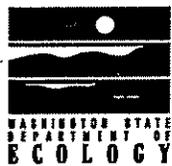


# Northwest Area Committees

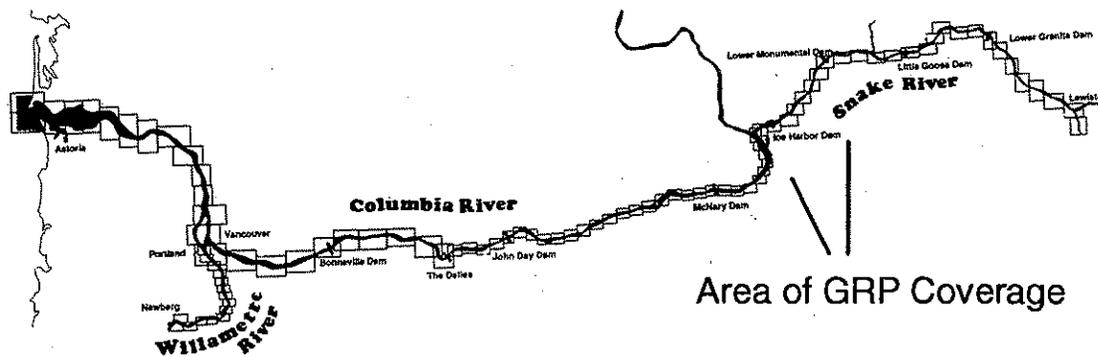
Puget Sound Area Committee

Portland Area Committee

Inland Area Committee

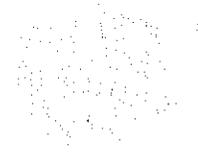
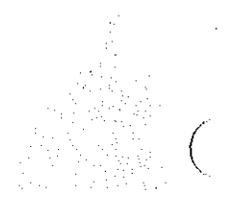
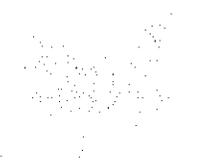


## Snake River ICE HARBOR POOL AREA GEOGRAPHIC RESPONSE PLAN (GRP)



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

Handwritten text, possibly a title or header, located in the upper middle section of the page. The text is faint and difficult to decipher.



A faint horizontal line of text or a signature located near the bottom center of the page.



# **Snake River Ice Harbor 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. 95-261*

*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).*

Handwritten text, possibly a title or header, located at the top center of the page. The text is faint and difficult to read.

(

(

(



## HOW TO USE THIS GEOGRAPHIC RESPONSE PLAN

### Purpose of Geographic Response Plan (GRP)

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

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

### Strategy Selection

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

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

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

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

### On Scene

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

### Standardized Response Language

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

### Response Equipment

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





**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 Ice Harbor Lock & Pool ..... 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) ..... 4-18

**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 Restriction Zones ..... 6-3

    6.4 Hazing ..... 6-4

    Salmonid Migration Chart..... 6-5

    6.5 Flight Restriction Zones/ Sensitive Wildlife: Maps & Matrices..... 6-6

    6.6 Downstream Users/Water Intakes ..... 6-48

**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**

**Ice Harbor Lock & Dam Map..... 2-4**  
**Ice Harbor Pool Strategy Key Map..... 3-1**  
**Proposed Booming and Collection Strategies Map: Matthews Range to Lower Monumental ..... 4-5**  
**Proposed Booming and Collection Strategies Map: RM 34 to Windust Rec Area ..... 4-7**  
**Proposed Booming and Collection Strategies Map: Sheffler to RM 33..... 4-9**  
**Proposed Booming and Collection Strategies Map: Votaw to Snake River Junction ..... 4-11**  
**Proposed Booming and Collection Strategies Map: Fishhook Rec Area to RM 21 ..... 4-13**  
**Proposed Booming and Collection Strategies Map: Levey Rec Area to RM 18 ..... 4-15**  
**Proposed Booming and Collection Strategies Map: Ice Harbor Dam to Charbonneau Rec ..... 4-17**  
**Wildlife Resources Map: Matthews Range to Lower Monumental Dam..... 6-7**  
**Fish Resources Map: Matthews Range to Lower Monumental Dam ..... 6-9**  
**Cultural and Recreational Sites Map: Matthews Range to Lower Monumental Dam ..... 6-11**  
**Wildlife Resources Map: RM 34 to Windust Rec Area..... 6-13**  
**Fish Resources Map: RM 34 to Windust Rec Area ..... 6-15**  
**Cultural and Recreational Sites Map: RM 34 to Windust Rec Area ..... 6-17**  
**Wildlife Resources Map: Sheffler to RM 33..... 6-19**  
**Fish Resources Map: Sheffler to RM 33 ..... 6-21**  
**Cultural and Recreational Sites Map: Sheffler to RM 33 ..... 6-23**  
**Wildlife Resources Map: Votaw to Snake River Junction ..... 6-25**  
**Fish Resources Map: Votaw to Snake River Junction..... 6-27**  
**Cultural and Recreational Sites Map: Votaw to Snake River Junction ..... 6-29**  
**Wildlife Resources Map: Fishhook Rec Area to RM 21 ..... 6-31**  
**Fish Resources Map: Fishhook Rec Area to RM 21 ..... 6-33**  
**Cultural and Recreational Sites Map: Fishhook Rec Area to RM 21 ..... 6-35**  
**Wildlife Resources Map: Levey Rec Area to RM 18 ..... 6-37**  
**Fish Resources Map: Levey Rec Area to RM 18..... 6-39**  
**Cultural and Recreational Sites Map: Levey Rec Area to RM 18..... 6-41**

**Table of Figures (continued)**

**Wildlife Resources Map: Ice Harbor Dam to Charbonneau Rec..... 6-43**  
**Fish Resources Map: Ice Harbor Dam to Charbonneau Rec ..... 6-45**  
**Cultural and Recreational Sites Map: Ice Harbor Dam to Charbonneau Rec..... 6-47**

**Table of Tables**

**Proposed Booming and Collection Strategies Matrix: Matthews Range to Lower Monumental Dam4-4**  
**Proposed Booming and Collection Strategies Matrix: RM 34 to Windust Rec Area..... 4-6**  
**Proposed Booming and Collection Strategies Matrix: Sheffler to RM 33..... 4-8**  
**Proposed Booming and Collection Strategies Matrix: Votaw to Snake River Junction ..... 4-10**  
**Proposed Booming and Collection Strategies Matrix: Fishhook Rec Area to RM 21 ..... 4-12**  
**Proposed Booming and Collection Strategies Matrix: Levey Rec Area to RM 18 ..... 4-14**  
**Proposed Booming and Collection Strategies Matrix: Ice Harbor to Charbonneau Rec ..... 4-16**  
**Salmonid Migration Chart ..... 6-5**  
**Wildlife Resources Matrix: Matthews Range to Lower Monumental Dam..... 6-6**  
**Fish Resources Matrix: Matthews Range to Lower Monumental Dam ..... 6-8**  
**Cultural and Recreational Sites Matrix: Matthews Range to Lower Monumental Dam ..... 6-10**  
**Wildlife Resources Matrix: RM 34 to Windust Rec Area..... 6-12**  
**Fish Resources Matrix: RM 34 to Windust Rec Area ..... 6-14**  
**Cultural and Recreational Sites Matrix: RM 34 to Windust Rec Area ..... 6-16**  
**Wildlife Resources Matrix: Sheffler to RM 33..... 6-18**  
**Fish Resources Matrix: Sheffler to RM 33 ..... 6-20**  
**Cultural and Recreational Sites Matrix: Sheffler to RM 33 ..... 6-22**  
**Wildlife Resources Matrix: Votaw to Snake River Junction ..... 6-24**  
**Fish Resources Matrix: Votaw to Snake River Junction..... 6-26**  
**Cultural and Recreational Sites Matrix: Votaw to Snake River Junction ..... 6-28**  
**Wildlife Resources Matrix: Fishhook Rec Area to RM 21 ..... 6-30**  
**Fish Resources Matrix: Fishhook Rec Area to RM 21 ..... 6-32**  
**Cultural and Recreational Sites Matrix: Fishhook Rec Area to RM 21 ..... 6-34**  
**Wildlife Resources Matrix: Levey Rec Area to RM 18 ..... 6-36**  
**Fish Resources Matrix: Levey Rec Area to RM 18..... 6-38**

**Table of Tables (continued)**

**Cultural and Recreational Sites Matrix: Levey Rec Area to RM 18 ..... 6-40**  
**Wildlife Resources Matrix: Ice Harbor Dam to Charbonneau Rec..... 6-42**  
**Fish Resources Matrix: Ice Harbor Dam to Charbonneau Rec ..... 6-44**  
**Cultural and Recreational Sites Matrix: Ice Harbor Dam to Charbonneau Rec ..... 6-46**

## Snake River/Ice Harbor 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 41 mile reach of the Ice Harbor Pool Area (from the confluence of the Snake and Columbia Rivers to the downstream side of the Lower Monumental Dam, including Lake Wallula and Lake Sacajawea) within the Snake River.

The Ice Harbor-Pool Area is divided into 7 subregions: S-7b, River Miles 39-42; S-7, River Miles 34-39; S-6, River Miles 28-33; S-5, River Miles 22-27; S-4, River Miles 19-21; S-3, River Miles 12-18; and S-2, River Miles 6-11.

Refer to Chapter 6 for detailed resource information.

### 2.1. Physical Features

The Ice Harbor Lock and Hydroelectric Dam Project is located approximately 10 miles upstream from the mouth of the river, and the Lower Monumental Lock and Hydroelectric Dam Project is located at the east end of the pool area. Ice Harbor Pool, also known as Lake Sacajawea, is 32 miles long and contains approximately 9,200 surface acres. The dam is 2,790 feet long at the crest, with a 610 foot long spillway (see page 2-4 for map of dam).

Mainstem, side channel, and island shorelines within the 7 subregions of the Ice Harbor Pool Area may include the following habitat types:

- Exposed rocky headlands
- 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 will.

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).

Numerous small creeks empty into the Snake River in the Ice Harbor Pool Area.

### **2.3. Currents and Tides**

As this GRP includes the Lower Snake River area, there are no tidally influenced areas. Also, the Ice Harbor 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 Ice Harbor Pool comes from the Snake River after having passed through the Lower Granite, Little Goose and Lower Monumental Dams. 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**

The Union Pacific 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 the rail line include:

- 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

Lake Sacajawea

North Shore Access Road

To Pasco  
12 miles



Navigation Lock

Fish Ladder

Hazardous Area

Powerhouse

Fish Ladder

Lake Wallula

flow

Restricted Area

# Visitor Center and Fish Viewing



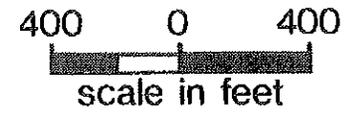
Indian Memorial



To Charbonneau Park  
(1.5 miles)

South Shore Access Road

To HWY 124  
(2.7 miles)



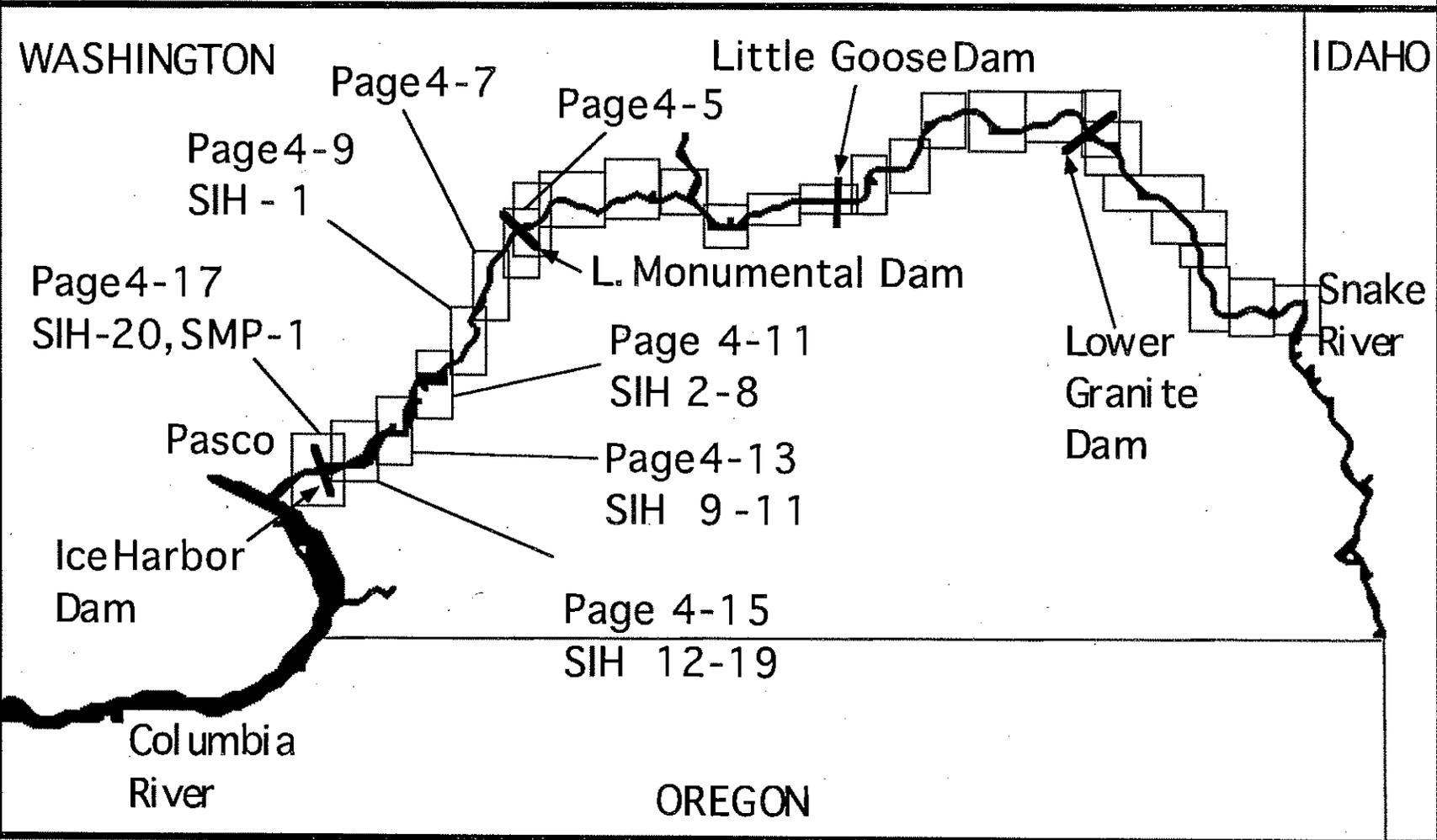
LOWER SNAKE RIVER/ICE HARBOR POOL AREA GRP

# ICE HARBOR POOL KEY MAP

## 3.0 Reference Map

This map lists all response strategies for Ice Harbor Pool

Refer to Section 4.2 for Priorities and Section 4.3 for strategies



3-1

January 1, 1997

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 Ice Harbor 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 two strategies for this section of the Snake River which rank highest in importance. **Note that these priorities may change at any time during a spill based on prevailing conditions and resource agency input.**

Intent is to protect downstream and particularly vulnerable resources			
SOURCE OF OIL: Upstream end of pool			
PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
BOOMING PRIORITIES			
1	SIH-20	4-17	Protect fish structures/resources in lower pools
1	SIH-5	4-11	Lost Island HMU
2	SIH-3	4-11	Hollobeke HMU
2	SIH-12/13/15	4-15	Dalton Lake/Big Flat HMU
3	SIH-16	4-15	Levey Recreation Area

This Page Left Blank

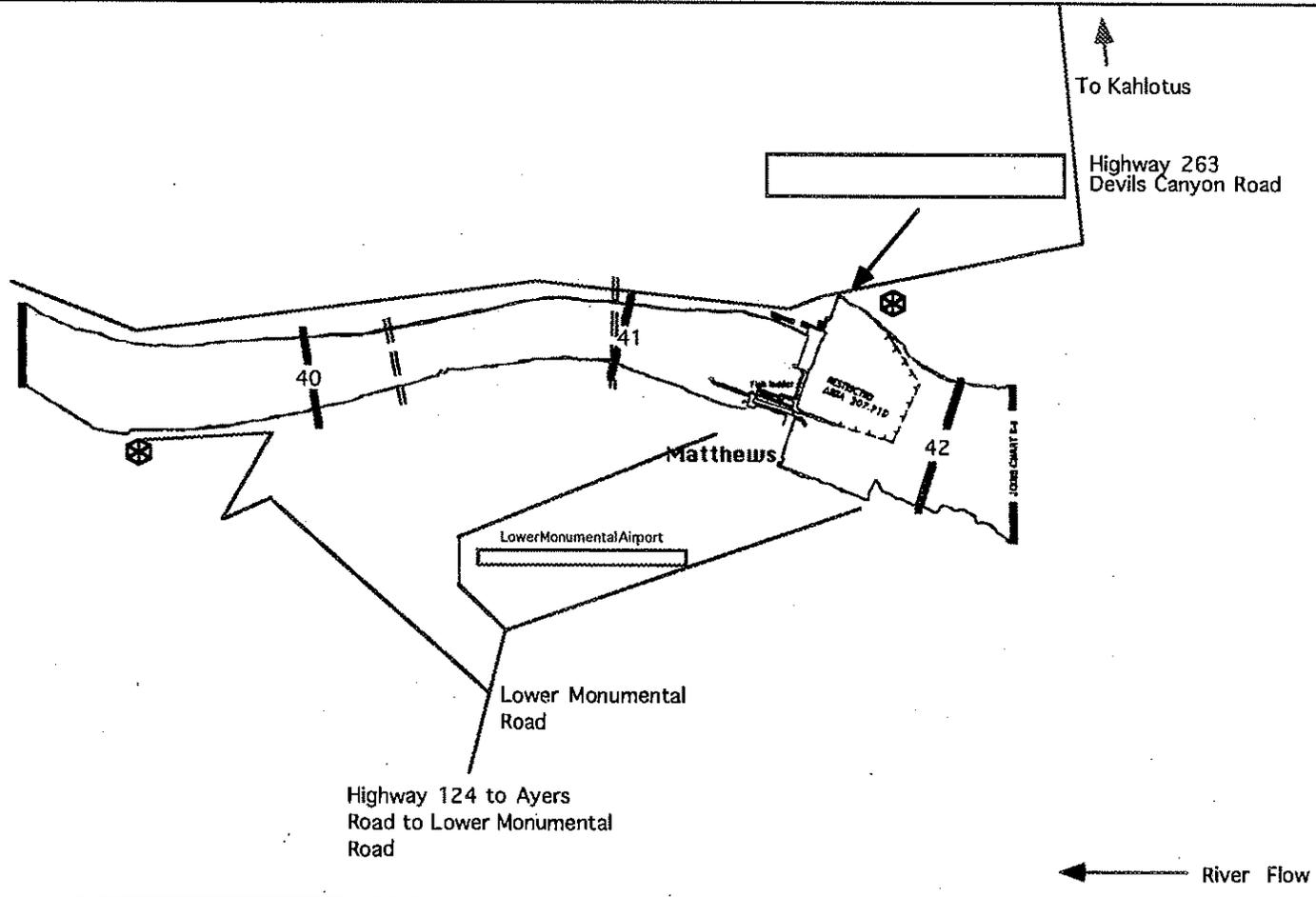
4.3 Maps & Matrices								
MATTHEWS RANGE TO LOWER MONUMENTAL DAM BOOMING AND COLLECTION STRATEGIES								
Snake River Miles 39 - 42								
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
<b>BOOMING STRATEGIES</b>								
			None Identified					
<b>SKIMMING STRATEGIES</b>								
			None Identified					

# ICE HARBOR DAM POOL - RM 39-42 - MATTHEWS RANGE TO LOWER MONUMENTAL DAM

## PROPOSED BOOMING AND COLLECTION STRATEGIES

\*\*\* Strategies not drawn to scale \*\*\*

-  Boom
-  Boat Launch
-  Town or City
-  Road
-  Power Line
-  40
-  River Mile



## RM 34 BELOW BURR CANYON TO WINDUST RECREATIONAL AREA BOOMING AND COLLECTION STRATEGIES

Snake River Miles 34 - 39

River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
<b>BOOMING STRATEGIES</b>								
			None Identified					
<b>SKIMMING STRATEGIES</b>								
			None Identified					

## SHEFFLER TO RM 33 PROPOSED BOOMING AND COLLECTION STRATEGIES

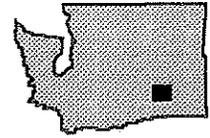
Snake River Miles 28 - 33

River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
<b>BOOMING STRATEGIES</b>								
30	SIH-1	46 25 42.59 118 S 162 Walker Canyon (RM 30-31); south of Markers "48" & "50"	Deflection; Exclusion	600' (3) 200' plus 50' sorbents/sweep	Angle boom in series on south shore to deflect into current. Close off both culverts (one upstream of grain elevator, one downstream) with sorbent pads on both sides of pipe.	Windust Recreation Area upstream - boat ramp, parking, shelters, restroom; Matthews Launch boat ramp, boat dock, restroom	Windust Recreation Area boat ramp (COE); Matthews Boat Ramp; Burr Canyon Road goes to site	Walker Canyon Habitat Management Unit; waterfowl concentrations; side canyon habitat. Two ponds behind culverts - upstream pond is more valuable.

# ICE HARBOR DAM POOL - RM 34-39 - BELOW BURR CANYON TO WINDUST PROPOSED BOOMING AND COLLECTION STRATEGIES

\*\*\* Strategies not drawn to scale \*\*\*

 Boom  
 Boat Launch  Town or City  Road  36  River Mile



WASHINGTON

*Boat Ramp*

Burr Canyon

To Pasco-Kahlotus Road

Burr Canyon Road

Windust Recreation Area

Farrington

36

37

38

Scott

To Lower Monumental Road

34

35

39

4-7

← River Flow

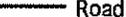
SNAKE RIVER/ICE HARBOR POOL GRP

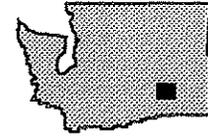
January 1, 1997

# ICE HARBOR DAM POOL - RM 28-33 - SHEFFLER TO MILE 33

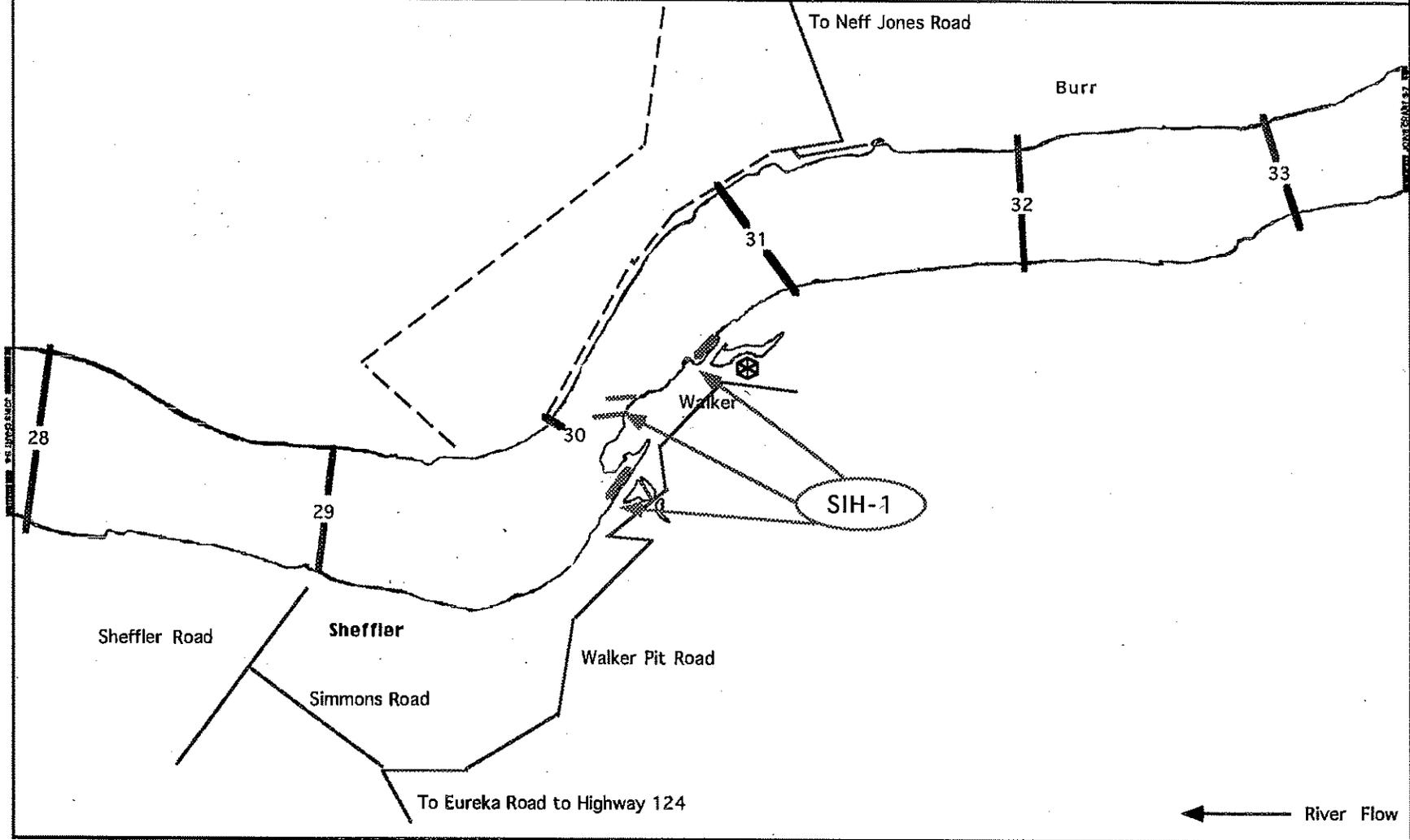
## PROPOSED BOOMING AND COLLECTION STRATEGIES

\*\*\* Strategies not drawn to scale \*\*\*

-  Boom
-  Boat Launch
-  Town or City
-  Road
-  Primitive Road
-  30 River Mile



WASHINGTON

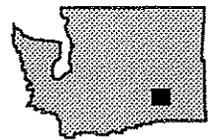


VOTAW RM 22 TO SNAKE RIVER JUNCTION RM 27 PROPOSED BOOMING AND COLLECTION STRATEGIES								
Snake River Miles 22 - 27								
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
<b>BOOMING STRATEGIES</b>								
25	SIH-2	46 22 46.75 18 41 21.44 Holobeke Habitat Management Unit	Deflection	300'	Angle deflection boom to direct oil into channel		Road access: C.M.Rice Rd. off 124	Waterfowl concentrations; Holobeke HMU water intake
25	SIH-3	46 22 23.97 118 41 22.65 Holobeke Habitat Management Unit	Exclusion	200'	Close off small inlet, anchoring boom inside mouth near sand spit		Road access: C.M.Rice Rd. off 125	Waterfowl concentrations; Holobeke HMU water intake (pump station inside inlet)
24	SIH-5	46 21 53.65 118 42 47.49 Lost Island Habitat Management Unit	Exclusion/ Deflection	200'; 300'; up to 4,000' sorbent sweep	Deploy 200' inside inlet to protect inner riparian habitat. Deploy 300' along one of several points upstream from inlet to deflect oil into current. Line shoreline with sweep to protect riparian habitat. Shut off water intake.		By boat	High priority riparian habitat; Lost Island Habitat Management Unit water intake
24	SIH-6	46 22 ' Lost Island Habitat Management Unit	Exclusion	50' sorbent materials	Exclude oil from small pond by blocking front and rear culvert opening with sorbent materials		Votaw Road (off McClenny Road)	2-3 acre pond; riparian habitat
	SIH-7	Lost Island Habitat Management Unit - downstream end	Exclusion	50' sorbent materials	Exclude oil from pond by blocking front and rear culvert opening with sorbent materials		By boat	10 acre pond; trees/good riparian habitat at upper end
<b>SKIMMING STRATEGIES</b>								
24	SIH-4	River Mile 24	Collection		Use portable skimmers in open water; natural collection/quiet water area		By boat; Fishhook HMU boat ramp down stream	Downstream resources
22	SIH-8	East of "The Narrows"	Collection		Use portable skimmers		Boat access from Fish Hook boat ramp	Downstream resources

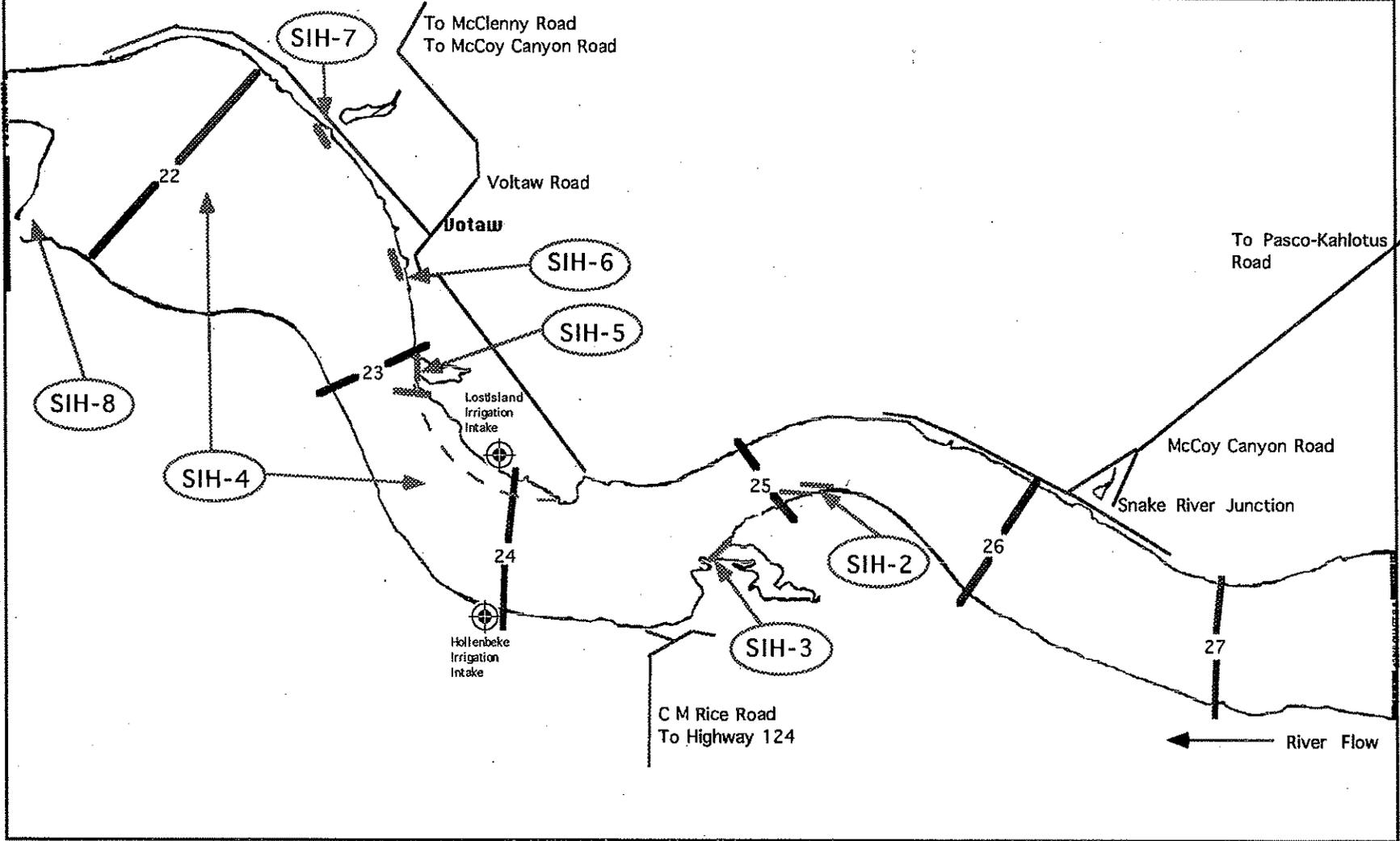
# ICE HARBOR DAM POOL - RM 22-27 - VOTAW TO SNAKE RIVER JUNCTION PROPOSED BOOMING AND COLLECTION STRATEGIES

\*\*\* Strategies not drawn to scale \*\*\*

 Boom  
 Boat Launch  
 Town or City  
 Irrigation Intake  
 Roads  
 25 River Mile



WASHINGTON

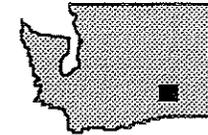


FISHHOOK RECREATIONAL AREA TO RM 21 BOOMING AND COLLECTION STRATEGIES								
Snake River Miles 19 - 21								
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
<b>BOOMING STRATEGIES</b>								
19	SIH-9	Mouth of Lake Edna	Exclusion	150' sorbent	Use 50' sorbent to block front and rear openings of each of 3 culverts	Fishhook Park - camping, shelters, boat launch, parking	Access from Murphy Road; by boat from Fishhook Recreation Area	Lake Edna; 19 Mile Habitat Management Unit
19	SIH-10	46 19 5.82 118 45 53.95 Fishhook Recreation Area - Marker "12"	Exclusion	600'	Run boom along front of dock and extend over to west point	Fishhook Park - camping, shelters, boat launch, parking	Fishhook Road; boat launch at Fishhook Recreation Area	Public recreation site; water intake
18	SIH-11	Fishhook Habitat Management Unit	Exclusion	50' sorbent	Block front and rear openings of culvert	Fishhook Park - camping, shelters, boat launch, parking	Fishhook Road; boat launch at Fishhook Recreation Area	Pond within Fishhook Habitat Management Unit
<b>SKIMMING STRATEGIES</b>								
			None identified					

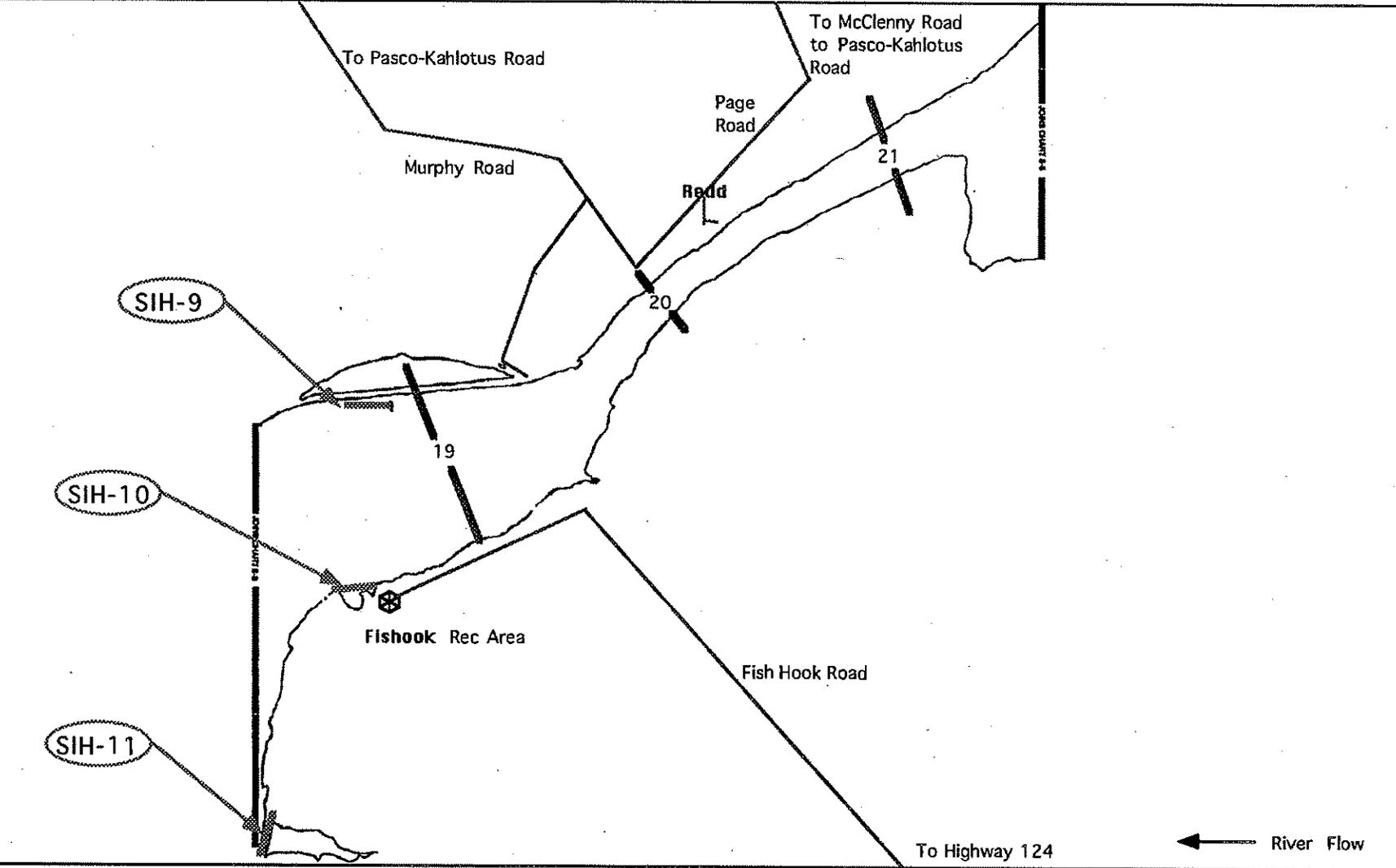
# ICE HARBOR DAM POOL - RM 19-21 - FISHOOK RECREATION AREA TO MILE 21 PROPOSED BOOMING AND COLLECTION STRATEGIES

\*\*\* Strategies not drawn to scale.\*\*\*

 Boom  
 Boat Launch  Town or City



WASHINGTON

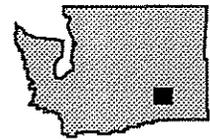


LEVEY RECREATIONAL AREA TO RM 18 PROPOSED BOOMING AND COLLECTION STRATEGIES								
Snake River Miles 12 - 18								
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
<b>BOOMING STRATEGIES</b>								
17	SIH-12	46 18 13.58 118 46 18.96 Side Channel upstream from Dalton Lake	Exclusion	500'	Close off side channel		By boat	Waterfowl concentrations; Big Flat Habitat Management Unit intake (approx. 5' depth)
16	SIH-13	Big Flat Habitat Management Unit east of water intake	46 17 32.04 118 46 39.08 Deflection	200'	Deflect off point east of water intake	Big Flat Habitat Management Unit	Big Flat Habitat Management Unit road goes to site	Good shaded riparian zone; Big Flat HMU intake (approx. 5' depth)
15	SIH-14	Big Flat Habitat Management Unit; Mouth of Dalton	46 17 34.52 118 48 14.4 Exclusion	50' sorbent	Close off screened culvert by blocking front and back opening with sorbent		Access from Herman Rd.; Dalton Lake boat launch	Waterfowl concentrations; wetland; lake habitat
14	SIH-15	Big Flat Habitat Management Unit westernmost inlet	46 17 30.09 118 48 59.14 Exclusion	400'	Close off inner part of inlet	Levey Park - boat ramp, shelters	By boat from Levey Park	Good riparian habitat toward interior of inlet
13	SIH-16	Levey Recreation Area - Marker "5"	46 16 20. 118 49 38.53 Exclusion; Collection/ Deflection	(2) 300'; sorbents	Plug joints of swimming beach dock (which extends 18" under water) with sorbents. Angle 300' to deflect oil in easternmost embayment for collection; close off next inlet to west with 300' exclusion.	Levey Park - boat ramp, shelters; Charbonneau Park camping, boat ramp, shelters	Road to Levey Park off Pasco-Kahlotus Road; Levey Park boat launch	Levey Habitat Management Unit intake; Levey Park swimming beach
13	SIH-17	Anchor Bay - across from Levey Park	Deflection/ Collection	300'	Angle boom to deflect oil into inlet for collection by skimmers/vac trucks	Levey Park - boat ramp, shelters; Charbonneau Park shelters, boat ramp, camping	Rough road to shore; by boat from Levey Park	Downstream resources
11	SIH-18	Charbonneau Recreation Area - across river from Marker 3"	46 15 27.73 118 50 46.53 Exclusion	200'	Close off boat basin entrance	Charbonneau Recreation Area - camping, boat ramp, shelters.	Charbonneau Recreation Area - boat launch; Sun Harbor Road	Corps of Engineers marina; public recreation area
11	SIH-19	Entrance to Lake Charlene Habitat Management Unit	46 15 55.13 118 51 0.17 Exclusion	100'	Close off opening in front of railroad trestle	Charbonneau Recreation Area - camping, boat ramp, shelters.	By boat from Charbonneau Recreation Area boat launch	Lake Charlene Habitat Management Unit

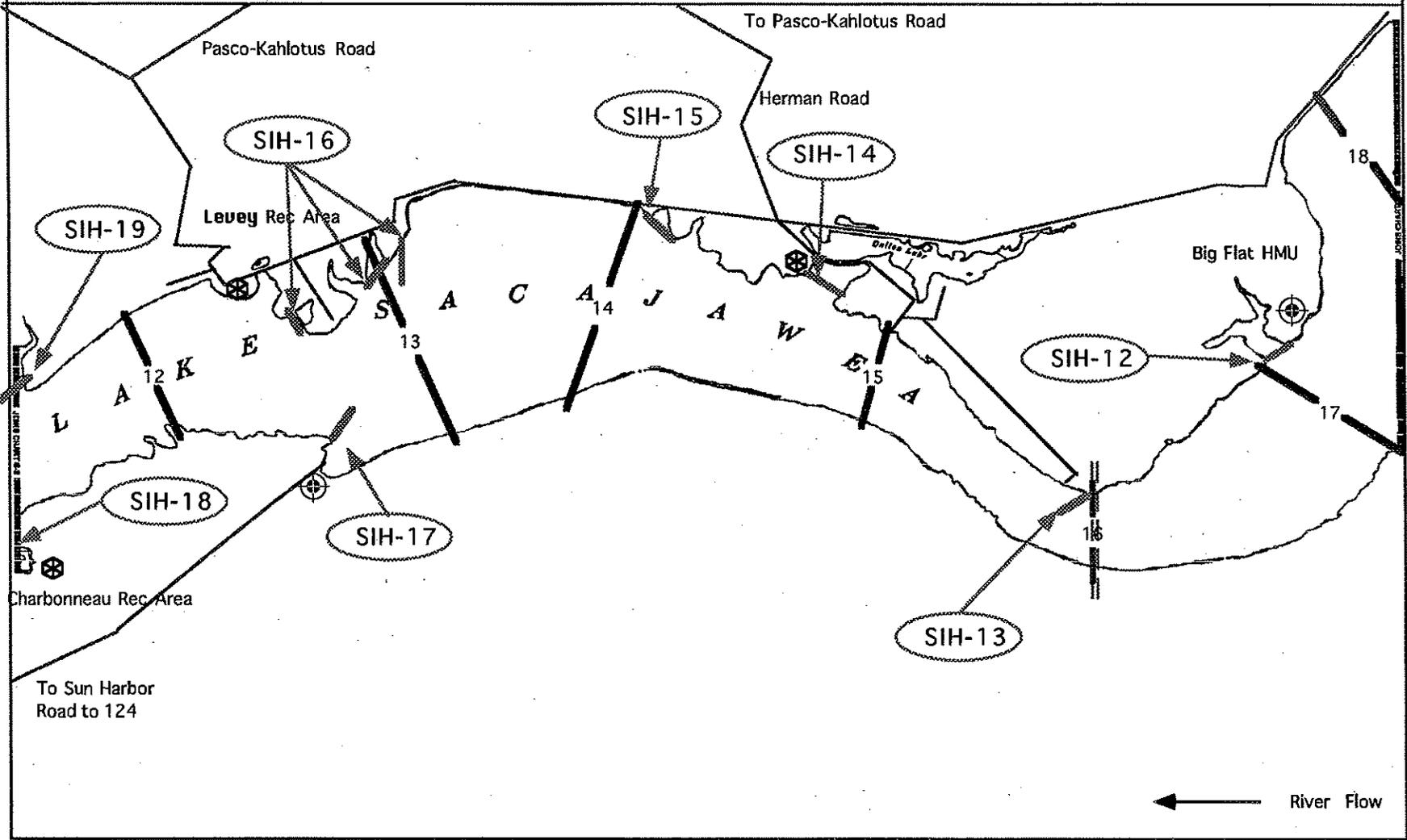
# ICE HARBOR DAM POOL - RM 12-18 - LEVEY RECREATIONAL AREA TO RM-18 PROPOSED BOOMING AND COLLECTION STRATEGIES

\*\*\* Strategies not drawn to scale \*\*\*

- Boom
- Boat Launch
- Town or City
- Irrigation Intake
- Road
- Power Line
- River Mile



WASHINGTON



ICE HARBOR DAM TO CHARBONNEAU REC AREA PROPOSED BOOMING AND COLLECTION STRATEGIES								
Snake River Miles 6-11								
River Mile	Strategy	Location	Response Strategy	Length and Type of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
<b>BOOMING STRATEGIES</b>								
13	SIH-18	Charbonneau Recreation Area - across river from Marker 3" <i>46 14 57.51</i>	Exclusion	200'	Close off boat basin entrance	Charbonneau Recreation Area - camping, boat ramp, shelters.	Charbonneau Recreation Area - boat launch; Sun Harbor Road	Corps of Engineers marina; public recreation area
10	SIH-20	Ice Harbor Dam <i>118 52 42.88</i>	Exclusion; collection	500'	Close off entrance to fish passage facilities; collect behind dam where possible (tends to accumulate on south shore)	Ice Harbor Dam	Ice Harbor Dam Road; North Shore Boat Ramp	Salmonid concentrations; downstream resources
Mid-Col. Rvr	SMP-1	Goose Island <i>46 14 39.01</i> <i>118 54 10.88</i>	Deflection	800'	Deflect away from goose nesting habitat at east end of island	Ice Harbor Dam; Tidewater Terminal; Hood Park	Ice Harbor Dam Road; Tidewater Terminal; Hood Park	Salmonid concentrations; downstream resources

River Cruising Atlas Chart S-2

4-17

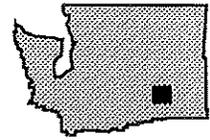
January 1, 1997

# ICE HARBOR DAM POOL - RM 6-11 - McNARY WILDLIFE MANAGEMENT AREA TO CHARBONNEAU REC AREA

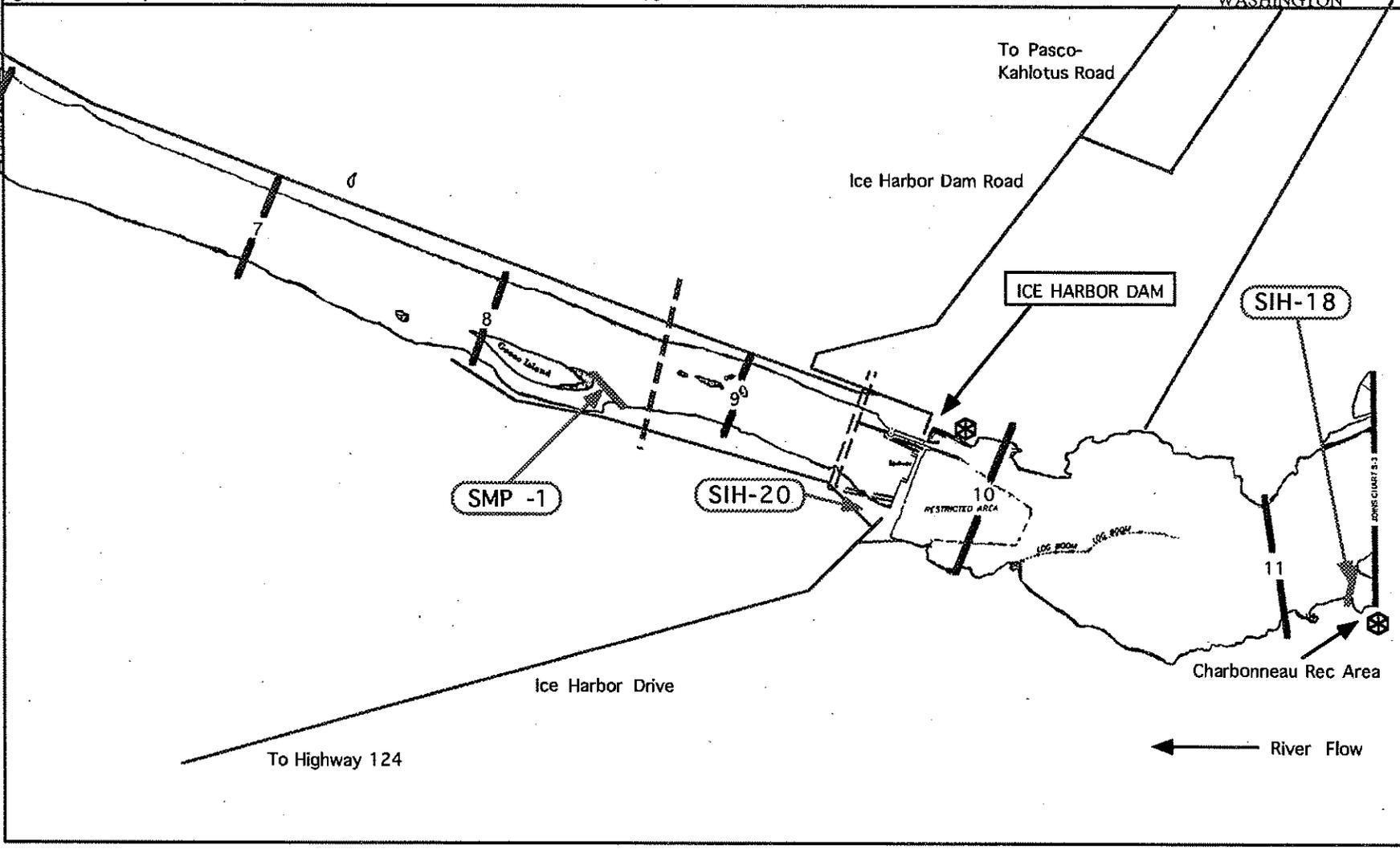
## PROPOSED BOOMING AND COLLECTION STRATEGIES

\*\*\* Strategies not drawn to scale \*\*\*

- Boom
- Boat Launch
- Town or City
- Road
- Power Line
- 10 River Mile



WASHINGTON



SLAKE RIVER/ICE HARBOR POOL GRP

Post-it® Fax Note	7671	Date	# of pages ▶
To	Scott ZIMMERMAN	From	DAVID MORA
Co./Dept.	SPILLS	Co.	
Phone #		Phone #	
Fax #		Fax #	

## 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.<sup>1</sup>

---

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

**5.2. Shoreline Maps**

*Not available at this time*

### 5.3. Oil Countermeasure Matrix

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

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

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

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 Ice Harbor Pool Area include (with river mile locations):

- Lake Charlene HMU - RM 12
- Charbonneau HMU - RM 12
- Levey HMU - RM 13
- Big Flat HMU - RM 15
- Quarter Circle HMU - RM 16
- Fish Hook HMU - RM 18
- 19 mile HMU - RM 19
- Lost Island HMU - RM 23
- Hollebeke HMU - RM 25
- Snake River Junction - RM 26
- Walker HMU - RM 30
- Couch Landing HMU - RM 32

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

#### **Waterfowl**

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

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

### **Raptors**

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

### **Aquatic Furbearers**

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

### **Other Wildlife**

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

### **Threatened and Endangered Species**

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

## **6.2. Fish**

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

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

### **Coho (Silver) Salmon**

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

### **Chinook (King) Salmon (Threatened Species)**

#### **Spring chinook:**

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

#### **Summer chinook:**

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

#### **Fall chinook:**

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

### **Sockeye Salmon (Endangered Species)**

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

### **Steelhead Trout**

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

### **Other Resident Fish**

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

### 6.3. Flight Restriction Zones/ Sensitive Wildlife

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

All aircraft, including those from the government, contractors or media, are expected to avoid these zones when restrictions are in effect. In the event that one of these zones must be entered during a spill response in the Ice Harbor 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 Ice Harbor 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	Ju	Jl	Aug	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

ICE HARBOR POOL WILDLIFE RESOURCES																				
Snake River Mile 39 - 42												PERIOD OF SENSITIVITY								
Code	Location	Seabird Colony	Seabird Conc	Waterfowl Conc	Marine Mammal Haulout	Sensitive Nesting Species	Shorebird Conc	Flight Exclusion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

**\* FLIGHT AND GROUND ENTRY RESTRICTIONS**

 Flights below 1000 feet require clearance

 Sensitive season - Minimize overflight disturbance

# ICE HARBOR DAM POOL - RM 39-42 - MATTHEWS RANGE TO LOWER MONUMENTAL DAM

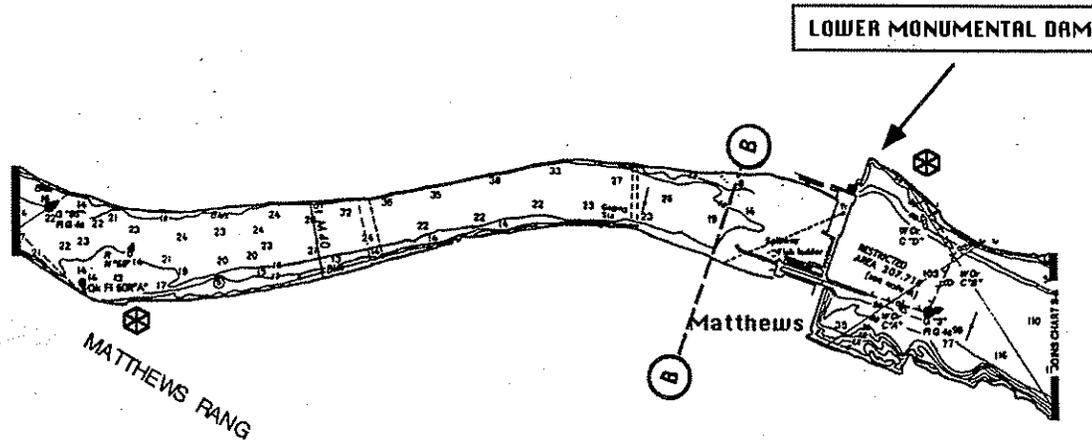
## FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

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

 Boat Launch  
  Town or City  
  Bird Concentration Area  
  Sensitive Species Nesting



WASHINGTON



SNAKE RIVER/ICE HARBOR POOL GRP

ICE HARBOR POOL FISHERY RESOURCES																				
Snake River Mile 39 - 42										PERIOD OF SENSITIVITY										
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FIH-		U	U	U	U	U	U													
FIH-		U	U	U	U	U	U													
FIH-		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

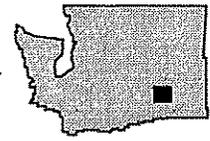
# ICE HARBOR DAM POOL - RM 39-42 - MATTHEWS RANGE TO LOWER MONUMENTAL DAM

## FISH RESOURCES

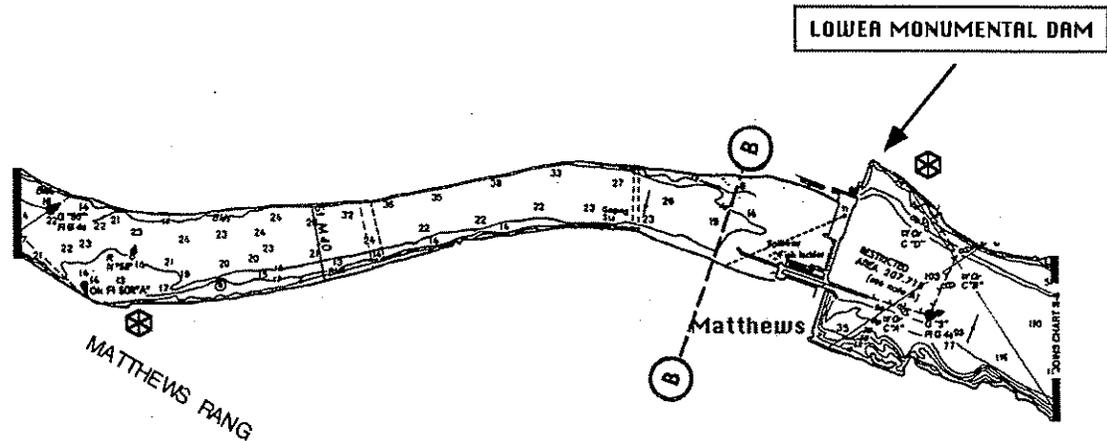
 Boat Launch
  Town or City
  Sensitive Fish Resources



N.



WASHINGTON



 River Flow

SNAKE RIVER/ICE HARBOR POOL GRP

ICE HARBOR POOL CULTURAL AND RECREATIONAL RESOURCES			
Snake River Mile 39 - 42			
	Location	Point of Interest	Degree of Use
CIH-	No resources areas identified		
CIH-			

# ICE HARBOR DAM POOL - FM 39-42 - MATTHEWS RANGE TO LOWER MONUMENTAL DAM

## CULTURAL AND RECREATIONAL RESOURCES

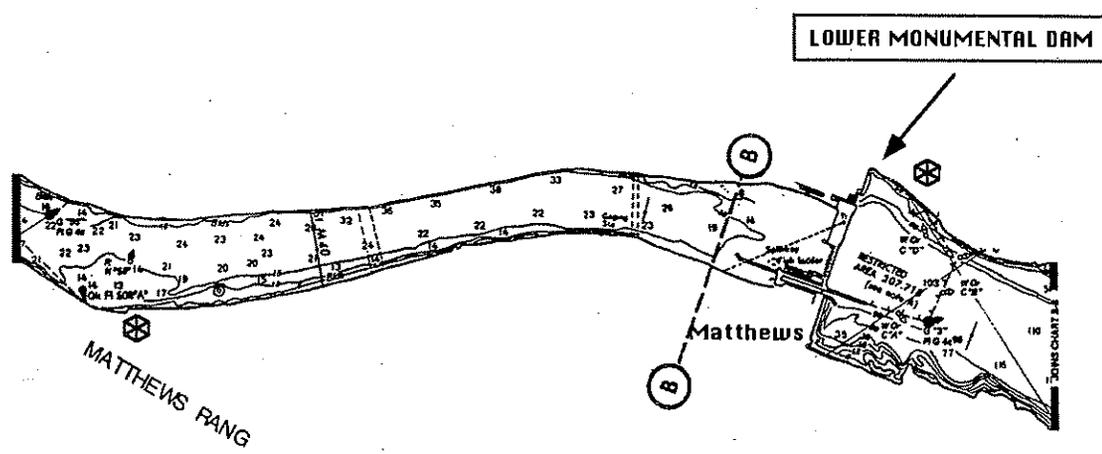
 Boat Launch  Town or City  Use Area



N



WASHINGTON



← River Flow

SNAKE RIVER/ICE HARBOR POOL GRP

ICE HARBOR POOL WILDLIFE RESOURCES																					
Snake River Mile 34 - 39										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	
WIH-1	Windust Rec Area			Yes		Yes		Yes	■	■	■	■	■	■	■				■		

**\* FLIGHT AND GROUND ENTRY RESTRICTIONS**

■ Flights below 1000 feet require clearance

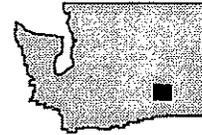
■ Sensitive season - Minimize overflight disturbance

# ICE HARBOR DAM POOL - RM 34-39 - BELOW BURR CANYON TO WINDUST

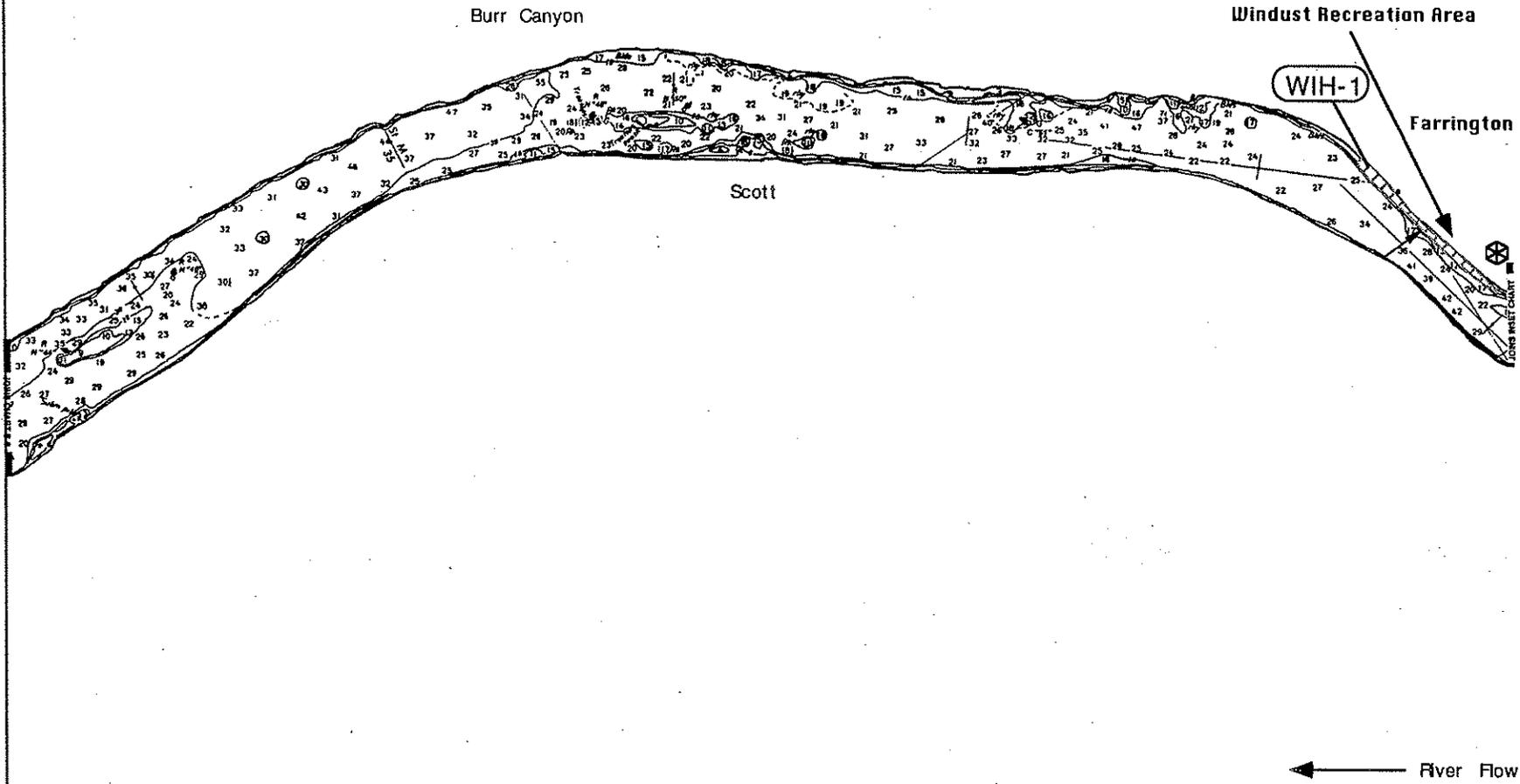
## FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

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

 Boat Launch  
  Town or City  
  Bird Concentration Area  
  Sensitive Species Nesting



WASHINGTON



ICE HARBOR POOL FISHERY RESOURCES																					
Snake River Mile 34 - 39		PERIOD OF SENSITIVITY																			
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
FIH-		U	U	U	U	U	U														
FIH-		U	U	U	U	U	U														
FIH-		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

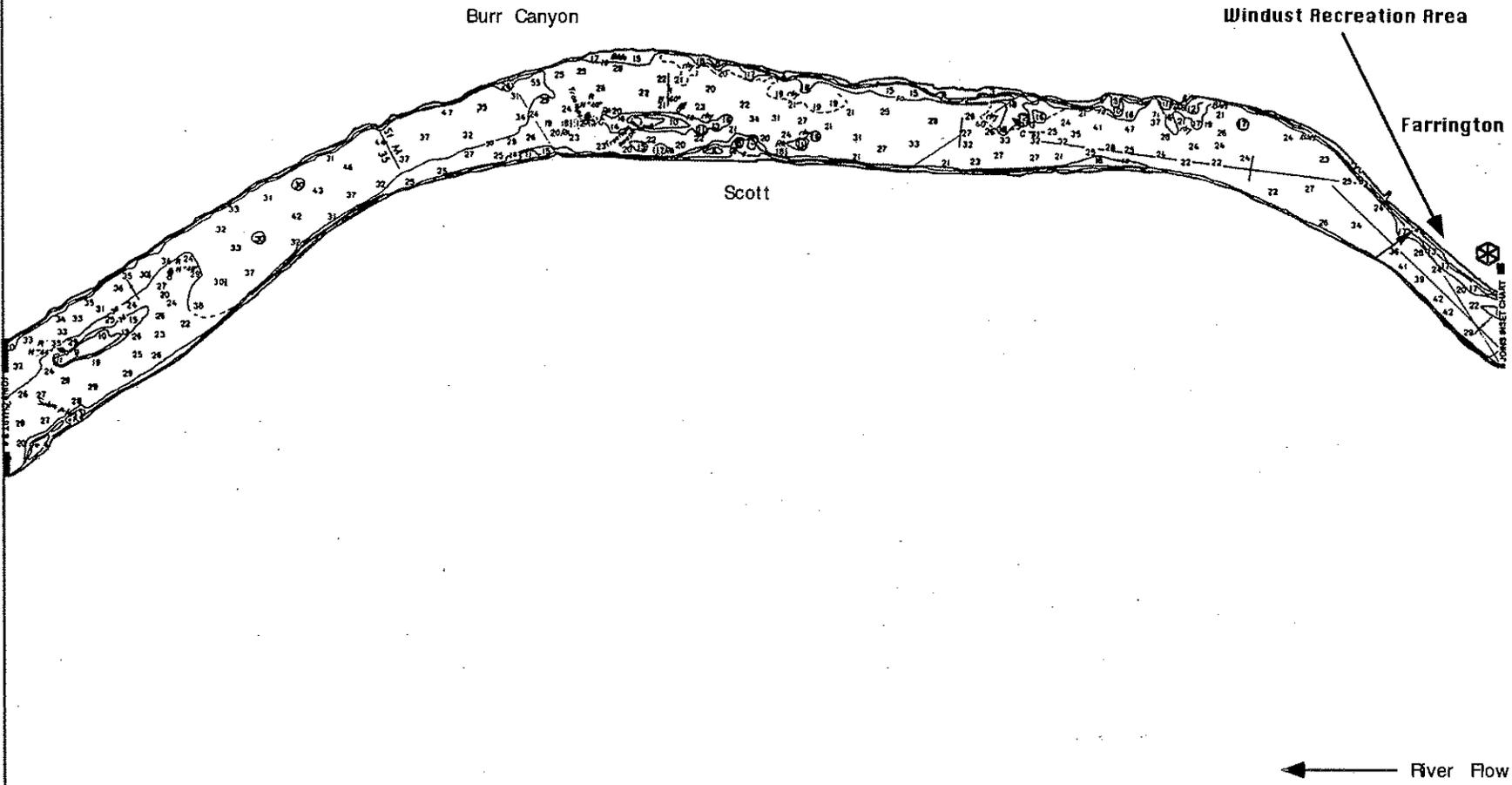
U - UNKNOWN

# ICE HARBOR DAM POOL - RM 34-39 - BELOW BURR CANYON TO WINDUST FISH RESOURCES

 Boat Launch  Town or City  Sensitive Fish Resources



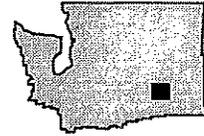
WASHINGTON



<b>ICE HARBOR POOL CULTURAL AND RECREATIONAL RESOURCES</b>			
Snake River Mile 34 -39			
<b>Code</b>	<b>Location</b>	<b>Point of Interest</b>	<b>Degree of Use</b>
CIH-	No resources areas identified		
CIH-			

# ICE HARBOR DAM POOL - RM 34-39 - BELOW BURR CANYON TO WINDUST

CULTURAL AND RECREATIONAL RESOURCES



WASHINGTON

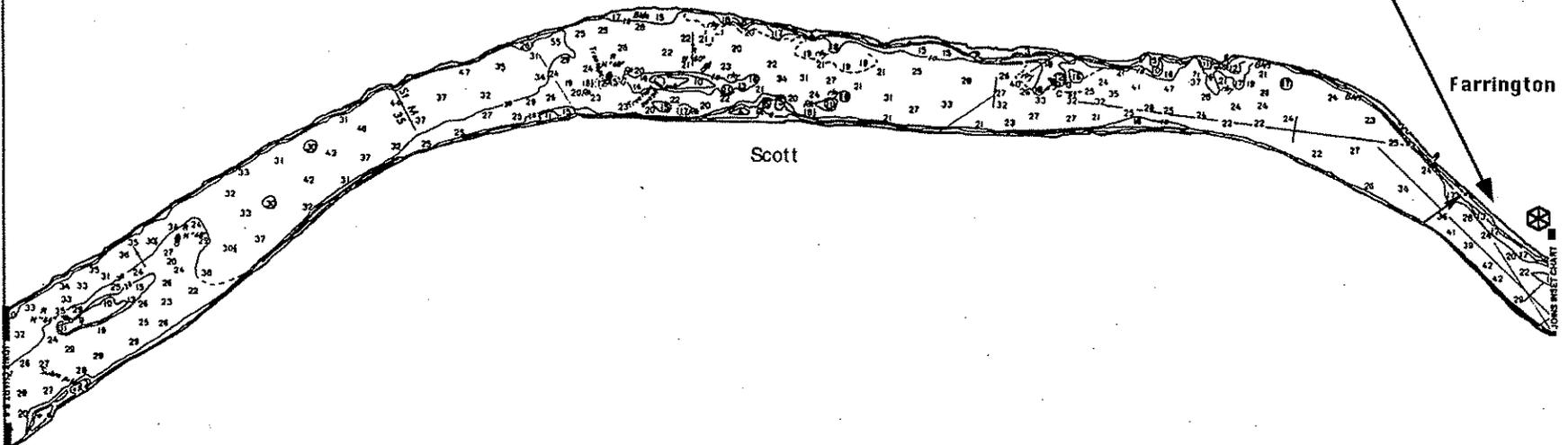
Boat Launch Town or City Use Area

Burr Canyon

Windust Recreation Area

Farrington

Scott



← River Flow

ICE HARBOR POOL WILDLIFE RESOURCES																				
Snake River Mile 28 - 33										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
WIH-2	Couch Landing HMU			Yes		Yes		Yes	■	■	■	■	■	■	■					■
WIH-3	Lake N of Walker			Yes		Yes		Yes	■	■	■	■	■	■	■					■
WIH-4	Walker Canyon Delta			Yes		Yes		Yes	■	■	■	■	■	■	■					■

**\* FLIGHT AND GROUND ENTRY RESTRICTIONS**

■ Flights below 1000 feet require clearance

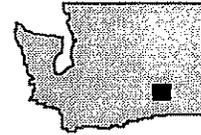
■ Sensitive season - Minimize overflight disturbance

# ICE HARBOR DAM POOL - RM 28-33 - SHEFFLER TO MILE 33

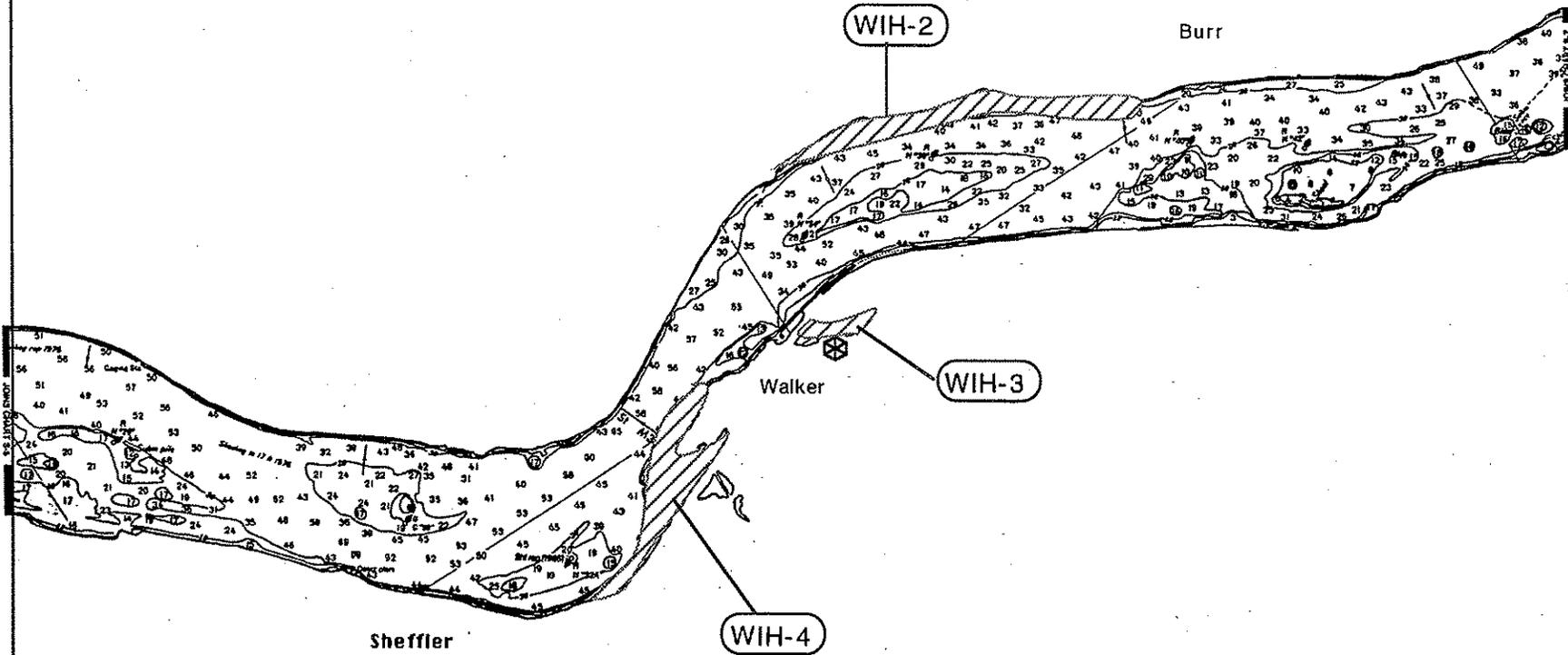
## FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

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

 Boat Launch  
  Town or City  
  Bird Concentration Area  
  Sensitive Species Nesting



WASHINGTON



← River Flow

ICE HARBOR POOL FISHERY RESOURCES																				
Snake River Mile 28 - 33										PERIOD OF SENSITIVITY										
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FIH-		U	U	U	U	U	U													
FIH-		U	U	U	U	U	U													
FIH-		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

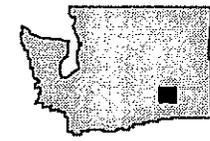
D - DEPRESSED

H - HEALTHY

U - UNKNOWN

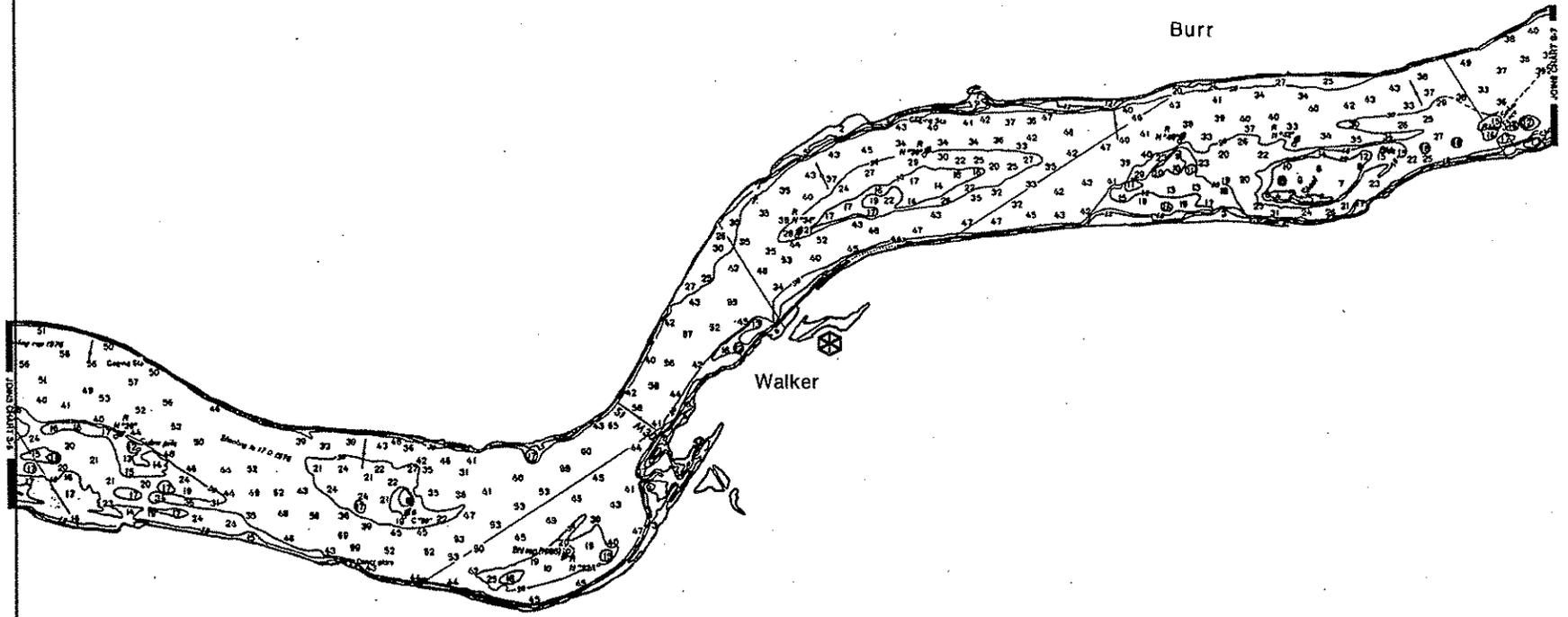
# ICE HARBOR DAM POOL - FM 28-33 - SHEFFLER TO MILE 33

## FISH RESOURCES



WASHINGTON

Boat Launch Town or City Sensitive Fish Resources

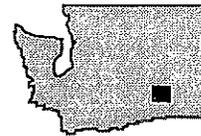


← River Flow

<b>ICE HARBOR POOL CULTURAL AND RECREATIONAL RESOURCES</b>			
Snake River Mile 28 - 33			
<b>Code</b>	<b>Location</b>	<b>Point of Interest</b>	<b>Degree of Use</b>
CIH-	No resources areas identified		
CIH-			

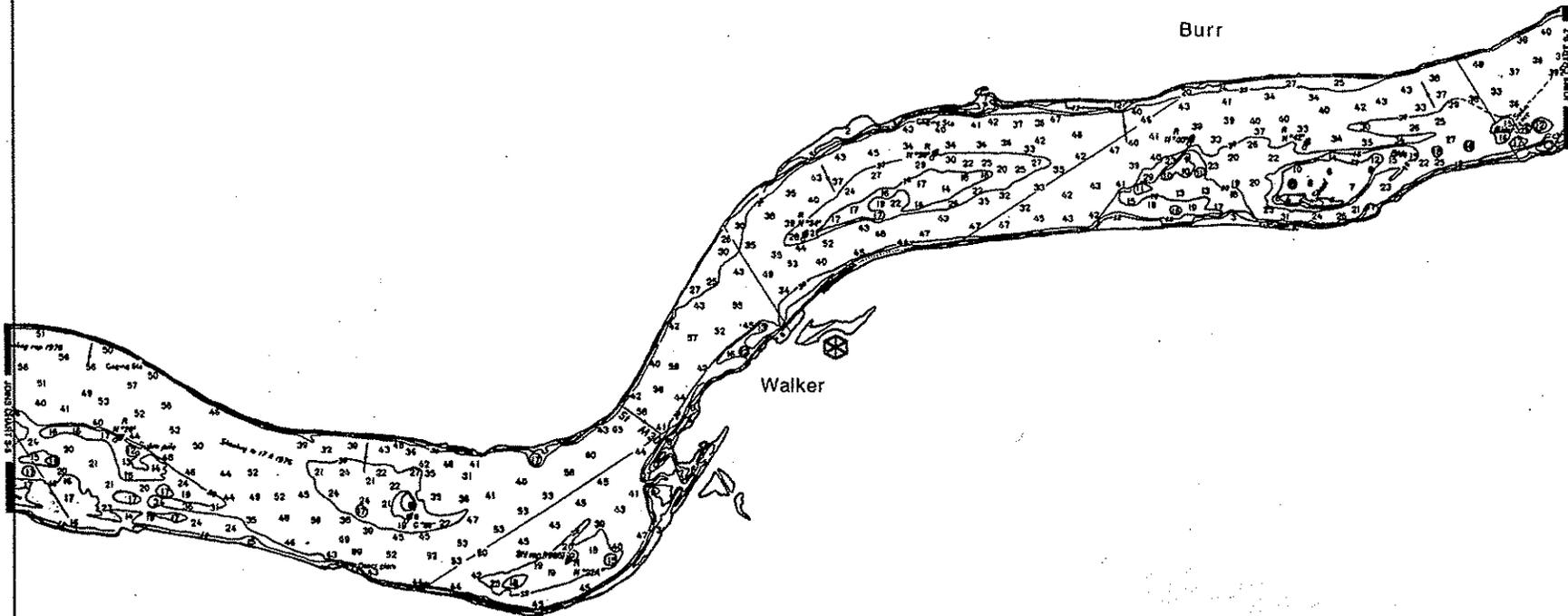
# ICE HARBOR DAM POOL - FM 28-33 - SHEFFLER TO MILE 33

## CULTURAL AND RECREATIONAL RESOURCES



WASHINGTON

Boat Launch Town or City Use Area



6-23

November 3, 1995

← River Flow

ICE HARBOR POOL WILDLIFE RESOURCES																					
Snake River Mile 22 - 27										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
WIH-5	Hollebake HMU			Yes		Yes		Yes													
WIH-6	Lost Island HMU			Yes		Yes		Yes													

**\* FLIGHT AND GROUND ENTRY RESTRICTIONS**

 Flights below 1000 feet require clearance

 Sensitive season - Minimize overflight disturbance

# ICE HARBOR DAM POOL - FM 22-27 - VOTAW TO SNAKE RIVER JUNCTION

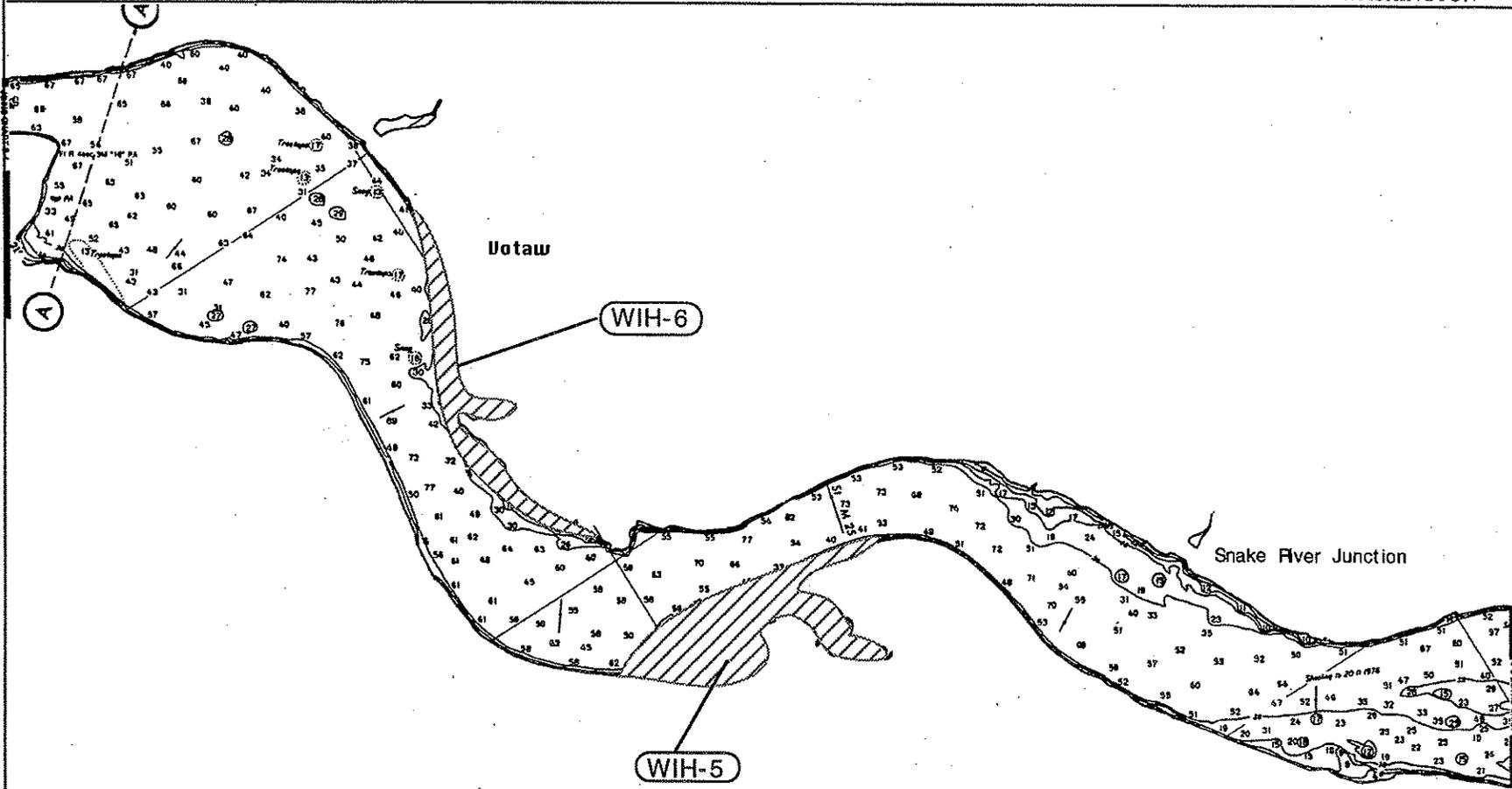
## FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

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

 Boat Launch 
  Town or City 
  Bird Concentration Area 
  Sensitive Species Nesting



WASHINGTON



← River Flow

ICE HARBOR POOL FISHERY RESOURCES																				
Snake River Mile 22 - 27										PERIOD OF SENSITIVITY										
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FIH-		U	U	U	U	U	U													
FIH-		U	U	U	U	U	U													
FIH-		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

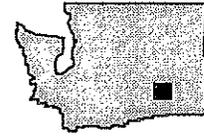
U - UNKNOWN

# ICE HARBOR DAM POOL - FM 22-27 - VOTAW TO SNAKE RIVER JUNCTION FISH RESOURCES

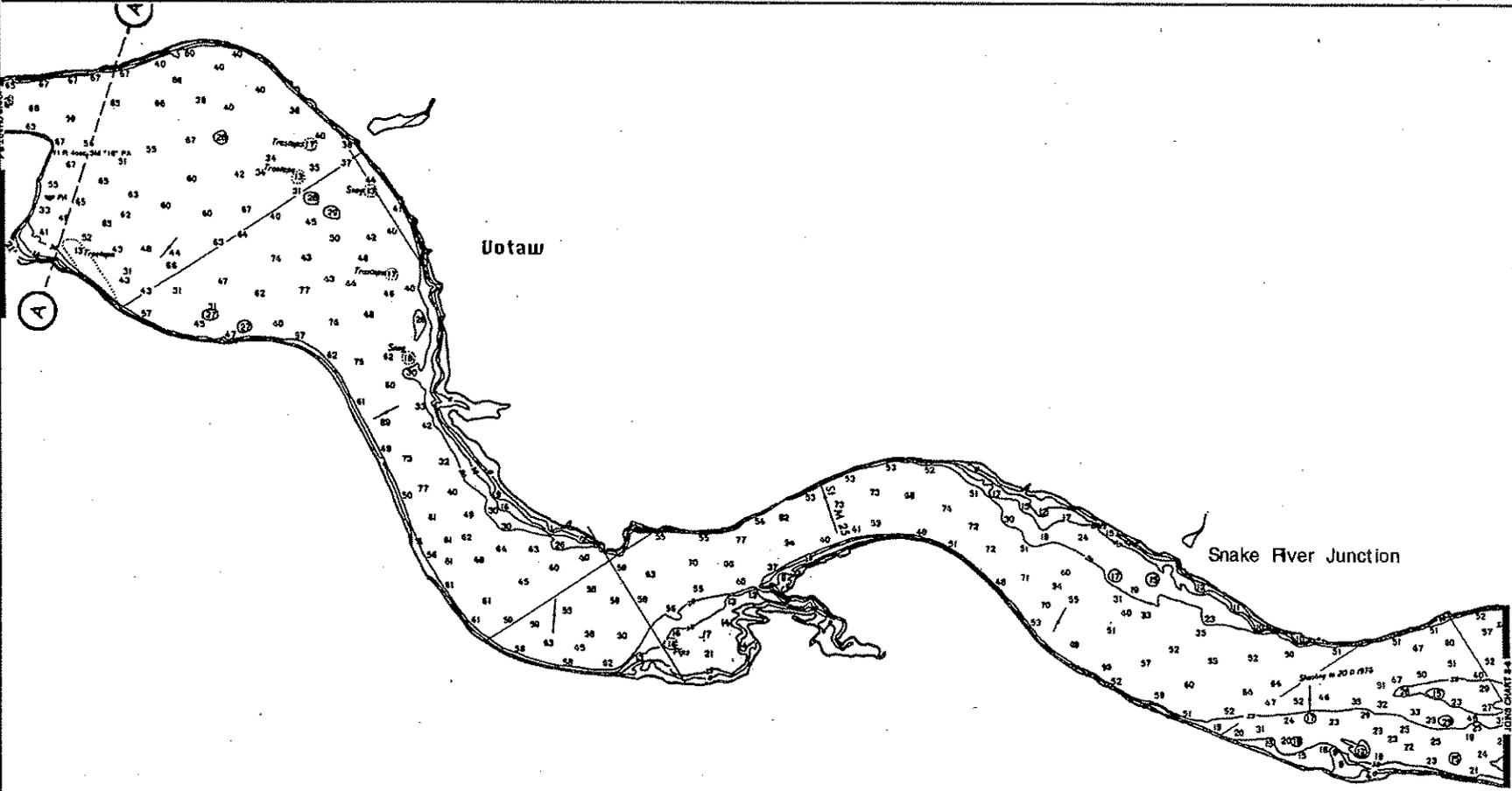
⊗ Boat Launch    ⚙ Town or City    [Stippled Box] Sensitive Fish Resources



N



WASHINGTON



← River Flow

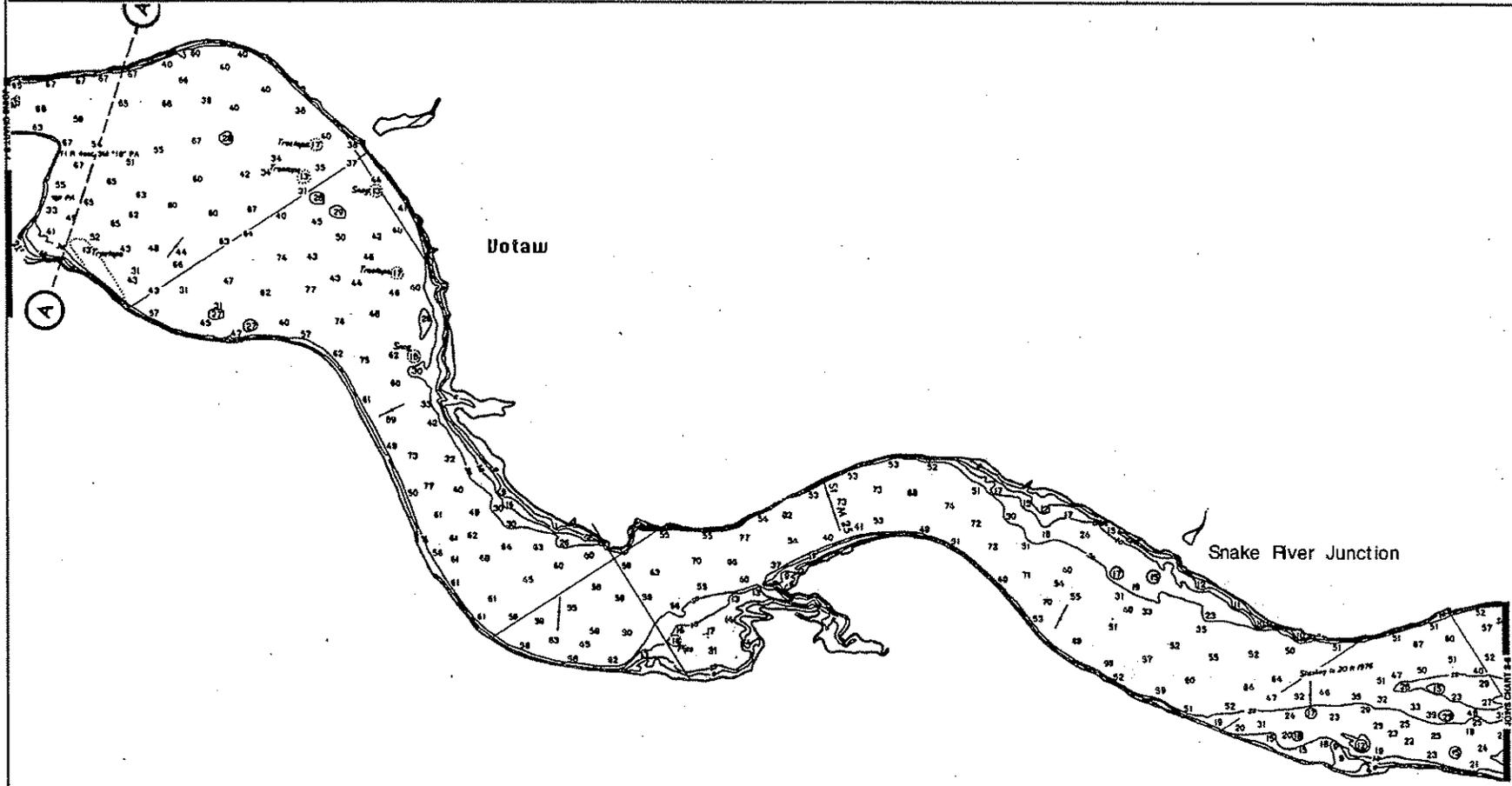
<b>ICE HARBOR POOL CULTURAL AND RECREATIONAL RESOURCES</b>			
Snake River Mile 22 - 27			
<b>Code</b>	<b>Location</b>	<b>Point of Interest</b>	<b>Degree of Use</b>
CIH-	No resources areas identified		
CIH-			

# ICE HARBOR DAM POOL - FM 22-27 - VOTAW TO SNAKE RIVER JUNCTION CULTURAL AND RECREATIONAL RESOURCES



WASHINGTON

⊗ Boat Launch    ⚙ Town or City    [ ] Use Area



← River Flow

ICE HARBOR POOL WILDLIFE RESOURCES																					
Snake River Mile 19 - 21										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
WIH-7	Lake, N shore, N of Fishook Rec area			Yes		Yes		Yes		■	■	■	■	■	■	■					■
WIH-8	Fishook Rec Area			Yes		Yes		Yes		■	■	■	■	■	■	■					■
WIH-9	Lake, S shore, S of Fishook Rec Area			Yes		Yes		Yes		■	■	■	■	■	■	■					■

**\* FLIGHT AND GROUND ENTRY RESTRICTIONS**

■ Flights below 1000 feet require clearance

■ Sensitive season - Minimize overflight disturbance



ICE HARBOR POOL FISHERY RESOURCES																						
Snake River Mile 19 - 21											PERIOD OF SENSITIVITY											
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
FIH-		U	U	U	U	U	U															
FIH-		U	U	U	U	U	U															
FIH-		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

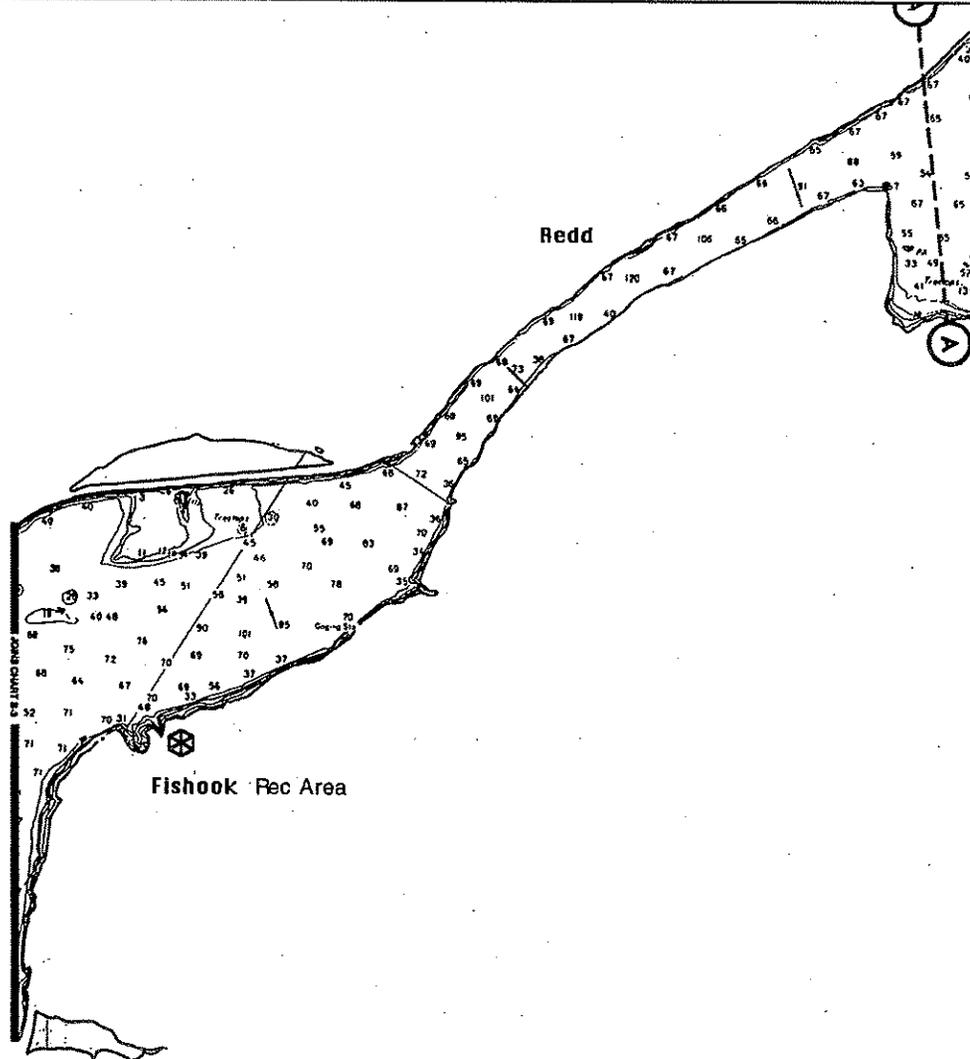
# ICE HARBOR DAM POOL - RM 19-21 - FISHHOOK RECREATION AREA TO MILE 21

## FISH RESOURCES

 Boat Launch  Town or City  Sensitive Fish Resources



WASHINGTON



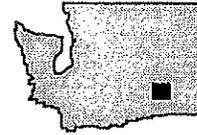
← River Flow

<b>ICE HARBOR POOL CULTURAL AND RECREATIONAL RESOURCES</b>			
Snake River Mile 19 - 21			
<b>Code</b>	<b>Location</b>	<b>Point of Interest</b>	<b>Degree of Use</b>
CIH-	No resources areas identified		
CIH-			

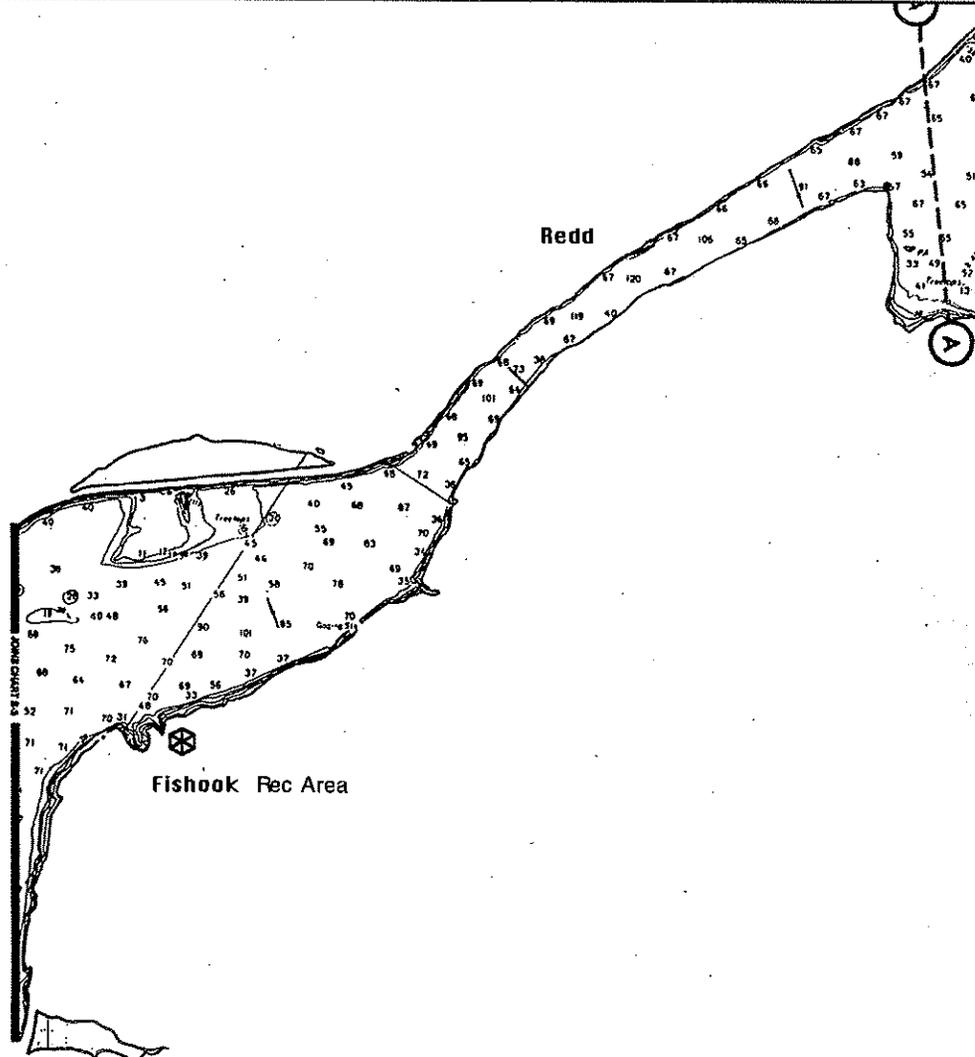
# ICE HARBOR DAM POOL - FM 19-21 - FISHOOK RECREATION AREA TO MILE 21

## CULTURAL AND RECREATIONAL RESOURCES

 Boat Launch  Town or City  Use Area



WASHINGTON



 River Flow

SNAKE RIVER/ICE HARBOR POOL GRP

ICE HARBOR POOL WILDLIFE RESOURCES																					
Snake River Mile 12 - 18										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
WIH-10	Big Flat HUM			Yes		Yes		Yes													
WIH-11	Dalton Lake N shoreline below			Yes		Yes		Yes													
WIH-12	Dalton Lake			Yes		Yes		Yes													
WIH-13	Levey Park			Yes		Yes		Yes													
WIH-14	S shoreline, S of Levey Park			Yes		Yes		Yes													

**\* FLIGHT AND GROUND ENTRY RESTRICTIONS**

 Flights below 1000 feet require clearance

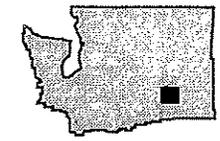
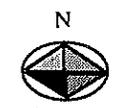
 Sensitive season - Minimize overflight disturbance

# ICE HARBOR DAM POOL - RM 12-18 - LEVEY RECREATIONAL AREA TO RM-18

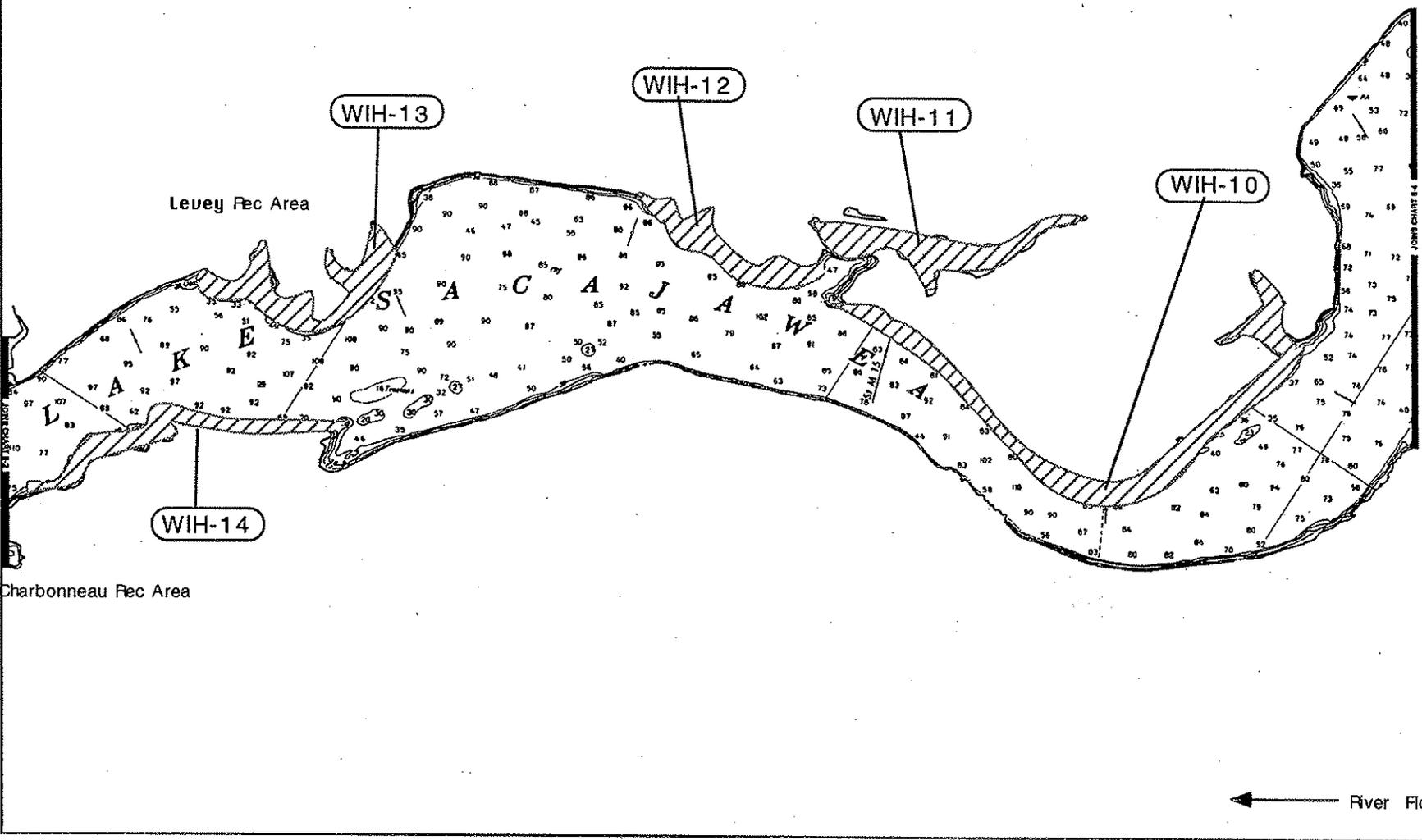
## FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

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

 Boat Launch  
  Town or City  
  Bird Concentration Area  
  Sensitive Species Nesting



WASHINGTON



ICE HARBOR POOL FISHERY RESOURCES																					
Snake River Mile 12 - 18										PERIOD OF SENSITIVITY											
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
FIH-		U	U	U	U	U	U														
FIH-		U	U	U	U	U	U														
FIH-		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

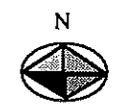
H - HEALTHY

U - UNKNOWN

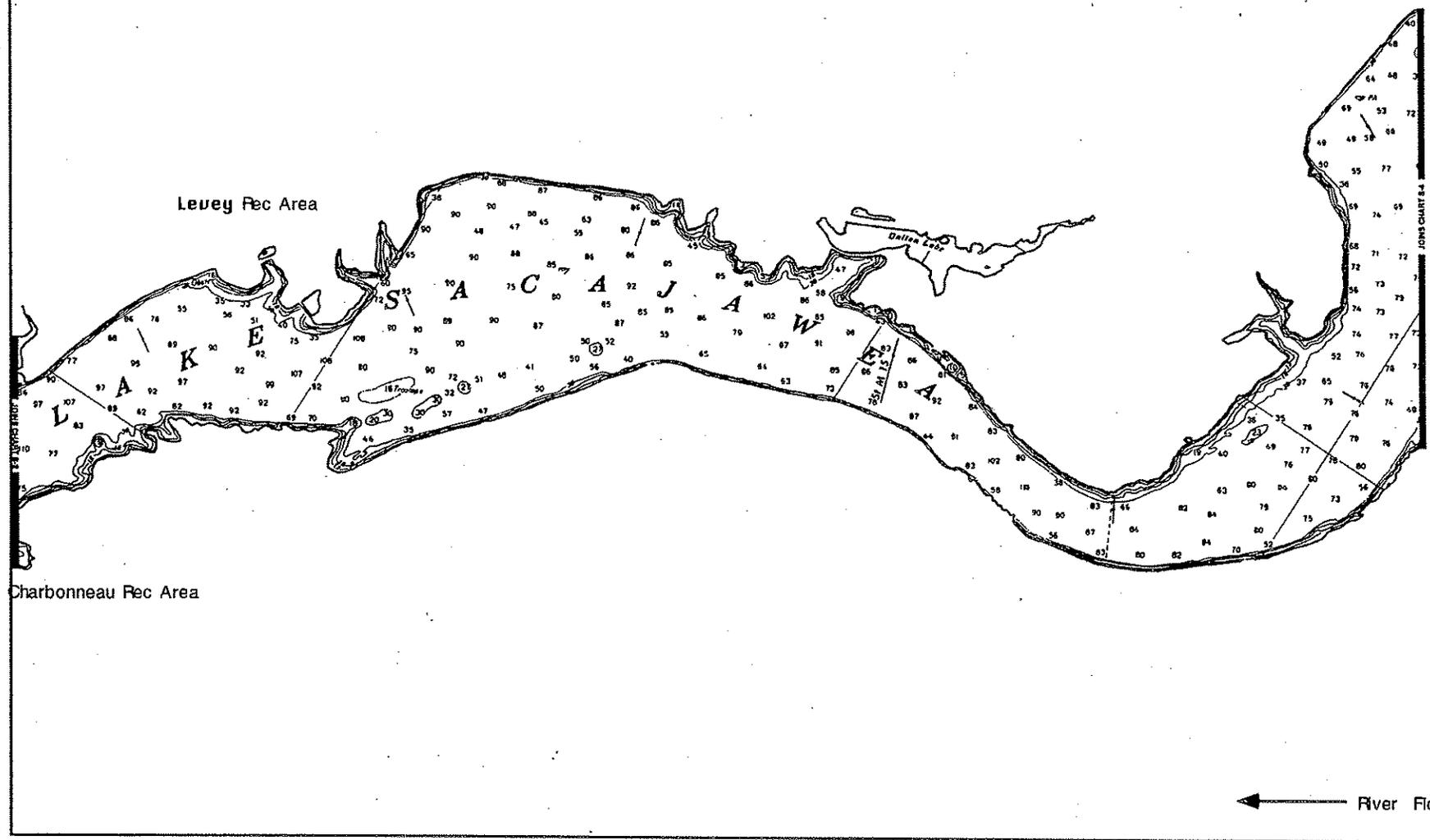
# ICE HARBOR DAM POOL - RM 12-18 - LEVEY RECREATIONAL AREA TO RM-18

## FISH RESOURCES

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



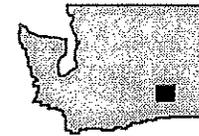
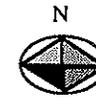
WASHINGTON



<b>ICE HARBOR POOL CULTURAL AND RECREATIONAL RESOURCES</b>			
Snake River Mile 12 -18			
<b>Code</b>	<b>Location</b>	<b>Point of Interest</b>	<b>Degree of Use</b>
CIH-	No resources areas identified		
CIH-			

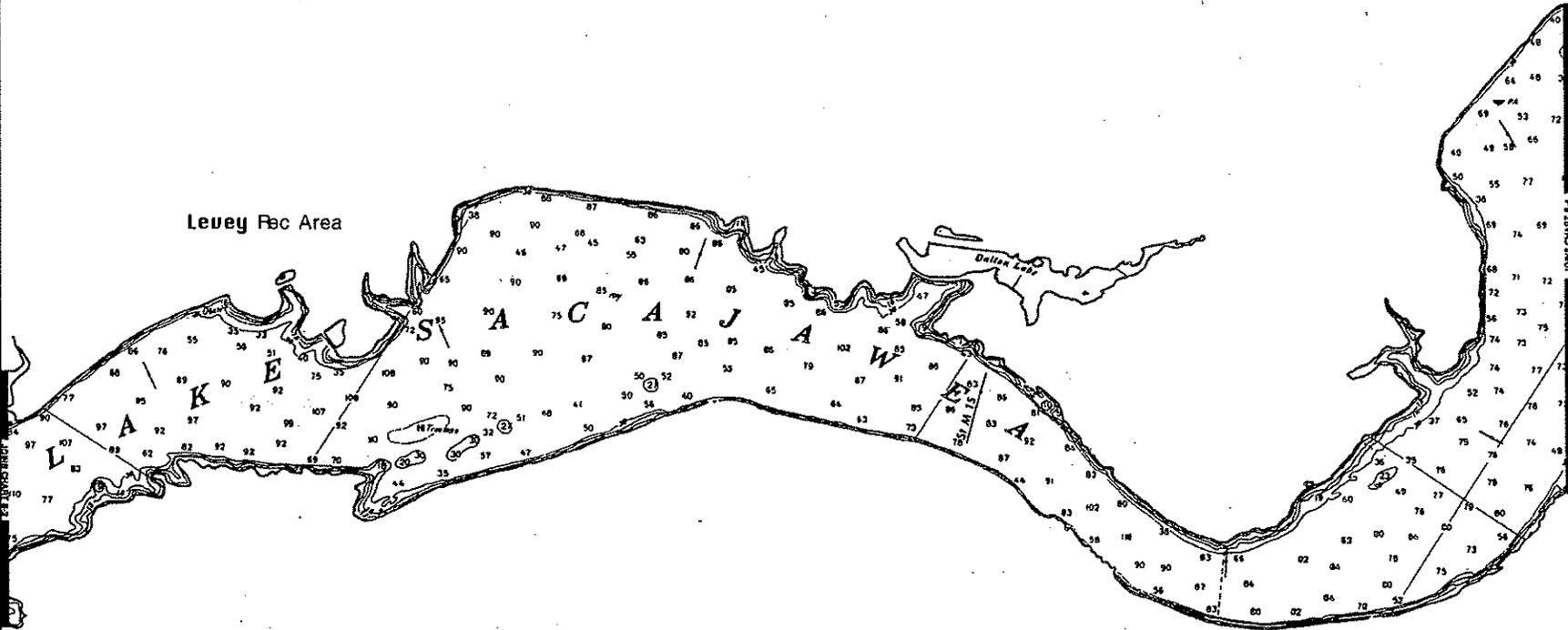
# ICE HARBOR DAM POOL - RM 12-18 - LEVEY RECREATIONAL AREA TO RM-18

CULTURAL AND RECREATIONAL RESOURCES



WASHINGTON

Boat Launch Town or City Use Area



Charbonneau Rec Area

← River Flow

ICE HARBOR POOL WILDLIFE RESOURCES																					
Snake River Mile 6 - 11										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	
WIH-15	N shore Lake N of Charbonneau Rec Area			Yes		Yes		Yes	■	■	■	■	■	■	■					■	
WIH-16	S shoreline below Charbonneau Rec Area			Yes		Yes		Yes	■	■	■	■	■	■	■					■	

**\* FLIGHT AND GROUND ENTRY RESTRICTIONS**

■ Flights below 1000 feet require clearance

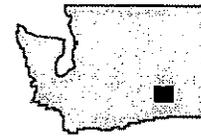
■ Sensitive season - Minimize overflight disturbance

# ICE HARBOR DAM POOL - FM 6-11 - McNARY WILDLIFE MANAGEMENT AREA TO CHARBONNEAU REC AREA

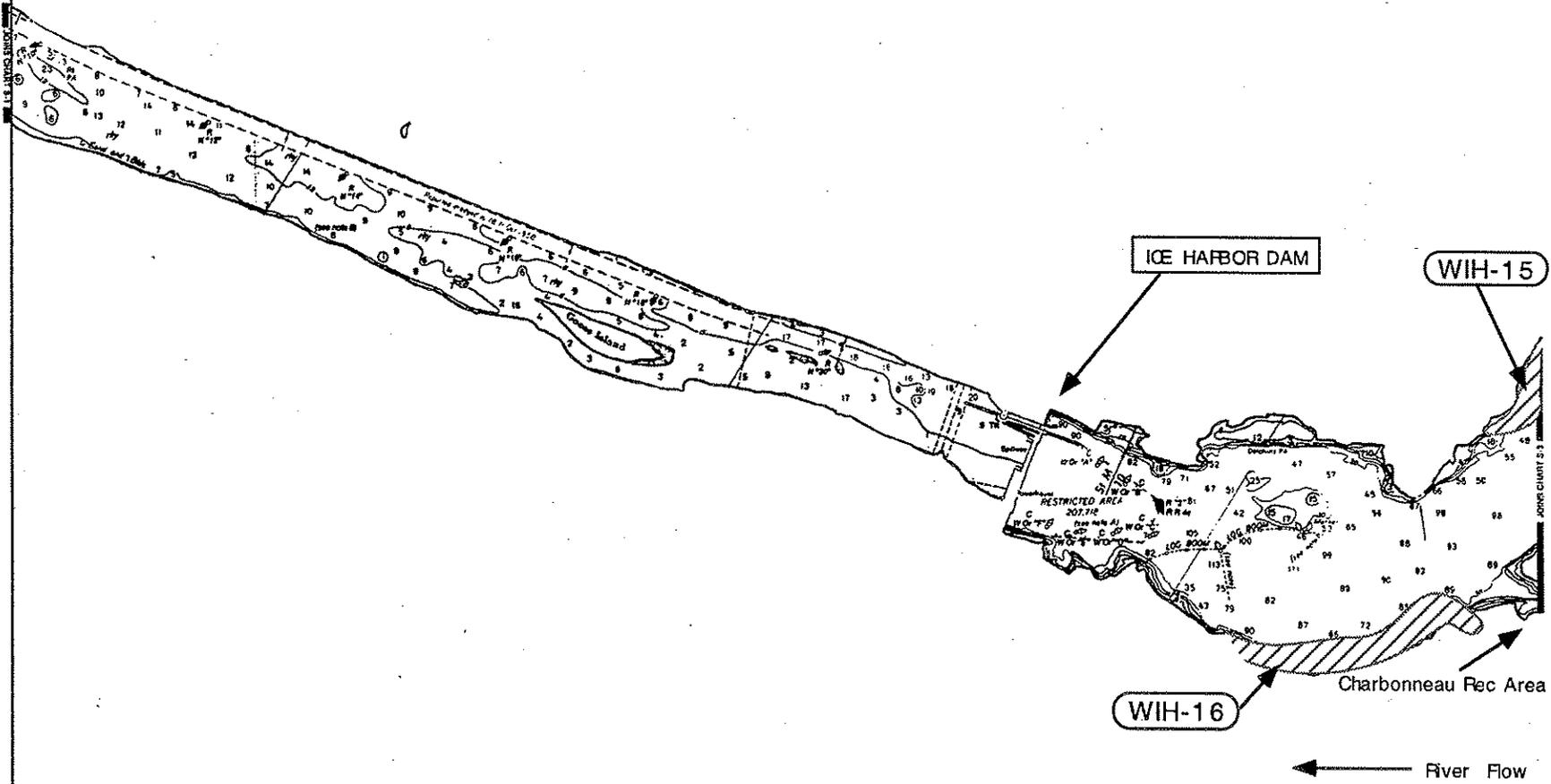
## FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

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

 Boat Launch  
  Town or City  
  Bird Concentration Area  
  Sensitive Species Nesting



WASHINGTON



ICE HARBOR POOL FISHERY RESOURCES																				
Snake River Mile 6 - 11											PERIOD OF SENSITIVITY									
Code	Location	Winter Steelhead	Summer Steelhead	Spring Chinook	Summer Chinook	Fall Chinook	Coho Salmon	Warm water fish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FIH-1	Fish Ladder	U	U	U	U	U	U													
FIH-2	Dam Pool	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

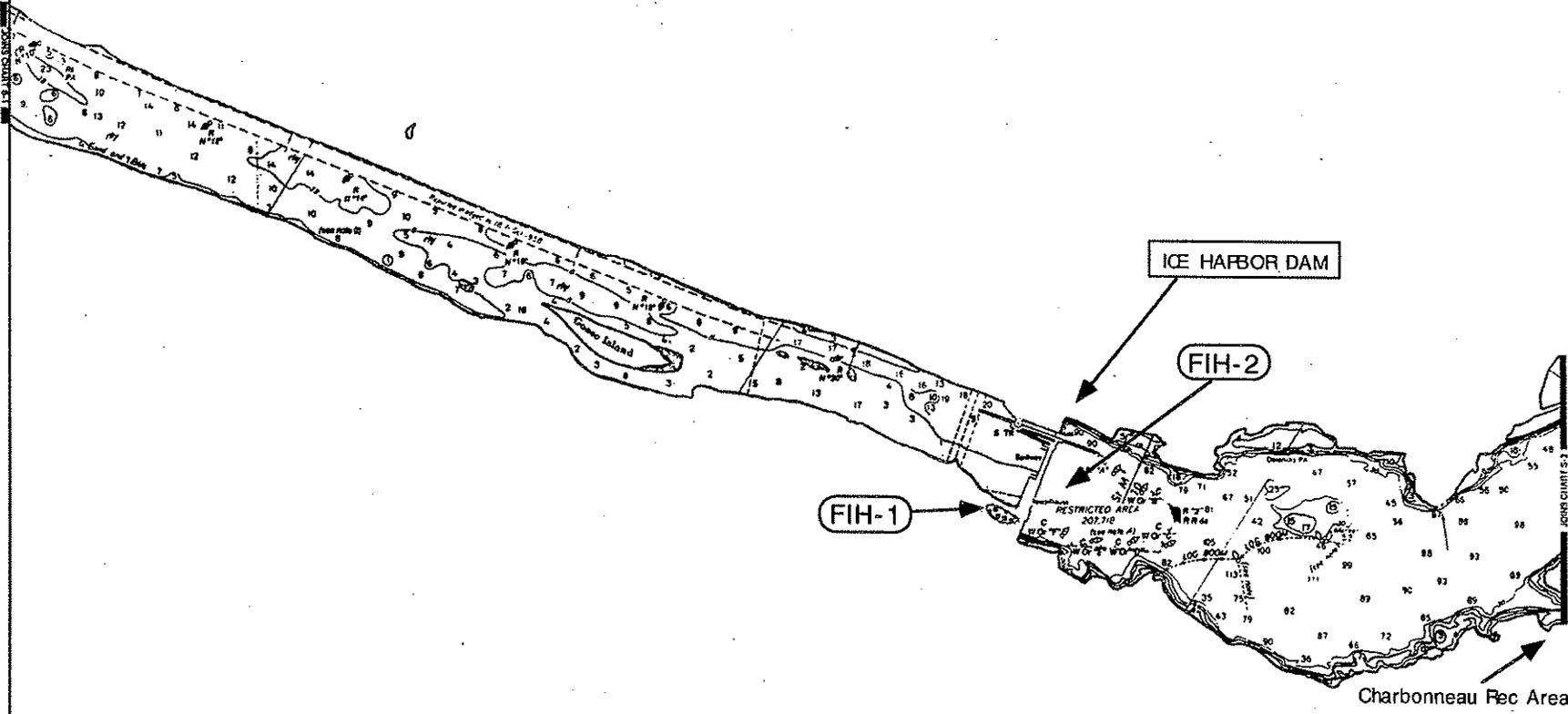
H - HEALTHY

U - UNKNOWN

# ICE HARBOR DAM POOL - RM 6-11 - McNARY WILDLIFE MANAGEMENT AREA TO CHARBONNEAU REC AREA

## FISH RESOURCES

⊠ Boat Launch    ⚙ Town or City    ▨ Sensitive Fish Resources

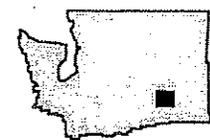


← River Flow

<b>ICE HARBOR POOL CULTURAL AND RECREATIONAL RESOURCES</b>			
Snake River Mile 6 - 11			
<b>Code</b>	<b>Location</b>	<b>Point of Interest</b>	<b>Degree of Use</b>
CIH-	No resources areas identified		
CIH-			

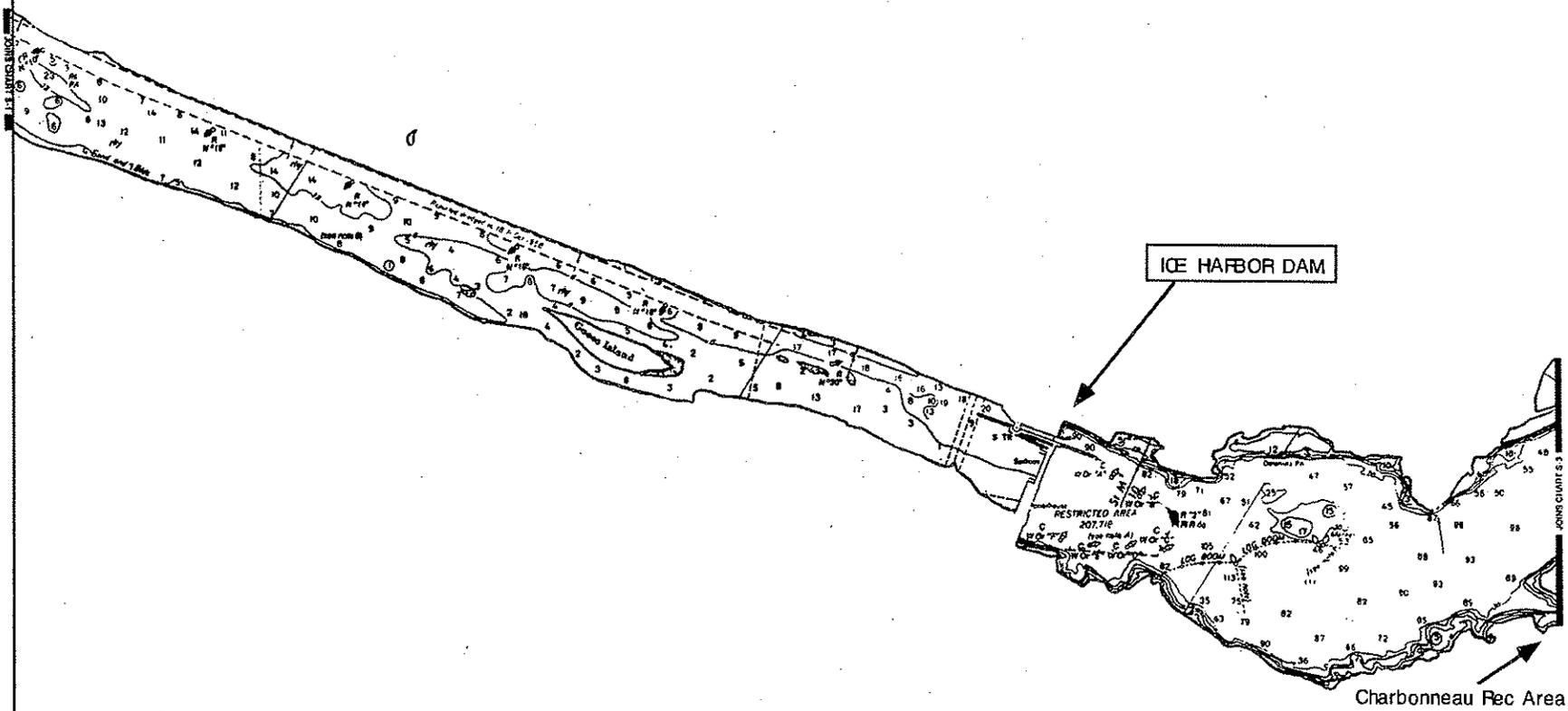
# ICE HARBOR DAM POOL - RM 6-11 - McNARY WILDLIFE MANAGEMENT AREA TO CHARBONNEAU REC AREA

## CULTURAL AND RECREATIONAL RESOURCES



WASHINGTON

Boat Launch   Town or City   Use Area



ICE HARBOR DAM

Charbonneau Rec 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:

- Windust Park
- Hollobecke Habitat Management Unit
- Lost Island Habitat Management Unit
- Fishhook Park
- Big Flat Habitat Management Unit
- Levey Park
- Charbonneau Park
- Hood Park

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 #
<b>Command Posts *</b>	Ice Harbor Lock & Dam Project (Control Room)	Meeting rooms, telephones, parking	Corps of Engineers	(509) 547-7783
	Windust Park	Shelters, parking	Corps of Engineers	
	Fishhook Park	Shelters, parking, camping	Corps of Engineers	
	Levey Park	Shelters, parking	Corps of Engineers	
	Charbonneau Park	Shelters, parking, camping	Corps of Engineers	
	Lower Monumental Lock & Dam Project (Control Room)	Meeting rooms, telephones, parking	Corps of Engineers	(509) 282-3218
	Hood Park	Shelters, parking, camping	Corps of Engineers	
<b>Communications</b>				
See NWACP, Chapter 6				
<b>Equipment Cache Locations</b>				
See NWACP, Chapter 6				
<b>Inventory of Local Support Equipment*</b>				

LOWER SNAKE RIVER/ICE HARBOR POOL AREA GRP

Subject	Name	Characteristics	Contact	Phone #
<b>Helicopter Support/ Air Support</b>	Ice Harbor Landing Strip (Rt. 124)	Walla Walla County		
	Lower Monumental Airport	Walla Walla County		
<b>Access Points</b>	Hood Park	Walla Walla County		
	Ice Harbor Dam	Franklin County		
	Charbonneau Park	Walla Walla County		
	Levey Park	Franklin County		
	Fishhook Park	Walla Walla County		
	Windust Park	Franklin County		
	Mathews Landing	Walla Walla County		
	Lower Monumental Dam	Walla Walla County		
	Devil's Bench Landing	Franklin County		
	<b>Property Access Information and Contacts *</b>			
<b>Staging Areas</b>	Parks, Landings, and Dams already identified above			
<b>Recreational Activities which could interfere *</b>				
<b>Tribal Resources</b>				
<b>Key Local Elected Officials *</b>				

LOWER SNAKE RIVER/ICE HARBOR POOL AREA GRP

Subject	Name	Characteristics	Contact	Phone #
<b>Fire Department</b>	Richland Fire and Emergency Svcs.	Benton County		(509) 943-7550
	#1 Kennewick	Benton County		(509) 582-9100
	#6 Plymouth/Crowe Butte/Sandpiper	Benton County		(509) 875-2029
	Pasco Fire Dept.	Franklin County		(509) 545-3426
	#5 Burbank Fire District	Walla Walla County		(509) 547-8341
<b>Local Emergency Support Personnel</b>	Benton County Sheriff's Dept	Benton County		(509) 735-6555
	Kennewick Police Department	Benton County		(509) 582-5141
	Franklin County Sheriff's Office	Franklin County		(509) 545-3501
	Franklin County EMD	Franklin County		(509) 545-3500
	Pasco Police Dept.	Franklin County		(509) 545-3421
	Walla Walla County Sheriff's Department	Walla Walla County		(509) 527-3268
	Walla Walla County EMD	Walla Walla County		(509) 527-3750
	Tri-County HazMat Team	Richland, Wa		(509) 943-9161
<b>Volunteers *</b>				
<b>Wildlife Rehab Facilities *</b>				
<b>Marinas/Port Docks</b>	Port of Pasco	Franklin County		(509) 547-3378
	Port of Kennewick	Franklin County		(509) 586-1186

LOWER SNAKE RIVER/ICE HARBOR POOL AREA GRP

Subject	Name	Characteristics	Contact	Phone #
	Port of Walla Walla	Walla Walla County		(509) 525-3100
	Charbonneau Park	Walla Walla County	Corps of Engineers	
	Hood Park	Walla Walla County	Corps of Engineers	
<b>Housing/Feeding/Response Community Support</b>	Our Lady of Lourdes	Franklin County	520 N. 4th Pasco	(509) 547-2704
	St. Mary Medical Center	Walla Walla County	401 W. Poplar St. Walla Walla	(509) 525-3320
	Walla Walla General Hospital	Walla Walla County	1025 S. 2nd Walla Walla	(509) 525-0488
	Veterans' Medical Center	Walla Walla County	Walla Walla	(509) 525-5200
	Kadelac Hospital	Richland - Heliport; Decon facilities		
<b>Interim Storage/Permits *</b>				
<b>Fishing Fleets &amp; Affiliated Organizations*</b>				
<b>Boat Cleaning Capability *</b>				
<b>Safe Havens *</b>				

Appendices

Appendix A: Summary of Protection Techniques

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

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

**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

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

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

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

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

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

This Page Left Blank