

7. Lower Oregon Columbia Gorge Tributaries Management Plan

7.1 Vision for the Subbasin

An overall vision statement for the Lower Oregon Columbia Gorge Tributaries watershed was drafted by Advisory Committee members and subbasin planners in Cascade Locks in December 2003. It reads as follows:

“An ecosystem with productive and sustainable levels of fish and wildlife that provide substantial and sustainable environmental, cultural, economic and recreational benefits.”

7.1.1. Economic and Social Considerations

The subbasin includes the distinctly different communities of Cascade Locks, and part of the City of Hood River and its Urban Growth Boundary. Quality of life and economic opportunity are important to both communities. The City of Hood River’s Planning Department stated mission is to ensure the residents of the City and the Urban Growth Area an aesthetically pleasing and livable environment. The mission of the Port of Hood River is to initiate, promote and maintain quality of life and a healthy economy throughout the Port District and the Columbia River Gorge. The community of Cascade Locks is on the verge of developing better economic and social standards for the community with the collaboration of the City and Port entities. The City operates sewer, water, electricity, broadband, and a cable television system- however with these developments comes maintenance while attempting to maintain the sustainability of local natural resources. Land use in Cascade Locks is restricted by many state agencies therefore smart development is a constant awareness. Cascade Locks is an economically struggling community with 59% of the residences living at a lower income levels. Many positive steps have been made that show progress. Actions taken under this plan need to address sustainability for the community in both economic and environmental terms, and recognize the need to improve current living conditions in the city.

7.1.2. Aquatic Species

The Lower Oregon Columbia Gorge Tributaries watershed will continue to support a diversity of native anadromous and resident fish species, and will continue to contribute to tribal and non-tribal fisheries. Aquatic ecosystems will be protected and where possible, restored, including the natural physical processes that create habitat diversity, and hydrologic connections within stream systems including floodplains, wetlands, upslope areas, headwater tributaries, and intact refuge areas.

7.1.3. Terrestrial Species

Wildlife populations and their existing habitat in the Lower Oregon Columbia Gorge Tributaries will be protected and improved where appropriate. Wildlife species diversity will be maintained, and the health and integrity of forests, native plant communities, and special habitats will be protected and improved. Land use and transportation will insure retention of habitat connectivity among and between forest and riparian areas.

7.2 Biological Objectives

7.2.1 Aquatic Species

Fall Chinook and Winter Steelhead

- a) Improve physical and biological connectivity of stream channels and restore natural watershed processes including the transport and deposition of water, sediment, and large woody debris by 2019.
- b) Maintain or achieve natural spawning populations of fall chinook and winter steelhead at abundance levels that reflect full utilization of available habitat as measured by spawning surveys in Herman, Eagle, Viento, Perham, and Lindsey, and other streams accessible to anadromous fish.
- c) Restore the spawning distribution of chinook and steelhead to historic habitat above artificial barriers where opportunities exist.
- d) Maintain, and where needed, improve water quality and quantity in Gorge streams to protect their value as cold water refuge for upriver migrating adult salmon and steelhead.
- e) Identify opportunities to improve the quality of habitat in Herman Creek and other areas used as adult holding for upriver migrating adult salmon and steelhead.

Rainbow Trout

- f) Protect the genetic integrity of resident rainbow stocks especially those isolated above natural waterfalls.
- g) Improve riparian habitat, instream diversity, and water quality in Phelps and Post Canyon creeks.

7.2.2. Terrestrial Focal Species – Biological Objectives

Bald Eagle

- a) Insure the availability and integrity of nesting trees, perch trees, foraging, and winter roosting sites with a goal of doubling the 2003 nesting population in the Gorge from 12 to 24 by the year 2019 with the goal of having an occupied nest territory approximately 2 miles apart along the Columbia River in the Bonneville Pool.
- b) Protect eagle nests from disturbance by maintaining recommended buffers between eagle nest sites and human activity to help achieve a nesting success of around one young per pair annually within the Bonneville Pool. Avoid or minimize disturbance to eagles from recreational use of shorelines, stream deltas, islands and sand flats where regular foraging occurs.

Northern Spotted Owl

- a) Retain sufficient habitat components such as live and dead standing and fallen trees with cavities and fallen coarse woody debris in varied diameter classes and stages of decay in clumps or scattered across forest stands.
- b) Continue to meet Northwest Forest Plan objectives for spotted owl on federal lands that establish or maintain >25% of landscape units in mixed conifer stands as moving towards dominance of old growth and mature forest conditions in appropriate land allocations. The Lower Oregon Columbia Gorge Tributaries watershed meets this objective with 39% of federal land in mature and old-growth stands.
- c) Maintain or improve juvenile dispersal habitat conditions on federal lands in low and mid-elevations, as defined as tree stands averaging 11 to 16 inches in diameter and \geq 40% canopy cover.
- d) Maintain or work toward multiple vegetative layers (herbaceous, shrub-sapling, and two tree layers) and promote healthy old-growth and mature forest conditions on federal lands in lower to mid elevations.

Basalt Juga

- a) Protect the integrity of basalt cliff habitat with seeps, moss mats, and springs along Old Columbia Highway and railroad grade and .

Great Blue Heron

- a) Protect the integrity of heronry sites and feeding areas used regularly by significant numbers of herons.
- b) Protect and enhance bottomland hardwood stands, including large diameter trees, on islands and at low elevations along Columbia River in areas suitable for use as rookeries. Bring back a successful heron breeding colony or rookery in the Columbia Gorge by 2019.

Black Tailed Deer

- a) Continue to meet the ODFW management goal of a summer population of 1,500 deer for the Hood Wildlife Management Unit (Hwy 35 to Cascade Crest).

Beaver

- a) Maintain viable populations and adequate distribution in order to maintain of beaver activity in Hood River County as indicated by harvest records and other distribution and abundance indices.

Purple Martin:

- a) Protect existing colonies and achieve 4 new colonies in the watershed by 2019.
- b) Achieve 49 nesting pairs using natural nest cavities in snags or live trees in the watershed.
- c) Contribute to the Oregon statewide objective to increase populations to 1,600 pairs by 2010 by increasing the local population to 244 breeding pairs based on the current status of 148 nest boxes.
- d) Retain and plant native hardwood tree species that readily create cavities including black cottonwood, Oregon white oak, and bigleaf maple, and increase hardwood trees in purple martin areas along or near the Columbia River by 200% or higher by 2019.

7.3. Prioritized Strategies

7.3.1 Aquatic Species

Specific strategies to meet the biological objectives for the focal fish species are proposed, in priority order, in the section below. These strategies address limiting factors identified in the assessment.

Fall Chinook and Winter Steelhead

1. Support ODFW efforts to improve adult fish passage up to the natural barrier in Herman Creek by modifying the fish ladder at the Oxbow Hatchery diversion. Consult with ODFW to restore fish passage at the Cascades Hatchery up to the natural barrier in Eagle Creek Creek, as compatible with hatchery operations and production goals, and to explore ways to reduce summer stream temperatures below the Hatchery diversion.
2. Prevent the spread of aggressive invasive aquatic plants especially Japanese knotweed.
3. Work with ODOT, UPR, and others to improve fish passage and transport of water, sediment and debris where impeded by artificial barriers at transportation crossings. Prioritize by anadromous stream length to be gained. Enlarge capacity of culverts or replace with bridges where needed. Prioritize non-anadromous sites by the degree of constriction and the frequency of maintenance dredging or flood damages.
4. Work with local landowners and governments to conduct physical and biological surveys of streams and riparian corridors to better identify restoration opportunities in lower elevation streams accessible to anadromous fish. Where opportunities exist, restore riparian vegetation, habitat structure, function and diversity that has become degraded as a result of human activities.
5. Cooperate with the Port of Cascade Locks to evaluate the potential to improve fish habitat for adult steelhead and chinook holding in lower Herman Creek through riparian plantings and instream structures such as large woody debris and boulder placement.
6. Consult with ODOT and UPR to implement the Herman Creek Fish Habitat Enhancement and Restoration Project (log and boulder placement) between RM 1.1 and 3.0.

Rainbow Trout

1. Protect areas of high quality stream and riparian habitat through awareness and enforcement of federal, state and local land use regulations designed to protect fish habitats, as well as incentives and voluntary actions.
2. In land areas where they are applicable, continue to fully implement the Hood River Agricultural Water Quality Area Management Plan (ODA 2000) and rules (OAR 603-095-1100 through 603-095-1160); the Oregon Forest Practices Act, and Hood River County Stream Corridor Ordinance.
3. Restore degraded areas and encourage voluntary actions to restore habitat where opportunities exist.
4. Quantify the distribution of nonnative and native resident trout species within area streams.

Prioritized Strategies for All Aquatic Species

1. Rely on natural production to maintain fish populations in Gorge Tributaries streams.
2. Support effective enforcement of angling and harvest regulations.
3. Support the development and implementation of ecologically sound urban-interface fuels treatment or forest health plans on all ownerships that can reduce the risk of catastrophic high intensity forest fire and prevent elevated landslides and increased sediment delivery.
4. Continue to improve communication and working relationships on salmon recovery efforts with active participation between local communities, railroad, tribal, Federal, County, Port, and State entities, including transportation departments.

7.3. 2. Terrestrial Species

Specific strategies intended to address the biological objectives for each focal wildlife species are listed, in priority order, in the section below.

Bald Eagle

1. Promote inventory efforts by appropriate state and federal agencies to identify current and historic nest trees and investigate protection needs and opportunities.

2. Identify protection needs and opportunities to retain forest stand integrity around nest trees, known day perches, and communal night roosting sites regularly used by numbers of eagles.
3. Avoid developing recreation trails near current or historic (alternate) nest sites
4. Educate the public and explore ways to avoid or minimize recreational disturbance on sand flats and gravel bars during winter that are regularly used as feeding areas.
5. Identify protection needs and opportunities to retain large, mature cottonwood, conifer, and other trees suitable for perch, roost or foraging > 20 inch diameter within 250 feet from the top of a stream bank or Columbia River shoreline, including islands.
6. Inventory, evaluate and rank bottomland hardwood stands on islands and lowlands for restoration or under planting opportunities in areas such as Wells Island, Wah Gwin Gwin spit, Viento and Lindsey state parks, Wyeth, Herman Cove, Eagle Island, and Government Cove.

Spotted Owl

1. Continue to support Northwest Forest Plan recovery objectives for spotted owl on federal lands
2. Explore opportunities to improve the quality of dispersal habitat in degraded or overgrown mixed-conifer forest by thinning in areas such as Herman Creek Road from Herman Creek to Wyeth and additional areas in mid-elevation second-growth forests.
3. Promote and support development and implementation of coordinated wildfire hazard and forest fuels reduction plans across all land ownerships, with integration of wildlife habitat and forest health needs and benefits.
4. Enhance size and connection of existing high quality habitat patches and reduce fragmentation in low and mid-elevation lands, particularly near the urban-interface areas.

Basalt Juga Snail

1. Conduct surveys to better identify the range of occupied habitats on federal and non-federal lands
2. Protect and/or restore native riparian plant communities around juga snail habitats that maintain shade, cold water temperatures, control sedimentation, and supply leaf litter to support key energy pathways in the specialized ecosystem.
3. Avoid or mitigate activities that could introduce pollution including sedimentation, chemical contamination, or nutrient transport in occupied sites
4. Avoid or mitigate activities that could cause submersion of cold springs, reduce water flow, velocities, and dissolved oxygen levels below those necessary to sustain viable populations.

Great Blue Heron

1. Increase awareness of and protection of great blue heron nesting colonies and concentrated foraging areas by focusing on inventories, information exchange,

- and public education. Coordinate with interested agencies, community groups, and the Great Blue Heron Western Working Group on these activities.
2. Inventory, evaluate, and rank bottomland hardwood stands on islands and in lowlands for protection or recruitment opportunities (underplanting) in areas such as Wells Island, Herman Cove, Government Cove, and the inner Hook in Hood River.
 3. Protect colonies from human disturbance by leaving an adequate buffer zone around the periphery of colonies during courtship and nesting season between February 15 and July 31.
 4. Monitor the effect of human disturbance on heron colonies.

Black-Tailed Deer

1. Work with ODFW and Hood River County Planning and Forestry Departments to evaluate opportunities in the Hood River Valley and Phelps Creek drainage to maintain viable east-west migration corridors for deer, elk, and other wildlife to access winter range and other migration purposes.
2. Work with ODFW and local governments to find ways to avoid or mitigate losses of winter range and prevent increasing conflicts with residential development.
3. Minimize disturbance of deer and other wildlife on winter and summer ranges on public lands used for recreation. Work with recreational users, timber companies County Forestry Department, and the US Forest Service to educate and enforce against the unauthorized development of recreation trails on private and public forest lands.
4. Work with Hood River County Forestry Department, ODFW, and recreation groups to evaluate the feasibility and need for selective seasonal forest road and/or recreation trail closures to protect the integrity of wildlife habitat and control disturbance and/or harassment due to rising recreation use.

Beaver

1. Wherever feasible and consistent with land use, promote tolerance of beaver activity in suitable habitat areas.
2. Collect baseline data about existing crossing patterns and locations of road kill.
3. Work with ODOT to evaluate needs and opportunities to make I-84 more amenable to wildlife crossings including permeable fence lines, median barriers with gaps or 18-inch height openings at base, bridge spans, underpasses or other alternatives. Coordinate and integrate wildlife connectivity needs with fish passage improvements.

Purple Martin

1. Conserve tree snags for cavity nesting. Desired vegetation structure is >1.2 snags per hectare >30 cm dbh and >6 m in height, no physical obstructions within 10 m of cavities.
2. Retain old pilings in the Columbia River for use by martin as cavity nesting structures

3. Create artificial nest boxes designed or managed for martins that deter fierce competitors such as starlings and house sparrows. Add more martin nest boxes at martin hotspots at Herman Creek Cove, Government Cove, and Ruthton Cove
4. Repair and maintain nest boxes in disrepair from the 1996 flood at Government Cove (~50 boxes) and Ruthton Point (~98 boxes).
5. Install nest boxes at new sites where natural cavities are lacking, in coordination with landowners. Potential sites include Cascade Locks Heritage Park, Herman Creek Cove (west of Government Cove), Lindsey Lake, Viento Lake, and Wells Island.
6. Retain and recruit hardwood tree species that readily form nesting cavities such as black cottonwood, big-leaf maple, and Oregon white oak.
7. Coordinate with the City and Port of Cascade Locks to retain some of the dead conifers between the shoreline of Government Cove and the railroad tracks. If necessary, drill cavities in these snags to promote their use by nesting martin pairs.
8. Create snags out of live trees in forest openings and along forest edges by girdling, topping, or inoculating with fungi.

Prioritized Strategies for All Terrestrial Species

Priority A

- Work cooperatively with private and public landowners to promote retention of dead and dying trees where no safety hazard exists, and retain live and dead trees with cavities in low elevation areas in land use and development plans.
- Work cooperatively with private and public landowners to promote protection of larger diameter trees and older aged native bottomland hardwood tree species such as black cottonwood, Oregon white oak, and big leaf maple in land use and development plans. Promote mitigation strategies where development impacts to bottomland hardwoods are unavoidable, such as planting these species at replacement or higher levels.
- Encourage and support timely completion of wildlife habitat inventories on non-federal lands to identify and prioritize restoration and enhancement opportunities, inform future land use actions and plans, and fulfill statewide goals to protect wildlife habitat.
- Involve wildlife biologists, land managers, local communities, recreation groups and businesses, and elected officials in developing a Gorge-wide plan to research and manage trail, backcountry, and shoreline recreation activities and developments in a manner that is sensitive to the needs of wildlife. The goal of such a plan would be to have and enjoy recreational opportunities that are compatible with the long-term maintenance of healthy and diverse native wildlife populations.
- Support enforcement of wildlife hunting regulations by advocating for adequate funding levels for area fish and wildlife patrol officers.
- Encourage compliance with provisions of the Columbia River Gorge National Scenic Area Management Plan that address wildlife habitat protection.

Priority B

- Promote and support development of coordinated wildfire hazard and forest fuels reduction plans across all land ownerships, with integration of wildlife habitat and forest health concerns.
- Prevent the spread of aggressive invasive plant species into high value habitat areas. Identify and prioritize the location of high value terrestrial habitat areas at risk of infestations from invasive plants.

Priority C

- Encourage integration of native plant and tree species into urban and residential areas to increase wildlife diversity, reduce the need for irrigation, pesticide and fertilizers in these areas.
- Educate homeowners about how to minimize conflicts with wildlife and encourage control of domestic pets.

7.4. Consistency with ESA/CWA Requirements

CLEAN WATER ACT

In the Lower Oregon Columbia Gorge Tributaries the Federal Clean Water Act is implemented in large part through the State's preparation of water quality standards, Total Maximum Daily Loads (TMDLs) and TMDL implementation by designated management agencies. As of the 2002 303(d) list, the Oregon Department of Environmental Quality (ODEQ) had not identified any water quality limited stream segments in this area. The Western Hood Subbasin TMDL for temperature was approved by EPA in January, 2002. This TMDL includes the Lower Oregon Columbia Gorge Tributaries. Because there were no 303(d) listed streams in the Gorge Tributaries area, no specific thermal modeling was done here in the TMDL. Instead, surrogate shade targets were established based on "Potential Vegetation Zones". These targets rely on restoring or protecting riparian vegetation to increase stream surface shade and channel stability in situations where human activities cause an increase in stream temperatures above the numeric criteria identified in the State's water quality standards. Management strategies identified in the Management Plan are consistent with the TMDL. The aquatic focal species strategies directed at protecting existing healthy riparian conditions, and restoring degraded riparian areas where opportunities exist.

ENDANGERED SPECIES ACT

It is worth noting that there are three NPDES permits regulated by ODEQ within the Gorge Tributaries Area. These NPDES permits are for two fish hatcheries on Herman Creek and one on Eagle Creek. Data collected in 2002 by ODEQ indicated that lower Eagle Creek exceeded the numeric criterion for salmon and trout rearing and migration, in part because of withdrawal of a good portion of the stream flow by the hatchery. The

Western Hood TMDL states that future modifications of these permits will be based on a water quality impact analysis to ensure compliance with water quality standards. This analysis has not yet been scheduled by ODEQ.

Achievement of the TMDL in part occurs through implementation of nonpoint source management plans: the Agricultural Water Quality Management Area Plans (SB 1010), the Oregon Forest Practices Act, County Comprehensive plans, and Federal policies/plans on Forest Service lands. These plans vary from voluntary to proscriptive and management oversight is normally conducted through the local, state or federal land use authority. In the Columbia Gorge tributary area, Federal policies/plans for the Columbia River Gorge National Scenic Area are the primary TMDL implementation mechanism. Initiative-based restoration/protection and public funding dovetails with TMDL implementation and is an important implementing mechanism. ODEQ recognizes that Subbasin Planning is a key effort that supports TMDL implementation, and both are adaptive in nature. When TMDLs are re-evaluated by ODEQ in the future, the Management Plan may also be re-evaluated to incorporate new findings and ensure consistency with future TMDLs and/or new 303(d) listings.

The Management Plan proposes objectives and strategies that are consistent with the Endangered Species Act (ESA) requirements for listed species. Specific strategies in the Management Plan seek to enhance habitat protection of Threatened bald eagle and spotted owl on both private and publicly owned lands. Several strategies confirm or support mandatory measures such as Riparian and Late Successional Forest Reserve allocations and protection of special habitat areas on federal land under the Northwest Forest Plan. Other strategies seek to implement voluntary habitat protection for listed species on non-federal land, such as the retention and enhancement of bottomland hardwoods and large trees suitable for nesting and perching for eagle, protection of breeding and foraging eagles from human disturbances, and improvement of dispersal habitat for spotted owl. As for Threatened chinook and steelhead, several management objectives and strategies will help protect and restore habitat for these species. These include including improving fish passage and stream connectivity, protecting and restoring riparian vegetation, and restoring instream structure. Objectives and strategies promote voluntary measures and enforcement of existing laws to enhance protection and improvement of water quality and streamflows on non-federal lands.

7.5. Research, Monitoring and Evaluation

Monitor the abundance, genetics, distribution, habitat condition, and life history of anadromous and resident fish using juvenile and adult spawner surveys to provide a means to monitor future trends, identify priority habitats, and evaluate actions.

Collect baseline habitat survey and water quality information in Phelps and Post Canyon creeks

Monitor the status of threatened, rare, and sensitive wildlife populations
Monitor stream temperatures in area streams to identify the extent of human-induced changes that may be causing negative impacts to salmonid production or persistence.

Determine the distribution of stream reaches that harbor genetically pure or unique stocks of resident trout so that these reaches may be protected from habitat modification or non-native species introgression.

Collect baseline stream habitat and fish species distribution on previously unsurveyed streams or reaches as identified in Table 3 (section 1.1.2) to have accurate and complete baseline data for future planning and analysis efforts.

Determine the distribution of lamprey, and other declining aquatic species, to determine the habitat-related causes and potential stream restoration opportunities.