

# Karuk Tribe

## Integrating Traditional Ecological Knowledge within Natural Resource Management

Traditional ecological knowledge (TEK) plays a significant role in the Karuk Tribe's approach to natural resource management, which is guided by a respect for the relationships between species, their habitats and the belief that fostering ecosystem resilience is critical to ensuring sustainability. In 2010, the Karuk Tribe released a draft Eco-Cultural Resources Management Plan (ECRMP) to create a long-term adaptation strategy for the protection, enhancement and utilization of cultural and natural resources. The ECRMP establishes a framework for considering a wide range of human and environmental stressors to the Karuk Tribe, including climate change.

This profile explores the role of traditional ecological knowledge in the Karuk Tribe's Eco-Cultural Resource Management Plan, the ways in which this unique approach may contribute to tribal efforts to address climate change, and the importance of the federal-tribal relationship in addressing climate change.

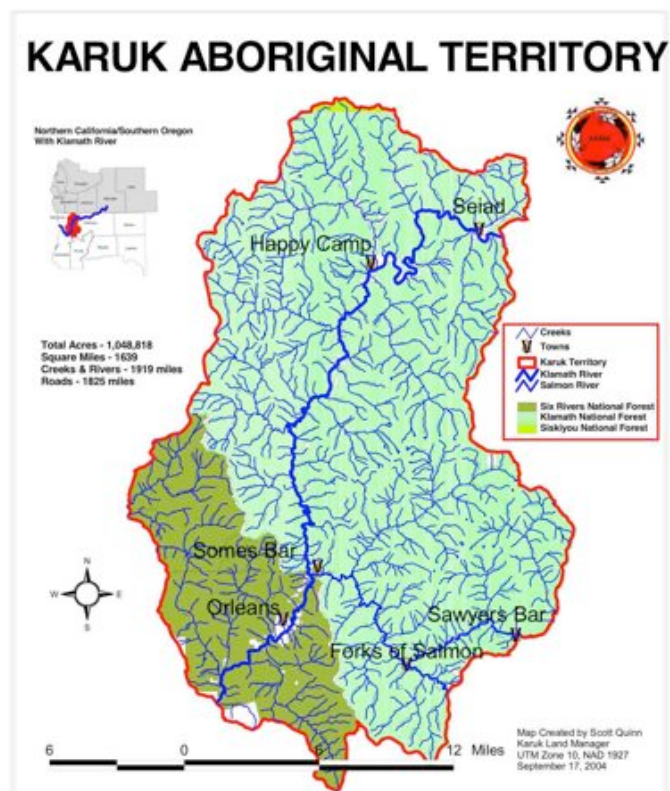
### Background<sup>1</sup>

The Karuk Tribe is a federally recognized Indian Tribe (73 Fed. Reg. 18,535, 18, 544 (April 4, 2008)) occupying aboriginal lands along the middle course of the Klamath and Salmon Rivers in Northern California. The tribe's Aboriginal Territory has been previously mapped and includes an estimated 1.48 million acres within the Klamath River Basin. This Territory is the land base that was utilized in the process of receiving federal determination of tribal recognition. The tribe continues to exercise jurisdiction over tribal lands and territories. Nearly all of The Karuk Aboriginal Territory is located concurrent to lands administered by the USDA Forest Service's Klamath and Six Rivers National Forests.

The Karuk Tribe's trust lands are composed of individual and Tribal Trust properties scattered along the Klamath River between Yreka and Orleans, California, with tribal centers and administrative facilities located in Happy Camp, Orleans, Somes Bar, and Yreka.

### Addressing Climate Change through Eco-Cultural Resources Management

In comments submitted to a request for input from the U.S. Environmental



<sup>1</sup> From the Karuk Eco-Cultural Resource Management Plan

Protection Agency (EPA) for its climate change adaptation plan, the Karuk Tribe pointed out that current climate model predictions lack the *“intergenerational validation of predicted environmental change outcomes,”* and emphasized the importance of integrating TEK within tribal resource management strategies. Through the Draft Eco-Cultural Resources Management Plan, the Karuk Tribe provides for cultural environmental management practices that are informed by both TEK and western science to preserve tribal resources and traditions (Karuk 2010).

A principal goal of the ECRMP is to achieve ecological balance by restoring landscape resilience using TEK. In their comments to the EPA, the Karuk suggest that balance between ecological processes and human resource needs must be understood and maintained as climatic changes in the environment are identified (Karuk 2012).

The Karuk Tribe’s Department of Natural Resources develops and implements management strategies identified in the plan and works with federal and state agencies and non-governmental organizations to ensure that ecological resilience and traditional values are taken into account and coordinated with tribal programmatic activities in current and future management strategies.

*“Our desire is that Federal, State, and County agencies and organizations be actively receptive, so we can together collaboratively integrate our needs more completely through true and equal partnerships in planning, policy making, and forest management activities.”* (Karuk 2010)

The Department of Natural Resources established environmental protection programs focused on using TEK and traditional ecosystem management to foster ecological complexity.

*“The Karuk vision of ecosystem management is one that is adaptive, holistic, and sustainable for people and place. Ecosystem management should take care of the land, address people’s need, use resources wisely, and practice ecologically balanced stewardship.”* (Karuk 2010)

The Eco-Cultural Resource Management Plan suggests that management practices should account for future climate, environmental, and socio-cultural change. The Department of Natural Resources uses this directive to approach each tribal environmental protection program using traditional ecosystem management. These programs include air quality, cultural resources, enforcement/regulation, environmental education, environmental justice, wildland fire management, fisheries, restoration forestry, solid waste, soils/minerals, sustainable energy resource use, watershed restoration, water quality and wildlife. The ECRMP



Pepper Family with fire influenced background. Source: Karuk Tribe

outlines each program by presenting resource concerns, goals, objectives, historical context, current conditions and future desired conditions (dynamics) based on the program's emphasis.

### **The Role of Traditional Knowledge in Resource Management and Climate Change**

In their comments to the EPA, the Karuk Tribe expressed that climate change adaptation planning needs to be a strategic process that is based on "*intergenerational cumulative observations at the community scale, rather than predictions acquired from models based on recently identified trends*" (Karuk 2012). TEK has the potential to inform how climate change may affect cultural resources and, jointly with western science, can play a role in understanding the impacts of climate change to guide future adaptation strategies (Karuk 2012).

### **Impacts of Climate Change for the Karuk Tribe**

Climate change in Karuk Aboriginal Territory is expected to pose a threat of increased fire frequency and severity. This is based on predictions for increasing temperatures in the region and increased lightning activity. These predictions, compounded by increased fuel loading due to fire exclusion, and single resource management (rather than a holistic approach), and other factors (Karuk 2012) may further exacerbate the risks from wildfire. According to the Eco-Cultural Resource Management Plan, "*Fire affects the plants, which affect the water, which affects the fish, which affect terrestrial plants and animals, all of which the Karuk rely on for cultural perpetuity.*"

The Karuk People see the role of fire touching upon many aspects of their life, and fire caused by both natural and human ignitions can be either beneficial or harmful depending on habitat needs and conditions prior to disturbance (Karuk 2010). Species diversity is a significant concern with fire management, as the loss of just one species within an ecosystem can create a chain reaction with significant impacts on other species. The Karuk Tribe relies on a multitude of native species for ceremonial, subsistence, and utilitarian purposes.

In the ECRMP, the Karuk recognize the importance of prescribed burns and reduction of fuel loading as a preventative measure to avoid large-scale wildfire devastation, especially in areas where fires have been suppressed. Industrial logging and fire suppression policies have created landscape conditions that could be completely devastated by a wildfire. Recognizing this threat, the Eco-Cultural Resources Management Plan provides various strategies to prevent destructive wildfires resulting from climate change.

Many of the cultural environmental management practices outlined in the ECRMP focus on the reduction of fuel load. Targeted areas include tan oak stands, previously managed stands, key ridge systems, riparian areas and drainage headwalls, burned areas, areas adjacent to homes and critical infrastructure, forest roads, and sensitive habitats. These areas are specifically targeted not only to reduce fuel loading, but also to maintain overall ecosystem diversity. The priority in these practices is in creating balance between humanity and natural disturbance processes to create overall landscape resilience (Karuk 2012).

### **The Importance of the Government-to-Government Relationship**

Climate change does not recognize legal boundaries or government jurisdictions, and many tribal cultural resources that will be impacted by climate change may be on federally administered public lands. Federally



Karuk Basket. Hood Museum of Art. 2011.

recognized tribes have a government-to-government relationship with the United States and, as such, federal agencies have fiduciary responsibilities, which include consultation and coordination with tribes. The Karuk ECRMP includes summaries of key federal authorities, laws and policies that influence management direction. Though barriers remain, current mandates allow for unique partnerships to strengthen institutional longevity. Yet, many federal agencies still lack specific direction on what constitutes full and meaningful engagement with tribes.

*“The Tribe believes that true and equal partnerships can and should be developed in the interest of ensuring adequate Tribal involvement in the management of cultural/natural resources and environmental processes.”* ECRMP 2010

The federal-tribal relationship must be carried out effectively to ensure that tribes have the capacity to address the impacts of climate change on lands, natural resources, and cultural practices both on and off-reservation. Article 26 of the United Nations Declaration on the Rights of Indigenous Peoples states, *“Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired.”* The development of tribal climate change programs that reflect the nature of indigenous rights to these lands, territories and resources is a critical part of ensuring sustained access to and preservation of cultural resources, life ways, and identity of the Karuk people.

Fostering effective partnerships to plan for climate change inherently calls for a strong government-to-government relationship and is reliant upon effective intergovernmental coordination with integrated tribal engagement. This includes strategies within federal agencies to address agency turnover. Changes in agency staff impacts the capacity of the tribe to foster a culture of intuitive interaction and facilitate learning with the local landscape. In their comments to the EPA, the Karuk suggest that systematic preservation of knowledge over time from one agency and/or tribal employee to the next is a necessary guiding principle to deal with lack of institutional knowledge retention and perpetuation of Karuk culture.

### **Addressing Climate Change in the Future**

The impacts of climate change on cultural resources and land management necessitate strong government-to-government relationships. The Karuk Tribe recognizes the importance of these relationships, as well as engaging at all levels of consultation and coordination with federal agencies to understand common issues and to leverage funding and resources for climate assessments and adaptation strategies.

The Karuk Tribe’s Draft Eco-Cultural Resource Management Plan presents a unique opportunity to approach the management of resources that may be affected by climate change on the basis of tribal priorities. Managing for tribal priorities while addressing climate change provides an opportunity to manage for multiple resource objectives and increase the effectiveness of plan implementation.

One specific opportunity the tribe hopes to explore in the context of climate change is to map cultural and environmental management practices. Long-term capacity for geographical information services (GIS) is needed to assess impacts, research/monitor existing natural resource projects, understand/model project outcomes, and coordinate management activities in planned and unplanned situations. Understanding how resource management and adaptation strategies are affecting the landscape is critical to informing current and future action. Managing for climate change requires long-term institutional capacity within the tribe. The Eco-Cultural Resource Management Plan is assisting the Karuk Tribe to move toward an integrated

approach to addressing natural resource management and confronting the potential impacts of climate change.

## Resources

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Hood Museum of Art. 2011. Dartmouth College. Hanover, New Hampshire.  
<http://hoodmuseum.dartmouth.edu/exhibitions/2011nativeamerican/nativeamer3.html>

Karuk Tribe website:  
<http://www.karuk.us/>

Karuk Tribe Department of Natural Resources website (has link to the 2010 Draft Eco-Cultural Resources Management Plan):  
<http://www.karuk.us/karuk2/departments/natural-resources/>

Karuk Tribe. February 23, 2012. EPA Climate Change Adaptation Plan. Webinar.

Lake FK, Tripp W, and Reed R. The Karuk Tribe, Planetary Stewardship, and World Renewal on the Middle Klamath River, California. Bulletin of the Ecological Society of America, April 2010.  
[http://www.fs.fed.us/psw/publications/lake/psw\\_2010\\_lake001.pdf](http://www.fs.fed.us/psw/publications/lake/psw_2010_lake001.pdf)

United Nations Declaration on the Rights of Indigenous Peoples. Published by the United Nations. 07-58681—March 2008. 4,000.  
[http://www.un.org/esa/socdev/unpfii/documents/DRIPS\\_en.pdf](http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf)

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**Tribal Climate Change Profile Project:** The University of Oregon and the USDA Forest Service Pacific Northwest Research Station are developing tribal climate change project profiles as a pathway to increasing knowledge among tribal and non-tribal organizations interested in learning about climate change mitigation and adaptation efforts. Each profile is intended to illustrate innovative approaches to addressing climate change challenges and will describe the successes and lessons learned associated with planning and implementation. For more information about the initiative, visit: <http://tribalclimate.uoregon.edu/>.

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