Recipient Organization:	**Karuk Tribe**
Project Title:	**Karuk Climate Resiliency Plan**
Date of Report:	**February 17, 2020**
Award Number:	**DE-IE0000066**
Total Project Costs:	**$185,654**
Technical Contact:	**Leaf Hillman** **39051 Highway 96** **Orleans, CA 95556** **(530) 627-3446 ext. 3013** **leafhillman@karuk.us**
Project Partner:	**Dr. Kari Norgaard (providing contractual and in-kind services), Sara Worl, Kirsten Vinyeta, Jenny Staats, and Bruno Seraphin.**

ACKNOWLEDGMENT

This material is based upon work supported by the Department of Energy, Office of Indian Energy Policy and Programs, under Award Number DE-IE0000066.

DISCLAIMER

Table of Contents

1. **Executive Summary:**

Statewide, California is the hottest and driest since modern record keeping has taken place. Among the most urgent of the local dimensions of climate change in Karuk Ancestral Territory is the increased frequency of high-severity fire. The 2016 Karuk Climate Vulnerability Assessment (CVA) outlines how these influences have created landscape conditions that hold the potential to be devastating in the face of future high-severity fire events. The project followed the format of our CVA and furthers information garnered to accomplish two primary objectives. The Karuk Tribe developed a Climate Adaptation Plan to address established vulnerabilities to Tribal traditional foods and cultural use species, Tribal program infrastructure, and Tribal management authority and political status resulting from changing conditions with a focus on increased frequency of high-intensity wildfire events within the Karuk Ancestral Territory.

2. **Project Objectives:** Creation of Climate Adaptation Plan and associated video outreach materials.

3. **Description of Activities Performed:** Creation of Climate Adaptation Plan and three short videos to serve as public outreach and internal education for Tribal staff and members. Other media outreach in the form of local and national radio and print stories.

Task 1: Creation of Climate Adaptation Plan

Subtask 1.1 Consultant and KDNR staff participated ITEP Climate Adaptation Planning training workshop in San Diego, CA

Subtask 1.2: Review adaptation planning documents of other tribes and agencies. Conducted detailed general survey of existing climate planning tools/resources and assessments conducted by other tribes and non-tribal agencies. Reviewed existing resources and approaches for completion of CAP.

Subtask 1.3: Compiled information on additional climate stressors of species invasions, increasing drought and changing patterns of temperature and precipitation

Subtask 1.4 Developed draft adaptations for six habitat zones and 21 focal species. across time scales in the face of increasing frequency of high severity fires. Completion of chapter draft.

Subtask 1.5 Developed adaptations for vulnerabilities to tribal program capacity across time scales in the face of increasing frequency of high severity fires. (Chapter of plan on Critical infrastructure plus additions on program capacity for DNR programs).

Subtask 1.6 Developed adaptations for vulnerabilities to tribal management authority across time scales in the face of increasing frequency of high severity fires (Chapter of plan).

Task 2 Integrate Climate Adaptation Plan into KDNR Strategic Plan

Subtask 2.1 Worked with key DNR staff to develop revisions for the National Forest Land and Resource Management Plan based on Climate Adaptation Plan.

Subtask 2.2 Worked with key DNR staff to integrate Climate Adaptation Plan into the next round of revisions for the ECRMP

Subtask 2.3 Worked with key DNR staff to develop revisions for KDNR Strategic Plan based on Climate Adaptation Plan at next revision cycle (2020)

Outreach Products:

1) Video Productions: (Jenny Stormy Staats, Bruno Seraphin, Kari Norgaard)

"Fire Belongs Here" 2019 (2 minutes) https://youtu.be/jbNy52Ed-3k

"pananu'thívthaaneen xúus nu'êethtiheesh: We're Caring For Our World" 2019 (30 minutes) https://vimeo.com/367538820

"Revitalizing Our Relationship with Fire" 2018 (6 minutes) https://youtu.be/SF3MNpuqzSg

2) Media

What Western States Can Learn From Native American Fire Management Strategies" The Conversation, October 29, 2019 https://theconversation.com/what-western-states-can-learn-from-native-american-wildfire-management-strategies-120731

"Oppressed by Wildfire: Weaving Culture into Fire Management Helps Tribes" Jefferson Public Radio September 19, 2019 https://www.ijpr.org/topic/oppressed-wildfire#stream/0

"Karuk Unveil Climate Adaptation Plan" live interview on the Jefferson Exchange September 11, 2019, Jefferson Public Radio

https://www.ijpr.org/post/karuk-unveil-climate-adaptation-plan#stream/0

"Karuk Climate Plan Makes Ally of Fire" Eureka Times Standard September 7, 2019 https://www.times-standard.com/2019/09/07/karuk-climate-plan-makes-ally-of-fire/

"California Tribe Hopes to Conquer Climate Woes -- With Fire" August 28, 2019 https://therevelator.org/karuk-climate-fire/

"Karuk Tribe Launches Climate Adaptation Plan Including Prescribed Fires" Oregon Public Broadcasting Think Out Loud August 22, 2019
https://www.opb.org/radio/programs/thinkoutloud/segment/tribal-climate-plan-conference-for-girls-rajneeshee-guardhouse/

3) Conference Presentations:

"Karuk Cultural Burning as a Response to Climate Change in the Klamath Basin," Invited Panel on Indigenous Cultural Burning Jessica Conrad, Ryan Reed, Kari Norgaard and Bruno Seraphin, Native American and Indigenous Studies Association, Aotearoa (New Zealand) June 2019.

"Karuk Tribe Climate Change Adaptation Plan" Department of Energy Tribal Climate Program Review, Denver, CO December 2018, (Kari Norgaard)

4. **Conclusions and Recommendations:** The Karuk Climate Adaptation Plan comprises 232 detailed pages of detailed maps, diagrams and data on climate forecasts and strategic responses including detailed proposals on a wide range of topics from the prevention of powerline ignitions to in depth guidance on the integration of Karuk cultural indicators for human responsibilities (see e.g. Table of Contents and List of Figures and Illustrations). The document reflects partnership with and input by USFS, University and other regional scientists, local and state utilities, non-profits, local collaboratives and more (again see document for detailed listing). Technologies employed in the creation of the document include GIS mapping and diagrammatic illustrating.

LIST OF TABLES

LIST OF FIGURES

5. **Lessons Learned**: This was a pretty smooth project which in many ways exceeded our expectations in terms of the depth and detail of the final document we were able to produce. We are especially pleased with the use of "western science" alongside traditional Karuk knowledge, both of which heavily inform this document. In particular, we had internal expertise in the ability to create a series of diagrams that portray Karuk fire science in visual ways alongside western science. We did have minor challenge when the ITEP training could not be attended so this task was done out of order, but while the information we learned was excellent, we were able to make good progress on our own despite that delay.