

CLIMATE CHANGE AND OUR NATURAL RESOURCES

A Report from the Treaty Tribes in
Western Washington

EXECUTIVE SUMMARY



November 2016

Our ancestral territories stretch from the Cascade Mountains westward to the Pacific Ocean. A wide variety of plants and animals have sustained our communities for thousands of years, providing food, fuel, shelter, medicines, and materials for commerce. Our natural resources form the foundation for our spiritual life, sacred ceremonies, and community cohesion.

In the last 150 years our homelands and waters have profoundly changed. Salmon and steelhead runs that are central to our culture and economy are at a fraction of their historical populations. Many lowland old-growth forests have been logged. In some parts of the region, natural shorelines have been replaced by concrete and hundreds of acres of shellfish beds are too polluted for harvest. These changes have contributed to declines in natural resources important to our communities.

Today our environment and the natural resources we depend upon are further threatened by climate change. Virtually all of the activities that our treaties protect are influenced by the effects of climate change.



The 20 member tribes of the NWIFC in western Washington. Map: Ron McFarlane, NWIFC.

Climate Change Impacts to Tribal Rights and Resources

In the 1850s, we entered into treaties with the U.S. government. In exchange for ceding vast tracts of land, the tribes retained the right to fish, hunt, and gather as we have always done throughout our traditional territories. Major federal court decisions have upheld our treaty rights as the law of the land. The ability to exercise our rights is diminished if species productivity drops too low or if species are no longer available in our gathering, hunting, and fishing grounds.

Each species responds to climate change depending on its particular characteristics and the local conditions. Nonetheless, there are overarching impacts that have the potential to challenge our ability to exercise our treaty-reserved rights:

- **Declining runs of salmon and steelhead** due to changes in streamflow, stream temperature, levels of dissolved oxygen, amount of sediment in streams, susceptibility to disease, ocean temperatures, ocean chemistry, timing of prey availability, prey type, and competition from warm-water species.
- **Migration of marine fish** away from historical fishing grounds as they seek out cooler ocean temperatures.
- **Replacement of traditional fish runs** with invasive species and new species that have migrated from the south.
- **Declining populations of shellfish** (both mollusks and crustaceans) due to changing ocean chemistry.
- **Closing of shellfish harvest areas** due to harmful algal blooms.
- **Loss of traditional shellfish harvesting areas, forage fish spawning grounds, and important cultural sites** to sea level rise or increased coastal erosion.
- **Declining populations of wildlife and birds** due to habitat changes, loss of food sources, disease, and competition with invasive species.
- **Migration of wild game and birds** out of traditional hunting grounds as they move farther north or to higher elevations.
- **Decreased plant productivity and shifts in species ranges** due to heat stress, drought, invasive species encroachment, or increasing pests.
- **Loss of traditional hunting grounds, plant gathering areas, and sacred sites** due to wildfire, landslides, or invasive species.

- **Changes in timing of key life stages in a variety of species**, such as the migration of salmon, fruiting of berries, or optimal time to harvest cedar bark.
- **Loss of access routes to important cultural sites** due to flooding, bridge damage, permanent road closures, or landslides.
- **Loss of water supplies** for drinking and other needs due to saltwater intrusion from sea level rise, or changes to precipitation, streamflow, and/or groundwater availability.
- **Negative societal outcomes** from poor air quality, heat stress, spread of diseases, loss of nutrition from traditional foods, and loss of opportunities to engage in traditional cultural activities.

Regional Climate Change Observations and Projections

Climate change impacts have already been observed and are projected to continue in freshwater aquatic, marine, and terrestrial ecosystems. These changes have profound implications for the plants and animals important to our communities, ways of life, and treaty-reserved rights. In the Pacific Northwest, the observed and projected trends in physical systems include the following:

- Warmer air temperatures
- Shrinking glaciers
- Less snowfall
- Decreasing summer streamflows
- Increasing winter peak streamflows
- Changes to timing of peak and low streamflows
- Higher stream and lake temperatures
- Lower levels of dissolved oxygen in streams
- More sediment delivered into, carried by, and deposited in streams
- Drying out of wetlands
- Increased frequency and size of wildfires
- Greater probability of landslides
- Warmer ocean temperatures
- Rising sea levels
- Stronger storms and greater storm surge
- Changing ocean chemistry, including ocean acidification and low dissolved oxygen

Moving Forward

Along with risks, climate change also presents opportunities. In this time of change, we have the chance to develop healthier, self-sustaining ecosystems and to promote equitable and flourishing communities. On behalf of future generations, we are taking action now to prevent the worst harm from climate change. We will continue working together to protect our treaty rights and traditional ways of life.

Moving forward entails efforts on two fronts. The first focuses on the reduction of harmful greenhouse gas emissions at local, regional, national, and international levels in order to prevent the worst-case scenarios of climate change impacts from happening. All around the world, indigenous communities are promoting renewable energy sources, better energy efficiency, and the choice to leave fossil fuels in the ground.

The second type of effort enhances the ability of ecosystems and communities to adapt to changing conditions:

- Development of tribal capacity to assess on- and off-reservation climate change impacts and to promote resilience to these impacts at multiple scales.
- Developing approaches to natural resources management that consider landscape-scale processes and include innovative solutions.

- Working together to restore natural physical processes and ecological function, and to reduce existing stressors, such as water quality impairment, fish-passage barriers, noxious invasive weeds, and habitat fragmentation.
- Promoting biological diversity, protecting intact ecosystems, and supporting climate refuges—areas where changes are expected to be less severe or to occur more slowly.
- Tracking changes to local environmental conditions, including the use of tribal traditional knowledge of climate patterns and ecosystems as a source for early warning signals.
- Promoting cultural resilience through tribal citizen engagement and education, especially K-12 education.
- Sharing knowledge and expertise with tribes and non-tribal entities within and outside of the PNW on research, modeling, and tracking environmental trends.
- Partnership with federal, state, and local governments to work together on local concerns and solutions.

Please visit nwtreatytribes.org/climatechange for more information and to download the report *Climate Change and Our Natural Resources: A Report from the Treaty Tribes in Western Washington*.



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