

## **INTRODUCTION**

Many issues driving the maintenance and recovery of salmon and steelhead in the Clackamas River transcend jurisdictional boundaries and dictate a multi-partnership approach, if successful outcomes are to be realized. The Clackamas River Fisheries Working Group, established in 1993, provides this needed arena. The group brings together fish biologists in the Clackamas River basin to set common priorities and direct limited resources toward research that addresses overlapping fish resource issues. Members of the working group are biologists representing various federal, state and local management agencies and Portland General Electric.

The Clackamas River Fisheries Working Group continued research studies to address fish issues in the basin in 2004 and 2005. The results from these studies are discussed in this Accomplishments Report. Information gained from the studies has given resource managers a better understanding of fish resources in the basin and helped focus ongoing efforts to restore native fish runs. In addition, it summarizes data on hatchery releases and other fish management activities during 2004 and 2005.

Related studies conducted as part of Portland General Electric's relicensing efforts for the Oak Grove and North Fork hydroelectric projects on the Clackamas River are also summarized. These efforts, which began in 1999, were in full swing during 2004 and 2005. Many of the relicensing studies addressed priorities and complemented actions of the Clackamas River Fisheries Working Group. The relicensing study summaries contained in this report are not comprehensive of all the relicensing studies and only relate to the fish and aquatics, water quality and geomorphology issues that parallel efforts in the Clackamas River Fisheries Working Group.

## **OVERVIEW OF THE CLACKAMAS RIVER BASIN**

The Clackamas River begins on the western slopes of the Cascade Mountain Range between Mt. Hood and Mt. Jefferson and carves through the watershed, first to the northwest and then west, for a distance of about 83 miles before joining the Willamette River near Oregon City (Figures 1 and 2). In the upper watershed, the Clackamas and tributaries rush from one set of rapids to another as they cut through steep, rugged forestlands. Many of these reaches are too swift and steep for salmon, and support mostly steelhead and resident trout. The Clackamas becomes quieter about 20 miles above the river's mouth as it slowly meanders through gentle farmlands to meet the Willamette River.

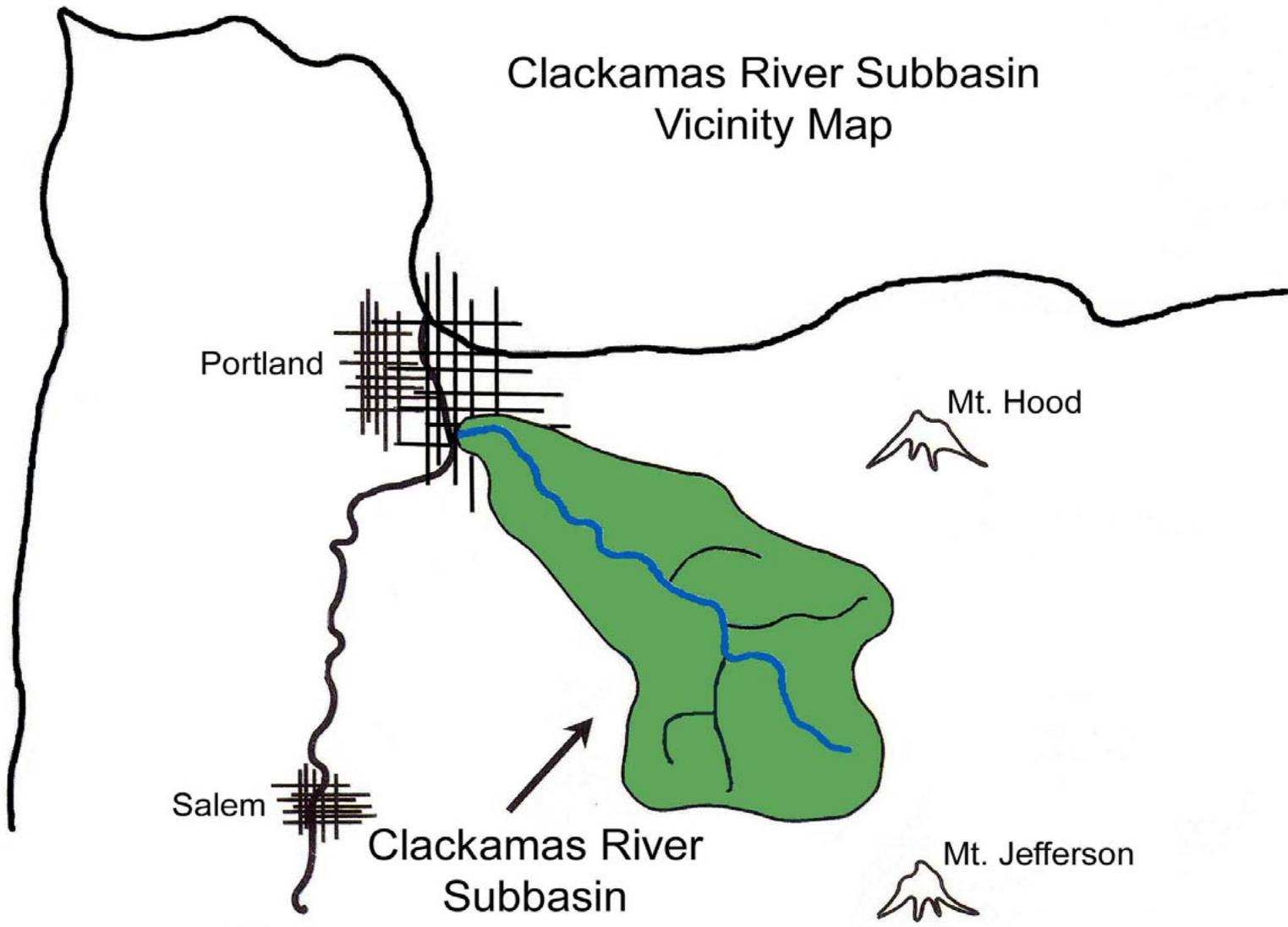


Figure 1. Clackamas River Basin Vicinity Map.

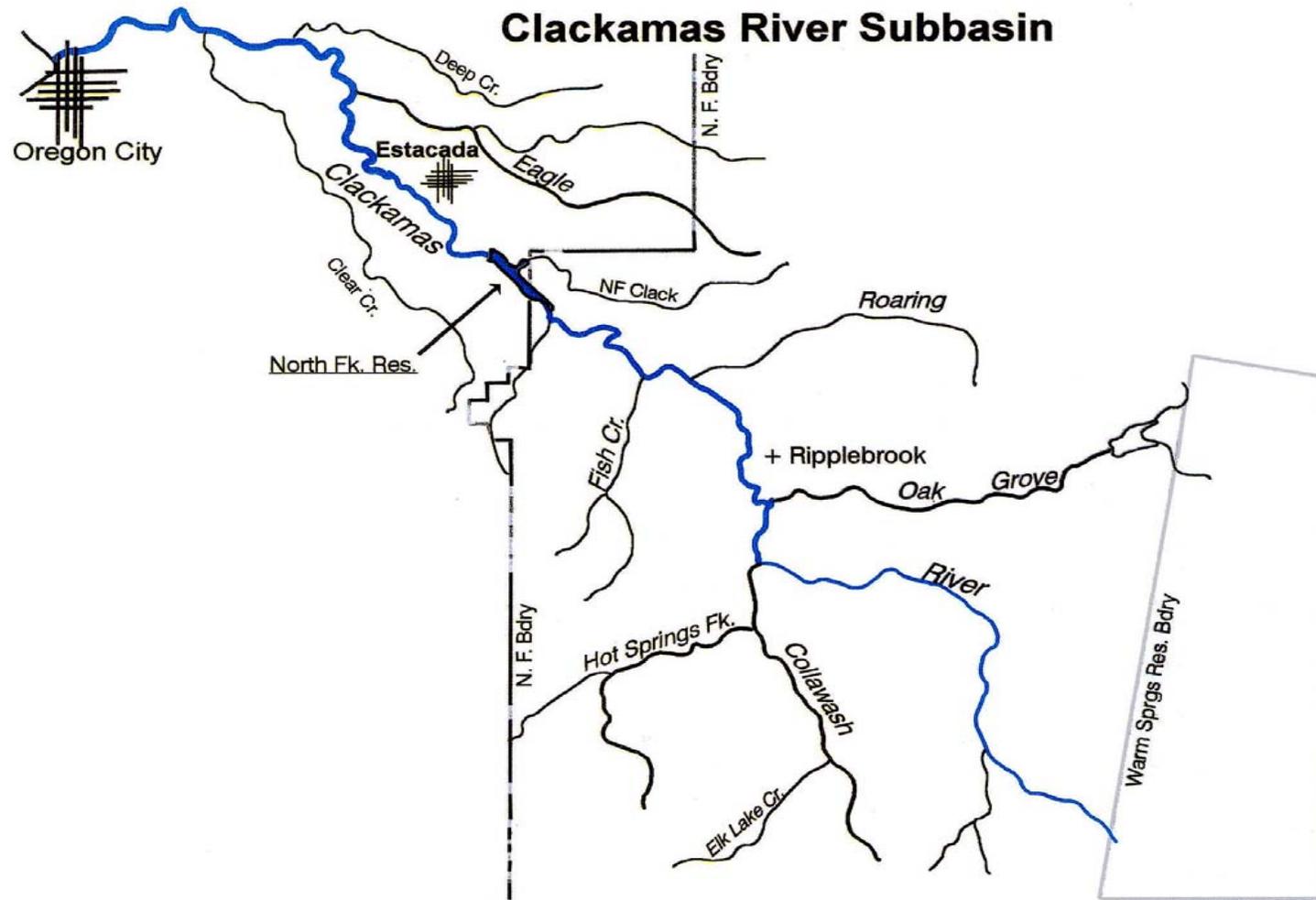


Figure 2. Clackamas River Basin Map.

Overall, the watershed encompasses about 934 square miles. Forestlands managed by the USDA Forest Service, Mt. Hood Forest (70%) and USDI Bureau of Land Management Salem District (2%) cover almost three-quarters of the watershed. The Confederated Tribes of the Warm Springs Indian Reservation manage another large tract of forestland in the upper basin (2%). The Clackamas River flows through the communities of Estacada, Barton, Carver and Gladstone, and is a short distance from the Portland metropolitan area.

Many developments have shaped conditions in the Clackamas River watershed over the years and influenced the basin's salmon and steelhead runs. The runs began to drop sharply in the 1870s when fish harvest peaked on the Columbia River. Tremendous growth and change in the watershed since the late 1800s — including dam development, timber harvest, road construction and hatchery production — also influenced the runs.

Today, the Clackamas River corridor is a popular recreation area, especially for people escaping from the nearby Portland metropolitan area. The river also supports several dams that provide power to the growing region. Three dams — River Mill (RM 23.3), Faraday (RM 28.4) and North Fork (RM 30.1) — are owned and operated by Portland General Electric and sit on the lower Clackamas River. Fish bypass facilities were originally constructed for these dams. Upstream fish migration, however, was prevented during the early 1900's from a combination of egg taking operations and a ladder failure at Cazadero Dam. Current native anadromous fish populations above North Fork Dam are believed to have reseeded the upper basin since 1939. Other dams sit on the Oak Grove Fork, which enters the Clackamas at RM 53. These dams (Harriet, Stone Creek and Timothy) do not block anadromous fish migration since passage is blocked naturally by a waterfall below them, but do alter flows within diverted reaches.

Indigenous fish populations found within the Clackamas River system include late run coho, late winter steelhead, spring Chinook salmon, and resident rainbow, cutthroat trout and mountain whitefish. Introduced stocks include Willamette River spring Chinook, fall Chinook, early run coho, Big Creek and Eagle Creek stocks of winter steelhead, and Skamania stock summer steelhead. Brook trout, brown trout and kokanee salmon have all been introduced into the higher elevation lakes. The basin also supported bull trout at one time, but the fish have not been seen in many years.

## **ACTION PLAN AND PRIORITIES**

The Clackamas River Fisheries Working Group developed an action plan in 1993 and has updated the plan several times in recent years, focusing research efforts as needed to gain critical information on Clackamas River salmonids and resident fish populations. The action plan is framed by three basic guidelines.

- Wild indigenous stocks are the most important.
- Highest priority goes to the least healthy stock.
- Identify those single factors that, if changed while holding all others constant, will provide the greatest benefit toward achieving a healthy population.

Since its creation, the action plan has provided the foundation for initiating partnership projects. The group first updated the action plan in 1996 after addressing many high priority items described in the 1993 plan. The plan was again revised in 2001. The group continues to refocus fish investigations each year as it gains better information about Clackamas River salmon and steelhead runs.

The Clackamas River Fisheries Working Group last revised the action plan in 2006. The 2006 action plan reflects current management direction for Clackamas River fish runs and builds on past research findings (see Appendix). Plan direction strengthens efforts to re-establish historical run timing of coho, discern wild/hatchery fish interactions, resident trout status, and stock identification. Restoration monitoring, juvenile biology, water quality, and other critical fish issues are also addressed.

## **PAST ACCOMPLISHMENTS**

Through eleven years of implemented partnership projects (1994 through 2005), the Clackamas River Fisheries Working Group has acquired a better understanding of fish resources in the Clackamas River basin. They have learned more about interactions between wild and hatchery stocks, juvenile salmonid emigration patterns and survival through the North Fork and River Mill bypass systems, and flow release impacts on adult salmonid migration. They have also identified key spawning and rearing habitat areas and stream reaches where high water temperatures may limit aquatic production.

This new information has allowed biologists and resource managers to improve basin management strategies. Based on research findings, they have refined basin hatchery production and release programs, changed angling regulations, altered dam operations, and restored habitat to strengthen Clackamas River fish runs. "Accomplishments Reports" were produced on a yearly basis from 1994 to 2001. Years 2002-03 and 2004-05 are combined into individual reports.