DUNGENESS STREAMFLOW RESTORATION OFF-CHANNEL RESERVOIR

PROVIDING SALMON HABITAT RESTORATION AND CLIMATE-RESILIENT WATER SUPPLY IN THE DUNGENESS RIVER BASIN

PROJECT SPONSOR: CLALLAM COUNTY

PARTNERS:

- CITY OF SEQUIM
- CLALLAM CONSERVATION DISTRICT
- DUNGENESS WATER USERS ASSOCIATION
- JAMESTOWN S'KLALLAM TRIBE
- WASHINGTON WATER TRUST

PROJECT DESCRIPTION

The Dungeness River is home to four ESA-listed fish species: Puget Sound Chinook, Hood Canal Summer Chum, Puget Sound Steelhead, and bull trout. Dungeness salmon and steelhead numbers have decreased significantly over the past 150 years. Chinook numbers have decreased from an estimated 8,000 fish annually in the 1850s (Puget Sound Salmon Recovery Plan) to approx. 200-900 fish annually over the past decade (Jamestown S'Klallam Tribe). Steelhead have decreased significantly as well from an estimated 5,900 fish annually to approx. 600 fish annually (ESA Recovery Plan for Puget Sound Steelhead).

One of the primary drivers of Dungeness salmon and steelhead decline is habitat loss. Abundant, cool water is vital for healthy habitat in terms of water quality and the habitat usability and connectivity it provides. The Dungeness basin is part of a region that receives less rainfall and more sunshine than any place in Puget Sound. Fed by Olympic Mountains snowpack, flows decline over the summer often reaching critically low levels in late summer. Agricultural water right holders can withdraw as much as 50% of river flows during this time which reduces the amount of habitat available to fish and contributes to dangerously high water temperatures and fish passage challenges. Furthermore, it is projected that total spring and summer season streamflow in the Puget Sound region (which includes the Dungeness) will decrease by 24–31% and river and stream temperatures will increase by 2.2–2.5˚C by the 2080s,

The solution for fish and farms is the Dungeness Streamflow Restoration Off-Channel Reservoir. The reservoir will collect and store water during winter and spring when flows are plentiful. This stored water will be used for irrigation later in the year - a stable, climate-resilient water supply in place of water drawn directly from the river when flow is at its lowest. The result will be an average of 26.5 cfs of streamflow restored to the Dungeness River resulting in weighted usable habitat area increases of up to 35% for ESA-listed fish species.

COMMUNITY BENEFITS

Streamflow Restoration for Salmon - The project will restore an average of 26.5 cfs of flow in the Dungeness River alleviating fish passage issues, restoring habitat, and reducing water temperature for ESA-listed salmon, steelhead and bull trout.

Floodwater Management - The project will alleviate flooding on roads and properties in Clallam County and the City of Sequim by intercepting upland overland flow before it reaches and inundates city infrastructure.

Aquifer Recharge - In years with adequate snowpack, stored water can be used for aquifer recharge to augment flows in small streams and generate additional mitigation credits for the Dungeness Water Exchange (a local water bank).

Climate-Resilient Water Supply - A decreasing water supply is a significant climate concern for the region. The project will use water storage to provide a reliable climate-resilient water supply for agriculture and local communities into the future.

Recreation - The project site is currently owned by the WA Department of Natural Resources and will be owned and managed by Clallam County as a new public park with hiking, biking, wildlife viewing, and river access opportunities.

RECOVERY & MANAGEMENT PLANS:

The following recovery and management plans support Dungeness streamflow restoration:

- Puget Sound Partnership Action Agenda: Highest Priority Near-Term Action (#2018-0169)
- Puget Sound Salmon Recovery Plan - "Implement such projects as re-regulating reservoir"
- Hood Canal and Eastern Strait of Juan de Fuca Summer Chum Recovery Plan
- ESA Recovery Plan for the Puget Sound Steelhead DPS
- Recovery Plan for the Coterminous United States Population of Bull Trout
- Elwha-Dungeness Watershed Plan
- 2016 State of our Watersheds: A Report by the Treaty Tribes in Western Washington

BY THE NUMBERS

Reservoir size	Reservoir capacity	Size of new county park
88 acres	**1,600 acre feet**	**396 acres**

Flow restoration benefit	One-month irrigation supply annually for	ESA-listed fish species benefitting
26.5 cfs*	**3,200 acres**	**4 species****

*Represents up to a 47% increase in flow which dropped to 56 cfs in 2015. Restored flow will be protected by Trust Water/MOA agreement from other diverters.

**Puget Sound Chinook, Hood Canal Summer Chum, Puget Sound Steelhead & Bull Trout

PROJECT TIMELINE

PHASE	DATE
PHASE 01 LAND TRANSFER & ASSESSMENTS	JAN 2021 - DEC 2021
PHASE 02 DESIGN, RELATED OUTREACH & PERMITTING	MARCH 2021 - SEPT 2022
PHASE 03 CONSTRUCTION & RELATED OUTREACH	OCT 2022 - JULY 2024

TOTAL PROJECT BUDGET OF $32 MILLION