



Headwater Habitats & Species

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ASRP Vision



“Protect and restore habitat in the Chehalis Basin in order to support healthy and harvestable salmon populations, robust and diverse populations of native aquatic and semi-aquatic species, and productive ecosystems that are resilient to climate change and human-caused stressors while honoring social, economic and cultural values of the region and maintaining working lands.”

- ASRP SC 2019

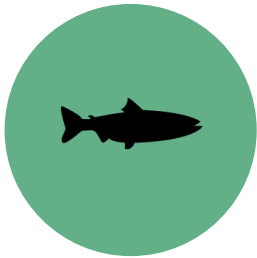


ASRP Goals

- Protect and restore natural habitat-forming processes
- Increase the quality and quantity of habitats for aquatic species
- Protect and restore aquatic species viability
- Increase watershed resilience to climate change
- Build recognition of and support for ASRP actions

Species for habitat restoration

Three species are the focus of near-term habitat restoration actions



Spring-run
Chinook Salmon



Coastal Tailed
Frog



Oregon Spotted
Frog



Species for habitat restoration

Where species distribution reflects a range of habitats



Larger Rivers

Larger
rivers,
estuary to
upstream



Headwater
Streams

Smaller,
high
gradient,
no fish



Wetlands

Shallow, low
gradient,
still water



Andy O'Connell

Protection encompasses co-occurring species

Habitat Protection & Restoration

- Protect intact habitats
- Restore degraded habitats
- Prioritize areas:
 - habitat-forming processes
 - benefit multiple species



Coastal Tailed Frog - Habitat

- High gradient headwater streams throughout western Washington
- Cool water
- Lack fine sediment
- Co-occurs with other stream-associated amphibians
- Larvae are restricted to water
- Post-metamorphs use uplands

Coastal Tailed Frog Status



- Widely distributed throughout Chehalis Basin
- Distributed patchily
- Relatively low abundances
- Included in other Adaptive Management Programs:
 - WA Forest Practices AMP/HCP
 - OR Private Forest Accord/HCP
- Research shows reductions in density following timber harvest (*WA Forest Practices AMP*)

ASRP Protection/Restoration – Tailed Frog Status



- ASRP restoration and protection efforts have focused primarily on larger, fish-bearing streams
- Regional Implementation Teams (RITs) lack clear guidance for restoration in headwater habitats

Headwater Streams - Protection



- Protect riparian corridors along headwaters
- Inputs to downstream waters
- Consider uplands in protection:
 - Post-metamorphs not restricted to streams
 - Upland forest cover influences stream flow

Coastal Tailed Frog – Habitat Restoration

- Large wood placement in streams
- Barrier corrections
- Riparian forest restoration
- **Benefits of actions have not been explored**





Coastal Tailed Frog - Research

- Investigate potential benefits of large wood placement
- Study effect of barrier corrections
- Consider time to benefit for riparian restoration
- Evaluate over ridgeline/habitat connectivity on increasingly dissected landscape

Headwater Streams – Landowner engagement

- Dominant landowner (78% of basin) is private ownership
- Dominant land use is timber management
- Landowner engagement/support is crucial :
 - *Landowner considerations for protection*
 - *Landowner considerations for restoration*
 - *Landowner engagement/incentives*
 - *Relationship building/communication/prioritization/planning/transparency*



Headwater Streams – Landowner engagement

- Voluntary conservation measures
 - existing programs for funding and tech assistance (largely lowlands)
- Landowner recognition
- Financial incentives (e.g., riparian protections)
- Conservation easements
 - limits uses to protect important conservation values

- *The Missing Link (Erler, DU 2022)*



Headwater Streams – Synergies

- Build upon existing programs
- Forest Practices AMP in WA
- State-wide Program – compliments goals of ASRP
- Landowners are engaged/participating
- Current DNR rule making based on results from Forest Practices AMP research
- **Adaptive Management at work!!**

