

6.3.4 Strategies and Actions for the Umpqua Stratum

Umpqua Stratum for Oregon Coast Coho Salmon

Independent Populations: Lower Umpqua, Middle Umpqua, North Umpqua and South Umpqua

Current Status: Moderate level of certainty that the Umpqua Stratum is sustainable

Primary Limiting Factor: Stream complexity (Lower Umpqua, North Umpqua), water quantity and quality (Middle Umpqua and South Umpqua populations).

Secondary Limiting Factors: Water quality (Lower Umpqua) Water quality and quantity (North Umpqua); stream complexity (Middle and South Umpqua populations)

Recovery Strategy for the Umpqua Stratum

The primary recovery strategy for the populations in the Umpqua Stratum is to protect current high quality summer and winter rearing habitat and strategically restore habitat quality in adjacent habitat. It identifies priorities for restoration of ecological processes to improve water quantity, water quality, and instream and estuarine habitat complexity. Collaborative actions also aim to improve instream flow, water temperature, and channel complexity through protection from adverse management practices, such as timber management, agricultural, and beaver control. An assessment of instream flows and development and implementation of a strategic instream flow restoration plan is essential to recovery of this stratum. Development and implementation of a beaver pond conservation plan that includes reducing lethal control, improving public education and acceptance of beaver, and development of non-lethal management practices provides a long-term ecological need to address winter- and summer-rearing habitat for this stratum. In the estuary, increasing access to lowland habitats, such as side-channels, alcoves and floodplains improves high-flow refugia and productivity of the estuary for outmigrating smolts from the upstream basin and provides for life-history diversity in the lower basin.

The following actions illustrate the types of actions that could be implemented to improve Umpqua Stratum coho salmon populations and habitats. Other approaches could also be implemented to achieve the desired results. The actions will be further refined, sequenced, and scheduled in coordination with other agencies and local stakeholders.

Key Strategies and Potential Actions for the Umpqua Stratum

- Assess instream flow limitations and opportunities for water use conservation and instream flow increases, especially in the South and Middle Umpqua populations.
- Implement and, as necessary, revise local regulatory mechanisms, voluntary and incentivized efforts to protect and restore watershed processes that promote winter and summer rearing habitats (e.g., wood recruitment, habitat complexity, floodplain connectivity). Examples of regulatory programs include the Oregon Agricultural Water Quality Management Act, Oregon Forest Practices Act, FEMA National Floodplain Insurance Program, and state beaver statutes and administrative rules. Encourage local organizations to work with state and federal agencies to develop and approve

scientifically credible, thorough Strategic Action Plans for the Lower, Middle, North, and South Umpqua populations, consistent with ESU-level common framework. (See action identified in Section 6.2.1.2 under Listing Factor A1, habitat actions at the ESU level.)

- Implement the Strategic Action Plans to protect and restore ecosystem processes and functions and coho salmon habitats. Actions identified in SAPs will likely include activities such as restoring habitat capacity for rearing juvenile coho salmon by increasing large wood loading, beaver pond habitat, and wetland/ off-channel connectivity, and by increasing native riparian vegetation to shade stream reaches during warm summer months.
- Collaborate with governmental and non-governmental organizations and others to identify, and implement, actions that will protect and restore watershed processes, provide stream complexity for juvenile rearing, increase shading to reduce stream temperatures, and connect wetland and off-channel habitats.
- Coordinate with ODEQ, ODF, ODA, SWCDs, and others to improve water quality, especially water temperatures, to increase carrying capacity and provide high quality summer rearing habitat for juvenile coho salmon.
- Provide and support public outreach, education and volunteer actions to protect and restore ecosystem process and functions, encourage beaver conservation and beaver dam analogues, and improve juvenile coho salmon rearing habitats.
- Reduce predation rates by continuing to reduce populations of non-native fish in the lower Umpqua River.
- Monitor and control predation, disease, aquatic invasive species, and competition.
- Improve wood recruitment to support long-term increases in habitat complexity by improving timber harvest activities and agricultural practices.
- Increase habitat complexity by increasing large wood, boulders, or other instream structure and conducting riparian planting projects.
- Improve floodplain connectivity by increasing beaver pond abundance and reducing or limiting development of channel-confining structures, including roads and infrastructure.

Estuaries

- Update estuary assessments of tidal habitats important for coho salmon rearing and development to assess status and guide future development and implementation of restoration activities.

Priority Watershed Actions

Instream Flows

1. Organize an interagency stream flow assessment team to evaluate and identify:
 - a. Refugia areas that have adequate stream flow, water temperature, and riparian protections to support coho salmon.
 - b. Existing stream flow needs.

- c. A strategy to address flow restoration, which will protect existing refugia, expand refugia to adjacent reaches, and provide a connection to a larger network of refugia areas.
2. Assess the potential success of a pilot program and implement the water conservation and instream flow program in the South or Middle Umpqua populations first. Develop a pilot flow restoration effort to implement the protection and restoration strategy and test the program feasibility in the South or Middle Umpqua populations.

State and Private Timber Lands

1. Increase protection of riparian forests with no-touch buffer widths with voluntary programs or increased regulatory mechanisms.
2. Eliminate the construction of permanent new roads, unless constructed to relocate another permanent road which has greater impacts on Oregon Coast coho salmon habitat.
3. Decommission roads where practicable.
4. Increase placement of large wood into stream channels.

Rural (including residential and agricultural) Lands

1. Plant, restore, and protect riparian areas adjacent to stream channels using voluntary actions with regulatory backstops in place.
2. Improve lateral connectivity from the stream channels to adjacent wetlands.
3. Conserve water usage to allow more instream water.

Federal Lands

1. Maintain a strong aquatic conservation strategy of some form within future management plans that protects ecological processes that form high quality coho salmon habitat.
2. Improve the transportation network that includes reducing the road network, minimizing the hydrologic connection of the roads to streams, reducing road related fish passage barriers, and minimizing any new road development, especially in riparian zones.

Secondary Watershed Actions

Beaver Management

1. Include strategies to increase beaver, beaver ponds, and beaver dam analogues in strategic action plans.
2. Seek agreements with state and federal agencies and others to pursue non-lethal means of beaver removal (see Section 6.2.1.2, A1-12 above). If necessary, revise regulatory mechanisms to prohibit killing beaver within the range of Oregon Coast coho salmon unless property or infrastructure damage is occurring and only when all other options are exhausted.
3. Create a program to educate landowners, managers, policymakers and the public in general about the benefits of beaver ponds to the health of our ecosystems, with a focus on benefits to salmonids. Include opportunities to conserve and manage beaver through cost effective, non-lethal management practices (Pollock et al. 2015).

4. Implement the Beaver Restoration Guidebook (Pollock et al. 2015) to incorporate beaver, beaver ponds, and beaver dam analogues into restoration actions. Develop a pilot demonstration effort, considering the Elk Creek watershed within the South Umpqua population first, and implement this integrated restoration strategy.

Fish Passage Access

1. Continue efforts to improve fish passage at dams, culverts, and other identified fish passage barriers. Assess remaining fish passage barriers and develop and implementation strategy and schedule.
2. Develop an estuary lowlands restoration strategy that considers improved access to historical floodplains through tidegate elimination, management, and operations; levee removal; and overwater structure modifications.
3. Complete a tidegate and floodplain management strategy in the Lower Umpqua and Smith River estuary.

Table 6-7. Habitat component specific actions to restore high quality coho salmon habitat in the Umpqua Stratum.

Action ID	Habitat component	Strategy	Action	Area	Priority
US-1	Tributaries	Improve instream flows	Develop water conservation strategies on the upslope agricultural areas with the intent of transferring conserved water to instream flows.	Immediate focus on identified areas with the highest water diversion.	High
US-2	Tributaries	Improve instream flows	Develop water conservation strategies on the upslope agricultural areas with the intent of transferring conserved water to instream flows.	All populations	Medium
US-3	Tributaries	Improve water quality	Improve water quality by improving instream flows, channel complexity, stream shade, and substrate retention.	All populations	High
US-4	Tributaries	Improve wood recruitment to support long-term increases in habitat complexity	Improve timber harvest activities (increased harvest buffers on private industrial timberlands, reduce road densities on private and federal timberlands)	All populations	High
US-5	Tributaries	Improve wood recruitment to support long-term increases in habitat complexity	Improve agricultural practices (for example grazing and hay production buffers on ag land adjacent to ESA-listed streams)	All populations	High
US-6	Tributaries	Increase habitat complexity	Improve agricultural practices (disallow stream channel dredging in ESA-listed streams flowing through or adjacent to ag lands)	Stratum wide	High
US-7	Tributaries	Increase habitat complexity	Increase large wood, boulders, or other instream structure	All streams where coho salmon would benefit immediately	High
US-8	Tributaries	Increase habitat complexity	Increase large wood, boulders, or other instream structure	All populations	Medium
US-9	Tributaries	Increase habitat complexity	Conduct riparian planting projects on streams that flow through or	All streams where coho salmon would	High

Action ID	Habitat component	Strategy	Action	Area	Priority
			adjacent to ag lands to increase wood recruitment to streams	benefit immediately; specifically	
US-10	Off-Channel	Increase habitat complexity and connectivity to side-channels	Increase large wood, boulders, or other instream structure	All streams where coho would benefit immediately	High
US-11	Off-Channel and Wetlands	Increase habitat complexity and connectivity and access to alcoves, off-channel ponds, floodplains, and wetlands	Increase beaver pond abundance	All streams where coho salmon would benefit immediately	High
US-12	Off-Channel	Increase habitat complexity and connectivity to side-channels	Increase large wood, boulders, or other instream structure	All populations	Medium
US-13	Off-Channel and Wetlands	Increase habitat complexity and connectivity and access to alcoves, off-channel ponds, floodplains, and wetlands	Increase beaver pond abundance	All populations	Medium
US-14	Wetlands	Improve direct and indirect wetland connectivity to streams	Reduce existing and limit development of channel-confining structures including roads and infrastructure in the floodplain that disconnect wetlands from tributaries and mainstems	All streams where coho salmon would benefit immediately	Medium
US-15	Mainstem	Improve instream flows	Develop water conservation strategies on the upslope agricultural areas with the intent of transferring conserved water to instream flows.	All populations	High
US-16	Mainstems	Improve water quality	Improve water quality by improving instream flows, channel complexity, stream shade, and substrate retention.	All populations	High
US-17	Mainstems	Improve marginal and streambank habitat complexity	Increase large wood and marginal and streambank habitat structure	All streams where coho salmon would benefit immediately	High
US-18	Mainstems	Improve marginal and streambank habitat complexity	Increase large wood and marginal and streambank habitat structure	All populations	Medium
US-19	Mainstems	Improve wood recruitment to support long-term increases in habitat complexity	Improve timber harvest activities (increased harvest buffers on private industrial timberlands, reduce road densities on private and federal timberlands)	All streams where coho salmon would benefit immediately	High
US-20	Mainstems	Improve wood recruitment to support long-term increases in habitat complexity	Improve timber harvest activities (increased harvest buffers on private industrial timberlands, reduce road densities on private and federal timberlands)	All populations	Medium

Action ID	Habitat component	Strategy	Action	Area	Priority
US-21	Estuary	Increase access to sloughs, side channels, and floodplains	Reduce fish passage barriers to floodplains by managing tidegate presence and operations.	Estuary wide	Medium
US-22	Estuary	Increase access to sloughs, side channels, and floodplains	Reduce fish passage barriers to floodplains by reducing or setting dikes back.	Estuary wide	Medium