



VULNERABILITY	Low	Low-Med	Med	Med-High	HIGH	Very High
PRIORITY	Low	Low-Med	Med	Med-High	High	VERY HIGH

IMPORTANCE	POTENTIAL IMPACTS	ACTIONS
<ul style="list-style-type: none"> • Culture • Diet • Economy 	<ul style="list-style-type: none"> • Rising Temperatures • Disease • Excess Mortality • Economic Losses • Health and Wellness 	<ul style="list-style-type: none"> • Decrease Pollution • Restore Habitat • Ensure Sustainable Harvest • Manage Hatcheries

WHY SALMON ARE IMPORTANT

Salmon species are an iconic cultural resource for many coastal tribes of the Pacific Northwest. Traditionally, salmon provided the foundation for almost all aspects of cultural life for the Jamestown S’Klallam Tribe and, in modern times, provide a valuable economic and nutritional resource for the tribe.

Traditional foods, such as Salmon, provide a nutrient-rich and culturally important component of the modern diet. Fishing is also associated with a more active lifestyle. Such diets and lifestyles provide food packed with essential fatty acids, antioxidants, and protein and are associated with prevention of chronic diseases such as diabetes, heart disease, and cancer.



POTENTIAL IMPACTS OF CLIMATE CHANGE

Climate change is altering the Dungeness River and similar rivers in the region to more “transient” (mixed winter rain with snow) watersheds. Winter rains with less snow will affect salmon through; disturbed timing of river flow and winter flood events with streambed scouring. With less snowpack, there will be smaller summer flows for salmon returning to spawn. Higher air temperatures will generally increase heat stress on salmon in the rivers and potentially increase competition for water by increasing demand for water to irrigate crops.

- Winter Rains and Flooding
- Streambed Scouring
- Lower Summer Flows
- Higher Water Temperatures
- Less Summer Water

ACTIONS TO INCREASE RESILIENCE

The Jamestown S’Klallam Tribe is already active in many protective strategies for salmon; though climate change may threaten the effectiveness of these programs. Continued leadership and collaboration with stakeholders on these issues will help salmon be more resilient to a changing climate.

NEXT STEPS

- Restore connections to flood plains by setting back dikes.
- Plant native streamside trees and control invasive species.
- Filter or eliminate storm water input into streams.
- Protect and restore wetlands.
- Restore in stream habitat to enhance survivability.
- Ensure sustainable harvesting of salmon.
- Managing hatchery programs to minimize harm done to wild stocks.



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FUTURE TEMPERATURES AND SALMON

In spite of probable altered timing of river flow and winter flooding events, the Dungeness River should remain cool (see blue dot in right panel, upper right) even as land temperatures increase. This is due to the high altitude snowpack and steep descent of the river (Mantua et al., 2010). Average weekly August air temp (shading) and river water temperatures (dots) for historic conditions, 1970-1999 (left panel) and future projections, 2040s (high emissions scenario—right panel).

