



United States
Department of
Agriculture

Forest
Service

December 2006



Alesea River & Beaver Creek

Improving Watershed Health

*A Summary of Completed Tasks
An Assessment of Future Needs*



Siuslaw National Forest



Partners

Alsea Stewardship Group
Alsea Watershed Council
MidCoast Watershed Council
Cascade Pacific Resource Conservation and Development District, Inc.
Lincoln Soil and Water Conservation District
Bureau of Land Management
Siuslaw National Forest
Pacific Northwest Research Station – Coastal Landscape Analysis and Modeling Study
Biosurveys, Inc.
Oregon Department of Fish and Wildlife
Port of Alsea
Local Timber Industries
Rocky Mountain Elk Foundation
Oregon Trout
Trout Unlimited
Benton Soil and Water Conservation District
Lincoln, Lane and Benton Counties
Confederated Tribe of Siletz
Coast Provincial Advisory Committee
Oregon Department of Forestry
National Oceanic and Atmospheric Administration
Audubon Society
Resource Innovations, Inc.
Community School Partnership
Oregon Wild
Natural Resources Conservation Service

Disclaimer: This list is incomplete. If your group or organization has inadvertently been omitted, please identify yourself. We will add you to this list. Thanks.



Alsea & Beaver Creek Watersheds Restoration Strategy

The purpose of this document is to characterize the Alsea and Beaver Creek watersheds. It is also a preliminary catalog of the restoration projects which have already been implemented within these watersheds. The amount of work that is needed to set these watersheds on a trajectory for recovery of habitats for aquatic and terrestrial species and the role these activities could play in the restoration of the economy of the communities in the area will also be documented. It is intended that this characterization will be used by a variety of groups to collaborate on and strategically plan, fund and implement desired projects in the Alsea and Beaver Creek watersheds.

Vision

To work collaboratively in the management of public and private lands to improve overall watershed health while meeting local and community needs in the Alsea and Beaver Creek watersheds.

Objectives

The primary objective is to achieve one or more of the land management goals that meet local and rural community needs. These goals may include but are not limited to:

- road and trail maintenance or obliteration for improved water quality;
- soil productivity, habitat for wildlife and fisheries, or other resource values;
- setting prescribed fires to improve composition, structure, condition, and health of stands or to improve wildlife habitat;
- removing vegetation or other activities to promote healthy forest stands, reduce fire hazards or achieve other land management objectives;
- watershed restoration and maintenance;
- restoration and maintenance of wildlife and fish habitat; and
- control of noxious and exotic weeds and reestablishing native plant species.

Disclaimer

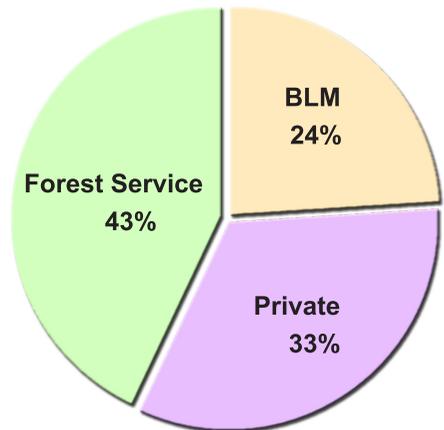
The information contained in this document is a first attempt to catalog the landscape and all the restoration activities that have occurred or potentially could occur in the Alsea and Beaver Creek watersheds. It is incomplete. It is the hope of the producers of this document that this information will be updated and corrected by the many groups and individuals that call the Alsea area their home and that have been involved in the management of these watersheds.



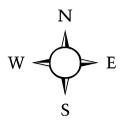
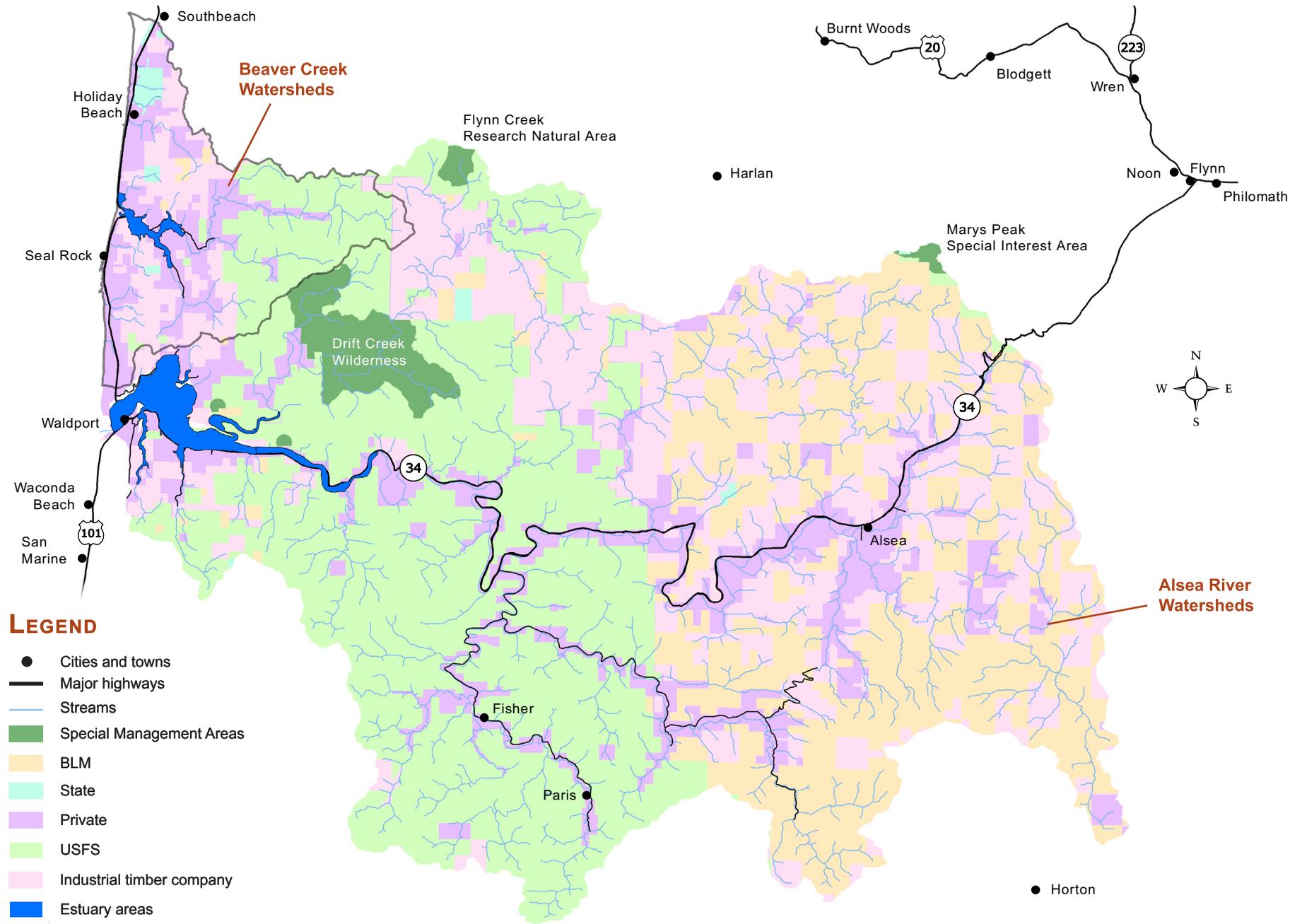
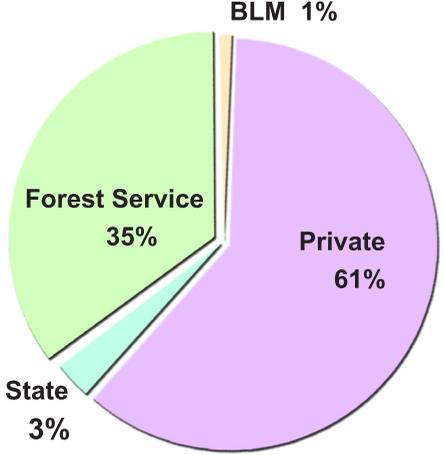
The Alsea & Beaver Creek Watersheds



Alsea River



Beaver Creek



The Uniqueness of these Watersheds



History

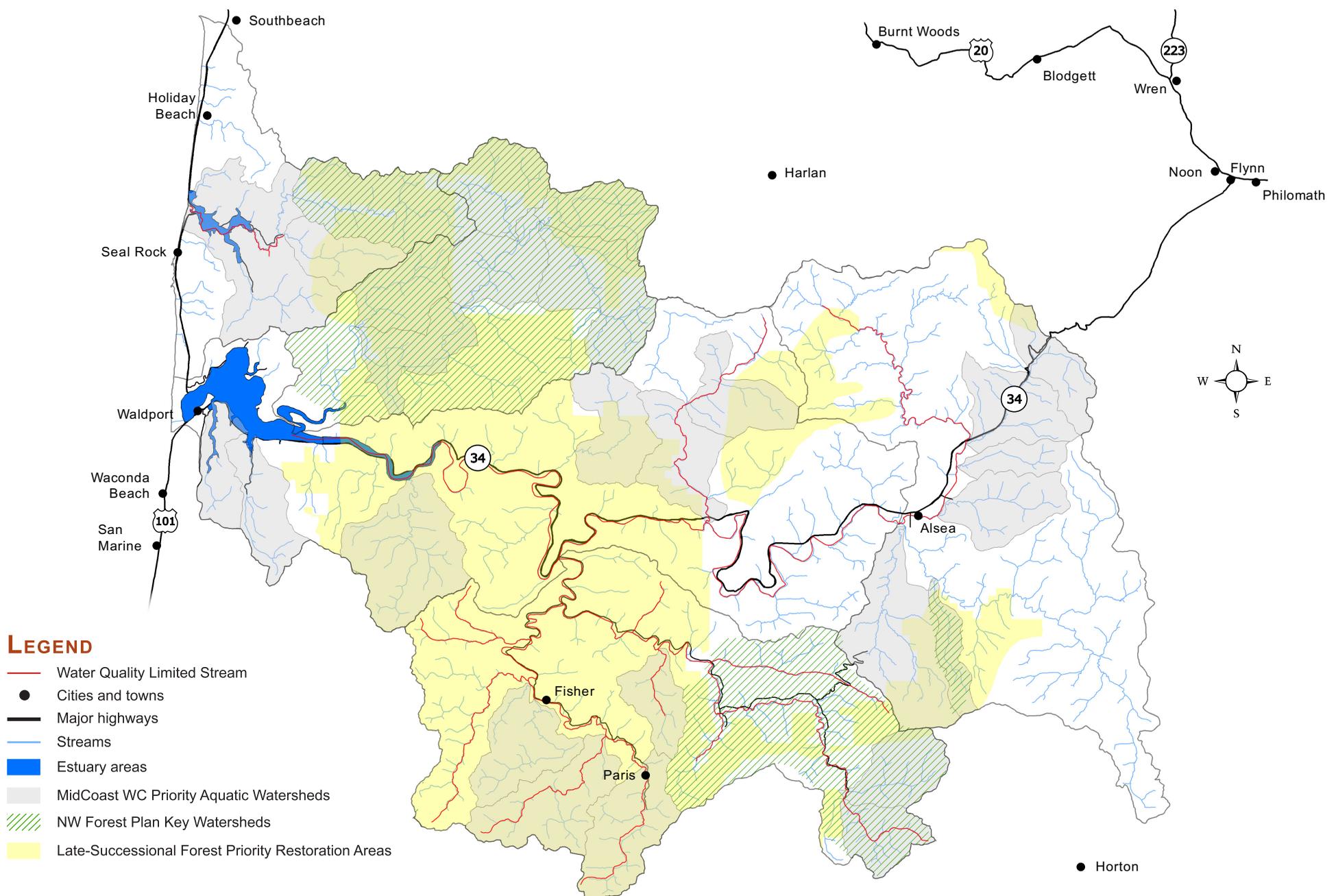
The coastal areas supported Native American families for centuries prior to European settlement in the late 1800s. The forest fires of the 1850's removed much of the old-growth forest from these areas. With settlement, industries developed including fishing and commercial canneries followed by logging and large wood removal from streams, bays, and beaches. Road building into the upper watersheds for timber harvest began in earnest in the 1960's with most of the road system developed by the 1970's. The largest extraction of timber volumes occurred from the 1960's through 1980's. Decline in old-growth dependent species, noted in the early 1980's began to change the management of this landscape, with timber harvest of federal lands halted for several years. The Northwest Forest Plan (1994) formulated to break the stalemate between timber and environmental interests, developed new management direction for federal lands and emphasized watershed analysis, focused on the restoration of late-successional habitats and emphasized the "Aquatic Conservation Strategy". When combined with the Oregon Plan for Salmon and Watersheds, the two cutting edge strategies lead to development of a variety of partnerships and new collaborative processes for restoration of the health of these watersheds and habitat for the many species that live here.



Special Characteristics of the Alsea and Beaver Creek Watersheds

- The streams have a high proportion of low-gradient, slow-flowing reaches and estuarine areas that are preferred coho rearing habitat.
- The productivity of the forest and agricultural lands is extremely high.
- The watersheds are relatively intact, with little urban development. There are no dams.
- Fishing, crabbing and clamming are keystone activities in the bay and mainstem, and along the banks of the rivers.
- The North Fork Alsea hatchery produces steelhead. A new fish hatchery research facility replaced the coho and chinook salmon hatchery at Fall Creek
- There is a growing population in the narrow valley bottoms with inadequate septic systems that threaten water quality and aquatic resources.
- Special wildlife include bald eagle, brown pelican, peregrine falcon, northern spotted owl, and marbled murrelets.
- Approximately 80% of coho habitat is on private land.
- Several municipal watersheds exist within the basin.

Priority Areas



Limiting Factors and Opportunities

Ecosystem	Functional Limiting Factors	Tools / Opportunities / Techniques	Ecosystem Services Provided* (Benefits to You)
Estuary <ul style="list-style-type: none"> • Salt Marsh • Freshwater Wetlands 	Dikes Ditches Fill	Restore tidal flows Fill ditches Remove dikes/fill Acquisition	Flood control Fish nurseries Pollution filtration Recreation – fishing / boating
Streams <ul style="list-style-type: none"> • Aquatic Habitats 	Garbage Straightened channels Excessive fine sediment Lack of spawning gravels Lack of deep complex pools High water temperatures	Remove / replace culverts Decommission roads Add large wood Re-meander streams	Fish habitat Recreation / Aesthetics High quality water Food Educational opportunities Sustained water flows
Riparian / Flood Plain <ul style="list-style-type: none"> • Forests • Meadows • Wetlands 	Lack of stream shade Eroding streambanks Disconnected flood plain	Control invasive plants Plan native species Mow / Burn meadow openings Acquisition	Flood control Wildlife habitat Amphibian habitat Nutrient cycling
Upland <ul style="list-style-type: none"> • Forests • Meadows 	Small amounts of mature and old-growth forests Few snags Low amounts of coarse wood Landslides Lack of openings	Thin plantations Establish wildlife corridors Establish critical habitat Maintain forests on unstable areas	Wood and fiber products Medicinal products Food Wildlife habitat Recreation / Aesthetics Climate control



* *Ecosystem Services are the benefits each of us derive every day from healthy, functioning ecosystems.*

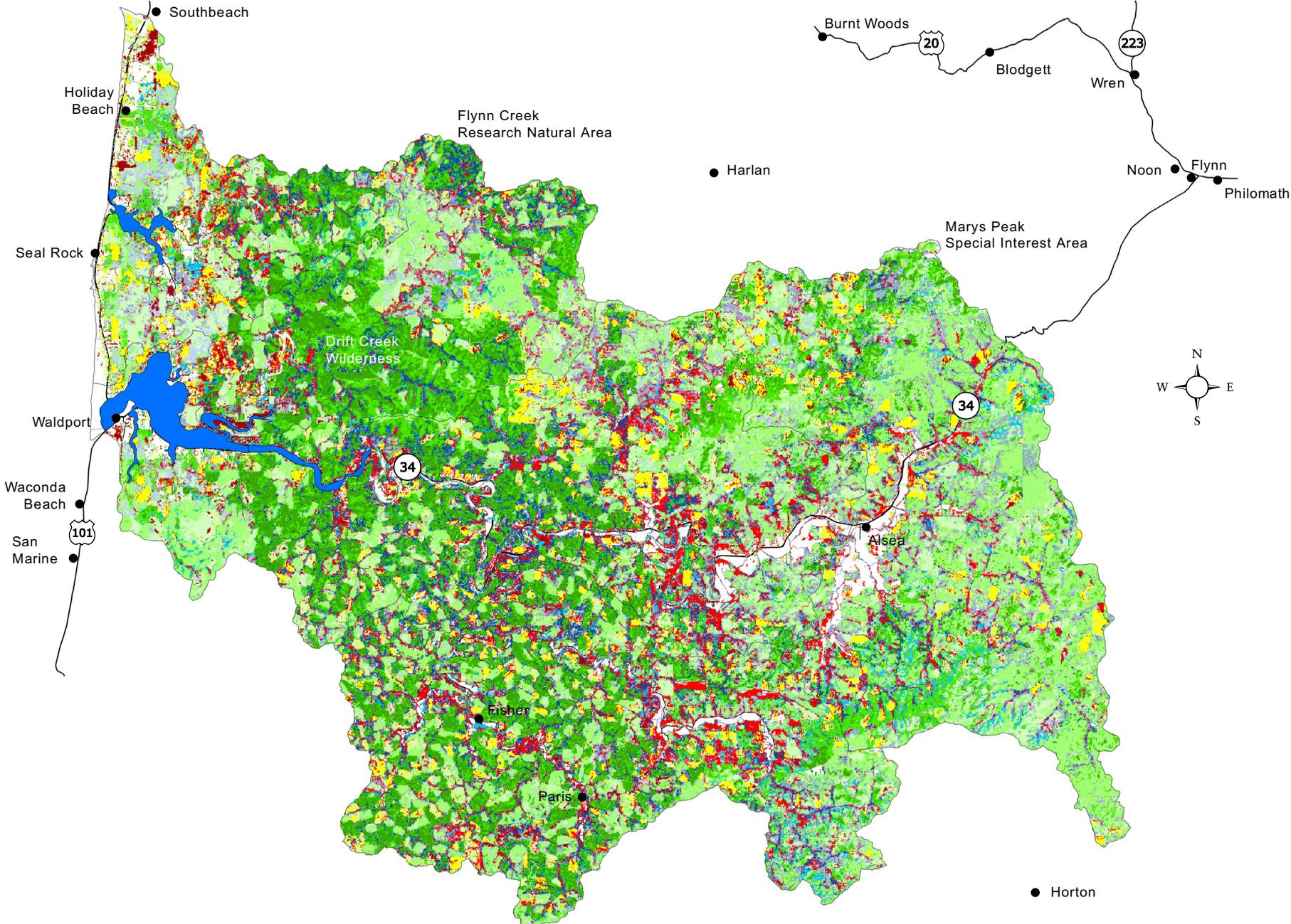
Upland Forest



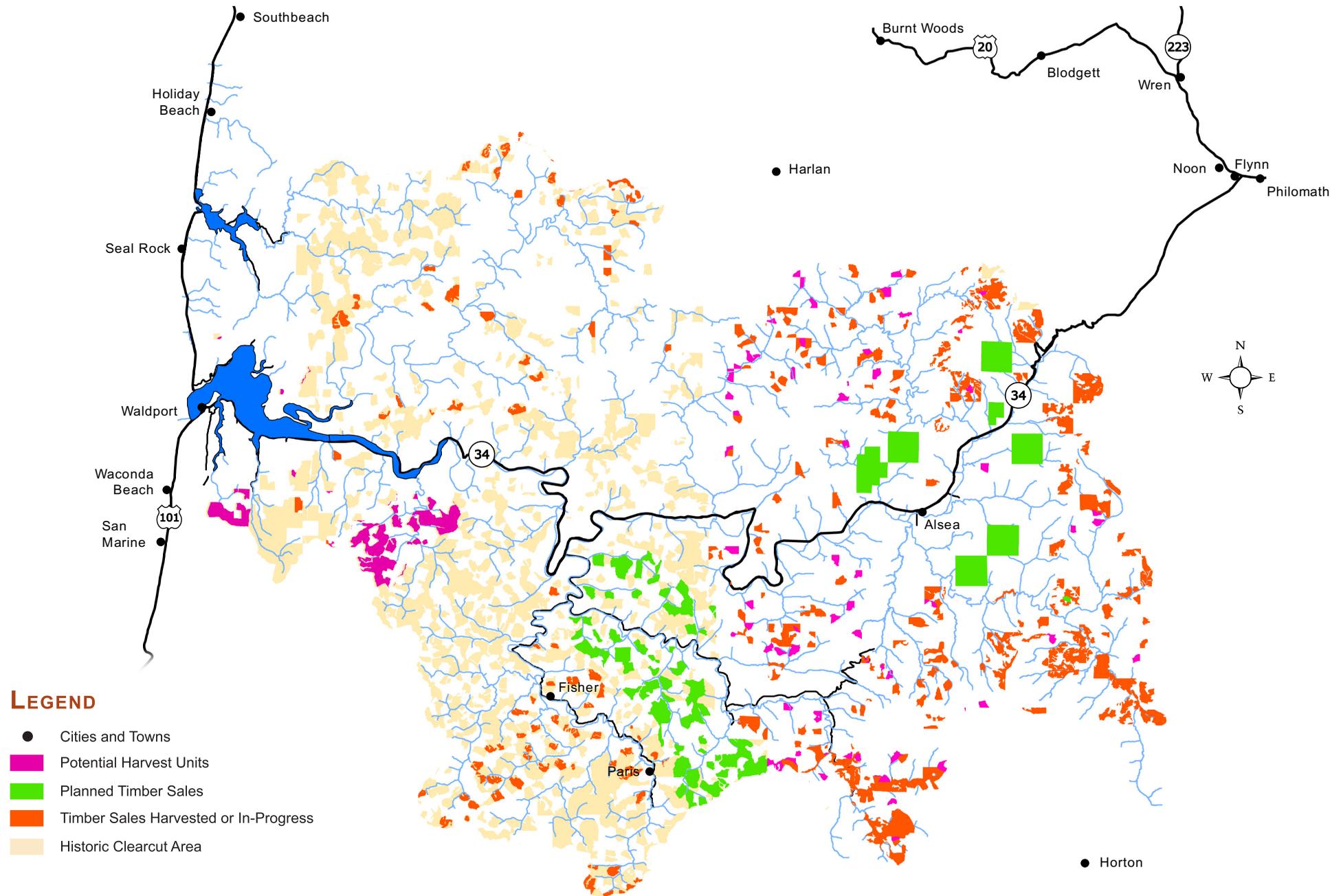
LEGEND

FOREST

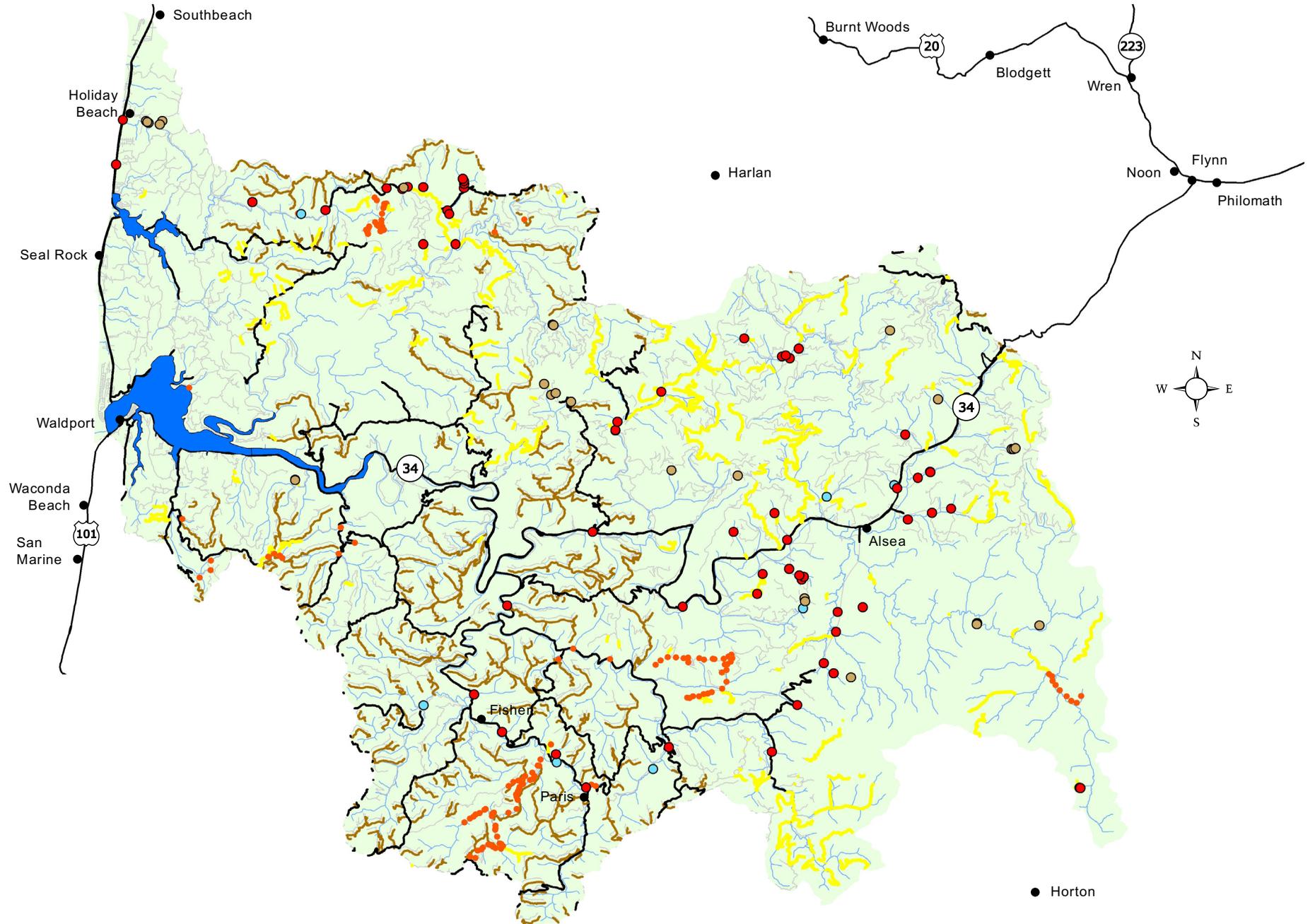
- Not Simulated
- Open
- Remnant
- Broadleaf
- Mixed small, 0 - 25 cm
- Mixed medium, 25 - 50 cm
- Mixed large, 50 - 75 cm
- Mixed very large, 75 + cm
- Conifer small, 0 - 25 cm
- Conifer medium, 25 - 50 cm
- Conifer large, 50 - 75 cm
- Conifer very large, 75 + cm



BLM & USFS Plantation Thinning



Roadwork Completed



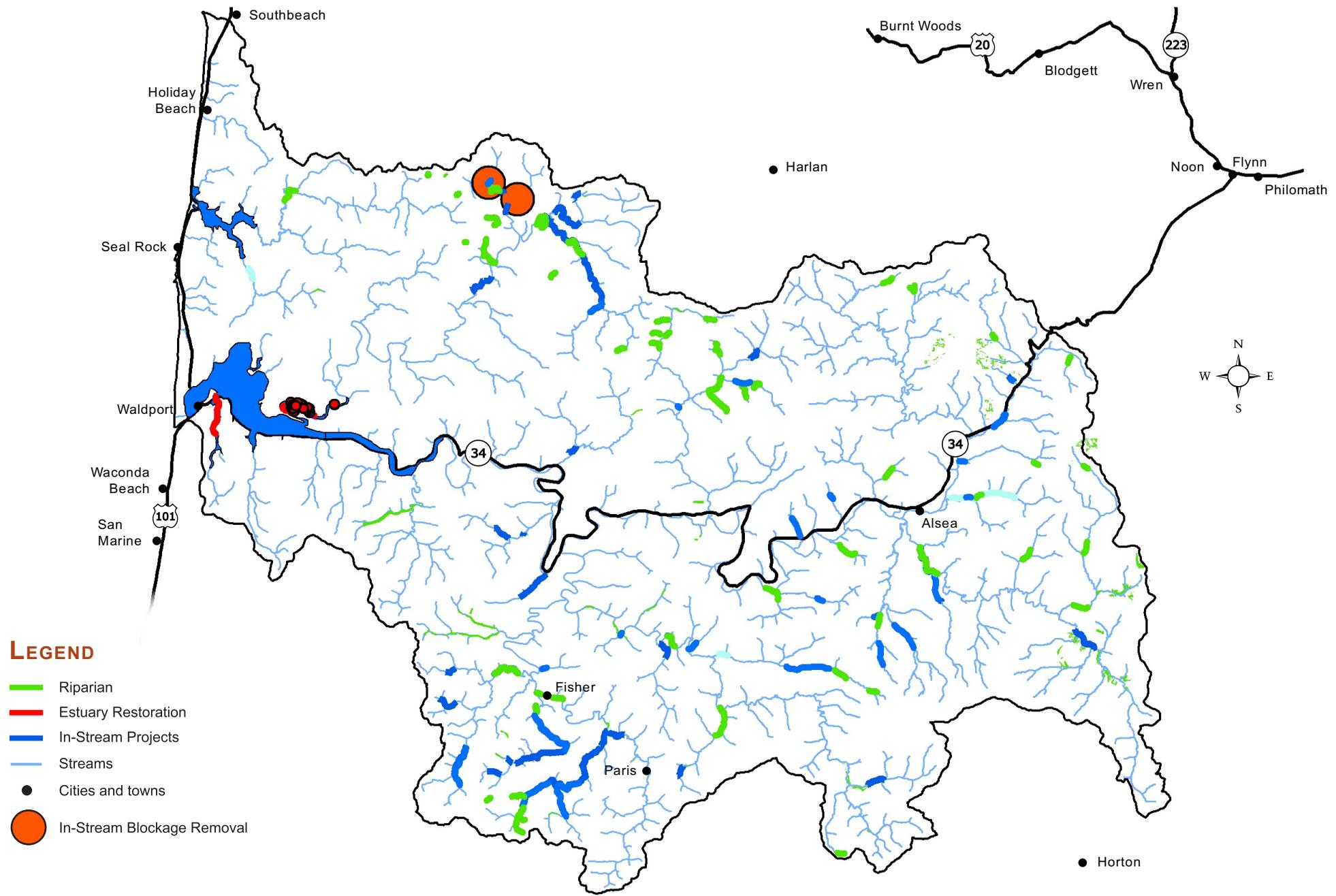
LEGEND

- Decommissioned Roads
- Main Roads
- Waterbarred Roads
- Misc. Culvert Work

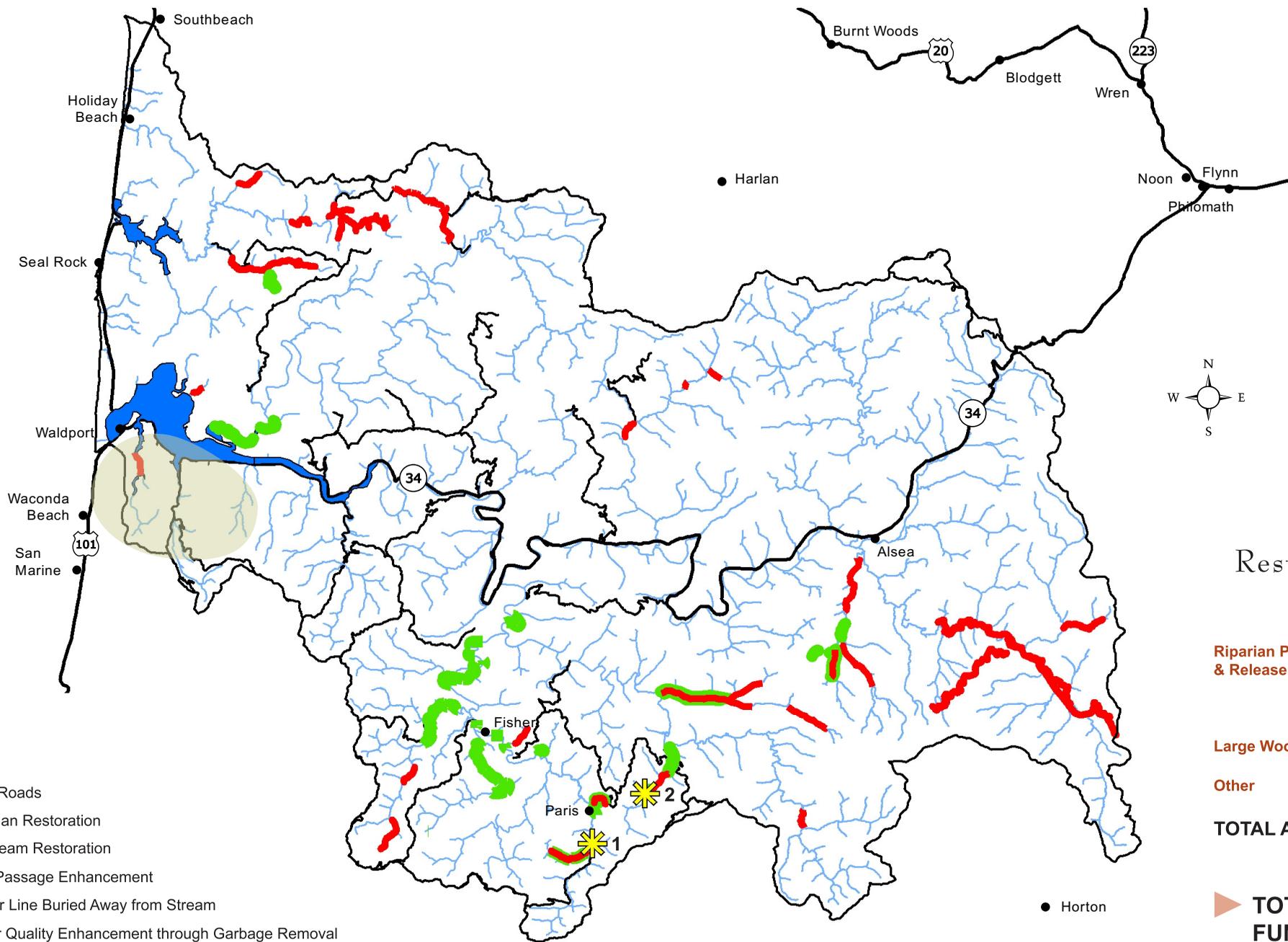
OWEB PROJECTS

- Combined
- Fish Passage
- Road

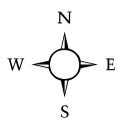
Aquatic Restoration Completed



Aquatic Restoration Proposed



- LEGEND**
- Main Roads
 - Riparian Restoration
 - In-Stream Restoration
 - ★ 1 Fish Passage Enhancement
 - ★ 2 Power Line Buried Away from Stream
 - Water Quality Enhancement through Garbage Removal



Restoration Funding Needed

	Acres	Cost/ac	Total Cost
Riparian Planting & Release	400	1,500	\$600,000
Large Wood	40	30,000	\$1,200,000
Other			\$100,000
TOTAL AQUATIC FUNDING NEEDED			\$1,900,000

TOTAL RESTORATION FUNDING NEEDED \$7,035,000



Lessons Learned

Green River Large Wood Placement

Coho smolt population data obtained through winter night-time snorkel surveys performed by Steve Trask of Biosurveys, Inc., showed that:

- Prior to placement of wood in the Green river system, 74.2% of coho smolts were getting washed out of the Green river system during high flow events. The first year following helicopter placement of wood in the channels, only 43.2% of coho smolts were washed out of the stream system during high flows.
- Following addition of wood, coho smolts were retained farther up into the stream system.
- Over winter coho salmon smolt survival increased by over 100% in each of the four years following the large wood placements.



Cascade Creek Salmon Life Cycle Monitoring

ODF&W research has been conducting this life history monitoring study for 10 years

- Salmon life-cycle Monitoring in Western Oregon Streams, 2003-2005 Report Number OPSE-ODFW-2006-2.
- <http://oregonstate.edu/dept/odfw/progress-report/annrpt0305.pdf>
- The annual estimate of survival from egg to fry to smolt to adult return for each brood year shows a lot of variability. More time is needed to establish the relationship between the number of spawners and smolt out-migrants as well as returning adults.



Monitoring Avian Productivity and Survivorship (MAPS)

A program established in 1990 to provide long-term population and demographic information on target landbird species to: 1) determine annual changes and long-term trends in population and demographic parameters; 2) relate trends to measured environmental factors such as climate, habitat and management practices; (3) refine population models and develop new ones. Six maps stations were established on the Siuslaw National Forest in 1992, including four in the Alsea Watershed.

Based on monitoring, models of avian response to initial changes in habitat were developed. It is too early to develop longer term models that respond to changes in habitat over time.



Research Needed



- Understanding the timing and use of the estuary by aquatic species
- Understanding lamprey habitats and life cycles throughout the watershed
- Facilitation native plant recovery in estuarine restoration projects
- A determination of best methods to control invasive species (e.g. knotweed, reed canary grass)
- Implementation of methods to eliminate septic contamination with the growing river population
- Understand the role and current status of beaver populations in coastal ecosystems. Why have beaver declined so precipitously in the last 3 decades? Why have they lost their protected status as a fur bearer and been recently reclassified as a predator that can be exposed of anytime and anywhere?
- Continued effectiveness monitoring of large-scale restoration efforts to document the long-term cost / benefit ratios of large upfront capital investments.





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www.fs.fed.us/r6/siuslaw/

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