

**TC 8526-05
FINAL REPORT**

RECONNAISSANCE SURVEY OF LOWER COLUMBIA RIVER:

TASK 5 DEFINITION OF BENEFICIAL USES

AUGUST 8, 1991

Prepared For:

THE LOWER COLUMBIA RIVER BI-STATE PROGRAM

Prepared By:

**TETRA TECH
11820 NORTHUP WAY, SUITE 100E
BELLEVUE, WA 98005**

**In Association With
DAVID EVANS AND ASSOCIATES
EVS CONSULTANTS**

CONTENTS

	<u>Page</u>
1 0 INTRODUCTION	1
2 0 PURPOSE	1
3 0 OREGON BENEFICIAL USES	1
4 0 WASHINGTON CHARACTERISTIC USES	2
5 0 BI-STATE PROGRAM USES	2
6 0 REFERENCES	3
 COMPARATIVE SUMMARY OF BENEFICIAL/CHARACTERISTIC USES	 4

TASK 5: IDENTIFICATION OF BENEFICIAL USES AND SENSITIVE AREAS

STEP 2: DEFINITION OF BENEFICIAL USES

1.0 INTRODUCTION

Water quality standards have been adopted by the states of Oregon and Washington to meet the requirements of the Federal Water Pollution Control Act Amendments of 1972 (later amended to be the Clean Water Act). These standards assure water quality protection for public health, public water supplies, agricultural uses, industrial uses, and recreational activities as well as the protection and propagation of a balanced population of shellfish, fish and wildlife. Both states are currently reviewing and modifying established water quality limitations to maintain these water quality standards.

Every 3 years the Oregon Department of Environmental Quality and the Washington Department of Ecology review water quality standards in fulfillment of the Clean Water Act to determine if revisions are needed to more fully protect water quality and beneficial (Oregon) and characteristic (Washington) uses. Since the triennial review and adoption process is nearly complete, the proposed and drafted rules are used here to define beneficial uses for Oregon and characteristic uses for Washington.

2.0 PURPOSE

The identification of beneficial/characteristic uses is critical to the development of a comprehensive understanding of the lower Columbia River system. The surface waters of the river are used for many purposes, all of which require a degree of quality appropriate to the use. This section defines the uses established by the states of Oregon and Washington and how they will be used in the Bi-State Program.

3.0 OREGON BENEFICIAL USES

Oregon Administrative Rules have established water quality standards in the lower Columbia River Basin (ORS 340-41-202, 442, 482). Three separate watersheds (three reaches of the River) are covered under these regulations: Columbia River mouth to RM 86; main stem Columbia River, RM 86 to 120; and Columbia River, RM 120 to 147. Beneficial uses are consistently defined for the three areas with the exception that hydropower is not listed for the mouth to RM 86, and salmonid fish spawning is not listed from RM 120 to 147. The Oregon beneficial uses are listed below.

- | | |
|----------------------------------|--|
| ■ Public Domestic Water Supply | ■ Resident Fish and Aquatic Life |
| ■ Private Domestic Water Supply | ■ Wildlife and Hunting |
| ■ Industrial Water Supply | ■ Fishing |
| ■ Irrigation | ■ Boating |
| ■ Livestock Watering | ■ Water Contact Recreation |
| ■ Anadromous Fish Passage | ■ Aesthetic Quality |
| ■ Salmonid Fish Rearing (trout) | ■ Hydropower |
| ■ Salmonid Fish Spawning (trout) | ■ Commercial Navigation and Transportation |

These beneficial uses are the basis for water quality management.

4.0 WASHINGTON CHARACTERISTIC USES

The State of Washington has classified surface water based on water quality and characteristic uses. The lower Columbia River has been classified as "Class A (excellent) Quality". Water quality for this classification must meet or exceed the requirements for all, or substantially all, of the uses listed in the regulations (WAC 173-203 Draft). Six characteristic uses are listed below.

- Water Supply (domestic, industrial, agricultural)
- Stock Watering
- Fish and Shellfish
 - Salmonid migration, rearing, spawning, and harvesting
 - Other fish migration, rearing, spawning, and harvesting
 - Clam, oyster, and mussel rearing, spawning, and harvesting
- Wildlife Habitat
- Recreation
 - Primary contact recreation, sport fishing, boating, and aesthetic enjoyment
- Commerce and Navigation

The draft revisions to the Washington Administrative Code propose amendments to the surface water quality standards. Key elements in the regulations significant to the Bi-State Program include numerical limits for five additional toxic substances; adoption of wetlands water quality criteria and antidegradation provisions; and clarification of how standards apply to nonpoint sources of pollution.

5.0 BI-STATE PROGRAM USES

One of the goals of Task 5 of the present project is to map beneficial/characteristic uses in the lower Columbia River. In order to ensure that all defined uses from both states are quantified, the uses have been grouped into five categories.

- 1 Water Supply
 - All domestic water supply systems including private wells, small private water systems, PUD and municipal public systems, Indian withdrawal rights, and other surface water extractions used for domestic supply.
 - Industrial supply, including direct withdrawals for manufacturing, processing, or other industrial activity.
- 2 Agricultural
 - All private or public withdrawals for the purpose of irrigating agricultural crops, orchards, or public lands.
 - All withdrawals for the purpose of supplying water to commercial livestock operations.
 - Areas of concentrated withdrawals by private landowners to supply livestock.

3 Fish/Wildlife Species and Habitat

- Areas supporting anadromous fish passage, salmonid fish rearing, salmonid fish spawning, resident fish, and aquatic wildlife use including national and state refuges.
- Significant riparian habitats, such as backwater marshes and island nesting areas
- Unique marine or freshwater habitats, and Natural Heritage Sites.

4 Recreation

- Hunting, fishing, and boating
- Primary contact recreation, in general where contact with the water is submergence, such as skin diving, swimming, water skiing, jet skiing, and wind surfing
- Secondary contact recreation, in general where water contact is limited, such as wading or fishing.
- Aesthetic quality where senses are involved; i.e., scenic overlooks, unique botanical areas, birdwatching areas, etc

5 Commercial

- Hydropower production
- Navigation and transportation.
- Marinas and other commercial activities associated with the River.
- Commercial fisheries

Categories of use will overlap; for example, fish/wildlife habitat will often coincide with recreational uses of fishing and hunting and commercial fishing areas. These areas may assume a greater importance in the overall system because of their multi-use characteristics. The analysis of beneficial uses will examine the relationships between the various use categories in the context of water quality standards, cumulative impacts, and limitations of the resource.

During the research for this project, other beneficial uses not previously listed by the states may be discovered and added to the mapping.

6.0 REFERENCES

Washington Administrative Code. June 1991. Chapter 173-201 and Draft Chapter 173-203, Dept of Ecology, Olympia, WA

Oregon Administrative Rules. January 1990. Chapter 340, Division 41. Department of Environmental Quality, Portland, OR

COMPARATIVE SUMMARY OF BENEFICIAL/CHARACTERISTIC USES
(Page 1 of 2)

Oregon Beneficial Uses	Washington Characteristic Uses	Bi-State Program Uses
1 Water Supply	1 Water Supply	1. Water Supply:
- Public domestic water supply	- Domestic	All domestic water supply systems including private wells, small private water systems, PUD and municipal public systems, Indian withdrawal rights, and other surface water extractions used for domestic supply
- Private domestic water supply	- Industrial	
- Industrial water supply	- Agricultural	
- Irrigation	2. Stock Watering	Industrial supply including direct withdrawals for manufacturing, processing, or other industrial activity
- Hydropower	3 Fish and Shellfish:	
2 Livestock Watering	Salmonid migration, rearing, spawning, and harvesting	2. Agricultural.
3 Fish and Shellfish	Other fish migration, rearing, spawning, and harvesting	All private or public withdrawals for the purpose of irrigating agricultural crops, orchards, or public lands
- Resident fish and aquatic life	Clam, oyster, and mussel rearing, spawning, and harvesting	All withdrawals for the purpose of supplying water to commercial livestock operations
- Anadromous fish passage	4. Wildlife Habitat	Areas of concentrated withdrawals by private landowners to supply livestock
- Salmonid fish rearing (trout) and	5 Recreation.	
- Salmonid fish spawning (trout)	Primary contact recreation	3. Fish/Wildlife Habitat
4 Wildlife and Hunting	Sport fishing	Areas supporting Anadromous fish passage, salmonid fish rearing, salmonid fish spawning, resident fish, and aquatic wildlife use including national and state refuges
5 Recreation.	Boating	
- Fishing	Aesthetic enjoyment	Significant riparian habitats, such as back-water marshes and island nesting areas
- Boating	6. Commerce and Navigation and Transportation	Unique marine or freshwater habitats, and Natural Heritage Sites
- Water contact recreation		4. Recreation:
- Aesthetic quality		Hunting, fishing and boating
6 Commercial Navigation and Transportation		Primary contact recreation, in general where contact with the water is submergence, such as skin diving, swimming, water skiing, jet skiing, and wind surfing
		- Secondary contact recreation, in general where water contact is limited, such as wading or fishing

COMPARATIVE SUMMARY OF BENEFICIAL/CHARACTERISTIC USES
(Page 2 of 2)

Oregon Beneficial Uses	Washington Characteristic Uses	Bi-State Program Uses
		<p>Aesthetic quality where senses are involved (i.e., scenic overlooks, unique botanical areas, birdwatching areas, etc.)</p> <p>5. Commercial.</p> <ul style="list-style-type: none"> - Hydropower production - Navigation and transportation - Marinas and other commercial activities associated with the River <p>Commercial fisheries</p>