

TESTIMONY OF THE YUROK TRIBE
BEFORE THE HOUSE OF REPRESENTATIVES COMMITTEE ON
APPROPRIATIONS, SUBCOMMITTEE ON INTERIOR, ENVIRONMENT, AND
RELATED AGENCIES REGARDING THE IMPACT OF CLIMATE CHANGE
TO THE YUROK TRIBE

March 6, 2019

INTRODUCTION

Good afternoon Chairman and distinguished Committee members. The Yurok Tribe is grateful for the opportunity to share our perspective of the impacts that climate change will have on the Yurok Tribe, and look forward to continuing to engage with this Subcommittee to identify ways that the Tribe can proactively prepare for these impacts.

The Yurok Tribe is the largest Tribe in California with over 6,200 enrolled tribal members. Although the Yurok Indian Reservation (YIR) is located on the lower 45 miles of the Klamath River, the Yurok Tribe's ancestral lands extend northward to Damnation Creek and southward to the vicinity of Arcata, CA. The Tribe has actively managed its land, water wildlife and fisheries resources from time immemorial using Traditional Environmental Knowledge and more recently, the tribe has integrated western science into its resource management efforts.

As the Yurok Constitution states:

"We pray for the health of all the animals, and prudently harvest and manage the great salmon runs and herds of deer and elk. we never waste and use every bit of the salmon, deer, elk, sturgeon, eels, seaweed, mussels, candlefish, otters, sea lions, seals, whales, and other ocean and river animals. We also have practiced our stewardship of the land in the prairies and forests through controlled burns that improve wildlife habitat and enhance the health and growth of the tan oak acorns, hazelnuts, pepperwood nuts, berries, grasses and bushes, all of which are used and provide materials for baskets, fabrics, and utensils.

The Yurok Tribe receives federal funding through annual funding agreements with the Bureau of Indian Affairs that includes funding authorized by the appropriation bill for the Departments of Interior, Environment, and related agencies. The Tribe strongly encourages the Subcommittee to direct more federal funding toward tribal land, water, and climate management and disaster relief (whether fisheries, fire, or other weather based disasters) to be empower Tribes to respond to the threats of climate change. In addition, the Yurok Reservation, located in a PL-280 state receives very little federal funding for tribal law enforcement. This hinders our ability to be prepared as first responders. We strongly urge the Subcommittee to increase funding for tribal law enforcement in PL-280 states. Below is a brief description of the most threatening impacts of climate change and actions the Subcommittee could support to help with mitigation.

Climate Change Effects and Actions

Predicted changes that will directly affect the Yurok Tribe include: 1) loss of snowpack and higher water temperatures that threaten the salmon and other resources of the Klamath River; 2) increased demand for scarce water supplies; 3) greater precipitation extremes (drought to flood cycle); 4) sea level rise; 5) land and fire management; and 6) community health issues.

Loss of Snowpack and Higher Water Temperatures. Because the mountains that feed the Klamath River are not as high as the Sierra Nevada or the Northern Cascades, the Klamath River will experience a greater transition from a snowmelt driven hydrology to a rain driven hydrology than other rivers in the Pacific Northwest. This has the potential to affect the long-term viability of the fishery, by increasing direct mortality as well as affecting the disease ecology of the river. The Klamath River does have large spring-fed tributaries and we believe a salmon fishery is viable in the long-term, but actions must be taken to ensure the stability of these populations.

Actions

1. Large-scale water quality improvement projects for the Upper Klamath Basin;
2. Fish passage improvement projects throughout the basin including Keno fish ladder;
3. Financial support, in the form of disaster relief funding, for Tribes and fishermen impacted by salmon stock collapses due to management actions as exacerbated by climate change.

Increased Demand for Scarce Water Supplies. A significant and expected effect of climate change will be increases in agricultural demand for water due to longer growing seasons, hotter growing seasons, cropping pattern changes, and more efficient evapotranspiration from increase CO2 levels. Because the Klamath and Trinity Rivers not only support significant salmon runs, but are also used for agricultural purposes, solutions must be sought that allow both communities to exist. The Yurok Tribe believes that creative solutions to this dilemma can be found through mutual dialogue and flexibility. That said, the Tribe holds Senior Water Rights, and these rights must be met. The best way for this to occur is to engage with affected parties find ways to increase the predictability and reliability of these systems for all users while still ensuring the health of aquatic and terrestrial resources.

Actions

1. Support for travel and participation in larger basin negotiations;
2. Financial and other support for agricultural interests transitioning to lower diversion quantities for fish protection;
3. Financial support for Tribes and fishermen impacted by salmon stock collapses due to management actions as exacerbated by climate change;
4. Assistance for the Yurok Tribe's efforts to find solutions to instream flow issues affecting the Shasta and Scott Rivers;
5. Protection of existing instream flow requirements for the Trinity River.

Greater Precipitation Extremes. There is widespread consensus that climate change will bring about increases in weather extremes, and the Klamath River is no exception. New scholarly research verifies this assumption¹ for California, particularly with regard to extremely wet and extremely dry years. Because the Yurok Reservation lies along the lower Klamath River, flooding is always a concern. Small tributaries to the Klamath are also capable of causing resource damage, property damage or loss of life. The transportation network on the Yurok Reservation substandard and is located on unstable steep hillsides above the Klamath River. Power lines traverse miles of forest, and prolonged power outages are frequent. Because of the remote location of the Yurok Reservation, emergency response from County, State, and Federal responders is often not timely and lacks sufficiency. Funding to increase the emergency

¹ Swain, D.L., B. Langenbrunner, J.D. Neelin, and A. Hall, Increasing precipitation volatility in 2018 twenty-first-century California, *Nature Climate Change*, 8, 427-433, doi: 10.1038/s41558-018-0140-y., 2018.

response capacity of the Tribe will lessen burden on other emergency responders who often have their hands full dealing with more densely populated parts of the County and State.

On the other side of these extremes are drought events. Droughts have a personal and significant impact to Yurok Tribal members. Those who live on the Reservation rely on springs, creeks, or small community water systems for their domestic needs. In January 2014, during an extreme drought event, multiple water systems actually went dry. This occurred for the first time in memory, despite the Reservation's location in a temperate rain forest environment. It is clear that drought events will cause widespread and tangible disruption to domestic water supplies on the Yurok Reservation. Drought conditions also cause increased fire danger risks which will be more fully discussed below.

Actions

1. Increase emergency response preparedness for the Yurok Tribe for flood, drought, fire and other emergencies;
2. Continue to improve transportation network for roads in and around the Yurok Reservation;
3. Improve communications throughout the reservation. Install cell phone towers to serve areas without service which includes the entire upper Reservation;
4. Provide support to the Yurok Tribe for its efforts to implement major reliability, treatment, and source improvements to individual and community water systems located on the Yurok Reservation.
5. Support funding for tribal law enforcement in PL-280 states

Sea Level Rise

One of the predicted effects of climate change is rising sea levels. Although the predicted amount of sea level rise varies, there is widespread scientific consensus that it will rise, and indeed it has already begun to rise. For the Yurok Tribe, the primary impacts will be felt at the mouth of the river. Although impacts to fisheries and aquatic resources in the Klamath River are not expected to be large, the impact to man-made infrastructure important to the Tribe will be significant. Further south in Yurok Ancestral territory, sea level rise will threaten multiple ancestral village and archaeological/cultural sites. It is likely that stabilization and/or relocation of some sites will be necessary.

Actions

1. Assessment of infrastructure vulnerability and identification of future improvement needs.

Land and Fire Management

For millennia, the Yurok Tribe managed its land resources according to tradition, with fire being a major tool as well as a major threat to well-being. Fuels buildup is dangerous to life and limb, and catastrophic fire threatens both the land and water resources the Tribe depends on. On the other hand, fire is necessary and beneficial to many terrestrial and aquatic species the Tribe depends on. For example, bear grass is used for basketry, but bear grass that has not burned for some time is not suitable for use. Fire reduces the amount of acorn worms and increases the quality of acorn harvest. Hazel sticks (also used in basketry) are straighter and of more use when they regrow after a fire. Recently burned areas that are cleared of underbrush generally support more elk and deer, both of which are important to Yurok cultural subsistence. Finally, frequent

low intensity fire reduces fuel loading and makes communities safer. This is especially important in Yurok country which features narrow dead-end roads with limited escape options. On the upper reservation, the only way in and out is a dead end road that lacks the width to pass multiple emergency crews at one time.

To the Yurok, fire is not an enemy to be suppressed at every opportunity, but a powerful tool that can be used to alter landscapes for the better and is simply a part of living in this bioregion. That said, climate change is changing this dynamic in extreme and unpredictable ways. Last November, the small city of Paradise, CA lost over 18,000 structures and 85 people were killed in a forest-urban interface firestorm. The fact that this occurred in November, which is usually a wet month was not lost on the Yurok Tribe. When the Tribe assessed the disaster and its causes in Paradise, we saw that the same grim fate could befall Yurok communities unless a lot of work is done beforehand. The need is urgent and the time is now.

Actions

1. Reservation expansion and land acquisition so landscapes can be managed for fire risk reduction;
2. Funding and logistical support for community fire readiness planning;
3. Increase Yurok wildland firefighting capacity;
4. Support for implementation of cultural and fuels management burning and fuels reduction projects;
5. Improvement of transportation network (roads, helipads, water sources, etc).

Community Health Issues. Climate change affects community health in a variety of ways, including direct heat effects from prolonged heat waves, smoke from increased wildfire frequency and intensity, direct and indirect injury and harm from extreme events, and increased incidence of vector borne diseases. The tribe has many elderly tribal members who lack electric power and the rudimentary road system can hamper efforts to move to cooler weather areas during heat waves.

As the climate changes, diseases such as West Nile Virus which are normally confined to tropical areas are migrating northward. Lyme disease has arrived to areas near the reservation and ticks are more numerous and are now active during times of year when they were normally dormant. The first cases of Lyme disease are now starting to appear near the Yurok Reservation, and climate change is expected to exacerbate this situation².

Actions

1. Fund planning efforts for a community-based preventative approach;
2. Strengthen Tribal health infrastructure and response capacity.

CONCLUSION

The Yurok Tribe thanks the Subcommittee for the opportunity to discuss ways the Tribe can adapt and prepare for climate change in partnership with the federal government.

² The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. US Global Change Research Program. <https://health2016.globalchange.gov/>