CHEHALIS LEAD ENTITY PRESENTS

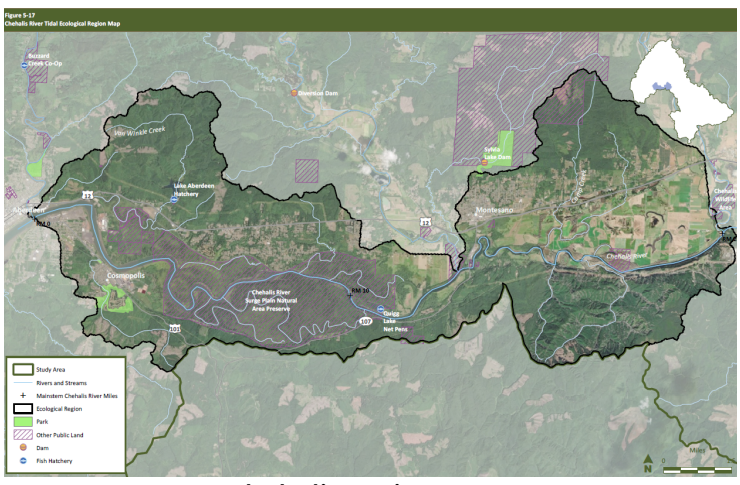
# CHEHALIS RIVER TIDAL ECOLOGICAL REGION

AN AQUATIC SPECIES RESTORATION PLAN SUMMARY

CLICK ON THE PICTURES AND LINKS FOR MORE INFORMATION

## STATISTICS FOR THIS REGION

- This ecological region encompasses 59 square miles and represents approximately 2% of the overall Chehalis Watershed
- This region ranges from 60 feet in elevation in Elma to 20 feet in Aberdeen
- Average annual precipitation is 75 - 100 inches
- 100% of this ecological region lies within Grays Harbor County




Source: Chehalis Basin Strategy ASRP Phase 1, pg 171

## CURRENT CONDITIONS

- Land cover is 23% coniferous forest, 21% wetland, 17% developed, 12% scrub-shrub, 10% agriculture, 4% herbaceous, 4% deciduous forest, 4% mixed forest, and a small percentages of other cover
- Water quality is impaired in multiple reaches, primarily for numerous pesticides and toxic pollutants as well as temperature, low dissolved oxygen, and bacteria (Ecology 2018)
- Washington Department of Natural Resources has preserved the Chehalis River Surge Plain Natural Area Preserve, which encompasses approximately 5,500 acres

Chehalis River Tidal Current Snapshot

**Condition of Watershed Processes:**
Hydrology – moderately impaired
Floodplain connectivity – impaired
Riparian condition – moderately impaired
Water quality – impaired

**Restoration Potential:** Moderate

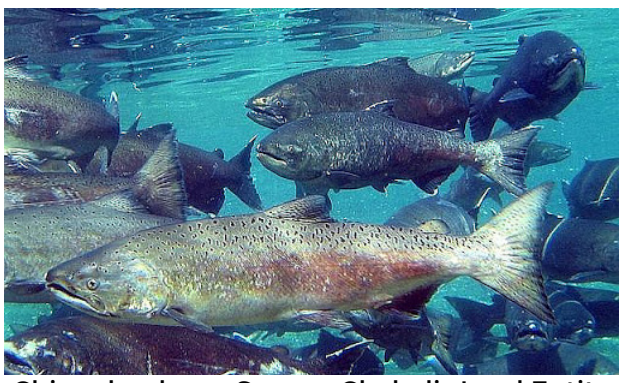
**Protection Potential:** Moderate

**Geographic Spatial Units:** Chehalis River from Wynoochee River to Mouth of the Chehalis River and Chehalis River from Satsop River to Wynoochee River

Source: Chehalis Basin Strategy ASRP Phase 1, pg 173

## IMPORTANCE TO WILDLIFE

- The salmonid species present in this region include all species that migrate into the basin, including spring-run Chinook salmon, fall-run Chinook salmon, chum salmon, coho salmon, and steelhead
- Non-salmonid important species include northern red-legged frog, Pacific eulachon, Olympic mudminnow, largescale sucker, mountain whitefish, Pacific lamprey, riffle and reticulate sculpin, and speckled dace, as well as North American beaver
- Important bird species present include great blue heron, Barrow's goldeneye, common goldeneye, and wood duck



Chinook salmon Source: Chehalis Lead Entity

**What is the difference between spring run and fall run Chinook salmon?**

Spring-run Chinook enter the river in the spring and stay in the river system until fall when they spawn. Fall-run chinook enter the river in the fall and spawn in the fall. Spring-run Chinook are vulnerable to warm summer temperatures.

## LIMITING FACTORS

Salmon and other indicator species struggle with these constraints:

- Low habitat diversity
- Reduced quality and quality of instream habitats
- Channel instability (bed scour and bank erosion)
- Channel width
- Predation (non-native fish)
- Too much fine sediment (smothers eggs)
- High water temperatures
- Pathogens
- Fish passage barriers

Lower Satsop River erosion and newly installed engineered log jams, Source: Alexa Brown

CREATED BY GRAYS HARBOR STREAM TEAM
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## ECOSYSTEM PROTECTIONS NEEDED

- Protect additional high-quality habitats adjacent to existing surge plain protected area
- Protect estuary-adjacent areas to accommodate the processes by which sea level rise will cause estuary zones to shift upstream

Blue Slough, Source: Chehalis Basin Strategy ASRP, Phase 1 page 175

## RESTORATION REQUIRED

- Restore riparian areas and control/manage invasive species such as reed canarygrass and purple loosestrife
- Strategically place large wood to mimic natural tidal accumulations and form forested islands and cover
- Evaluate effects of non-native predator species on native fish in the tidal zone
- Reconnect floodplain and off-channel habitats, including gravel-mined pond restoration
- Target estuary-adjacent areas for restoration to accommodate the processes by which sea level rise will cause estuary zones to shift upstream
- Conduct barrier removals to restore tidal channel connectivity to primary sloughs and key tributaries, including tide gates
- Opportunistically restore industrial portions of the estuary (e.g., through bank armoring removal or invasive species management).


Invasive purple loosetrife, Source: Aileen Sande

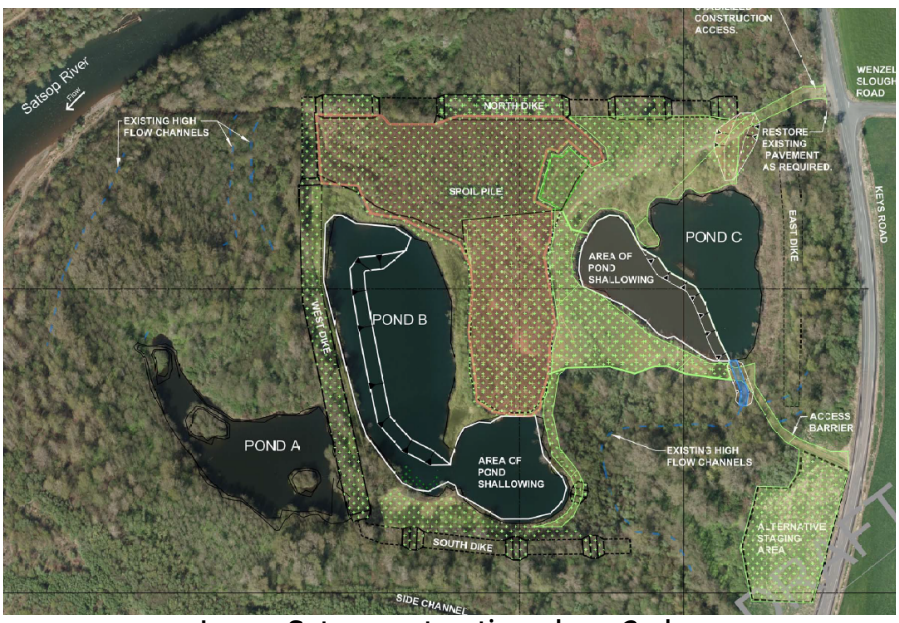
Bank armoring along industrial section of Grays Harbor, Source: Alexa Brown

## LOWER SATSOP RIVER FLOODPLAIN RESTORATION

**A Washington State Department of Fish and Wildlife (WDFW) Project**

### The Goal

The Lower Satsop River Restoration Project is restoring floodplain habitat and restoring habitat connectivity to a 118 acre site along the Satsop River. The goal of the project is to restore floodplain habitat processes and improve wetland connectivity, specifically targeting native fishes and amphibians.




Lower Satsop restoration phase 2 plan: https://secure.rco.wa.gov/prism/search/ProjectSnapshotAttachmentData.aspx?id=350226

### Objectives

WDFW used an experimental approach to habitat restoration by completing the construction in phases to study amphibian and native fish response to restoration treatments. Sections of both ponds pictured to the right have been shallowed using fill from the site. Sections of the dikes (pictured above) have been removed and channels reconnected to improve floodplain connectivity. Fish and amphibian use are being monitored throughout the project. Wood piles have been added to increase wildlife habitat. Bare soil has been re-planted with native vegetation by Washington Conservation Corps crews and Grays Harbor Stream Team volunteers. This planting effort is organized by Grays Harbor Conservation District.

Picture taken at Grays Harbor Stream Team volunteer planting in October, 2020 on Pond B, Source: Alexa Brown

## CHECK OUT ADDITIONAL RESOURCES

- Chehalis Lead Entity: http://www.chehalisleadentity.org/
- Chehalis Basin Partnership: https://chehalisbasinpartnership.org/
- Chehalis Basin Strategy: https://chehalisbasinstrategy.com/asrp/

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