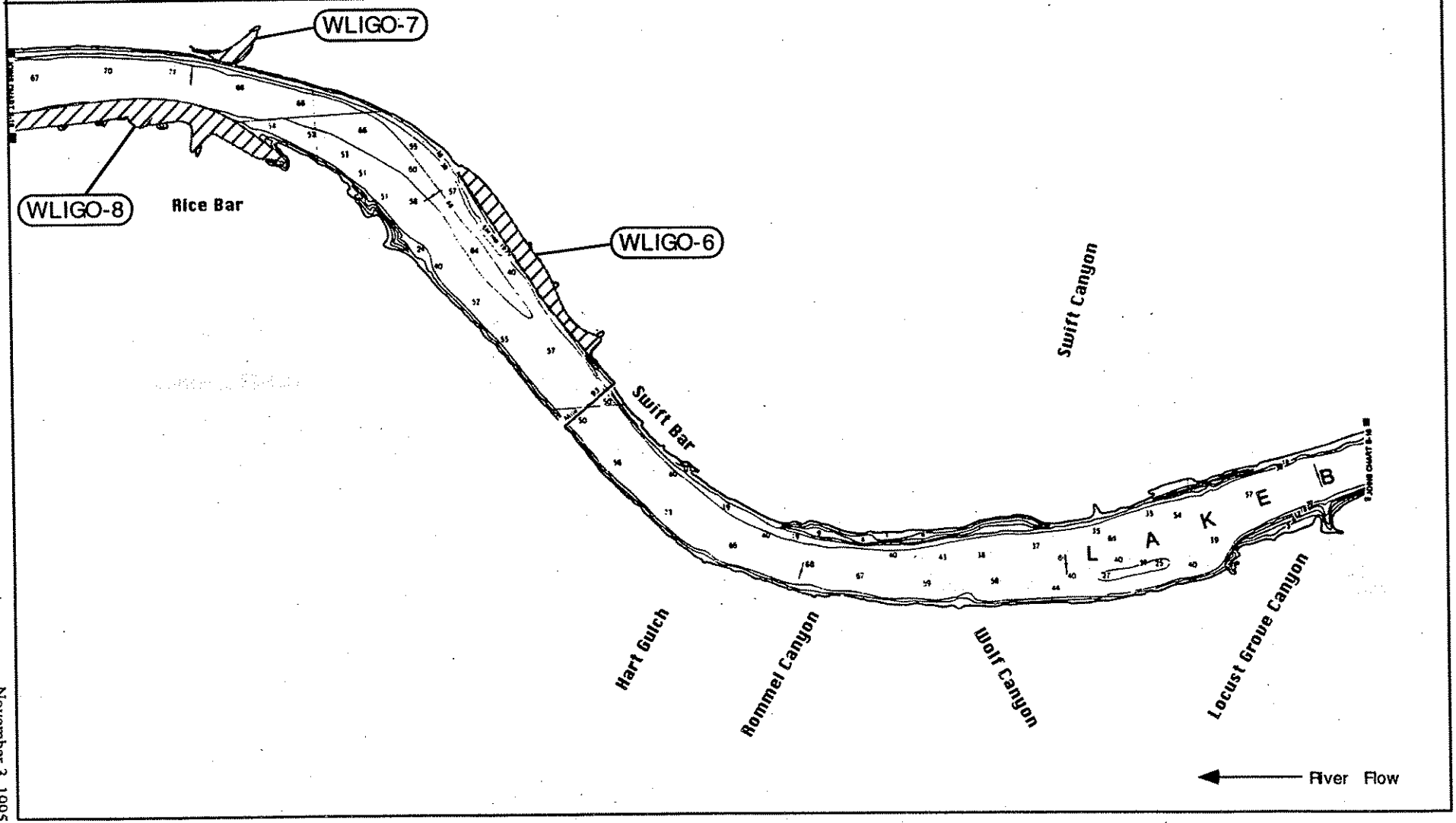
LITTLE GOOSE DAM POOL - RM 93-98 LOCUST GROVE CANYON TO RICE BAR

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





LITTLE GOOSE POOL FISHERY RESOURCES

Snake River Mile 93 - 98

Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish
FLIGO-		U	U	U	U	U	U	
FLIGO-		U	U	U	U	U	U	
FLIGO-		U	U	U	U	U	U	

PERIOD OF SENSITIVITY

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

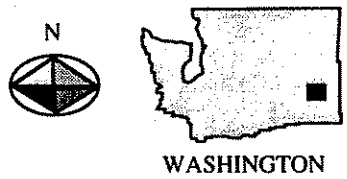
Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

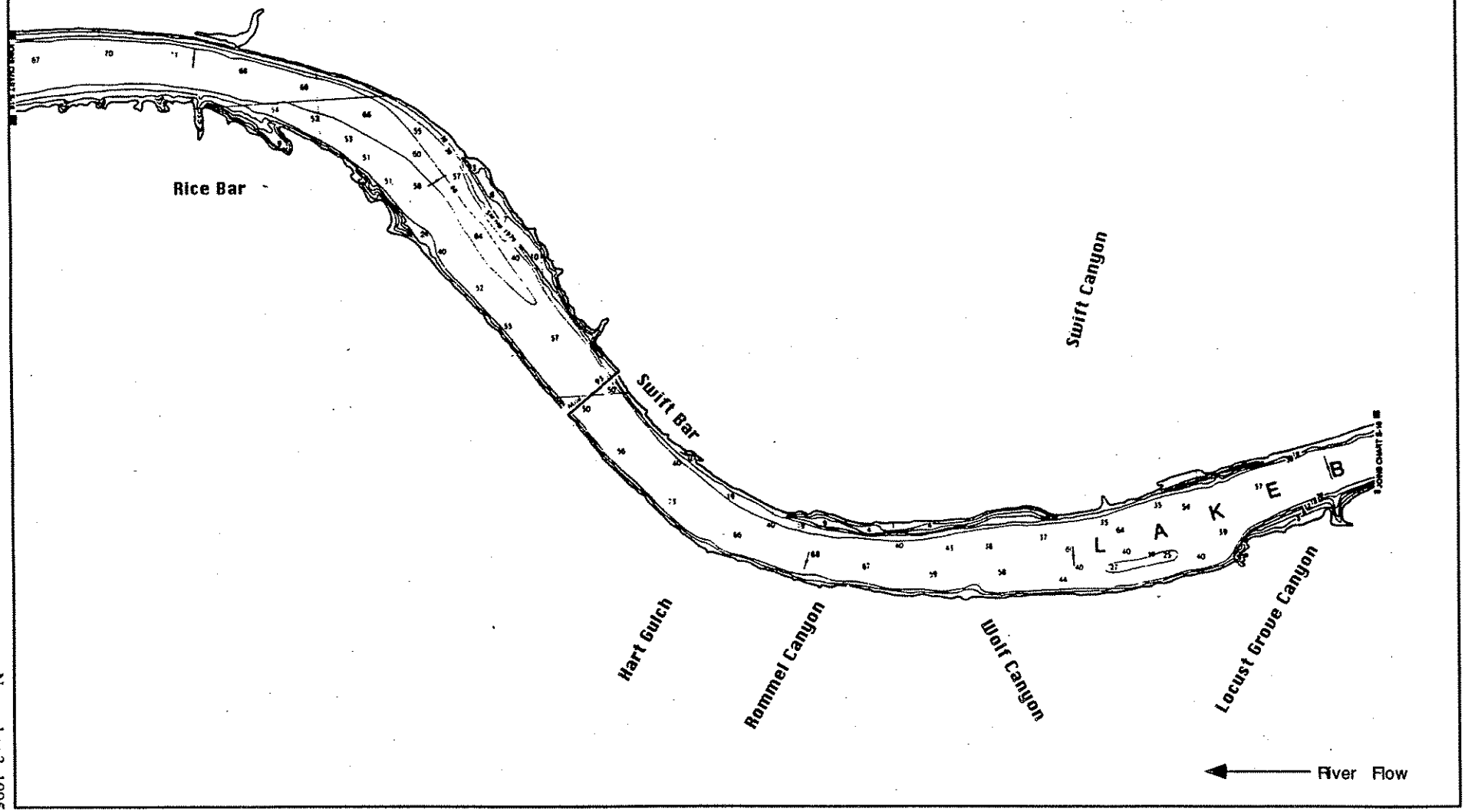
C - CRITICAL
D - DEPRESSED
H - HEALTHY
U - UNKNOWN

LITTLE GOOSE DAM POOL - RM 93-98 LOCUST GROVE CANYON TO RICE BAR

FISH RESOURCES



Boat Launch Town or City Sensitive Fish Resources



LITTLE GOOSE POOL CULTURAL AND RECREATIONAL RESOURCES

Snake River Mile 93 -98			
Code	**Location**	**Point of Interest**	**Degree of Use**
CLIGO-	No resources areas identified		
CLIGO-			

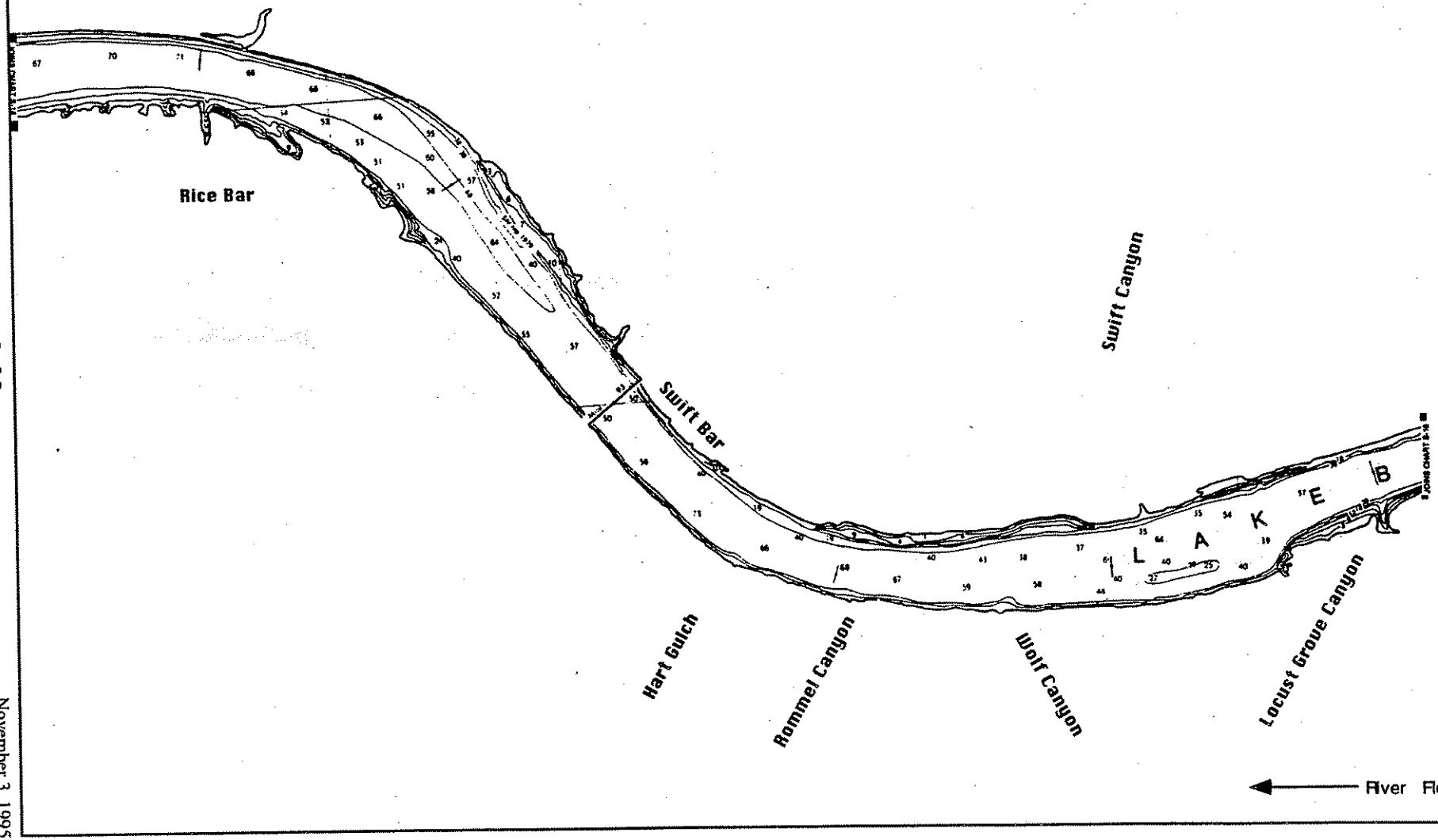
LITTLE GOOSE DAM POOL - RM 93-98 LOCUST GROVE CANYON TO RICE BAR

CULTURAL AND RECREATIONAL RESOURCES

N

WASHINGTON

Boat Launch Town or City Use Area



LITTLE GOOSE POOL WILDLIFE RESOURCES

Snake River Mile 86 - 92

Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	PERIOD OF SENSITIVITY Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WLIGO-9	Penawawa			Yes		Yes		Yes												
WLIGO-10	Willow Landing			Yes		Yes		Yes												

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

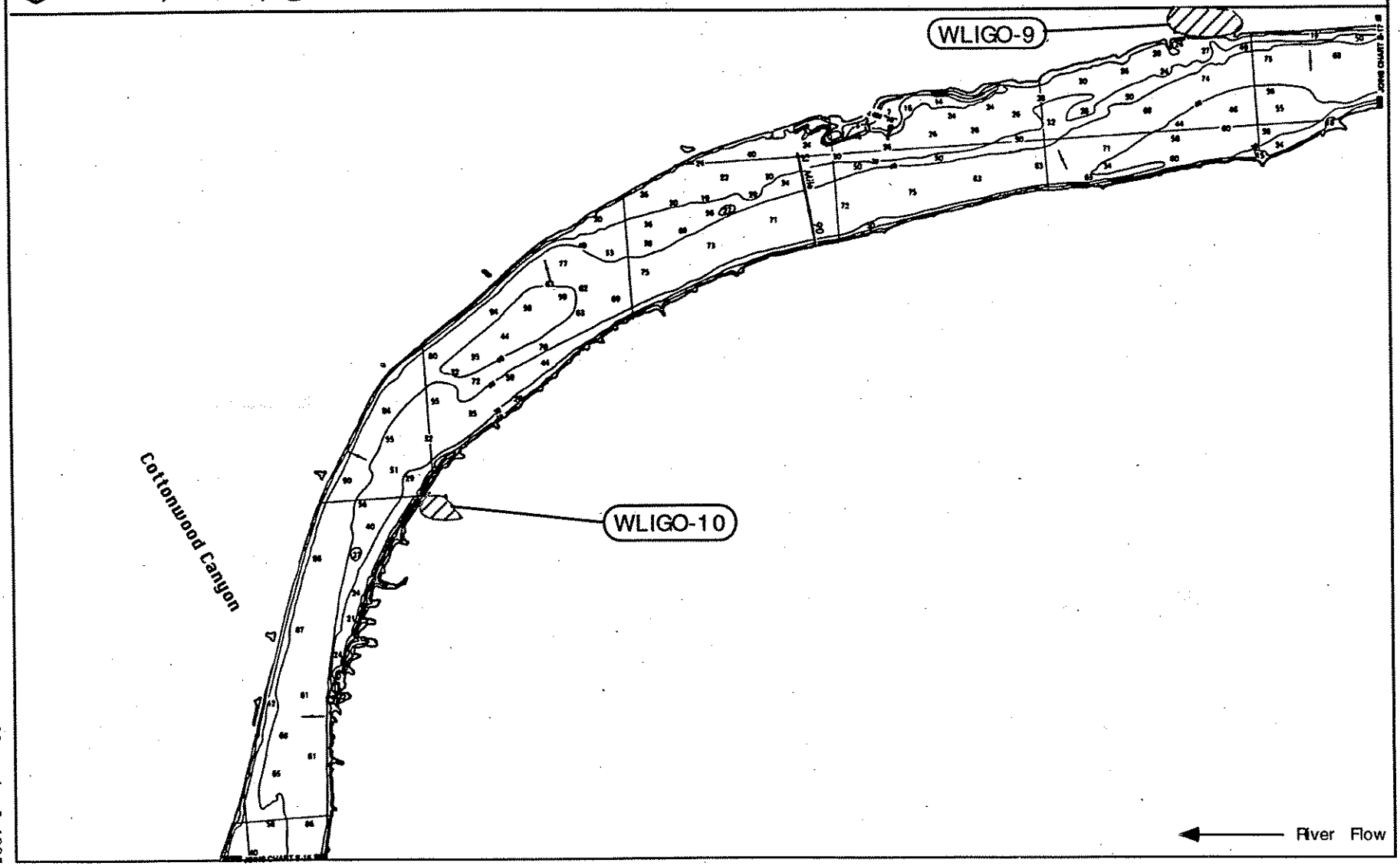
Sensitive season - Minimize overflight disturbance

LITTLE GOOSE DAM POOL - RM 86-92 COTTONWOOD CANYON PENAWAWA

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



LITTLE GOOSE POOL FISHERY RESOURCES

Snake River Mile 86 - 92

Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	PERIOD OF SENSITIVITY Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLIGO-		U	U	U	U	U	U													
FLIGO-		U	U	U	U	U	U													
FLIGO-		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

LITTLE GOOSE DAM POOL - RM 86-92 COTTONWOOD CANYON PENAWAWA

FISH RESOURCES

LITTLE GOOSE POOL CULTURAL AND RECREATIONAL RESOURCES

Snake River Mile 86 - 92			
Code	**Location**	**Point of Interest**	**Degree of Use**
CLIGO-	No resource areas identified		
CLIGO-			

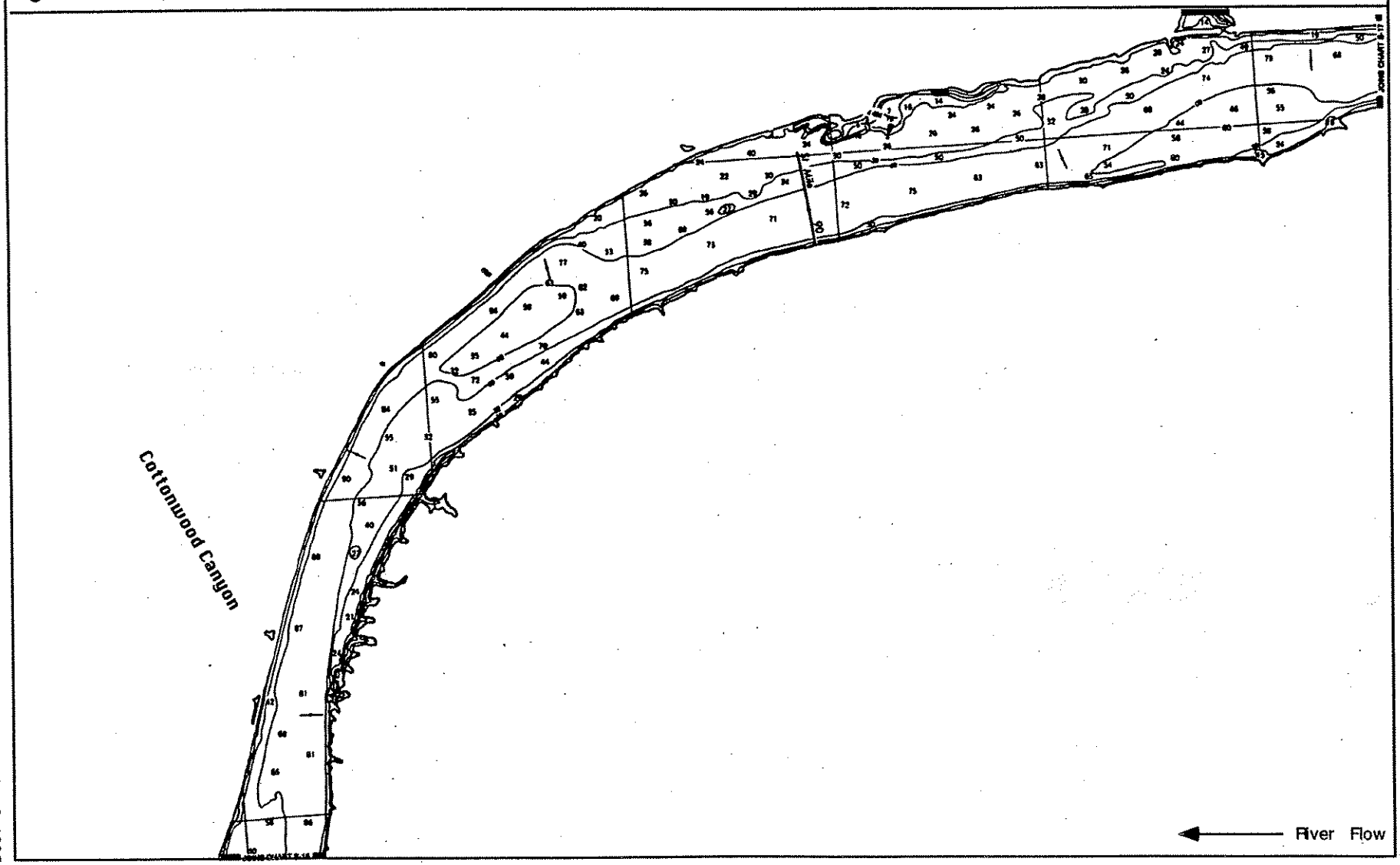
LITTLE GOOSE DAM POOL - RM 86-92 COTTONWOOD CANYON PENAWAWA

CULTURAL AND RECREATIONAL RESOURCES

N

WASHINGTON

Boat Launch Town or City Use Area



LITTLE GOOSE POOL WILDLIFE RESOURCES

Port of Garfield												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
WLIGO-12	Upstream of Port of Garfield: Deadman Cr. and Meadow Cr.			Yes		Yes	Yes	Yes												

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

Sensitive season - Minimize overflight disturbance

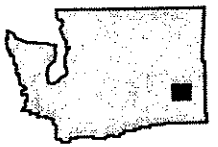
LITTLE GOOSE DAM POOL - Port of Garfield

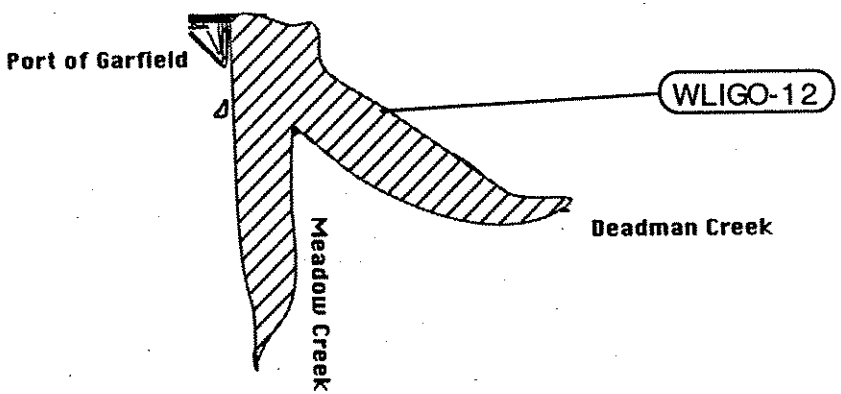
FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

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

N





River Flow

LITTLE GOOSE POOL FISHERY RESOURCES

Port of Garfield

	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
												PERIOD OF SENSITIVITY								
FLIGO-		U	U	U	U	U	U													
FLIGO-		U	U	U	U	U	U													
FLIGO-		U	U	U	U	U	U													

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

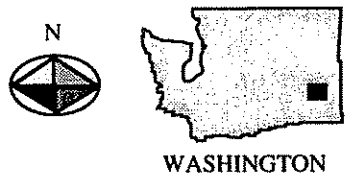
Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

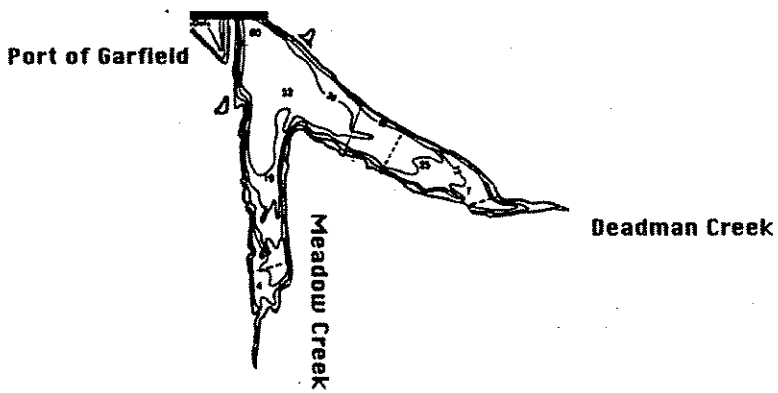
C - CRITICAL
D - DEPRESSED
H - HEALTHY
U - UNKNOWN

LITTLE GOOSE DAM POOL - Port of Garfield

FISH RESOURCES



Boat Launch Town or City Sensitive Fish Resources



River Flow

LITTLE GOOSE POOL CULTURAL AND RECREATIONAL RESOURCES

Port of Garfield			
Code	**Location**	**Point of Interest**	**Degree of Use**
CLIGO-	No resources areas identified		
CLIGO-			

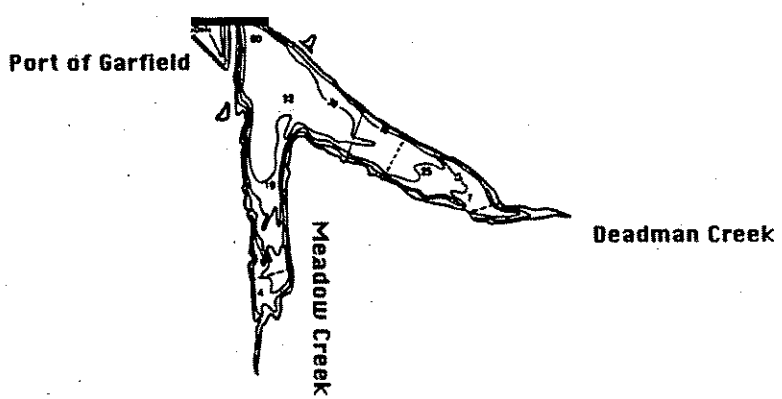
LITTLE GOOSE DAM POOL - Port of Garfield

CULTURAL AND RECREATIONAL RESOURCES

N

WASHINGTON

Boat Launch Town or City Use Area



River Flow

LITTLE GOOSE POOL WILDLIFE RESOURCES

Snake River Mile 81 - 87

Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	PERIOD OF SENSITIVITY Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WLIGO-11	Central Ferry HMU			Yes		Yes	Yes	Yes												
WLIGO-13	Downstream of Port of Garfield			Yes		Yes	Yes	Yes												
WLIGO-14	Central Ferry State Park			Yes		Yes	Yes	Yes												

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

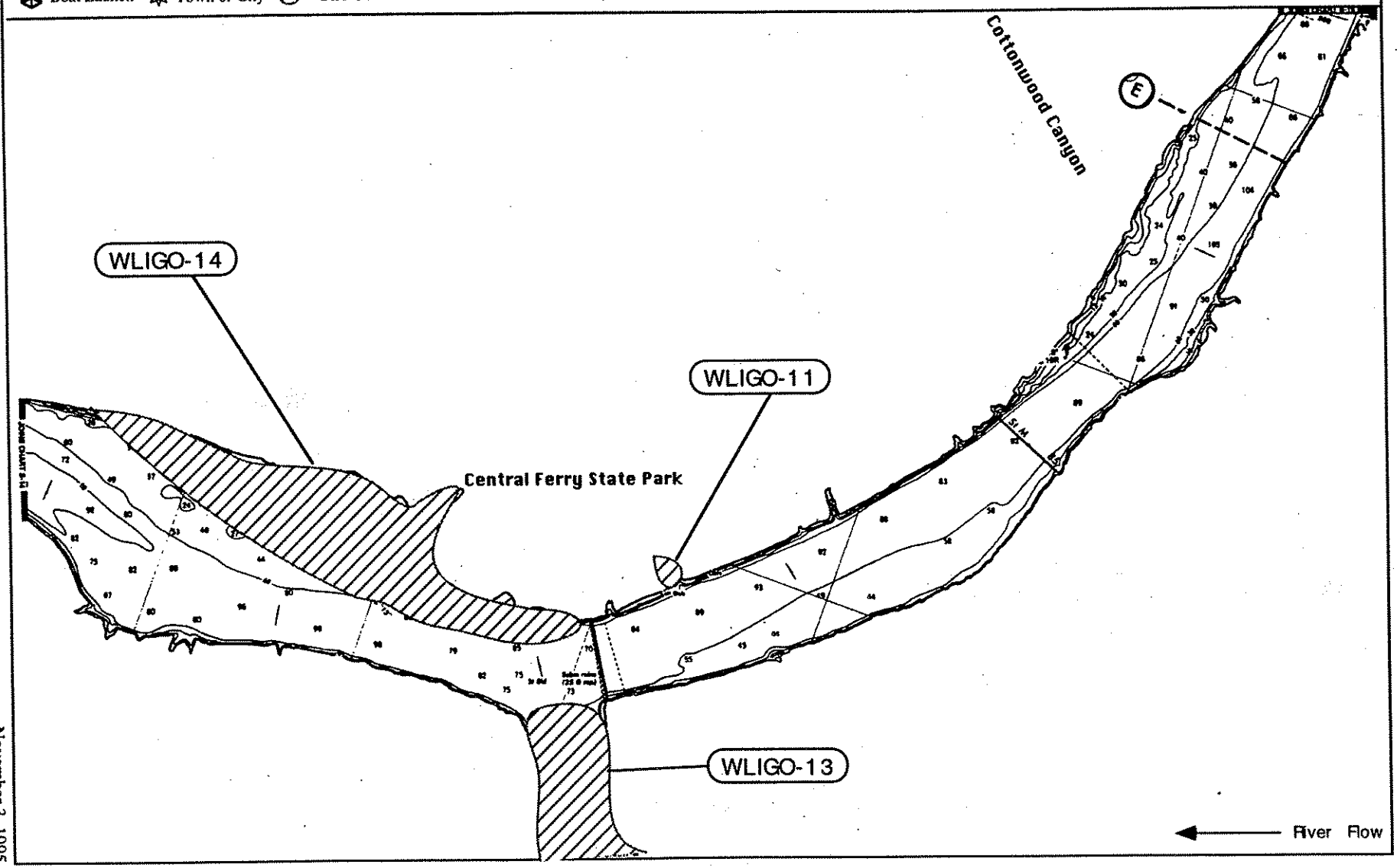
Sensitive season - Minimize overflight disturbance

LITTLE GOOSE DAM POOL - RM 81-87 CENTRAL FERRY STATE PARK TO COTTONWOOD CANYON

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



LITTLE GOOSE POOL FISHERY RESOURCES

Snake River Mile 81 - 87

Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	PERIOD OF SENSITIVITY Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLIGO-		U	U	U	U	U	U													
FLIGO-		U	U	U	U	U	U													
FLIGO-		U	U	U	U	U	U													

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

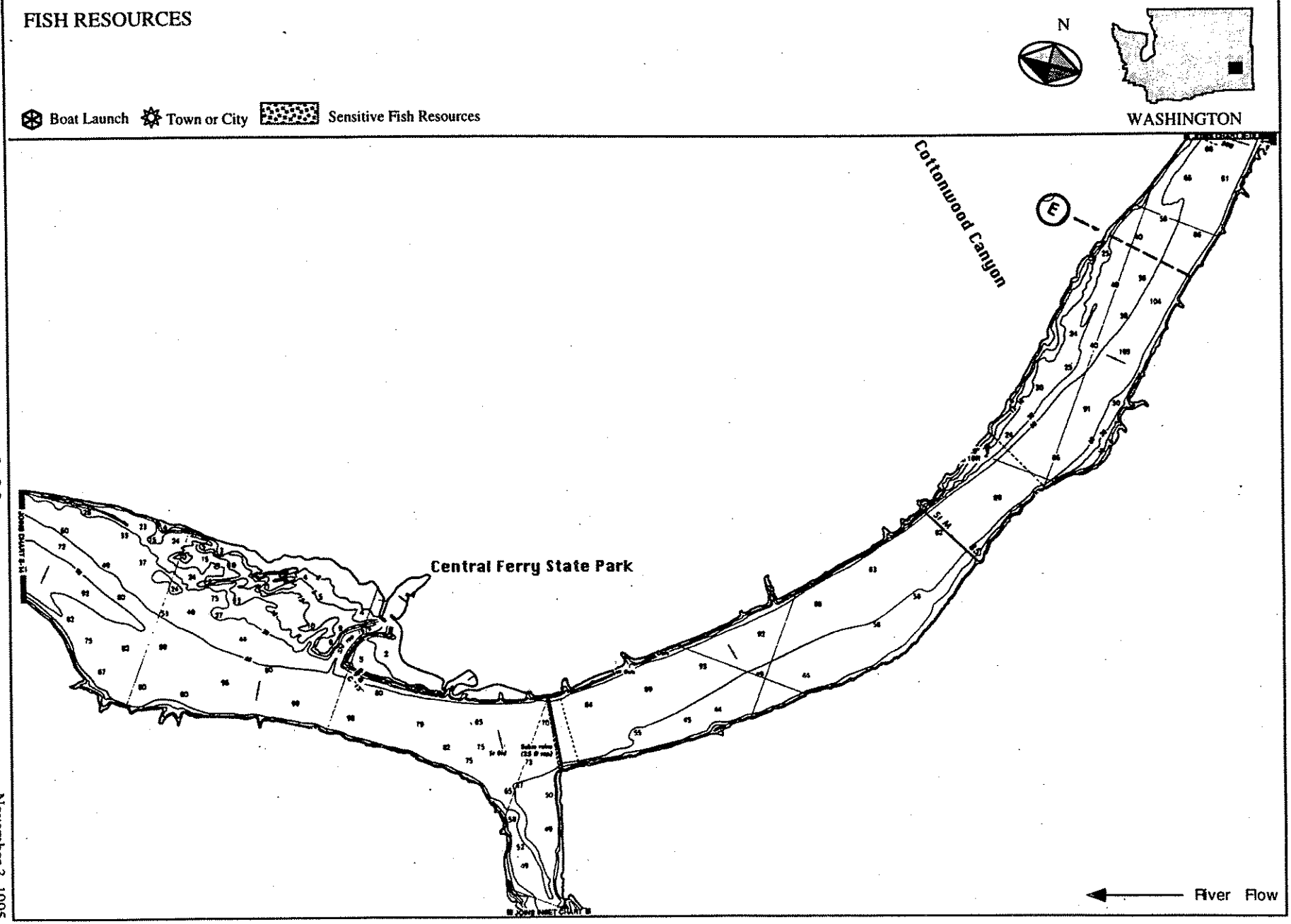
Sensitive season - Minimize in-water disturbance

FISH STOCK STATUS

C - CRITICAL
D - DEPRESSED
H - HEALTHY
U - UNKNOWN

LITTLE GOOSE DAM POOL - RM 81-87 CENTRAL FERRY STATE PARK TO COTTONWOOD CANYON

FISH RESOURCES



LITTLE GOOSE POOL CULTURAL AND RECREATIONAL RESOURCES

Snake River Mile 81 - 87			
Code	**Location**	**Point of Interest**	**Degree of Use**
CLIGO-	No resources areas identified		
CLIGO-			

LITTLE GOOSE DAM POOL - RM 81-87 CENTRAL FERRY STATE PARK TO COTTONWOOD CANYON

CULTURAL AND RECREATIONAL RESOURCES

LITTLE GOOSE POOL WILDLIFE RESOURCES

Snake River Mile 75 - 81

Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	PERIOD OF SENSITIVITY Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WLIGO-15	4 Trestle gulches, North shore RM 80-81			Yes		Yes		Yes												
WLIGO-16	New York Bar HMU			Yes		Yes		Yes												
WLIGO-17	New York Island			Yes		Yes		Yes												
WLIGO-18	New York Gulch			Yes		Yes		Yes												
WLIGO-19	Phalen Gulch			Yes		Yes		Yes												
WLIGO-20	North shore RM 75-77			Yes		Yes		Yes												
WLIGO-21	Little Goose Bay			Yes		Yes		Yes												
WLIGO-22	Hanger Gulch			Yes		Yes		Yes												
WLIGO-23	Browns Gulch			Yes		Yes		Yes												

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

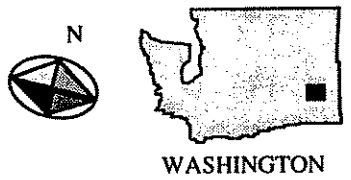
Sensitive season - Minimize overflight disturbance

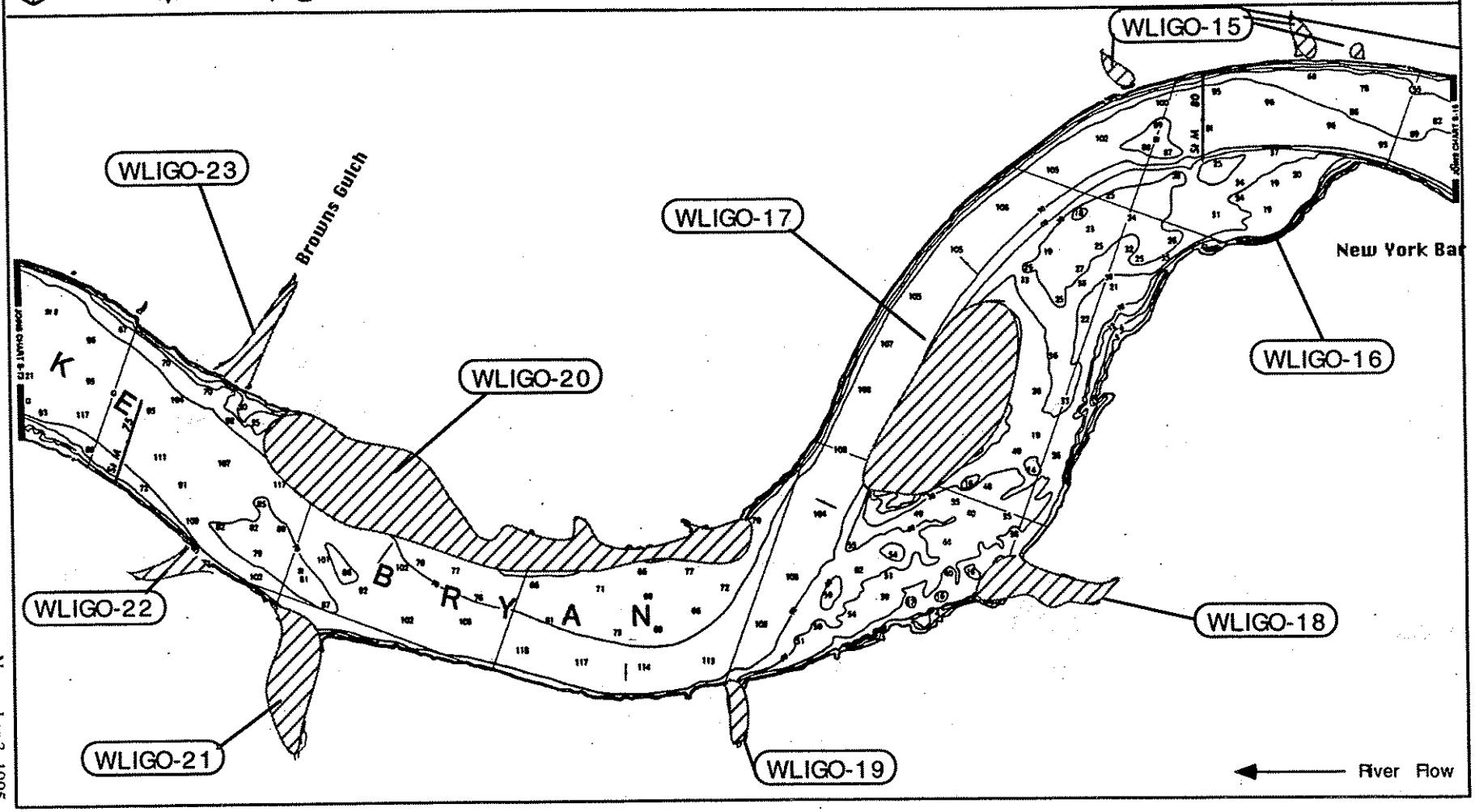
LITTLE GOOSE DAM POOL - RM 75-81 BROWNS GULCH TO NEW YORK BAR

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





LITTLE GOOSE POOL FISHERY RESOURCES

Snake River Mile 75 - 81

Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	PERIOD OF SENSITIVITY Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLIGO-		U	U	U	U	U	U													
FLIGO-		U	U	U	U	U	U													
FLIGO-		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

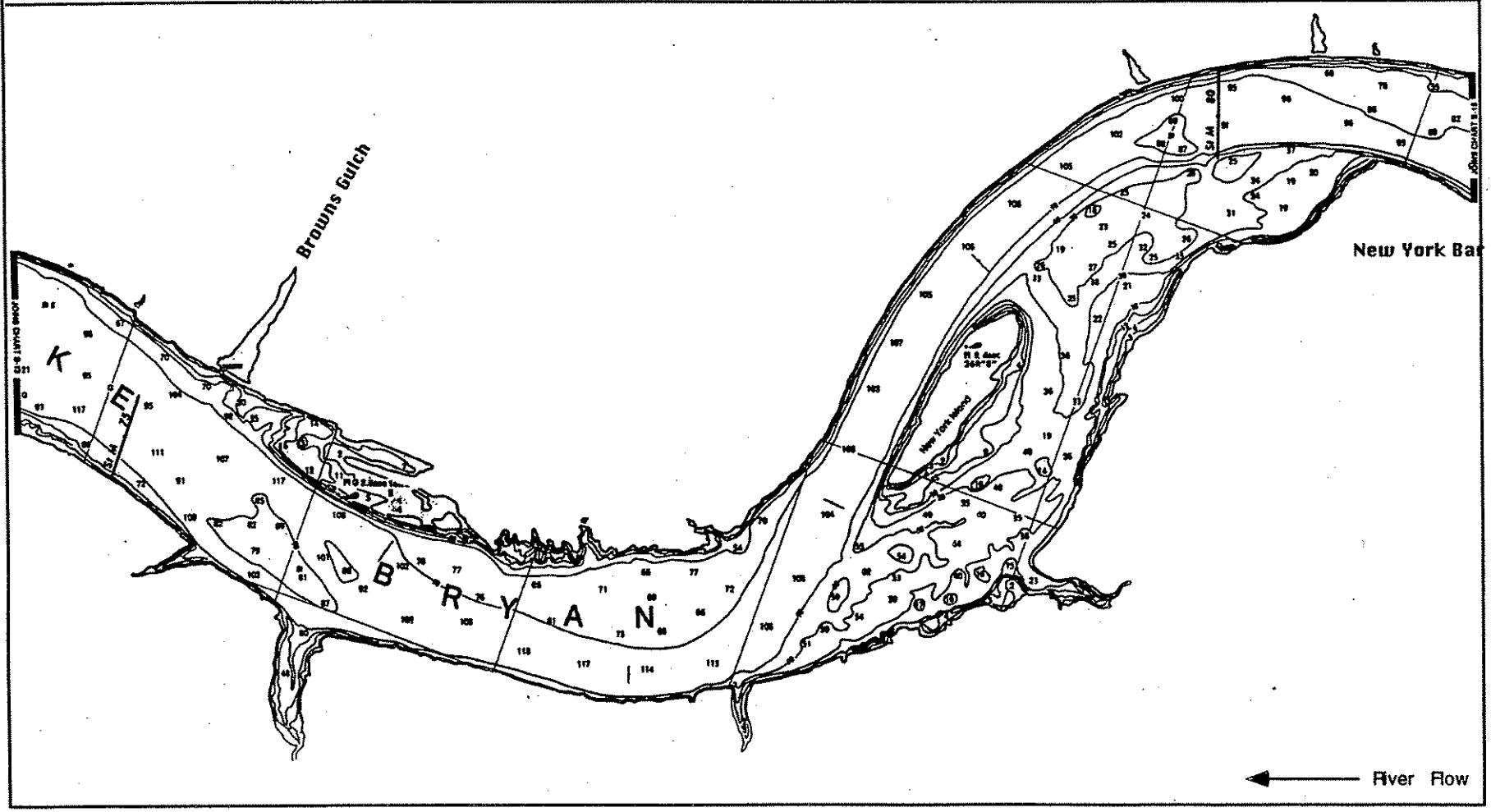
LITTLE GOOSE DAM POOL - RM 75-81 BROWNS GULCH TO NEW YORK BAR

FISH RESOURCES

N

WASHINGTON

Boat Launch Town or City Sensitive Fish Resources



LITTLE GOOSE POOL CULTURAL AND RECREATIONAL RESOURCES

Snake River Mile 75 - 81			
Code	**Location**	**Point of Interest**	**Degree of Use**
CLIGO-	No resources areas identified		
CLIGO-			

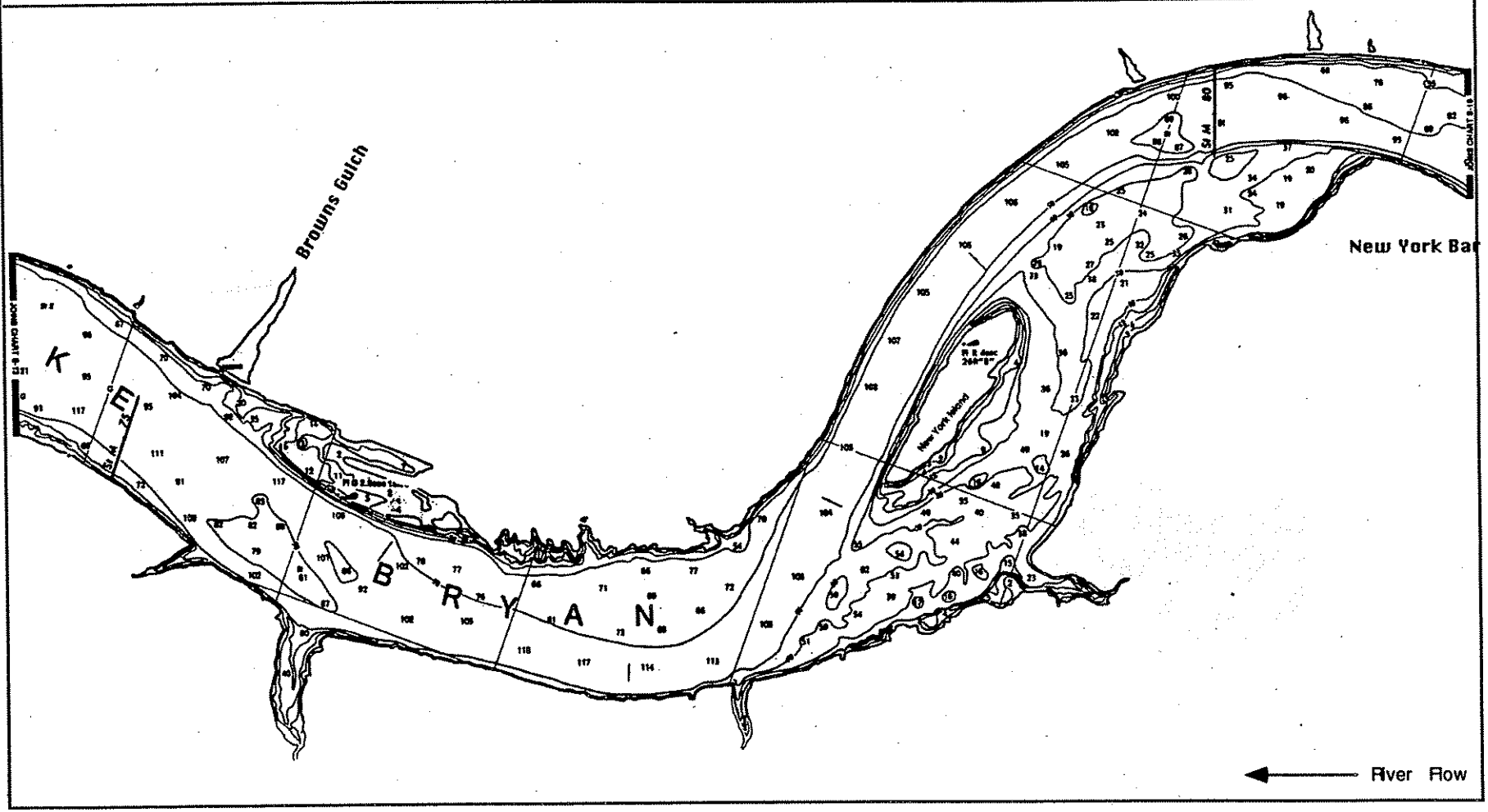
LITTLE GOOSE DAM POOL - RM 75-81 BROWNS GULCH TO NEW YORK BAR

CULTURAL AND RECREATIONAL RESOURCES

N

WASHINGTON

Boat Launch Town or City Use Area



LITTLE GOOSE 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
WLIGO-24	North shore Gulch RM 73			Yes		Yes		Yes												
WLIGO-25	North shore Gulch RM 72.5			Yes		Yes		Yes												
WLIGO-26	Flagpole Gulch			Yes		Yes		Yes												
WLIGO-27	South shore Gulch RM 72			Yes		Yes		Yes												

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

Sensitive season - Minimize overflight disturbance

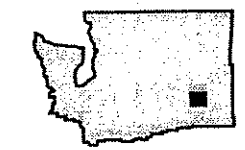
LITTLE GOOSE DAM POOL - RM 69-74 LITTLE GOOSE DAM TO RM 74

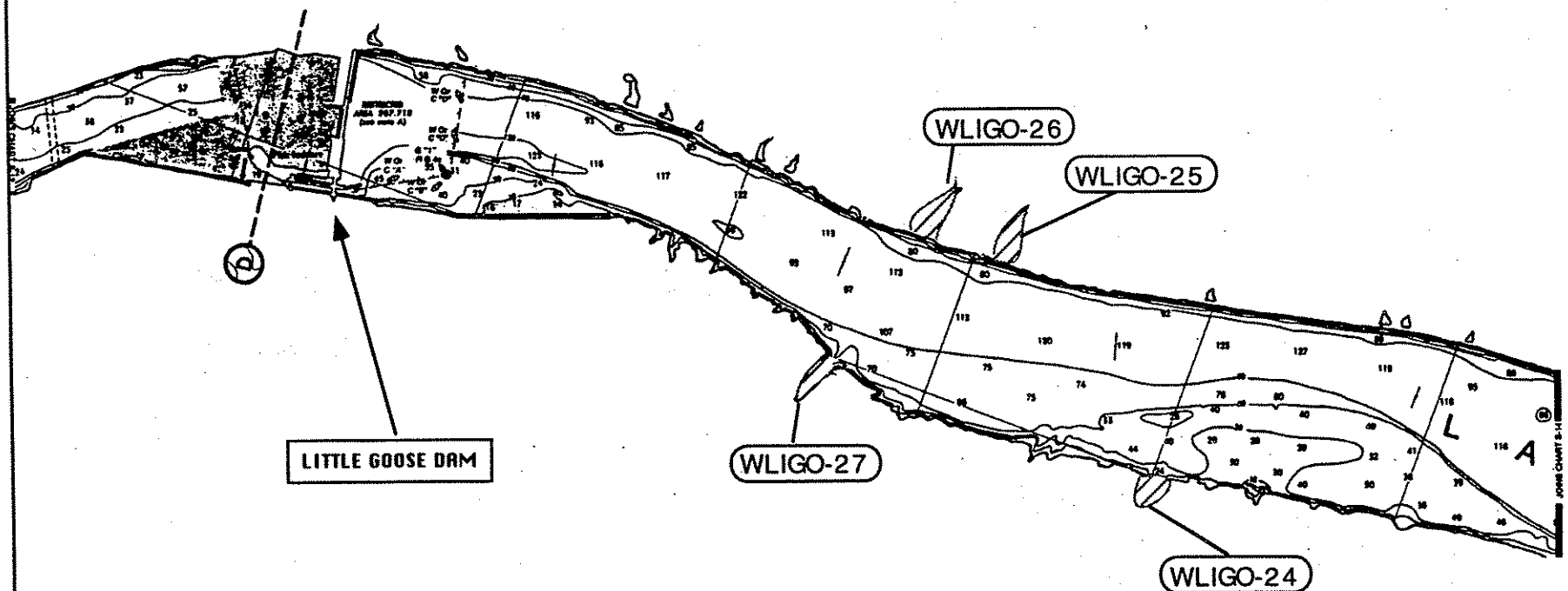
FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

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

N





River Flow

LITTLE GOOSE POOL FISHERY RESOURCES

Snake River Mile 69 - 74

Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	PERIOD OF SENSITIVITY Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FLIGO-1	LIGO Fish Ladder	U	U	U	U	U	U													
FLIGO-		U	U	U	U	U	U													
FLIGO-		U	U	U	U	U	U													

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance

Sensitive season - Minimize in-water disturbance

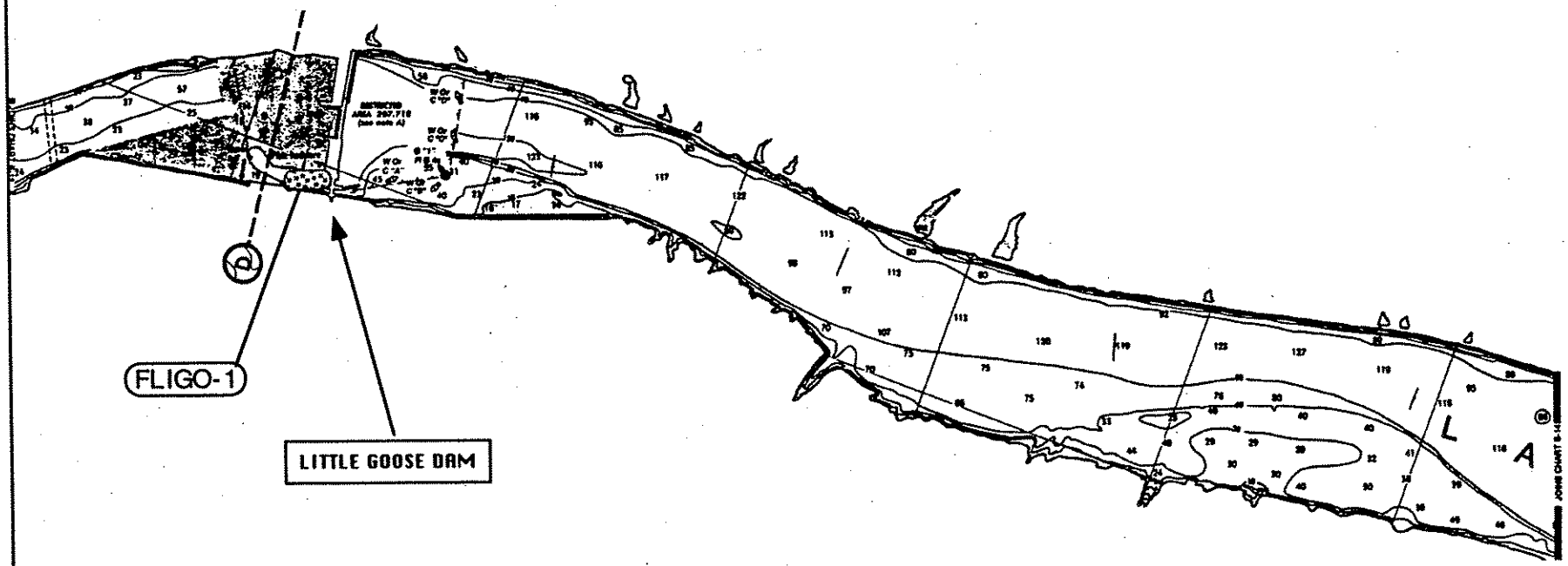
FISH STOCK STATUS

C - CRITICAL
D - DEPRESSED
H - HEALTHY
U - UNKNOWN

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

FISH RESOURCES

Boat Launch Town or City Sensitive Fish Resources



River Flow

LITTLE GOOSE POOL CULTURAL AND RECREATIONAL RESOURCES

Snake River Mile 69 - 74

Code	Location	Point of Interest	Degree of Use
CLIGO-	No resources areas identified		
CLIGO-			

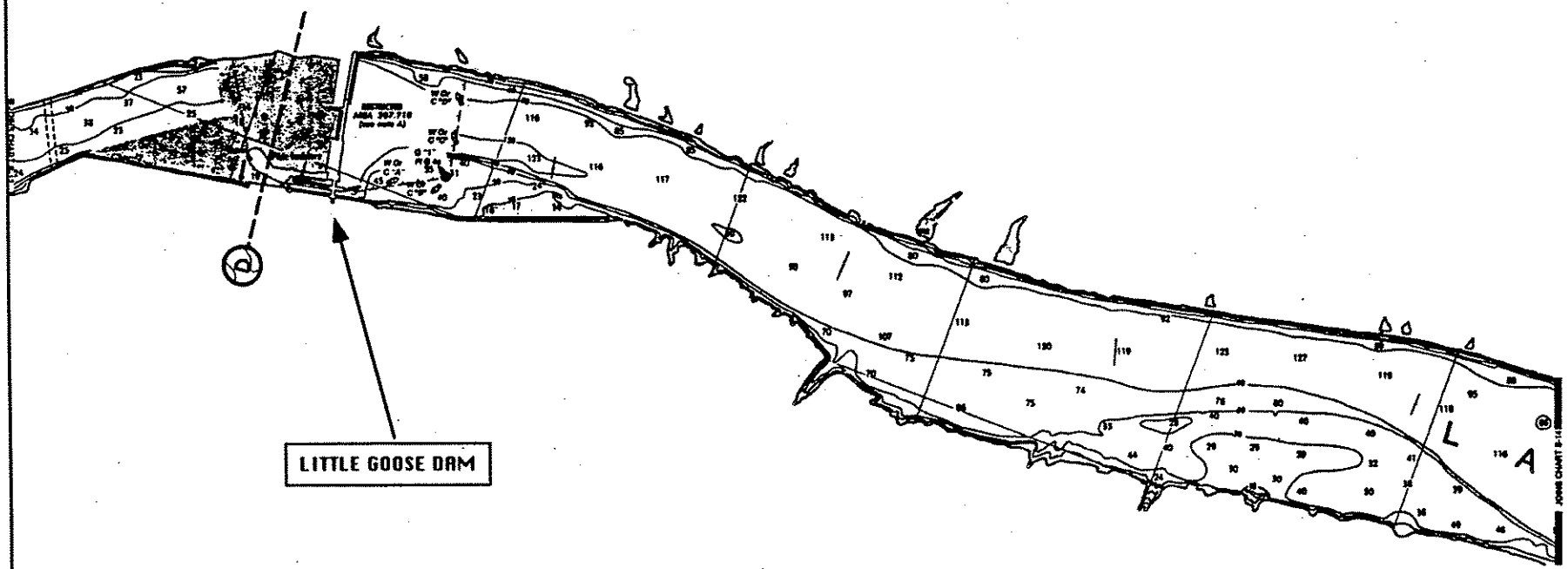
LITTLE GOOSE DAM POOL - RM 69-74 LITTLE GOOSE DAM TO RM 74

CULTURAL AND RECREATIONAL RESOURCES

N

WASHINGTON

Boat Launch Town or City Use Area



River Flow

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:

- Boyer Park & Marina
- Illia Landing
- Swift Bar Habitat Management Unit
- Willow Bar Habitat Management Unit
- Washington State University/Dept. of Agriculture Research Station
- Central Ferry Habitat Management Unit
- Central Ferry State Park
- New York Bar Habitat Management Unit
- Ridpath Habitat Management Unit

Most of 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
	Boyer Park & Marina	Shelters, parking, restaurant	Port of Whitman County	
	Central Ferry State Park	Shelters, parking	State Parks	
	Lower Granite Lock & Dam Project (Control Room)	Meeting rooms, telephones, parking.		(509) 843-1493
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		
	La Crosse Airport	Whitman County		

Subject	Name	Characteristics	Contact	Phone #
	Scott Seed Farm Airport	Garfield County		
	Lower Granite Lock & Dam Airport	Whitman County		
	Whitman County Memorial Airport	Whitman County	Colfax, Wa	
	Pullman Moscow Regional Airport	Whitman County	Pullman, Wa	
Access Points	Little Goose Landing	Columbia County		
	Ridpath Boat Access	Whitman County		
	N.Y.Bar Boat Access	Garfield County		
	Central Ferry State Park	Whitman County		
	Port of Garfield	Garfield County		
	Willow Landing	Garfield County		
	Swift Bar Boat Access	Whitman County		
	Illia Landing	Garfield County		
	Boyer Park & Marina	Whitman County		
	Offield Landing	Garfield County		
Property Access Information and Contacts *				
Staging Areas	Parks, Landings, and Dams already identified above			
Recreational Activities which could interfere *				
Tribal Resources				

Subject	Name	Characteristics	Contact	Phone #
Key Local Elected Officials *				
Fire Department	Starbuck Fire Department	Columbia County	Starbuck, Wa	(509) 399-2311
	Colfax Fire Department	Whitman County	Colfax, Wa	(509) 397-3415
	Garfield County Fire District			(509) 834-3494
	Pullman Rural Fire District 12			(509) 334-1515
	Pullman City Fire	Whitman County	Pullman, Wa	(509) 334-1515
	Dayton Fire Department	Columbia County	Dayton, Wa	(509) 382-2518
	Pomeroy Fire Department	Garfield County	Pomeroy, Wa	(509) 843-1533
Local Emergency Support Personnel	Columbia County EMD			(509) 382-2534
	Columbia County Sherriff's Office			(509) 382-2518
	Garfield County EMD			(509) 843-3494
	Franklin County EMD			(509) 545-3546
	Whitman County EMD			(509) 397-6266
Volunteers *				
Wildlife Rehab Facilities *				
Marinas/Port Docks	Port of Garfield	Garfield County		
	Boyer Park and Marina	Whitman County		

Subject	Name	Characteristics	Contact	Phone #
Housing/Feeding/Response Community Support	Dayton General Hospital	Columbia County	Dayton, Wa	(800) 333-7570
	Whitman Hospital & Medical Ctr.	Whitman County	Colfax, Wa	(509) 397-3435
	Garfield County Medical Hospital	Garfield County	Pomeroy, Wa	(509) 843-1591
	Pullman Memorial Hospital	Whitman County	Pullman, Wa	(509) 332-2541
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 ex-cavated along the downgradient side. The berm should be covered with plastic or geo-textile sheeting to minimize wave erosion.	• Bulldozer/Motor grader -1 • Personnel - equipment operator & 1 worker • Misc. - plastic or geotextile sheeting	• 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.	• Geotextile - 3 m wide rolls • Personnel - 5 • Misc. - stakes or tie-down cord	• 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 • Wire mesh - 70 m x 2 m • Stakes - 20 • Sorbents - 30 m^2 • Personnel - 2 • Misc. - fasteners, support lines, additional stakes, etc.	• 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.	• Loader - 1 • Personnel - equipment operator & 1 worker or several workers w/shovels	• 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: • Boom - 280 m • Boats - 2 • Personnel - boat crews & 4 boom tenders • Misc. - tow lines, drogues, connectors, etc.	• 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 • Boats - 1 • Personnel - boat crew & 3 boom tenders • Misc.- 6 anchors, anchor line, buoys, etc.	• 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 • Boom - 60 m • Boats - 1 • Personnel - boat crew + 3 • Misc. - 3 anchors, line, buoys, recovery unit	• 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 • Boom - 60 m • boats - 1 • Personnel - boat crew + 3 • Misc. - 3 anchors, line, buoys, recovery unit	• 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 • Boom - 200 m • Boats - 2 • Personnel - boat crews & 4 boom tenders • Misc. - tow lines, bridles, connectors, etc. Portable • Hoses - 30 m discharge • Oil storage - 2000 liters	• 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 Kosper, 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

This page left blank

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:

Commanding Officer
United States Coast Guard
MSO Puget Sound
Planning Department
1519 Alaskan Way South
Seattle, WA 98134-1192

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

Washington Department Of
Ecology
Central Programs
Policy and Planning Section
P.O. Box 47600
Olympia, WA 98504-7600

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

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

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

This Page Left Blank

Comments/Corrections/Suggestions

Directions: (Make a copy of this before you fill in so you have extra forms.)

Fill in your name, address, agency, and phone number. Fill in the blanks regarding the location of information in the plan being commented on. Make comments in the space provided. Add extra sheets as necessary. Fold in thirds so the address label is visible, tape closed (don't staple), add return address, and affix postage.

Name: _____ Title: _____ Agency: _____

Address: _____

City: _____ State/Province: _____ Zip/Postal Code: _____

Phone: (____) _____

Page Number: _____

Location on page (chapter, section, paragraph) (e.g. 2.1, paragraph 3): _____

Comments: _____

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