DUCKS UNLIMITED INC.

PACIFIC NORTHWEST FIELD OFFICE

1101 SE Tech Center Drive, Suite 115
Vancouver, Washington 98683
(360) 885-2011 Office
(360) 885-2088 Fax

January 31, 2001

Mr. Geoff Huntington
Executive Director
Oregon Watershed Enhancement Board
775 Summer Street NE, Suite 360
Salem, OR 97301-1290

Dear Mr. Huntington:

Enclosed is Ducks Unlimited, Inc.'s proposal to the Oregon Watershed Enhancement Board entitled 'Smith and Bybee Lakes Restoration'. DU and our partners are resubmitting this proposal with new information regarding the project. We believe these changes adequately address the concerns that were raised by the Regional Review team during the past grant cycle.

We are certain that this project will improve water quality and benefit endangered salmon and many other species of native fish and wildlife in the greater Portland area. The total cost of the project has not changed and is $443,433, with a request from OWEB of $180,000. DU has matched, in kind, $42,813.

Thank you in advance for your consideration of this proposal. If you have any questions, please contact me at tdwyer@ducks.org or (360) 885-2011.

Sincerely,

Thomas J. Dwyer
Conservation Director,
Pacific Northwest and Hawaii.

Section I

APPLICANT INFORMATION

Please type in the information on pages 1 through 3 **USING ONLY THREE PAGES** (or reproduce the pages on your computer **using the spacing and layout shown, NOT TO EXCEED 3 PAGES)**

Pages 1 through 3 must accompany your application
THE FIRST 3 PAGES ARE NOT A PLACE TO DESCRIBE YOUR PROJECT IN DETAIL

Name of project: Smith and Bybee Lakes Restoration

OWEB dollars requested: $180,000.00 **Total cost of project:** $443,433.00

Applicant: Ducks Unlimited, Inc. **Phone:** 360-885-2011 **Fax:** 360-885-2088

Applicant Address: 1101 SE Tech Center Drive, Suite 115 (Street) Vancouver, WA (City) 98683 (Zip)

Applicant Affiliation (if any):

Technical Contact (if different): Steve Donovan

Phone: 360-885-2011 **Fax:** 360-885-2088

Landowner(s) (if the project will occur on private land):

Fiscal Officer (if any): Holly Andree **Phone:** 916-852-2000

Fiscal Officer Affiliation: Ducks Unlimited, Inc. **Fax:** 916-852-2200

Fiscal Officer Address: 3074 Gold Canal Drive (Street) Rancho Cordov CA (City) 95670-6116 (Zip)

Project location: Columbia River (Watershed) Columbia Slough (Sub-Watershed) Multnomah (County)

Name of the watershed council in the area (if any): Columbia Slough Watershed Council

Endorsement of the watershed council: SEE LETTER OF SUPPORT FROM COLUMBIA SLOUGH WATERSHED COUNCIL
Signature of Watershed Council Chairperson

Section II

PROJECT SUMMARY

Check the primary type of activity proposed:

- ☒ **Watershed Restoration**
- ☐ **Watershed Education**
- ☐ **Watershed Monitoring**
- ☐ **Watershed Assessment/Action Plan**
- ☐ **Land or Water Acquisition**

Brief Summary of Project: This proposal involves the restoration of Smith and Bybee Lakes. Historically, this interconnected wetland system functioned as a seasonal marsh in the Columbia River floodplain near the mouth of the Willamette River. The construction of a fixed outlet in the early 1980's transformed this marsh into a permanent lake, resulting in the loss of productive wetland habitat. With this proposal, the historic hydrology and marsh habitats will be restored, providing benefits to salmon, water quality and other wildlife.

1. **Have you applied for OWEB funding for this project previously?** ☒ Yes ☐ No

2. **List all agencies and organizations from which funding is anticipated for the proposed project. (Note: at least 25% in match funding is required - see the Guidebook for a definition of match).**

	Cost Share			
Agency/Organization	**Cash**	**In-Kind**	**Secured**	**$ Amount/Value**
Oregon Watershed Enhancement Board	☒	☐	☐	$180,000.00
North American Wetlands Conservation	☒	☐	☒	$195,620.00
U.S. Forest Service	☒	☐	☒	$25,000.00
Ducks Unlimited, Inc.	☐	☒	☒	$42,813.00
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
Total Estimated Project Costs:				**$443,433.00**

3. **Have any conditions been placed on other funds that may affect project completion?** ☐ Yes ☒ No **If yes, explain:**

4. **Are there additional partners (agencies, landowners, volunteers)?** ☒ Yes ☐ No
What will they do? The landowner for this property is Metro, the regional government for Portland, Oregon. Metro will be responsible for monitoring and long-term maintenance and management of the project. A letter of support from Metro is attached stating their support of the project and willingness to manage and monitor the completed project. The U.S. Fish and Wildlife Service and the U.S. Forest Service are partners in this project. The Oregon Department of Fish and Wildlife has also endorsed this project.

5. a) **Is the proposal part of an existing plan for the watershed?** ☐ Yes ☒ No
If yes, name the plan and reference sites(s) or elements of the plan related to the project:
The Natural Resources Management Plan, (Metro and the City of Portland), recommended this project as the highest priority restoration project. The Biota of Smith and Bybee Lakes, Metro, 1994. This study recommended restoring natural hydrology.

b) **How does this proposal relate to workforce and economic development plans in the local community?** This project will directly infuse $431,490 into the local community through implementation of the project. The local economy will also benefit from the project by increased recreational activities attributed to enhanced fish and wildlife habitat.

6. **If the project is not primarily for education and/or public awareness, how will you promote public awareness about watershed enhancement and the efforts being undertaken locally?**

The project area receives significant use by the public for hiking and bird watching activities. Metro has established hiking trails and interpretive sites. After completion of this project, Metro will actively promote public awareness of the project and its benefits to fish and wildlife habitat through Metro's educational and interpretive programs. Volunteers will be extensively involved in monitoring and restoration activities. The project partners will actively promote this project through local and statewide media outlets, Columbia Slough Watershed Council newsletter and Greenscene, Metro's newsletter.

7. **What is the proposed schedule for the project? (include start date, critical element dates, completion date, and monitoring schedule):**
Engineering for the project will commence in early 2001. Final engineered plans will be developed during the summer of 2001. Permits will be secured during the winter and spring of 2001-2002. Restoration work will be completed in the summer of 2002. Monitoring will be completed by Metro on an annual basis for a period of five years.

8. **Have affected individuals and organizations been contacted about this proposal and do they support it?** ☒ **Yes** ☐ **No** **Please explain:**
Metro has held many meetings over a period of several years discussing and developing this restoration proposal. Based on the biological value and support for this project, the Smith and Bybee Lakes Management Committee has voted twice to endorse this project. Committee members include: Audubon Society, ODFW, Port of Portland, Friends of Smith and Bybee Lakes, Portland Parks, City of Portland and two neighborhood associations.

9. **Required Attachments: Be sure to complete and attach these forms to the back of your application:**
   - ☒ Budget
   - ☒ Match Funding for OWEB Grants
   - ☒ Legal Requirements
   - ☒ OWEB Project Types Check Sheet
   - ☒ Other documentation requested in Section III

Section III

SPECIFIC PROJECT ACTIVITY

USE 8½" x 11" SINGLE-SIDED PAGES

Answer the set of questions that apply to the activity you propose.
Retype the questions and number your answers to correspond to the questions, or down-load these questions from the OWEB website at: http://www.oweb.state.or.us.

Complete the appropriate budget page, Match Funding and Legal Requirements forms

☒ WATERSHED RESTORATION PROJECTS:

For on-the-ground (or in-stream) projects, please answer the following questions. If there are multiple locations, **be specific for each site.**

T1. What is the present situation?

Smith and Bybee lakes and their associated sloughs and wetlands are remnants of formerly extensive river bottomlands located near the confluence of the Willamette and Columbia rivers. Part of the Columbia Slough watershed, these large shallow lakes and wetlands are part of the 1,928-acre Smith and Bybee Lakes Wildlife Area. The wildlife area is managed primarily for wildlife habitat protection and enhancement while providing passive recreational opportunities for the Portland metropolitan area.

The Natural Resources Management Plan for Smith and Bybee Lakes, adopted by Metro and the City of Portland, governs management activities on the site. Metro manages the wildlife area, with advisory and policy assistance from a management committee composed of representatives from public agencies and private organizations. The goal statement of this plan reads, in part:

> The goal of the Management Plan is to protect and manage the Smith and Bybee Lakes area as an environmental and recreational resource for the Portland region. The lakes will be preserved as historical remnants of the Columbia River riparian and wetlands system. They will be maintained and enhanced, to the extent possible, in a manner that is faithful to their original natural condition. Only those recreational uses that are compatible with environmental objectives of the Management Plan will be encouraged.

The main objectives of this Management Plan include: managing the water levels in the lakes to provide and maintain habitat diversity representative of the lower Columbia River floodplain wetlands.

Alterations to the System

Considerable changes have occurred in the lakes' watershed that have had significant impact on the lakes' system: construction of dams and dikes, filling with dredge spoils and introduction of exotic plants and animals. The first significant alteration to this site was the construction of major dams on the Columbia River. The use of these dams to produce hydroelectric power, store water and reduce flooding drastically altered the natural hydrological cycles in the lower Columbia River ecoregion.

The most recent significant alteration of this system occurred with the construction of the first dam in 1982 that separated the lakes from the North Slough of the Columbia Slough, and thus the Willamette River. It was built in reaction to waterfowl dieoffs in the lakes. Some wildlife officials believed that

avian botulism outbreaks occurred in the lakes and caused the birds' deaths. The dam was built under the belief that maintaining permanent, deeper water would prevent future dieoffs.

Current Hydrology and its Effects

The dam has been modified or replaced twice, but has always been used to retain water in the lakes. Since 1982, the lakes have essentially functioned as reservoirs, held at a static water level. Except during brief or rare flood events, the lakes are no longer influenced by the hydrological dynamics of the daily tidal forces and seasonal floods. A flap gate on the slough side of the earth dam allows water to slowly drain out, but prevents water from entering the lakes.

The dam has had a number of deleterious effects, including the elimination of off-channel habitat for downstream migrating juvenile salmon and steelhead. Juvenile salmonids use this type of habitat as refugia from floods and for rearing sites; much of this habitat has been eliminated from the lower mainstem Willamette River. A 1986 study conducted when the dam had a more open design found juvenile Chinook salmon throughout both lakes. The fish dominated samples taken in late April and early May; they were observed leaving the lakes in early June. Juvenile Chinook caught in the lakes were larger than those caught in the slough, which may have reflected better food supply in the lakes. The lakes would provide habitat for juvenile steelhead as well as Chinook (Jim Muck, ODFW, personal communication). The dam currently in place does not provide adequate fish passage to enable salmonids to use the lakes.

Exotic carp, which have thrived in the lakes' impounded condition, currently dominate the fish community of Smith and Bybee lakes. The carp have re-suspended sediment throughout the lakes and decimated the smartweed beds and other native plant communities. The loss of emergent plants has reduced food availability for migratory waterfowl. The sustained artificially high water levels flooded the wetland forest beyond its adaptability, and hundreds of acres of trees died, resulting in a loss of habitat for neotropical migratory birds. Impoundment of the lakes has also reduced the availability of mudflats for migrating shorebirds. Reed canarygrass has moved into and begun to dominate openings on higher sites where trees have died. Ultimately, the lakes have experienced an ecological shift to a poorer, simplified system not capable of supporting the diversity or abundance of fish and wildlife that it once had.

T2. What are you proposing to do?

Reinstate Hydrologic Processes

This project will remove the existing dam and replace it with a structure that provides year-round fish passage in both directions and the ability to mimic historic hydrological cycles in the lakes. The most important result will be restoration of the lakes' connection to the Columbia Slough and Willamette River via North Slough, and a return to seasonal and tidal flooding patterns.

Historic hydrologic processes will be restored to the maximum extent possible. This water control structure will essentially provide a large, unimpeded connection between Smith and Bybee Lakes and Columbia Slough during most of the year. Three box culverts, and a smaller fourth culvert equipped with a pool-chute style fishway (see attached diagrams) will allow water to flow freely between Bybee Lake and North Slough. The structure will be built in the same location as the existing dam, at the southeast corner of Bybee Lake (see attached site map). This is the point where the North Slough his-

torically flowed into the lakes, and the structure's opening will be nearly as large as the old slough channel. Engineering and construction management will be completed by Ducks Unlimited, which has extensive experience in designing and delivering wetland restoration projects throughout North America.

The three large box culverts will be equipped with boards that can be placed to regulate water flow when needed (the fishway will remain open permanently). Water exchange will need to be regulated in the spring through early summer, when current management of the Columbia and Willamette rivers results in lower water levels in the lakes than would occur naturally. Boards would be placed to hold water during late spring and sequentially removed to allow the lakes to drain slowly, as they did historically. Again, the fourth culvert equipped with the fishway would remain open all of the time to provide fish passage when boards are placed in the other culverts.

Water flow into and out of the lakes will also need to be regulated during periods of high flow. St. Johns Landfill is located within the Smith and Bybee Lakes Wildlife Area; it has been closed since 1991. A consultant to Metro predicted that removing the dam (without a replacement structure) would increase water velocity in North Slough and could contribute to bank erosion of the landfill section facing North Slough. The consultant recommended several solutions to the potential problem, including replacing the existing dam with a new structure capable of regulating flows during seasonal flood periods. The proposed design provides this ability while retaining fish passage.

Manage Vegetation

The preferred water management method is to allow free tidal and seasonal exchange of water between the lakes and the slough as much as possible, while using the structure to mimic the historic hydrologic regime. Retaining water in the lakes until early summer to replicate the lakes' historic patterns also will control reed canarygrass and promote establishment of native plant communities. Allowing water levels to recede later in the year promotes warm-season native wetland plants and discourages the non-native, cool-season reed canarygrass. Evidence of this occurred in the dry summer of 2000, when more water evaporated and drained from the lakes than any time since the early 1990's. A lush growth of more than two dozen wetland plants quickly appeared on the newly exposed mudflats, proving the wetland seed bank persists in the Lakes. Inundation until mid-June or later appeared to set back the reed canarygrass, because it is absent or scarce in the exposed mudflats.

Restore Salmon Habitat

With the new structure in place, juvenile salmonids will again be able to use Smith and Bybee lakes for refuge, feeding and resting habitat. The fishway will ensure that salmonids can enter and leave the lakes at will, regardless of the position of the boards in the other culverts. Juveniles will be able to use the lakes as refugia during flood events and as rearing habitat in winter, spring and early summer. The restoration of wetland plant communities will foster abundant and diverse invertebrate populations, providing a food source for juvenile salmonids. Woody debris (rootwads and trunks) will be placed near the water control structure to provide cover for juvenile salmonids entering and leaving the lakes.

Water quality will improve in the lakes. Modeling work indicates that primarily Willamette River water will enter the lakes when they are open again. This cooler, more oxygen-rich water will improve both of those water quality parameters in both North Slough and in Smith and Bybee lakes. Annual

drawdown of the lakes will reduce carp habitat and thus carp populations; this should improve water clarity and growth of aquatic vegetation.

Some warmwater fish will move in and out of the lakes when the water control structure is open. During the 18 years that Smith and Bybee lakes have been impounded, the largemouth bass population has supported a small but popular fishery. These fish may move out of the lakes, or they may remain in deeper holes or become trapped as water recedes in late summer.

Restore Wildlife Habitat

Providing a healthy wetland system will benefit waterfowl and other wetland wildlife. The reduction in the carp population with the return to a seasonally fluctuating hyrological cycle will result in the establishment and proliferation of a diverse, native wetland plant community. This type of habitat will support large numbers of a diverse group of wetland-dependent species, including waterfowl, wading birds, shorebirds, raptors, neotropical songbirds, amphibians, reptiles and native fish.

Shorebirds will benefit from this project, since it will allow mudflats to be exposed for feeding by migrants traveling south during the late summer and early fall. With the current dam in place, the summer of 2000 has been the first time in many years that mudflats have been exposed in the project area. As a result of the current drier conditions, many species of shorebirds are using the area.

Large numbers of beaver inhabit Smith and Bybee lakes. They have felled many of the trees in the remaining forest patches. The impounded condition of the lakes provides excellent habitat for beaver. Returning river hydrology to the lakes will probably result in lower beaver populations, since they will not find as much ideal habitat in a seasonal wetland. Lower beaver populations will facilitate restoration of the riparian forest, where considerable resources are devoted annually to planting and maintaining trees and shrubs.

Provide Recreational Opportunities

Design criteria for the new water control structure includes improved boating access. Smith and Bybee lakes is a popular canoeing and kayaking area, and the design will provide access opportunity from North Slough during times when the other launch area is dry.

Smith and Bybee lakes also supports a small but popular warmwater fishery. Fishing in the lakes is best in spring; providing water in the lakes from winter through early summer will support this activity.

Prospects for Success

The prognosis for restoring much of the historical hydrology of the lakes is good. The daily tidal prism resulted in water surface elevation changes of one to two feet before the dam was installed, and this tidal regime will resume when the new structure is in place. Holding water in the lakes through the spring will mimic historical conditions as much as possible given the constraints of current water management on the Columbia and Willamette rivers.

The documentation of juvenile salmonid use of the lakes under a more open system bodes well for their return. The researchers captured fish throughout both lakes, indicating that salmonids made full use of

the system. Smith and Bybee lakes is listed as potential off-channel habitat for Willamette River fish under the City of Portland's ESA framework plan, and this would assist with the city's recovery effort.

The last six months previewed conditions that could exist every year with a new structure in place. The dry summer allowed enough evaporation and slow draining of the lakes to expose considerable mudflat area. A lush growth of wetland plants followed the waterline as it receded; more than 24 plant species were documented. Several species of shorebirds (least and western sandpipers, long-billed dowitchers) were seen probing the mudflats, some in large flocks. As water levels rose in fall and winter, Canada Geese and a variety of ducks used the area in greater numbers than had ever been documented. These geese and dabbling ducks fed on the young plants and seeds that had grown along the lake margins during summer.

Project Importance and Priority

This project implements high-priority work identified in the management plan for Smith and Bybee Lakes Wildlife Area. Two studies of the area made this project their top recommendation: Smith and Bybee Lakes Environmental Studies by Fishman Environmental Services (1987), and The Biota of Smith and Bybee Lakes by Esther Lev et al. (1994). Installing a new water control structure assists with the City of Portland's ESA recovery efforts (see attached letter of support). This project is also supported by ODFW wildlife, fish and habitat biologists in this area (see attached letter of support).

T3. What is the watershed benefit?

The lower Columbia Slough provides the best opportunity for effective salmon habitat restoration because the upper slough is not accessible to salmonids. Restoration opportunities within the Columbia Slough watershed are constrained by development of the drainage districts, which constantly pump water out of the upper slough to maintain industrial land such as the Portland Airport.

The current population of carp in the lakes has created very turbid water conditions. As this water drains out of the lakes, it carries a very high load of suspended sediments into Columbia Slough, the mouth of the Willamette River and then the Columbia River. By reducing carp numbers and encouraging restoration of emergent and submergent plant communities, the turbidity problem will be greatly improved, resulting in significant downstream water quality improvements. Additional watershed benefits are provided by the wetland functions that will be restored, including water storage during high-flow periods.

T4. Explain how this project implements a watershed assessment/action plan or an agricultural water quality management plan or farm plan.

The Columbia Slough Watershed Council is beginning a watershed assessment, which should begin in 2001. It is anticipated that Smith and Bybee lakes will be identified as high-priority restoration site and one of the best opportunities in the watershed. Because the assessment may take several years to fully complete, restoration work at Smith and Bybee lakes should begin now. The Smith and Bybee Lakes Wildlife Area Manager is active in the watershed council and is participating in the assessment.

Although a watershed assessment has not been completed, this project will implement the Natural Resources Management Plan for Smith and Bybee lakes. This plan was developed by the City of Portland and the Port of Portland, in association with many public and private interests, including Oregon De-

partment of Fish and Wildlife and Audubon Society of Portland. This project complements a suite of other activities implementing the management plan. Examples include re-planting the riparian forest and surveying plants, herpetiles, birds and fish.

T5. What are the objectives?

This project is the cornerstone of wetland restoration for Smith and Bybee Lakes Wildlife Area. The immediate objective is to build the new structure and restore the hydrologic connection with the Columbia Slough, Willamette River and Columbia River. Biologically, the objectives of the project are to provide enhanced habitat for downstream migrating juvenile salmon, waterfowl, wading birds, shorebirds, neotropical migrants and other wetland dependent wildlife. Management of plant communities will focus on controlling exotic reed canarygrass, promoting native wetland plant communities and promoting riparian forest communities as described in section T2.

Restoration objectives include:

- Restoring the hydrologic system. Two key components will be restored: sustained high water in spring and drawdown in summer.
- Providing refugia and rearing habitat for juvenile salmon and steelhead.
- Restoring the native wetland plant community; the summer of 2000 demonstrated that this seed bank is largely intact.
- Providing a complex of habitats that support a wide range of herpetiles, birds and mammals.

T6. How will the success of the project be determined, i.e., what elements of the project will be monitored/evaluated – by whom, how often and for how long? How will the effectiveness of the project be assessed?

This project will be monitored in many ways. Fish use of the lakes will be monitored by Ducks Unlimited and Metro, who are collaborating on a fish monitoring project (see attached protocol). The City of Portland ESA team will complement this work by sampling the adjacent slough year-round for fish use and response to the project.

Metro is presently monitoring plant and animal communities, and this work will continue. A weekly transect survey for birds is conducted by Metro and volunteers. Seasonal point counts will be added in 2001 or 2002. Ongoing western painted turtle monitoring conducted by Metro will continue. Turtle survey efforts include trapping and visual surveys in spring and summer. This project should have little direct effect on turtles, because their activities are concentrated in other parts of the wildlife area. However, the summer drawdown should reduce the population of bullfrogs, a likely predator on turtle hatchlings. Annual vegetation surveys conducted by Metro will monitor the establishment of wetland plants and restoration of the riparian forest.

Metro will monitor the structure, including fishway, to ensure it is sound and functioning properly. St. Johns Landfill staff will continue inspecting the North Slough bank for potential maintenance and management issues.

The project's effectiveness will be assessed in a number of ways. Fish sampling will indicate whether fish passage is successful and the lakes are used by salmonids. Vegetation surveys will evaluate the health of plant communities. Surveys of birds will document the numbers and diversity of wetland-

dependent bird species. Turtle monitoring will indicate whether any unanticipated effects on painted turtles occur.

Project success will be apparent from:

- A dynamic hydrologic regime characterized by daily tidal flux and seasonal flooding.
- The presence of juvenile salmonids in the system and their ability to enter and leave the lakes at will.
- A ring of lush emergent wetland plant growth around the lake margin in summer.
- Use of flooded emergent plants by waterfowl in winter.
- Presence of shorebirds on exposed mudflats during migration.
- Re-establishment of the riparian forest in areas where only snags and dead wood occur now.

T7. Who will inspect the completed work?

Final inspection will be performed by Ducks Unlimited with participation from Metro. Opportunity will be provided for City of Portland, Oregon Division of State Lands, Oregon Watershed Enhancement Board, Oregon Department of Fish and Wildlife and U.S. Fish and Wildlife Service to inspect if desired.

T8. Who will maintain the project and for how long?

Metro – the manager of Smith and Bybee Lakes Wildlife Area – will maintain the structure and manage the area permanently.

T9. Which elements of the project will OWEB funds be used for:

Capital improvement – construction of the water control structure.

T10. Additional Required Attachments:

☐ **Land Use Information** (see attached form)
☒ **Maps:** Provide a general map highlighting the location and extent of your project. On a more detailed map, locate site specific activities. **Please provide maps on 8½" x 11"** pages and include a legend and scale. ***Avoid color and detail that will not photocopy clearly.***
☒ **Location**: Provide the township, range, section and 1/4 corner location of each site. Provide a relative reference to the site such as stream mile if appropriate.
☐ **Photographs**: If applicable, provide photographs to aid in understanding the situation.
☒ **Project Designs** (if applicable)

WATERSHED RESTORATION BUDGET

Attach additional pages if necessary

Itemize projected costs under each of the following categories:	Unit (i.e. hours, each, foot)	Unit Cost	Donated Services/ Supplies*	Match Funds*	OWEB Funds	Total Costs
PERSONNEL (Position title, wages, benefits, etc.)						
Engineer (wages, benefits, support)	850 hours	$57	$10,000	$38,450	$0	$48,450
Biologist (wages, benefits, support)	120 hours	$57	$4,000	$2,840	$0	$6,840
Project Coordinator	120 hours	$45	$5,400	$0	$0	$5,400
TRAVEL (Mileage, per diem, lodging, training, etc.)						
None						
CONTRACTED SERVICES (Labor for fencing, instream work, tree planting, technical consultation, project management, etc.)						
Mobilization	Lump Sum	$25,000		$25,000	$0	$25,000
Demolition of old structure	Lump Sum	$35,000		$35,000	$0	$35,000
Concrete Box Culvert, 10' width (with headworks)	162 lf	$1,000		$12,500	$150,000	$162,500
Concrete Box Culvert, (fish ladder), 5' width	50 lf	$750		$7,500	$30,000	$37,500
Contingency	Lump Sum	$30,000		$30,000	$0	$30,000
Levee Repair	Lump Sum	$40,000		$40,000	$0	$40,000
SUPPLIES/MATERIALS (Fertilizer, seed, fencing, boulders, logs, plants, film, etc.)						
PRODUCTION COSTS (Design, permits, inspection, video production, printing, direct mail, film developing, etc.)						
Sub-Totals			$19,400	$191,290	$180,000	$390,690
ADMINISTRATION** (Costs associated with administering the grant, i.e., fiscal management.)						
DU administration rate	13.5%	$52,743	$23,413	$29,330	$0	$52,743
MONITORING (Component to be monitored, cost per year, number of years, and total cost)						
Monitoring to be completed by Metro with no grant funds – no cost estimate available						
TOTALS:			$42,813	$220,620	$180,000	$443,433

* List secured other funding on attached Match Funding form

** Administration costs may not exceed 10% of sub-total amount requested from OWEB

MATCH FUNDING FOR OWEB GRANTS

Please document the match funding listed on page 2 and the budget page of your grant application

Match funding does not have to be secured at the time of application but you must document that at least 25% of match funding has been sought. Should you receive a grant from OWEB, **at least 25% in match must be secured prior to OWEB providing any funds.**

Match funding may be in the form of cash on-hand, cash that is pledged to be on-hand before the project begins, secured funding commitments, pending funding commitments (must be secured before the project begins and no later than 12 months from the date of the OWEB award), the value of donated conservation easements, or the value of donated labor and materials essential to the project.

This form is provided for your convenience. You may use it, or provide letters or other appropriate documentation from your project contributors.

Project Name: Smith and Bybee Lakes Restoration

Applicant: Ducks Unlimited, Inc.

Match Funding Source	Signature of Authorized Representative	Dollar Value	Secured/ Pending	Date
Ducks Unlimited, Inc.		$42,813	Secured	8-30-00
North American Wetlands Conservation Grant (Columbia Land Trust)		$195,620	Secured	8-30-00
U.S. Forest Service		$25,000	Secured	8-30-00
Grand Total Match Provided		$263,433 (59% of total project)	**All Secured**	**8-30-00**

LEGAL REQUIREMENTS

AGREEMENTS:

I/we, Ducks Unlimited, Inc. of Vancouver, Washington, hereby make application for financial assistance under the terms and conditions of the Oregon Watershed Enhancement Board in the amount of $ $180,000. The total cost of the project is $ $443,433.00, as shown on page 1.

I/we understand that if this proposal is funded, I/we will be required to:

- Sign a Grant Agreement containing the terms and conditions upon which funds will be released, including submission of necessary permits and documents, a certification to comply with state, federal and local regulations, and a release of liability for the State of Oregon;
- Obtain landowner, monitoring, and maintenance agreements;
- Certify that the project complies with state, federal and local regulations;
- Submit written evidence that all applicable permits and licenses from local, state or federal agencies or governing bodies have been obtained or are not needed;
- Submit a report at the completion of the project and subsequent periodic reports to OWEB on the project's performance;
- Agree that educational products resulting from projects are public domain;
- For restoration projects, complete the Oregon Plan Watershed Restoration Project Reporting form; and
- For restoration projects, certify that the work to be accomplished will comply with the Oregon Habitat Restoration Guidelines.

Signed: _____ Date: 1/31/01

Title: Conservation Director - Ducks Unlimited, Inc.

LAND USE INFORMATION SHEET

This information is needed to determine if the proposed project complies with statewide planning goals and is compatible with local comprehensive plans (ORS 192.180)

CITY/COUNTY LAND USE INFORMATION (to be completed by local planning official):

Please check below the one that applies:

☐ This project is not regulated by the local comprehensive plan and zoning ordinance.

☐ This project has been reviewed and is compatible with the local comprehensive zoning ordinance. (Please cite appropriate plan policies, ordinance section, and case numbers.)

☐ This project has been reviewed and is not compatible with the local comprehensive plan and zoning ordinance. (Cite appropriate plan policies, ordinance section, and case numbers).

☐ Compatibility of this project with the local planning ordinance cannot be determined until the following local approvals are obtained:

_____ Conditional Use Permit
_____ Plan Amendment
_____ Other
_____ Development Permit
_____ Zone Change

An application has ___ has not ___ been made for the local approvals checked above.

* Signature of Local Official: _____

Title: _____ Date: _____

Must be authorized signature from your local City/County Planning Department

OWEB PROJECT TYPES

Please **circle** the project types that apply to your application.

Watershed Restoration

Upland Erosion Control (UEC)
- a. Road improvement (RI)
- b. Road removal (RR)
- c. Road drainage improvement (RDI)
- d. Water/sediment control basins (WSCB)
- e. Windbreaks (W)
- f. Upland terracing (UT)
- g. Planting upland areas (PUA)
- h. Meadow protection (MP)
- i. Reduced tillage (RT)

Grazing Management (GM)
- a. Grazing management plans (GMP)
- b. Water gap development (WGD)
- c. Livestock water / off-channel (LWO)
- d. Range seeding (RS)

Vegetation Management (VM)
- a. Brush / weed control / eradication (BWCE)
- b. Controlled burning (CB)
- c. Conifer thinning (CT)
- d. Juniper clearing (JC)
- e. Invasive species management (ISM)

Riparian Area Enhancement (RAE)
- ~~a. Riparian vegetation planting (RVP)~~
- b. Riparian fencing (RF)
- c. Riparian conifer restoration (RCR)
- d. Riparian conservation programs (RCP)

* Restore riparian area by eliminating permanent water

Channel and Bank Alteration (CBA)
- a. Re-establish historical channel (RHC)
- b. Develop meanders / side channels (DMSC)
- c. Channel relocation (CR)
- d. Bank stabilizing riprap (RR)
- e. Bank bioengineering (BB)
- f. Bank sloping (BS)
- g. Gully control (GC)
- h. Bank stabilizing barbs (BSB)

Fish Passage Improvement (FPI)
- a. Fish passage structures (FPS)
- b. Alternatives to push-up dams (APD)
- c. Correcting road/stream crossings (CRSC)
- d. Fish screen improvement/replacement (FSIR)

Stream Habitat Enhancement (SHE)
- a. Large wood placement (LWP)
- b. Instream boulder placement (IBP)
- c. Off-channel habitat ~~creation~~ (OCHC) enhancement
- d. Miscellaneous full spanning weirs (MFSW)
- e. Pool construction (PC)
- f. Miscellaneous deflector structures (MDS)
- g. Log, boulder structures (LBS)
- h. Salmonid carcass placement (SCP)
- i. Beaver management (BM)

Instream Water Enhancement (IWE)
- a. Irrigation efficiency projects (IEP)
- b. Irrigation efficiency (IE)

* Reduce turbidity

Estuarine Restoration/Enhancement (ERE)
- a. Tidegate removal / improvement (TRI)
- b. Dike breaching / removal (DBR) Remove dam
- c. Channel reconfiguration (CR)

Wetland Enhancement (WE)
- a. Excavation / removal of fill (ERF)
- b. Elimination of drainage structures (EDS)

* Restore hydrology

Land and Water Acquisition

Land Acquisition (LA)
- a. Conservation easements (CE)
- b. Fee simple acquisition (FSA)

Water Acquisition (WA)
- a. Instream water transfer (IWT)
- b. Instream water lease (IWL)

Watershed Assessment

Watershed Assessment (WAS)
- a. Staffing/contracting (SPM)
- b. Assessment equipment purchase (AEP)
- c. Watershed mapping (WM)

Restoration Action Planning (RAP)
- a. Staffing/contracting (SC)
- b. Materials/equipment (ME)
- c. Administrative expenses (AE)

Watershed Monitoring

Monitoring (M)

a. Fish monitoring (FM)
b. Macroinvertebrate monitoring (MM)
c. Water quality monitoring (WQLM)
d. Water quantity monitoring (WQNM)
e. Estuarine and wetland conditions (EWC)
f. Aquatic habitat conditions (AHC)
g. Riparian conditions (RC)
h. Upland conditions (UC)
i. Restoration project effectiveness (RPE)
j. Monitoring equipment purchase (MEP)

Watershed Education/Outreach

Watershed Education (WED)

a. Education/Outreach coordination (EOC)
b. Education/Outreach materials (EOM)
c. Training/Outreach events (TOE)

The Columbia Slough Watershed Council
Portland, Oregon

August 29, 2000

Grant Review Committee
Oregon Watershed Enhancement Board
775 Summer St, NE, Suite 360
Salem, OR 97301-1290

RE: Ducks Unlimited Grant

To Whom It May Concern:

The Columbia Slough Watershed Council is pleased to support the Ducks Unlimited grant proposal to replace the water control structure at Smith and Bybee Lakes Wildlife Area. The Council approved this action at its August 28, 2000 monthly meeting.

The new water control structure will have fish passage capability and will allow Smith and Bybee lakes to provide off-channel habitat, a key limiting factor for salmonids in the Willamette River. It will also enable management of reed canarygrass and will facilitate native plant community restoration.

The Watershed Council supports this habitat restoration project and urges you to recommend it for funding.

Sincerely,

Jay Mower

Jay Mower, Coordinator

7040 NE 47th Avenue
Portland, OR 97218-1212
VOICE: (503) 281-1132 FAX: (503) 281-5187 INTERNET: jaymower@email.msn.com

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204-1912 503-823-7740, FAX 503-823-6995 Dean Marriott, Director

Geoff Huntington
Executive Director
Oregon Watershed Enhancement Board
775 Summer Street NE, Suite 360
Salem, OR 97301-1290

Dear Mr Huntington,

I am writing in support of the Smith and Bybee Lakes Restoration grant proposal. My program has been involved in habitat restoration in and around the natural area since 1996. While we have managed to install some successful restoration projects in the area, some of greatest opportunities to restore the full function of this area remain out of reach until the natural hydrology of the Lakes is restored.

The water control structure proposed under this grant would allow a return to seasonal and tidal flooding patterns in the lakes, including late summer drying. The new structure would also allow retention of water through the spring, mimicking historical spring freshets. This regime has been shown to inhibit reed canary grass and to foster a diversity of native trees, shrubs and herbs, some of which are increasingly rare endemics of the Columbia River floodplain.

The water control structure will enable natural regeneration of hundreds of acres of riparian forest in parts of the lake that have been impounded for years. Our program has expended a lot of effort at the Lakes to wrestle comparatively few acres back into native forest. This grant will allow reforestation on a large scale with relatively little intervention and at minimal cost.

This grant represents a great opportunity to restore natural function to a large natural area in otherwise urban north Portland. This is also a rare opportunity to restore critical tidal wetland and floodplain forest on the Columbia. I hope you will support this proposal, and I would be glad to provide any further information or documentation you might require.

Sincerely,

George Kral
Forester

c: Elaine Stewart

CITY OF PORTLAND
ENDANGERED SPECIES ACT PROGRAM

1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204-1912 503-823-FISH(3474), FAX 503-823-5344 www.fish.ci.portland.or.us

To The Oregon Watershed Enhancement Board Grant Review Committee:

I manage the City of Portland's Endangered Species Act Program, and am responsible for developing the City's Endangered Species Act Recovery Plan. One of my chief roles has been to identify and evaluate the actions that will be required to meet the challenge of recovering salmon in an urban setting.

We realized early that one of the key strategies in restoring salmon to Portland is to restore and improve access to high quality habitat. A regional workshop of scientists and regulators recently identified the loss of off-channel habitat as a key limiting factor for salmonids in the Willamette River, and emphasized the need to restore, or re-establish access to, off-channel areas.

Smith & Bybee Lakes is a rare natural resource. It is the largest urban wetland within city limits in the country, and provides 1,750 acres of high quality off channel habitat. The quality and contiguity of this existing habitat far exceed anything that could be created through restoration efforts. However, the value of this off-channel habitat is greatly diminished because it is largely inaccessible to salmonids in its present configuration because the water control structure obstructs salmon access to the wetland.

Recovering salmon in an urban landscape is a tremendous challenge. It will take many years to undo the degradations of a century, and progress will be made through thousands of small steps that gradually bring our landscape closer to supporting salmon. The reconnection of Smith & Bybee Lakes to the Willamette River is a high impact project for a modest cost, and represents a large step forward amongst the many that are needed. I strongly believe that this is one of our highest priorities in recovering Portland's salmon. I hope you will agree with the substantial benefits of this project, and will recommend it for funding.

Please let me know if I can provide any additional information that will help you in assessing the merits of funding this project.

Sincerely,

Jim Middaugh
Program Manager
Portland Endangered Species Act Program

Oregon
John A. Kitzhaber, M.D., Governor

Department of Fish and Wildlife
Northwest Region
17330 SE Evelyn Street
Clackamas, OR 97015-9514
(503) 657-2000
FAX (503) 657-2050

January 26, 2001

Geoff Huntington
Executive Director
Oregon Watershed Enhancement Board
775 Summer Street NE, Suite 360
Salem, OR 97301-1290

Dear Mr. Huntington:

We would like to express our support for Ducks Unlimited's project entitled "Smith and Bybee Lakes Restoration". Installation of the proposed water control structure is an important part of restoring the lakes' environmental system.

With their connection to Columbia Slough and the Willamette River restored, the lakes would provide critically important off-channel rearing habitat and refugia for juvenile salmonids. Juvenile Chinook salmon were captured throughout both lakes when they were an open system, and the lakes would likely be used by steelhead also. This project is one of the best opportunities to restore off-channel habitat in the lower Willamette River.

Natural regeneration of hundreds of acres of emergent wetlands and riparian forest will occur after the lakes return to seasonal and tidal flooding patterns. This will provide a suite of wildlife benefits, including wintering habitat for waterfowl, forests for neotropical migratory birds, mudflats for migrating shorebirds, and expanded amphibian and reptile habitat. Although western painted turtles tend to inhabit other parts of the wildlife area, they should benefit from reduced bullfrog populations (a predator on hatchlings) resulting from seasonal drying of the lakes. This project is a rare opportunity to restore a large area with a broad range of wildlife and habitat values.

We support this grant application and urge you to recommend it for funding.

Sincerely,

Holly Michael
Wildlife Diversity Biologist

Jim Muck
District Fish Biologist

600 NORTHEAST GRAND AVENUE | PORTLAND, OREGON 97232 2736
TEL 503 797 1700 | FAX 503 797 1797

METRO

November 16, 2000

Geoff Huntington
Executive Director
Oregon Watershed Enhancement Board
775 Summer Street NE, Suite 360
Salem, OR 97301-1290

Dear Mr. Huntington:

This letter is in response to the Region 3 (Willamette Valley) Review Team's comments on Ducks Unlimited's grant application for Smith and Bybee Lakes Restoration. The comments included concerns regarding Metro's support for the project and ability to monitor it, and whether the Port of Portland should be responsible for the project.

The Smith and Bybee Lakes Management Committee convened a Wetland Technical Advisory Committee to review restoration opportunities at the lakes, and the TAC included this project in its recommendations. Both the management committee and TAC include representatives from a variety of natural resource agencies and interested groups. The management committee adopted the TAC's suggestions and recommended this project to Metro, in 1996 and again in 2000. This winter, the Metro Regional Parks and Greenspaces Department is presenting the project to the Metro Council for approval.

Metro and Ducks Unlimited have been in close contact on this project for several years. Ducks Unlimited came forward as an experienced partner to accomplish the work, and DU has secured more than half of the funds needed for the project. Grant funds from OWEB would provide the remaining funds necessary to do the work.

The review team expressed concern regarding Metro's commitment to monitoring the structure after installation. Our wildlife area manager makes regular visits to the area and can routinely monitor the structure, take photographs, and perform other tasks that may be required for project monitoring.

The review team also noted that, at one time, this project would have been the Port of Portland's responsibility. Under a 1989 cooperative agreement between the Port and several agencies, two water control structures were planned and should have been completed by January 1991. Since that time, a lawsuit has stalled full implementation of the cooperative agreement, including construction of any water control structures. The lawsuit has not been settled, and we do not anticipate that the Port will be implementing this part of the cooperative agreement. Further, the structures called for in the cooperative agreement would have restored only Bybee Lake to a tidal marsh system, leaving Smith Lake impounded. The project in Ducks Unlimited's grant application would allow tidal and seasonal flooding of both Smith and Bybee lakes, thus restoring both lakes' hydrology to the extent possible. This is consistent with the Wetland TAC's and management committee's recommendation.

Thank you for considering this response and the grant application for Ducks Unlimited. We hope that you will recommend it for funding. If you have any further questions, please contact Elaine Stewart, Smith and Bybee Lakes Wildlife Area Manager, at 503-797-1515.

Sincerely,

Charles Ciecko
Director
Regional Parks and Greenspaces Department

Metro Regional Parks and Greenspaces

METRO

600 NE Grand Ave., Portland, OR 97232-2736
(503) 797-1850

To: Ken Bierly
Company: OWEB
Phone: 503-986-0182
Fax: 503-986-0199

Date: 12-28-00
Pages: 2

From: Elaine Stewart
Phone: (503) 797-1515
Fax: (503) 797-1849

Comments: FYI - federal register notice re Rivergate consent decree. There is $285,000 set aside for work at Smith & Bybee - however, Jones will have opportunities to contest projects, and he is against the new water control structure. So I do not expect any of the $285k to be available for that project. It will probably be used to re-establish bottomland forest & other plant communities.

Please call if fax is not received properly.

[Federal Register: December 14, 2000 (Volume 65, Number 241)]
[Notices]
[Page 78189]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr14de00-111]

DEPARTMENT OF JUSTICE

Notice of Lodging of Consent Decrees Pursuant to the Clean Water Act

In accordance with Departmental Policy, 28 CFR 50.7, notice is hereby given that a cross-claim and two consent decrees, which together would resolve all claims in Jones v. Thorne, et al., Civil Action No. CV97-1674-ST (D. Ore.), were lodged with the United States District Court for the District of Oregon on November 30, 2000.

The first proposed consent decree, entitled ``Consent Decree Settling United States' Cross-Claim Against Port of Portland,'' settles claims asserted by the United States against the Port of Portland (``Port'') in a cross-claim in the lawsuit. The cross-claim was also lodged with the Court. The cross-claim and consent decree concern alleged violations of the Clean Water Act, 33 U.S.C. 1311, resulting from the Port's alleged unauthorized discharge of dredged or fill materials into waters of the United States in the Rivergate area of Portland, Oregon, near the confluence of the Columbia and Willamette Rivers, between 1991 and 1996. The consent decree requires the Port to: (a) Mitigate and restore approximately 37 acres of wetlands and associated upland riparian habitat and buffer areas adjacent to the Columbia Slough and Smith and Bybee Lakes in the Rivergate area, in accordance with parameters specified in the consent decree and detailed plans to be approved by the United States Army Corps of Engineers (``Corps''); (b) preserve the mitigation and restoration in perpetuity by recording the consent decree and identifying the restrictions against development on the property in any instrument by which the Port conveys an interest in the property; (c) pay $285,000 for additional mitigation projects in the Smith and Bybee Lakes Management Area, subject to the approval of the corps; (d) pay $64,000 to the City of Portland for revegetation of the lower Columbia Slough banks and buffer areas; and (e) pay $50,000.00 to the United States Treasury.

The second consent decree, entitled ``Consent Decree, Order of Dismissal with Prejudice and Release,'' settles claims asserted by William Michael Jones against the Port and the United States related to the Port's development of Rivergate. This consent decree requires the Port to perform some of the same activities required in the consent decree described in the previous paragraph. Also in this consent decree, the United States, on behalf of the Corps, the Environmental Protection Agency and the Fish and Wildlife Service, releases the Port from any claims it may have under the 1989 Cooperative Agreement regarding the Port's development of Rivergate.

The Department of Justice will receive written comments relating to the cross-claim and proposed consent decrees for a period of thirty (30) days from the date of publication of this notice. Comments should be addressed to the Assistant Attorney General, Environment and Natural Resources Division, United States Department of Justice, Attention: G. Scott Williams, Senior Attorney, Environmental Defense Section, P.O. Box 23986, Washington, D.C. 20026-3986, and should refer to Jones v. Thorne, et al., DJ No. 90-5-1-4-585.

The cross-claim and proposed consent decrees may be examined at the Clerk's Office, United States District Court, 740 United States Courthouse, 1000 S.W. Third Avenue, Portland, OR 97204-2902. 503-326-8009

Letitia J. Grishaw,
Chief, Environmental Defense Section, Environment and Natural Resources Division, United States Department of Justice.
[FR Doc. 00-31767 Filed 12-13-00; 8:45 am]
BILLING CODE 4410-15-M

Monitoring Objectives

- Collect baseline data on juvenile salmonid use of wetlands prior to restoration
- Test the effectiveness of wetland restoration in increasing numbers and production of native fishes, particularly anadromous salmonids.
- Test the effectiveness of two different fishway structures used in conjunction with water control structures designed to freely pass juvenile salmonids.
- Collect baseline and post-project data on water quality

Standard Fish Monitoring Protocol

Season-specific, intensive sampling is necessary to maximize the detectability of all fish species, and provide sufficiently low sampling variance to detect differences in Catch per unit effort (CPUE = a gear-specific index of abundance density) among treatments, and across systems, by season. A "Regular fish monitoring program" (RFMP) is described below to achieve this.

Temperate floodplains are characterized by frequent water level changes, especially during the winter and spring, and movements of fish may occur between RFMP samples. Also, understanding fish movements, especially of migratory, anadromous fishes, is important in interpreting seasonal habitat use. To this end, 2-way traps (based on a vertical slot design that is operational over a range of water levels (Bayley and Baker 2000)) will be employed at some units. Apart from continuous monitoring at a strategic position at each site, traps will also be employed periodically upstream and downstream to control structures to test their effectiveness in permitting free passage of marked fish. Continuous monitoring will not be possible at all water levels at all sites, because at high levels many access points are available and fish are more dispersed. However, strategic gill net sets have been very successful at sampling fish at very high water levels (Bayley and Baker 2000), and standard fleets used in the RFMP will also be employed in this manner.

All fish captured will be identified and measured to fork length. Selected specimens will be weighed to augment existing length-weight data sets. External anomolies, including parasites, will be recorded, as well as external or internal (pit) tags, and fin clips to denote hatchery fish. Scales will be sampled from salmonids for age determination. Samples of fishes will be sacrificed for age verification using otoliths and for diet analysis. Pit-tagging of juvenile anadromous salmonids will be undertaken to detects resident times in floodplain units with control structures, and to contribute to the basinwide effort to determine seasonal migration patterns and growth of wild fish.

When a standard pre-selected area for sampling is encountered dry, it will be recorded as a zero sample.

Regular fish monitoring program (RFMP) - An affordable, consistent monitoring system is essential for estimating changes in fish populations during different seasons and among floodplain units. A protocol, RFMP, has been successfully implemented for floodplain restoration monitoring in aggregate-mined areas (Bayley and Baker 2000) and is recommended for the restoration units in this project. The methods include: 1. Boat electrofishing unit, 2. Standard gill net fleet, 3. Hoop net, and 4. Gee minnow trap, that

are described in detail below.

1. Boat electrofishing unit . Consistency in protocol, and the likelihood of maintaining it into the future, is more important than maximizing catch during particular sampling trips. Therefore sampling was conducted entirely during daylight hours. The unit uses a Smith-Root GPP5 model powered by a 5000-W generator. Available voltage ranges up to 1000-V. The unit was run at 40-60% of maximum voltage to draw a current between 3-5 amps (close to 4 amps); pulse rate will be normally set at 120.. All strata in all units will be sampled by a single pass per season. Although times of runs are recorded, effort is most appropriately measured as the distance of shoreline sampled; CPUE is here expressed as catch in numbers per 100-m of shoreline.

2. Standard gill net fleet.- The remaining methods, 2, 3, and 4, use passive (set) gear, and therefore sets will be positioned randomly within each stratum (shore section) prior to each trip. The order in which the sections will be fished will also be randomized.

Each gill net fleet will be 6-ft deep and 125-ft-long with 5 panels (25-ft each) of 3/4, 1, 1.5, 2, 2.5-in square mesh sizes of multifilament nylon. It will have a polycore floatline and leadcore line weighted for fishing on the bottom. Fleets will be set roughly perpendicular to the shoreline with the finest mesh adjacent to shore. The mesh size in which each fish was entangled will be recorded.

3. Hoop net.- Each hoop net will be 2.5-ft diameter and 1" square mesh with a short 1" square mesh lead net attached to the middle of the opening for guiding fish in from either direction. Each set (one unit per stratum) will be arranged with the lead net towards the shore.

4. Gee minnow trap.- Three Gee minnow traps (1/4 inch mesh) will be randomly set each season in each stratum in shallow water, covered with macrophytes.

Methods are to some extent complementary with respect to their ability to catch different species or sizes of fish from the common members of the community, and the joint sampling effort (in addition to vertical slot traps and strategic gill nets described above) will maximize the chance of encountering rarer species. Each gear has a characteristic catchability range depending on species, size, and environment, that relates actual abundance or biomass density to catch-per-unit-effort (CPUE) with catch as numbers or weight of fish, respectively. A consistent protocol does not guarantee constant catchability, but makes it minimally variable in given habitats across floodplain units. Maintaining protocols will also permit the future application of catchabilities estimated from efficiency calibrations on-site, or with similar gear, species, and habitats elsewhere. This would transform CPUE data to actual abundance or biomass estimates.

The RFMP will be applied to all floodplain units during at least 3 seasons (winter (Dec./Jan), early spring (April), and summer (August)) each year. At Sauvie Island units, the critical period of late spring, will also be sampled in early-mid June. Sampling will be preallocated randomly within spatial strata defined by specific sections of shoreline in each lake. Set gears (gillnets, hoopnet, minnow traps) will be applied during a total period of 48h at each stratum at each site and season. Gillnets will be fished frequently during each 24h set to minimize mortality. Boat electrofishing will sample whole

shoreline sections, or randomly chosen reaches within strata. Sampling by boat electrofishing will not be feasible at all season in some locations, such as at Sauvies in August. Where smaller water bodies exist, standardized protocols using backpack electrofisher or electric seine will be employed and maintained at those sites and seasons.

Fish passage Monitoring

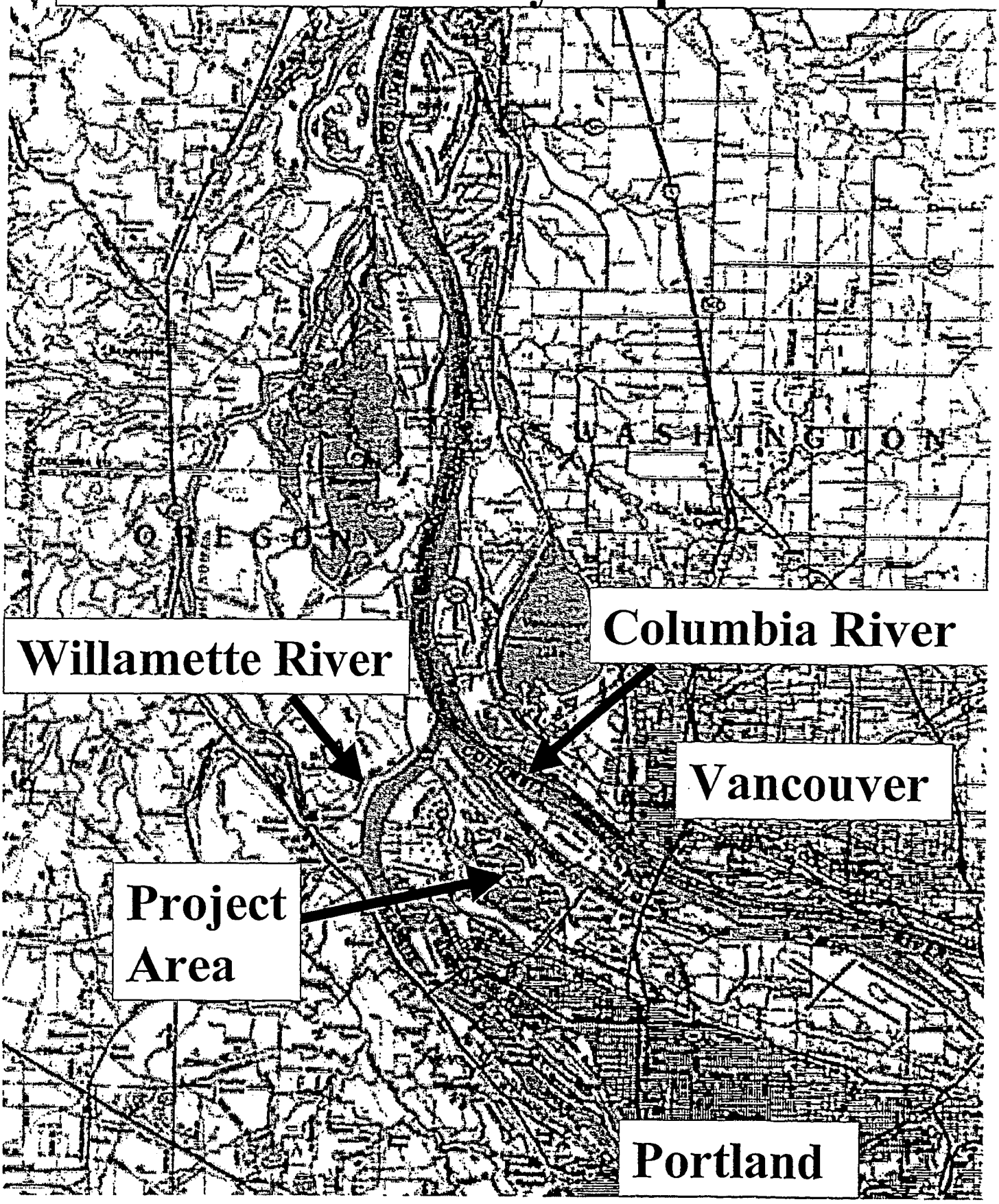
In the event nonsignificant numbers of juvenile salmonids are found to be using these wetlands a separate test study has been designed to address the fish passage issue. Juvenile chinook salmon from in-basin hatcheries have been donated to test the capabilities of fish passage design. Groups of 100 fish will be randomly distributed in three wetlands during the course of the early spring. The three wetlands to be evaluated are Ruby lake, Wigeon lake and the North pond of the West bank Multnomah Channel project. We will evaluate passage success on a fully functional water control structure at Ruby lake, a nonfunctioning structure at widgeon lake, and a wetland without water control capabilities (control) at the West Bank site. With this design we will be able to compare fish passage, residence times, and growth benefits between wetlands. Fish will be distributed around the first of February and again around the first of March. These fish will be age 1+ smolts and should be representative of those we would expect to encounter in floodplain wetlands during a typical year. Fish will be marked with PIT tags to identify individual fish. We will be able to document percentage of successful emigrants, and compare emigration efficiencies between the three sites.

Habitat monitoring

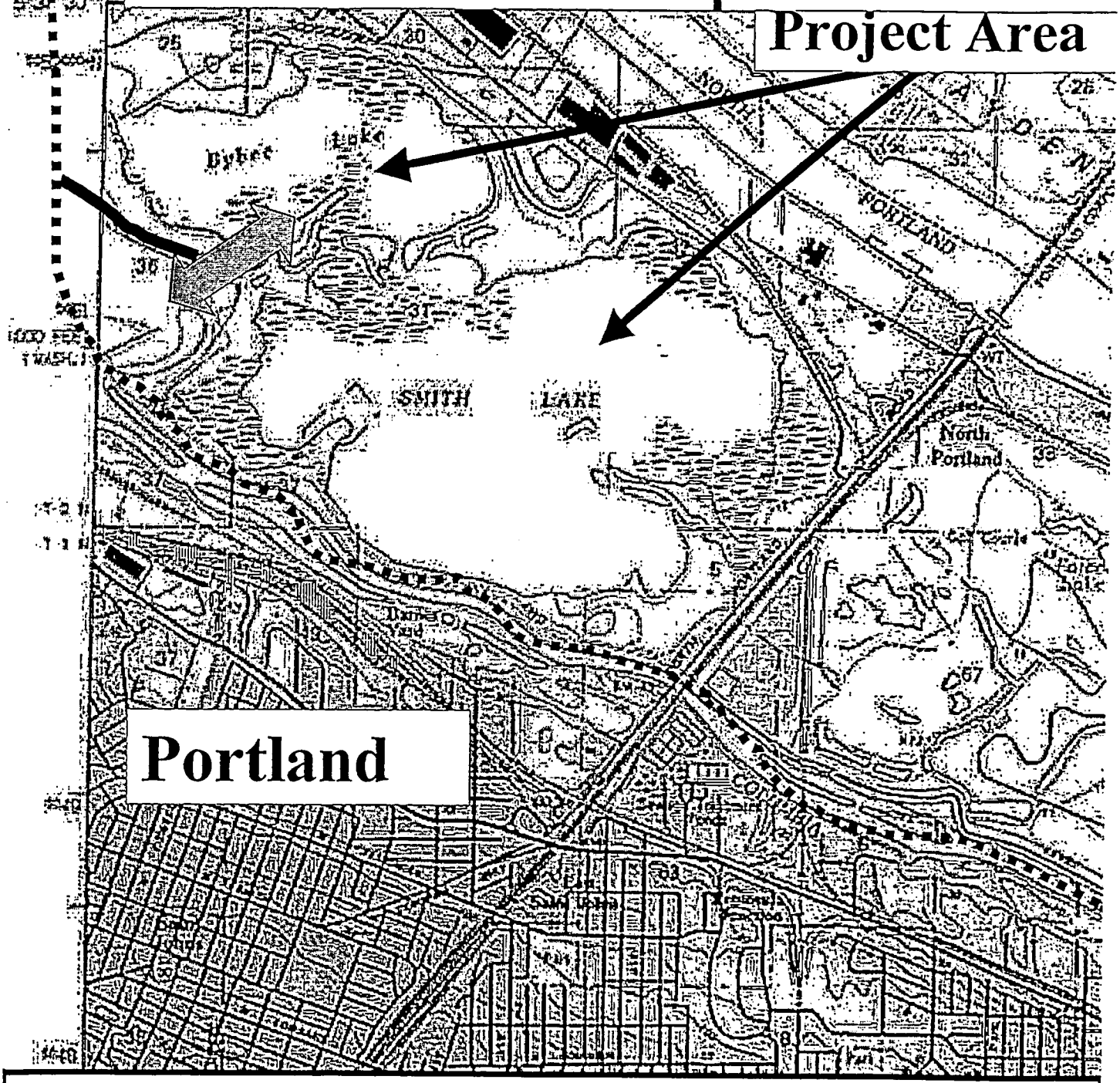
Dominant vegetation, water depth, transparency (Secchi and/or tubidity meter) temperature, and electrical conductivity will be recorded at each site corresponding to each fish sample. A photograph will be taken of a typical shoreline representative of each stratum at each site and season, and the GPS position and direction of each photograph recorded. Temperature will also be continuously recorded using Hobo Temperature Probes (Onset Corp.) set to take readings every 1.6 hours. Probes will placed just below the surface and just above the bottom of lakes in each unit. Probes will also be placed in connecting rivers or sloughs.

Water samples for nutrient analysis will be collected at mid-summer (if water is available) and mid-winter at each lake (collected offshore between noon and 2pm) and will be kept cool and in the dark until they are filtered in the lab. They will be analyzed for dissolved total nitrogen, dissolved total phosphorus, dissolved nitrogen oxides (NO_3+NO_2), and ammonia. Dissolved oxygen concentration samples will be determined once each summer at surface and near bottom at early morning at each lake using the Winkler Method. If early results indicate that oxygen may be critical, more regular, diurnal measurements will by taken using a YSI meter.

Smith and Bybee Lakes Restoration Vicinity Map



Smith and Bybee Lakes Restoration Plan Map

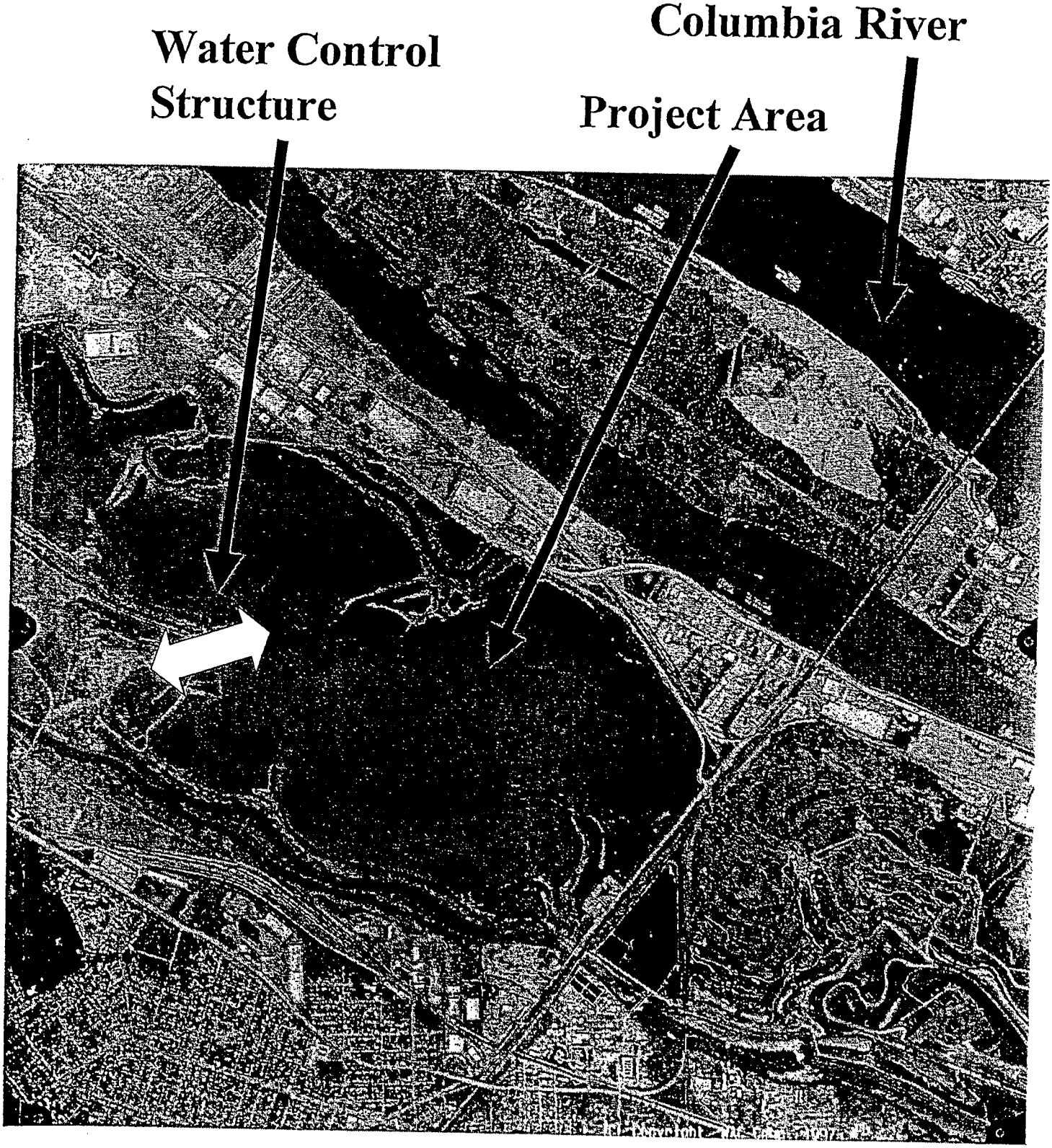


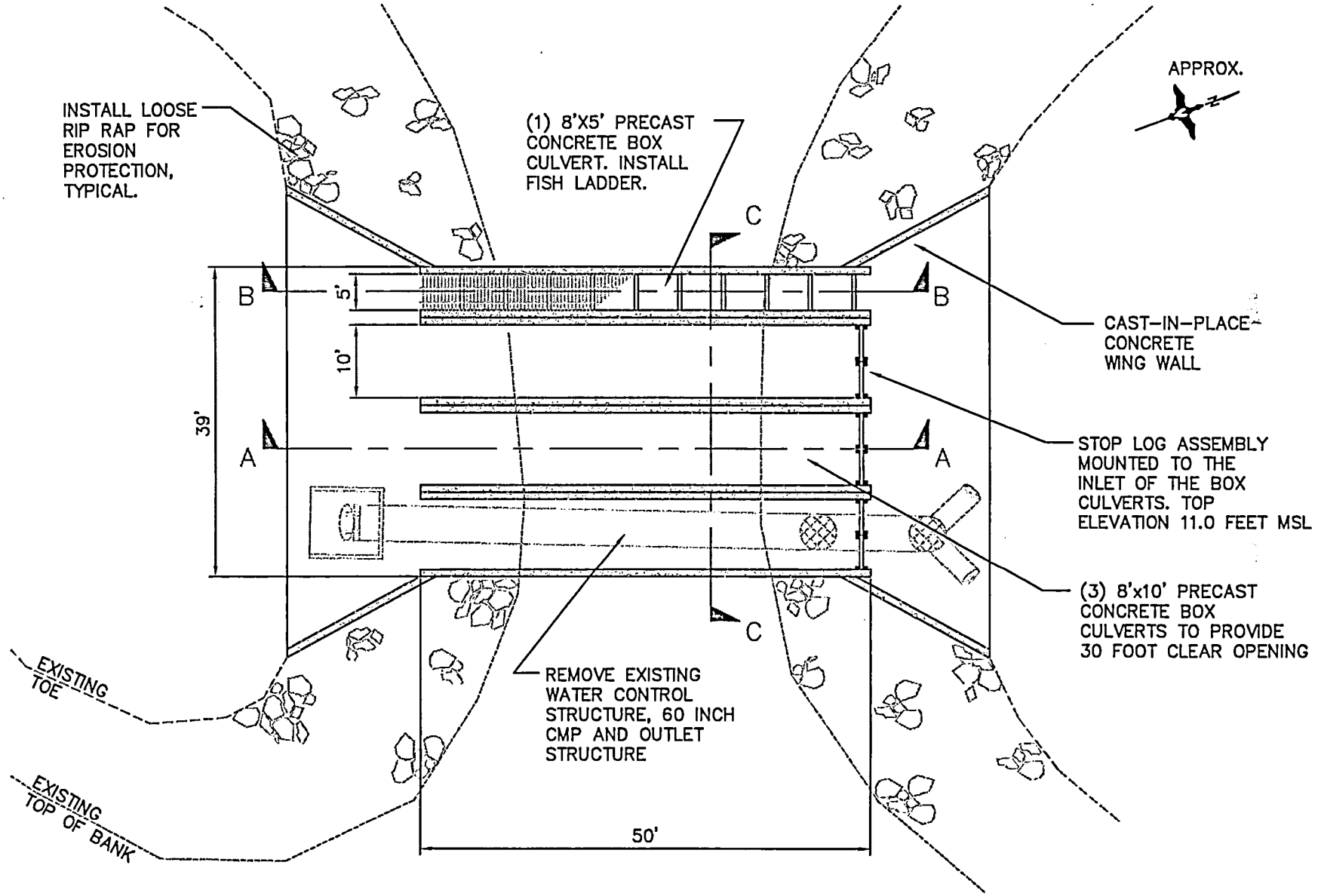
New Water Control Structure/Connection to North Slough and Columbia Slough

Columbia Slough

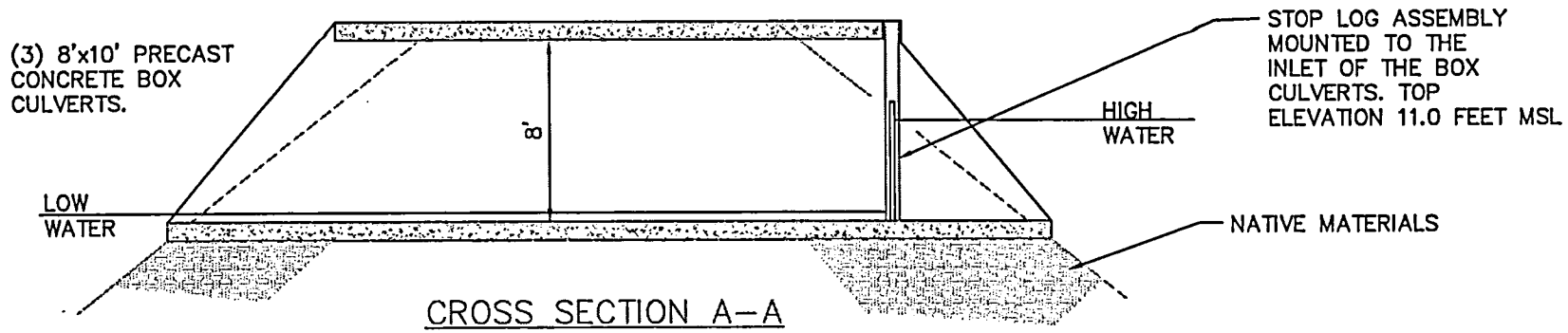
North Slough

Smith and Bybee Lakes Restoration, Aerial Photo

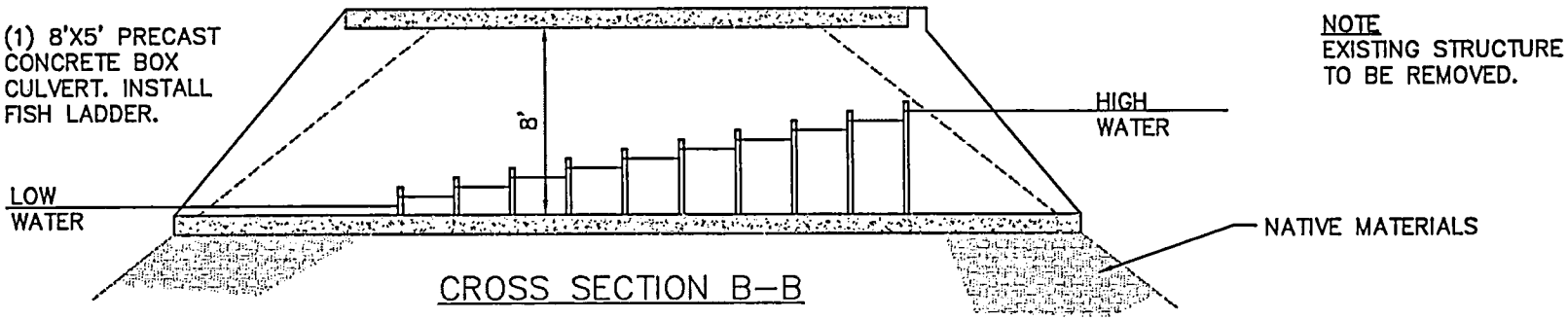




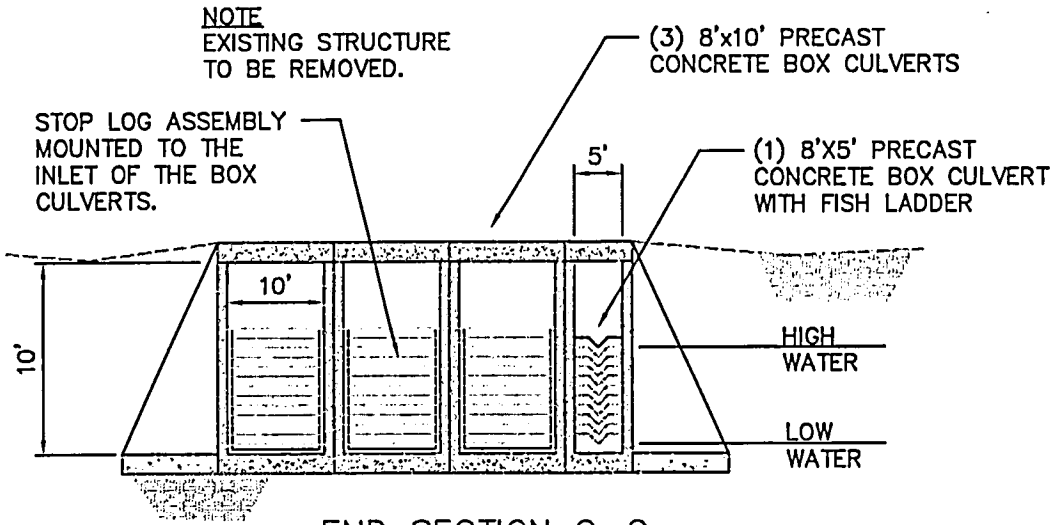
DUCKS UNLIMITED INC. WRO- PNW FIELD OFFICE	PROJECT NO. OR-032-001	DESIGNED BY: KMD	
	OWEB Proposal Smith/Bybee Lakes	DRAWN BY: kmd	
		SURVEYED BY:	
		CHECKED BY: DPG	
DATE 01/29/02	SHEET NO. 1 of 2	APPROVED BY:	APPROVED BY:



CROSS SECTION A–A



CROSS SECTION B–B



END SECTION C–C

DUCKS UNLIMITED INC. WRO– PNW FIELD OFFICE	PROJECT NO. OR–032–001		DESIGNED BY: KMD
	OWEB Proposal Smith/Bybee Lakes		DRAWN BY: kmd
			SURVEYED BY:
			CHECKED BY: DPG
DATE 01/29/01	SHEET NO. 2 of 2	APPROVED BY:	APPROVED BY:

November 16, 2000

Mr. Ken Bierly, Deputy Director
Oregon Watershed Enhancement Board
775 Summer Street NE, Suite 360
Salem, Oregon 97301-1290

RE: Smith and Bybee Lakes Restoration
Application No: 200-119

Dear Mr. Bierly:

Thank you for allowing us the opportunity to clarify certain aspects of the project proposal "Smith and Bybee Lakes Restoration", submitted to the Oregon Watershed Enhancement Board (OWEB) for funding consideration on September 1, 2000. I will address the Regional Review Team concerns as they are described in the Evaluation Document provided to Ducks Unlimited, Inc.

(1) The Team expressed concern that a letter of support was not provided by Metro. For this project, Metro is the landowner and will be responsible for monitoring project success.

Under separate letterhead, Metro will be forwarding a letter of support and acknowledgement of their responsibilities for monitoring the project. Metro is fully supportive of the project and, in fact, approached Ducks Unlimited with the request to participate in this effort and submit a proposal to OWEB.

(2) The Team expressed concern that the cost of the water control structure seemed high and that no designs were provided for the structure.

Ducks Unlimited engineers developed the estimated costs of the water control structure and other aspects related to the construction of this project. DU engineers have extensive experience in wetland restoration. In Oregon, DU completed approximately 25 projects last year alone that restored over 5,000 acres of habitat at a total cost of approximately $3,000,000. Attached to this letter is a letter from the DU engineer, a cost estimation worksheet developed by the engineer, and two conceptual drawings of the proposed water control structure. These are not engineered plans, but rather preliminary concepts developed by an engineer, approved by project partners and used for cost estimating purposes. The cost of preparing final engineered plans precludes the development of such plans until full funding for the project has been secured. The particular water control structure proposed for this sight is very large and, of course, more expensive than most water control structures used on other wetland restoration projects. The reasons for this are quite simple – the size and goals of the project. When full, the wetland area within the project exceeds well over 1,000 acres. At this size, several thousand acre-feet

of water are stored within the project area. One of the main goals of the project is to provide significant daily tidal exchange of water between the project and the Willamette/Columbia River system. In order for this to occur, a structure of sufficient size to pass large amounts of water within a few hours is essential. In addition, maximizing fish passage features and adaptive management capabilities in order to ensure high quality habitat for fish and wildlife species are other high priority goals of the project. Having a large-capacity structure capable of achieving these goals is a requirement for the project and led to the development of the proposed design for the water control structure.

(3) The Team expressed concern that the Port was, at one time, responsible for replacing this structure.

It is our understanding that the situation has changed and the Port will no longer be responsible for restoring/enhancing Smith and Bybee Lakes. We have asked Metro to address this situation in the letter that Metro is providing to OWEB as part of this review.

(4) The Team desires that the proposal address western painted turtle habitat and invasive fish species.

The restoration and enhancement of Smith and Bybee Lakes will significantly enhance habitat for western painted turtles and other wetland dependent fish and wildlife species. The project, as proposed, offers significant opportunity to control exotic, invasive fish species, most notably carp. Currently, carp gain access to the lake system to spawn in the spring. Many of those fish get trapped in the system during the summer months because of a trash rack attached to the current outlet of the marsh. The fish become permanent residents of the marsh. As water levels recede during the summer, the impact from thousands of carp becomes very evident by the huge amount of suspended sediments in the water. Where this water enters Columbia Slough, it creates a very obvious plume of dirty brown water. As proposed, this project will provide Metro with the ability to manage carp populations. First, the water control structure will have a trash rack/fish screen that can be used during the critical spring period to block access to the marsh by large fish during the carp spawning period. This device will not prevent ingress or egress by smaller fish, such as juvenile chinook salmon. During the summer/early fall period, this device can be used to trap fish within the lakes and allow the lakes to completely draw down, thereby effectively killing all the carp within the system. This type of management should be accomplished every few years, not only to remove adult carp from the system before they become too large and numerous, but it also serves to recycle nutrients within the marsh and promotes the establishment and proliferation of a diverse wetland plant community.

(5) The Team suggested that other state and Federal agencies should be included as partners.

The U.S. Fish and Wildlife Service and the U.S. Forest Service are partners in this project and are providing funding for project implementation. A representative from the Oregon

Department of Fish and Wildlife sits on the management board for Smith and Bybee Lakes and supports this project. We have asked ODFW to provide a letter to OWEB documenting this support. Metro, the City of Portland and the local watershed council are all in support of this project. We believe this project proposal has sufficient support from partners and warrants funding from OWEB. We decided to approach OWEB with this proposal simply because we believe the goals and size of the OWEB program offers the best opportunity to secure the remaining funds necessary to complete the project. Spending time and money gathering support from other agencies that most likely don't have the resources to be a real partner in this project has no purpose. Funding from OWEB is the final link needed to make this project a reality.

Thank you for the opportunity to address the concerns expressed by the Regional Review Team. Ducks Unlimited, Inc. believes this project offers one of the most significant opportunities in the Portland area to improve habitat for fish and wildlife species, especially water birds and endangered salmon. Thank you for considering this proposal.

Sincerely,

Steve Donovan
Regional Biologist

Enc.