KARUK TRIBE
HAZARD MITIGATION PLAN

Update: June, 2015

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Executive Summary

We are the Karuk Araara', the upriver people, defined by our distinct culture and occupying the middle course of the Klamath and lower course of the Salmon Rivers, a remote, forestland area of northwestern California (Map A). We have lived in this region since the beginning of time and have survived extermination, termination, and assimilation while retaining our millennial ties to our land. As a modern day culture, we have sustained our traditions and our rights of sovereignty and self-determination.

Prior to 1900, our own "hazard mitigation," measures included burning the forest understory to prevent wildfire disasters. Karuk managed the prevailing natural environment to promote open forests that were naturally stable, safe, and ecologically productive.

As indicated on the maps, Attachment A thru L, provided by the Tribe, the land we now own, trust lands and private lands, is distributed over a large geographic area - from Yreka located on Interstate 5 westward to the mid-Klamath River region. The Karuk Araaras' deepest traditions are founded on beliefs that are perpetuated in our yearly ceremonies to "fix the world," where the natural world and socioeconomic well-being of our people and land are enhanced and protected. We have developed this Hazard Mitigation Plan as an investment in our future to take care of our trust lands, Aboriginal lands, our tribal resources, and our people.

The Karuk Hazard Mitigation Plan (KHMP) will help alleviate disturbances that are detrimental to our safety, livelihoods, natural resources, and our material assets including homes, community facilities, utilities, roads, trails, animals, and spiritual places. This plan will put us in a better position to compete for grants that further protect our resources and people, mitigating future threats to life and property.

Requirement §201.7(c)(5): The plan must be formally adopted by the governing body of the Indian Tribal Government prior to submittal to FEMA for final review and approval.

The Tribal Council has reviewed the 2015 Karuk Hazard Mitigation Plan and submitted a formal resolution adopting the plan. This plan is an evolving document that will be updated every five years. The Karuk Tribe will comply with all applicable Federal statutes and regulations. In addition, the Tribe will amend this Plan to reflect new or revised Federal regulations or statutes, or changes in Tribal Law, organization, policy, or Tribal government operations. Such amendments will be added to the Tribal Hazard Mitigation Plan as they are developed and deemed applicable.

The Karuk Tribe held a meeting of its Natural Hazard Mitigation Team Members on December 16, 2014 and subsequently, in its open session of the Tribe's Council meeting on February 26, 2015, the public was given an opportunity to ask questions and comment on the plan. Sign in sheets for both meetings are available upon request. The plan was posted on the Tribe's website at www.karuk.us , from February 2 thru March 4, 2015 and distributed to

each of the Tribe's main health and administrative offices in Yreka, Happy Camp and Orleans for public comment. There were no comments received from the Public or the Klamath and Six Rivers National Forest Staff.

Requirement §201.7(b), §201.7(c)(1)(i) and (ii): *An effective planning process is essential to businesses, academia, and other private and nonprofit interests to be involved in the planning process.*

The Planning Process

During the planning process in 2006 members of the Tribe's Hazard Mitigation Planning Team (HMPT) met with FEMA to talk about opportunities to repair flood damages experienced locally. FEMA and the Tribe identified the flood damages that were subsequently repaired. This updated plan has been reviewed by the Karuk Tribal Council. The revised Karuk Hazard Mitigation Plan (KHMP) was prepared in April – May 2015. This is the five year review of the HMP that allows the Tribe to obtain Department Homeland Security and Federal Emergency Management Agency funding and independently Declare Major Disasters as a Sovereign Nation as defined under the Stafford Act as amended in the Hurricane Sandy Recovery Improvement Act of 2013.

Requirement 201.7(c)(1): *The plan shall document the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was defined and involved. This shall include:*

(i) *An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval, including a description of how the Indian Tribal government defined "public;"*

and

(ii) *As appropriate, an opportunity for neighboring communities, tribal and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia, and other private and nonprofit interests to be involved in the planning process.*

Documentation of the Planning Process

This Plan needs updating in the following sections: Karuk Tribal Council, Karuk Hazard Mitigation Planning Team, Critical Facilities at Risk, Hazard Risk Assessment, Previously Approved Plan Deficiencies, Hazards to Facilities and Infrastructure, General Mitigation Goals, Specific Hazard Mitigation Goals, Pre and Post Disaster Program Capacity, Implementing Effective Emergency Management Response Activities, Incident Readiness & Responsiveness, Flood/ Landslide Prevention Measures, Karuk Fire Prevention Measures, Flammable Forest Conditions, Reducing Tribal Facilities/ Housing Fire Hazards, Tribal Capability Assessment- Funding Limitations, Planning & Development of Karuk Emergency Response Operations, Action Plan, Maintaining the Plan, Potential Funding Sources, Plan Incorporation, Public Participation, Plan Review & Updates and Attachments.

Tribal Members and Descendants, (Tribal Public) had the opportunity to review the plan on the Karuk website and in Tribal Offices hard copies of the Plan documents were available by request. All other Tribal Governments, tribal or regional agencies and local stakeholders are afforded the opportunity to comment on the plan via the website. The USFS was informed of the plan updates at the February 10, 2015 Project Coordination Meeting with representatives of the Karuk Tribe Department of Natural Resources, Office of Emergency Services and the Klamath and Six Rivers National Forest. The plan has been designed to express the critical hazard needs and concerns of the Tribal Council and Tribal Community.

The entire plan was only required to be updated, not re-created. It would be impossible to state each change that was made to the plan line by line, but significant changes included: all staff positions have been updated; Tribal Council Members serve a 4-year term and updates to those positions include: Russell Attebery Tribal Chairman, Robert Super Vice-Chairman, Joseph Waddell Secretary/Treasurer, Josh Saxon Member at Large Orleans District, Renee Stauffer Member at Large Orleans District, Elsa Goodwin Member at Large Happy Camp District, Alvis Johnson Member at Large Happy Camp District, Charron "Sonny" Davis Member at Large Yreka District, and Arch Super Member at Large Yreka District, . All crosswalk required comments from the FEMA 2010 review were verified as being changed. The Mitigation Strategy section was recompiled for clarity, the narratives used in the 2010 plan for the goals objectives and strategy were converted to a table format for the 2010 and 2015 update. The hazard "Cyber Attack" was added to reflect the real threats to the Tribal Telecommunication and Information Technology Systems operated by the Tribe, and as required, all statutory "requirement" language was updated to new FEMA language (i.e. §204 to §207, etc.).

Program Integration

Requirement 201.7(c)(1)(iii) and (iv): *[The plan shall:]*
[include] ***(iii)*** *Review and incorporation, if appropriate, of existing plans, studies, and reports;*

and

(iv) *Be integrated to the extent possible with other ongoing tribal planning efforts as well as other FEMA programs and initiatives.*

The Karuk Hazard Mitigation Plan is a tool that has been used in the compilation of the Tribe's Eco Cultural Resource Management Plan (formerly referred to as the Tribe's Integrated Resources Management Plan) and for the future development of the Tribe's Land Use Ordinance. At this time the Eco Cultural Plan is still in the Draft Phase. The Hazard Mitigation Plan has been instrumental in obtaining a 3 year grant to help establish an Office of Emergency Services, developing the Threat Hazard Identification Risk Assessment to qualify for a Tribal Homeland Security Grant which also helped point out the need to address cyber threats and cyber security in the 2010 Hazard Mitigation Plan and as a required document for the 2013 Disaster Declaration DR-4142 Orleans Fire. Information from these

plans has been integrated into the 2015 HMP.

Karuk Tribal Council

- Russell Attebery, Chairperson
- Robert Super, Vice-Chairperson
- Joseph "Jody" Waddell, Secretary /Treasurer
- Josh Saxon- Member at Large Orleans
- Renée Stauffer, Member at Large Orleans
- Alvis Johnson, Member at Large Happy Camp
- Elsa Goodwin, Member at Large Happy Camp
- Arch Super, Member at Large Yreka
- Charron "Sonny" Davis, Member at Large Yreka

Karuk Hazard Mitigation Planning Team

- Earl Crosby, Coordinator, Watershed Restoration Program
- Leaf Hillman, Director, Department of Natural Resources
- Scott Quinn, Director, Land Management
- Sandi Tripp, Director, Roads and Transportation Program
- Fred Burcell, Facilities Construction/ Maintenance Manager
- Lessie Aubrey, Health and Human Services
- Sammi Offield, Contract Compliance Specialist
- Bill Tripp, Deputy Director of Eco-Cultural Revitalization
- Laura Mayton, Chief Financial Officer
- Jaclyn Goodwin, Self-Governance Coordinator
- Erin Hillman, Director, Karuk Tribal Housing Authority
- Ann Escobar, Operations Manager KTHA
- Sara Spence, KTHA Executive Assistant
- Charles Sarmento KTHA Security
- Randy White, KTHA Security/KCDC Board Member
- Rachel Lent, GIS Resources Inventory Specialist OES
- Thomas Fielden, Emergency Preparedness Coordinator OES
- Steve Mitchell, KTHA Maintenance Supervisor
- Dale Josephson, IT Manager

Ear Crosby, the Tribal Department of Natural Resources (DNR) watershed restoration program manager, worked with Leaf Hillman, DNR Director, Bill Tripp and other DNR Staff to update water, quality, stream channel restoration, hazard fuels reduction, and associated projects.

Rachel Lent and Scott Quinn worked on updating GIS database with polygons with most up to date data of tribally owned property, trust and fee lands. Sandi Tripp provided information on road and bridge infrastructure at risk. Erin Hillman and KTHA Staff provided input on Tribal Housing vulnerabilities and new infrastructure.

Laura Mayton and administrative fiscal staff provided information on the projected monetary loss in the event of a major disaster. Lessie Aubrey and the Health Clinic staff provided

information on effects of health hazards from prolonged smoke exposure and clinic statistics. Dale Josephson provided the information related to IT threats and hazards.

The plan was posted on the Tribes website at www.karuk.us from February 2 thru March 4, 2015 and distributed to each of the Tribes main health and administrative offices in Yreka, Happy Camp and Orleans for public comment. The plan was also distributed to the Klamath and Six Rivers National Forests Staff, Hoopa Tribal OES, Trinidad Tribal, OES Siskiyou County OES and Humboldt County OES. There were no comments received from the fore named agencies. In this update process we did not send plan update notices to the Yurok or Blue Lake Tribal OES Departments. Efforts will be made to include them in the next update process.

In 2010, we notified and assembled Tribal Staff Members who have provided technical expertise to assess our hazard risks. For the 2015 update, much of the same staff and some new staff (listed above) assisted in the review and update to identify the most prevalent hazards, considered the most feasible ways to avoid or minimize these hazards, and developed mitigation strategies to reduce future losses with the addition of adding Cyber Threat/Attack as a hazard, there were also minor changes which will be addressed in this document. The methods used to assess the hazards and needs included: group discussion, referencing Tribal and National Forest documents; historical interviews; GIS queries; newspapers; photography; data gathering, and Federal, State, and County, information. The information was verified for accuracy and extrapolated for the anticipated outcomes. Several of the area's most prevalent hazards, were profiled and inventoried for estimated losses that could result from hazardous incidents. Utilizing the Social, Technical, Administrative, Political, Legal, Economical and Environmental (STAPLEE) process that rates the positive and negative impacts to the Tribe and aid in the development of the hazard mitigation priorities identified under Requirement §201.7(b), §201.7(c)(1)(i) and (ii).

Consulted Resources

- The Karuk Tribe Newsletter
- Historic and current newspaper articles & publications
- Leaf Hillman, Director, Department of Natural Resources
- Fred Burcell (historic accounts)
- Historical personal accounts of factual information
- Klamath National Forest Land Management Plan
- Six Rivers National Forest Land Management Plan
- U.S. Forest Service
- National Oceanic Atmospheric Administration (NOAA)
- Karuk Department of Natural Resources (DNR)
- Karuk Tribal Housing Authority (KTHA)
- Existing Transportation System and Land Use Plan
- California State HMP
- Siskiyou County Agriculture Department/ Air Quality Control
- North Coast Unified Air Quality Department
- Hoopa Valley Tribe Extended Emergency Response Plan 2008

- FEMA Federal Disaster Web site
- Wikipedia 2014 California wildfires.
- 2014 Tribal and United States Forest Service GIS data layers

The Karuk Community Profile

As a modern government, the Karuk Tribe continues to successfully administer a large number of Tribal programs. Karuk Tribal Programs include three health clinics and two dental clinics, a People's Center Museum and Interpretive Center, higher education assistance, Low Income Assistance Programs, language restoration, behavioral health, Tribal Court, Temporary Assistance to Needy Families (TANF), Head Start, Office of Emergency Services, two retail tobacco shops, senior nutrition programs and Housing in three communities as well as individually owned scattered sites. The Tribe employs over 272 people in administrative, health, housing, and natural resource programs. (This is an increase in employees for the Tribe from 2010.)

As indicated on the maps provided the Tribe on March 20, 2006, the area we serve encompasses a large geographic area. More current maps developed by the Tribe, Attachment A thru M, has replaced the previous maps for this update. Most Karuk living in our Service Area live in three communities within a 140-mile stretch of the mid-Klamath River region. 1,152, or 31% of the 3,723enrolled Tribal members, live on or near Tribal trust land, as well as 651 or 16% of 3982 Enrolled Descendants. (This is an increase in enrolled Tribal members and descendants from 2010)

Yreka (Maps L) is our area's largest local community, yet relatively small with a population of 7,605. Siskiyou County, the area that spans most of our Aboriginal Territory, has a population of 43,799 (These statistics are updated from 2010). The city of Yreka, situated on Interstate 5, is less vulnerable to wildfires and flood events than our Tribal lands west of the Interstate. However, Yreka is more vulnerable to earthquakes, and volcanic eruptions. Yreka, the Siskiyou County seat, has a small town infrastructure and hospital. Because Yreka is located on Interstate 5, it is less vulnerable to being isolated than other Tribal communities west of it. Yreka currently has a Karuk housing complex and medical and dental clinics, as well as a Head Start, and Karuk community center and housing offices.

Winter storms are the most common hazard disruptions we experience and can produce erosion, flooding, high winds, loss of power service and communication services, landslides, snow storms, and road closures isolating our rural communities. Such disruptions can last for hours to days or longer based on the severity of events.

Happy Camp (Map J), Somes Bar (Map I), and Orleans (Map H) are surrounded by National Forests that are highly susceptible to flooding, landslides, and wildfire disturbances. Happy Camp and Orleans have a large concentration of Tribal administration and housing facilities. Happy Camp also has Tribal medical and dental clinics and Orleans has a medical clinic. The Tribe also has facilities and equipment in Somes Bar. There are many Tribal residents located along the Klamath River and in the Salmon River drainage.

Critical Tribal Facilities (Updated with new and addition facilities)

The following Tribal Resources and facilities are considered critical to the Tribes functioning and needs. Below are the critical facilities that are divided up by communities. Critical facilities are structures and office buildings necessary for a Tribes response to and recovery from emergencies. Critical facilities must continue to operate during and following a disaster to reduce the severity of impacts and accelerate recovery.

Orleans Area Facilities (Map H)

- Natural Resources Department/TANF (New)
- Senior Nutrition Program/Computer Center
- Medical Clinic (New)
- Fire Crew Quarters (New)
- Emergency Alert System (New)
- Emergency Supplies Container (New)
- Communications Tower (New)

Somes Bar Area Facilities (Map I)

- Somes Bar Workstation* Water Treatment Facility (Not previously listed)

Happy Camp Area Facilities(Map J)

- HHS/IT Modular (New)
- Tribal Happy Camp Admin Health/Dental Clinic
- Tribal Housing Administrative Offices (KTHA)
- Tribal Housing/IT and Maintenance Facility
- Housing "Headway" Community Facility (shelter)*
- Tribal Office of Emergency Services (New)
- Emergency Supply Container (New)
- TANF Office (New location)
- 2 water tanks (One new tank one not previously listed)

Klamath River (Map K)

- N/A

Yreka Area Facilities (Map L)

- Tribal Health and Dental Clinic
- Emergency Supply Container (New)

*(Only Government facility in area to be used as a hub of communications)

The following facilities are considered to be essential for running day to day activities to serve the Tribal membership.

Orleans Area Facilities (Map H)

- KTHA and Maintenance Shop (Complex) (New) Essential

Happy Camp Area Facilities (Map J)

- Tribal Head Start essential
- KTHA Maintenance Facility (Formerly referred to as the "Blue House") essential
- Tribal Maintenance/TERO Offices essential
- Tribal Mechanics Shop (Not previously listed) essential
- Tribal Judicial Program/Social Services Office (New) essential
- Multi-Purpose Building (New) essential

Yreka Area Facilities (Map L)

- Tribal Head Start essential
- Tribal/ Housing Authority Administrative Offices (New) essential
- TANF (New) essential
- KTHA Administrative Maintenance Shop (New) essential
- KTHA Community Computer Center/Security Office (New) essential

Karuk Tribal Lands (updated with increase land base)

The Karuk Tribe owns approximately 861 acres of trust land an increase of 43 acres from 2010 and 702 acres of fee land (fee land is owned by the Tribe but not yet held in trust) an increase of 249 acres from 2010. These lands are mostly isolated parcels dispersed across central & western Siskiyou County and northeastern Humboldt County in California (Map B and C). They are generally located in small communities surrounded by National Forest Lands.

The Klamath Mountains that surround our Tribal lands are geologically and ecologically unique. The complexity of the areas geomorphology consists of: intrusions of shear zones; large dormant slides; moderate to steep mountain slopes; inner gorges; and stream terraces that are covered with hardwood mixed conifer forests. The physical and hydrologic characteristics of our Aboriginal lands are largely influenced by our climate and topography. High priority hazards such as floods, drought, wildfire, landslides and air quality in the Klamath River present significant threats to our people, fisheries, wildlife, natural and cultural resources, facilities, homes, and assets.

The Tribe has developed a draft Tribal Eco-Cultural Resource Management Plan (ECRMP) that provides a comprehensive range of resource management considerations. Local Fire Safe Council Community Wildfire Protection Plans have adopted the ECRMP as being used as a guide until finalized. It has also been incorporated by reference into the Katimiin MOU that was developed between the Tribe and US Forest Service as per the Klamath National Forest Land and Resource Management Plan. The Karuk Hazard Mitigation Plan (KHMP) and Tribal Emergency Operations Plan (EOP) are compatible with this integrated resource management planning effort. The 2015 KHMP update is tiered to the overall resource protection and intent of the Karuk Eco-Cultural Resource Management Plan.

The Western Klamath Restoration Partnership (WKRP) is also using the ECRMP in a partnership and planning based approach using interagency agreements and collaborative

partnerships for ecological restoration and reducing risk, hazard fuels in the local communities.

Requirement §201.7(c)(2)(i): *The Karuk Tribe risk assessment shall include a description of the location and extent of all natural hazards that can affect the Tribal planning area. The plan shall, include information on previous occurrences of hazard events, on the probability of future hazard events, using maps where appropriate,*

and

Requirement § 201.7 (c)(2)(ii): *The risk assessment shall include a description of the Karuk Tribe's vulnerability to the hazards described in paragraph* ***(c)(2)(i)*** *of this section. This description shall include an overall summary of each hazard and its impact on the Tribe*.

Hazard Risk Assessment (Table 10 in Attachments)

The Hazard Mitigation Planning Team (HMPT) has identified natural- or human-induced hazards that could cause problems of varying degrees in our area. The identified hazards found in the attachments (Table 9) have changed from 2010 since the planning team has revised the hazards to include Cyber Attack as it was identified in our THIRA as a significant threat that may cause negative impacts that could affect the safety, security and personal information of Employees and Tribal members. Additionally, several hazards were combined or reprioritized; Road and Bridge failure has been added to the effects of flooding and Dam Failure was changed to Inundation and also added to the effects of flooding. Water Quality has been moved to Other Events.

These hazards were re-prioritized by using historical records, prior events and unanimous consensus by the community, planning team and Council. While the hazards we have identified are not intended to address all potential hazards, we consider these to be primary hazards to be addressed in this plan:

- ***Floods Events***
- ***Wildfires***
- ***Air Quality***
- ***Landslides***
- ***Cyber Attacks (New)***
- ***Drought***
- ***Other Events***
    - Water Quality
    - Volcanic Eruptions
    - Earthquakes

Flood Events

This section has been updated to include information on preliminary flood mapping of Tribal

facilities. Flood Zones can be found on Maps H-L in the attachments.

No new flood events have occurred since the 2010 update. Precipitation amounts in our area vary from up to 90 inches to as little as 10 inches, with approximately 90% falling between October and May. Below 3,500' in elevation, rainfall predominates, while above 4,000', snowfall does. Deep snow accumulates in the higher elevations during the winter. Summer precipitation occurs mainly in the form of thunderstorms, which are usually high intensity, short duration episodes.

Most local flooding is caused by rain-on-snow events. Also, forest openings, roads, or burned areas allow greater snow accumulations, which increases snowmelt runoff. However due to the persistent drought conditions, we have not experienced any flooding events of this type.

A Tribal Facilities Vulnerability Map is enclosed in the Attachment section. The map identifies the location of Tribal resources and facilities that are most vulnerable. The Tribe has only limited data available on what specific structures, facilities, and resources are vulnerable to all the possible hazards we have described. The Tribe has completed preliminary structure maps for Tribal and local infrastructure that sits in the flood plains of our aboriginal territory, however, plans to complete a more detailed vulnerability inventory of Tribal resources at risk in the future if funding remains available. The preliminary maps are included in the attachments (Maps D-M). The detailed vulnerability site specific inventories will be included in any future plan updates.

Over half of our Tribal facilities and housing tracts are located in low lying areas where floods can occur. Recent flood events occurred locally in 1955, 1964, 1997, and 2005. The most recent flooding did not damage any tribal facilities but flooding comparable to 1955 and 1964 or worse will damage Tribal facilities (Tribal facilities have expanded since being Federally Recognized in 1979 increasing exposure to flooding). Floods generally cut off our communities from outside power service and road access or other services because rivers and streams overflow, wash out roads, and cause landslides that block roads and down trees. In 1955, Happy Camp residents were without electricity for three to six weeks. Helicopters flew in provisions for stranded communities because bridges washed out.

Due to offshore storm events that are saturated with moisture, northwestern California has a chronic and destructive flood history. The largest recorded flood in the area is believed to have been in 1861-62. Despite the construction of dams east of Interstate 5 on the Klamath River, our rural communities remain vulnerable to flooding as these dams do not have enough capacity for flood control during heavy rain /snow events. Land uses such as logging, agriculture, mining, and road building on steep slopes, from our perspective and experience, contribute to flooding.

The repetitive nature of flood damage is a concern because areas flooded in the past continue to be inundated again and again. Frequent and devastating floods occur locally on the Klamath River and Salmon River and on local streams.

Siskiyou and Humboldt Counties are subject to a variety of flood hazard types that occur in the various hydrologic regions with varying degrees of frequency. Flooding that occurs in this area is represented by the 1964 late winter storms that caused $213 million in property damage in California.

Inundation

Dams constructed on the Klamath River after 1900 drastically decimated migrating salmon populations by restricting access to over 350 miles of spawning grounds. These dams also degrade water quality downstream. The conservation of native migrating salmon is vital to Karuk culture and wellbeing. The role native fish plays in our diet, health, economy, culture and ceremonies cannot be overstated. Land developments, such as dams, stripping off resources, and overall misuse of our Aboriginal Lands threatens our subsistence foods and deprives our indigenous people the basic right to food and security. Prior to European settlement and the destruction of fisheries the Karuk people were among the wealthiest in California but today are among the poorest. In 2005, the Karuk caught less than 200 fish; not enough to provide food for our ceremonial activities or subsistence needs. Prior to 1850 migrations of salmon populations in the Klamath basin were estimated at over three million annually. Due to 2006 restrictions on commercial salmon fishing, then California's Governor Schwarzenegger proclaimed a State of Emergency in ten counties providing disaster loan guarantees for commercial salmon fisherman. Although the Tribe is encouraged by actions to help commercial fisherman, there has been no effort to address the Tribes needs and no disaster prevention measures.

While the risk of dam failure is reasoned to be low, any collapse of up river dams would cause complete devastation of river lowland areas by creating water levels that are many times higher than ever recorded during other flood events. Seismic activities, internal erosion, and terrorism could cause failure of Iron Gate, Copco I or II, Dwindell, or the J.C. Boyle dams.

During periods of extreme flooding Highway 96 is subject to slides, mud flows, and complete road failure. Alternate dirt or gravel surface road escape routes that climb out of the Klamath River canyon are also subject to closure because of snow, slides or road failure (e.g. Greyback Road). Bridges in Happy Camp, Orleans, Klamath River, and Seiad Valley are susceptible to failure during severe flooding. Bridge failure(s) essentially cut off inhabitants in western Siskiyou and/or northeastern Humboldt Counties. Flood events in 1955 and 1964 caused bridges to fail.

Road density and uncontrolled associated road erosion contribute to excessive stream sedimentation. These events can isolate and endanger Tribal residents. Large concentrations of coarse and fine erosion sediments degrade water quality and fishery habitat.

Tribal mitigation efforts within our Aboriginal Land help reduce road sediment problems that threaten streams in National Forest. These mitigation efforts include out-sloping road prisms, and decommissioning roads, or maintaining roads to maximize the utility of out-slope drainage. Culvert upsizing is also critical in preventing road failures. Road decommissioning

can help mitigate water quality issues on those roads that have persistent chronic sedimentation issues. The Karuk Tribe has successfully decommissioned national forest roads with chronic erosion issues and is a proponent of decommissioning all unnecessary National Forest roads that are chronic sediment producers.

Historic Flooding Events

There have been no flooding events since the 2010 revision and there were no changes to this section.

Local flooding occurs when streams and rivers are inundated by rain-on-snow events. Historic accounts of flood events are primarily noted in newspaper archives. Newspaper accounts document flood events in: 1861, 1881, 1890, 1927, 1934, 1948-49, 1955, 1961, 1964, 1994, 1997 and 2005.

- In 1861 and 1961 the Klamath River near Seiad crested 37½ feet above the low water mark.
- In February 1927 the Salmon River rose 45 feet at Somes Bar and the Klamath River rose 51 feet at the mouth of the Salmon River.
- The 1955 Christmas flood washed out over 30 bridges in Siskiyou County. Many homes and outbuildings were lost. Bridges along the Klamath were lost and landslides blocked road access in many locations. Residents were without power and road access for over one month in many areas.
- In 1964, a flood brought excessive amounts of logging debris into local stream channels, blocking access. Salmon River area communities were completely isolated for several weeks.
- In 1997, the flood caused road failures on National Forest lands, costing over forty million dollars to repair.
- In 2005 flooding occurred throughout Northern California including the Klamath River watershed.

Local flooding information presented below was provided by NOAA for the Klamath River zone in 2006.

Klamath River below Iron Gate Dam (Lat. 41°55'41", Long. 122°26'35") *Historical Crests* (Not official U.S.G.S. crest values):

1) 13.63 ft on 12/22/1964 (29400 cfs)
2) 13.1 ft on 01/01/1997 (20600 cfs)
3) 11.3 ft on 01/16/1974 (18700 cfs)
4) 9.58 ft on 03/24/1993 (11100 cfs)
5) 9.24 ft on 03/11/1989 (10200 cfs)

Klamath River near Seiad Valley (Lat. 41°51'14", Long 123°13'52") *Historical Crests* (Not official U.S.G.S. crest values):

1) 33.75 ft on 12/23/1964 (165000 cfs)
2) 29.65 ft on 01/16/1974 (126000 cfs)

3) 29.2 ft on 12/22/1955 (122000 cfs)
4) 28.72 ft on 01/01/1997 (117000 cfs)
5) 22.8 ft on 12/20/1981 (71500 cfs)

The floods of 1955 and 1964 constitute the dominant events in the last century.

New Years Eve Flood, 2005-2006:
On Friday, December 30, 2005, the Klamath River flooded low lying areas on Highway 96. In addition, numerous streams flowed over Highway 96 as culverts could not contain the runoff. Debris slides (rocks, logs, and mud) covered Highway 96, the primary access in and out of western Siskiyou and northern Humboldt Counties. Travelers were stranded and cut off in unexpected places. In Happy Camp, a Red Cross shelter was set up at the elementary school where travelers were offered a hot meal and a place to sleep. In the Somes Bar/Orleans area, no services were provided.

Cal-Trans kept Highway 96 open as long as possible, but debris slides and water inundating the Klamath River around Granite Point near Seiad Valley forced the closure of Highway 96 at 5 pm on December 30. Emergency services and law enforcement worked around the clock to take care of the communities' needs for the next several days. Debris slides at Aubrey and Three Creeks south of Happy Camp and a massive debris slide south of Orleans isolated Orleans/Somes Bar from any assistance. As the overflow from streams and rivers dropped, the flood debris, landslides, washouts, and roads that were undermined continued to present hazards and block road access. Travelers were stranded in Happy Camp, Somes Bar, Orleans, and other small, isolated communities in western Siskiyou and northern Humboldt Counties for three day or longer, depending on location and road conditions. In the 2005 flood event, Highway 96 was submerged five (5) feet near Granite Point, just north of Seiad Valley.

Wildfires

This section has been updated to include the Orleans Fire and related Major Disaster Declaration DR4142 2013 and the 2013 Klamath and Six Rivers wildfires and 2014 Klamath wildfires.

Continued exclusion of beneficial fire, or cultural burning, is a major risk to the revitalization of Karuk culture. Karuk people traditionally use fire to manage resources as well as in the observation of our ceremonial practices in and adjacent to our aboriginal lands.

The Tribal map provided with the Cal Fire (formerly CDF) Wild land Fire Threat Category layers (Map D) indicates the entire area surrounding Karuk lands qualifies for very high wildfire hazards.

Wildfire outcomes are determined by weather, fuels, terrain, and, to a lesser extent, suppression efforts. Large scale, hot wildfires can cause catastrophic impacts to forests, particularly Karuk Trust lands and resources on National Forest lands we continue to use.

The majority of (97.72%) Karuk Aboriginal Territory, roughly 1.04 million acres, is National Forest and nearly all of the land owned by the Tribe is at a high risk to fires. Each of our Tribal communities in western Siskiyou and northern Humboldt Counties are surrounded by National Forest land that falls into High Wildfire Condition Classes. A century of National Forest management, specifically single age conifer plantations, logging and fire suppression, has diminished the capacity of our local forests to withstand wildfire disturbances. This mismanagement, the Karuk feel, has adversely impaired the ecological integrity of our Aboriginal Lands. On National Forest lands, for example, there is now an unnaturally high build-up of fuel that promotes intense high severity fires. High burn severity fire events results in the following ecosystem responses:

- Impairs watersheds' ability to hold soil in place and trap sediment before it enters stream systems. Hot wildfires present a significant risk to soil, especially in denuded watersheds, through accelerated erosion potential in the immediate post-fire environment, particularly when subjected to severe rainstorm events prior to vegetation recovery.
- Causes a short-term increase in the quantity and the delivery rate of water entering streams, having significant adverse effects downstream from the site of a fire, due to decreased water absorption because of vegetation killed.
- Increases runoff, which was especially evident at Aubrey Creek in the 2005 flood event, 19 miles south of Happy Camp.

Major wildfires over the past five decades caused wide-scale devastation almost over the entire Karuk Aboriginal Territory, costing tax payers millions of dollars through fire suppression activities. These fires included the 1977 Hog Fire, the 1987 Complex, the Megram Fire in 1999 and the Happy Camp Complex in 2014. These fires burned hundreds of thousands of acres. Other large scale wildfire events included the Dillon Complex in 1994 and the Pony Fires in 1996-1997 and in 2008 the Panther fire, the Siskiyou and Ukonom Complex. Fire salvage activities can also create undesirable impacts due to additional land disturbances. The Ten Year Fire History map (Map E) can be found in the Attachments.

National Forest wildfire incidents in the summer of 2006 within the Aboriginal Territory of the Karuk Tribe burned through August 10th, 2006 consuming several thousand acres at a cost of 18 million dollars. Weather, forest fuel conditions, winds, temperature, low humidity, terrain and vegetation types, suppression tactics and availability of suppression resources all are affecting the intensity and scale of the fires. The Karuk Tribe is working with other federal and state agencies as a government to government entity utilizing Tribal advisors, monitors, and Karuk firefighters. Wildfire activity in the region occurs from June through September due to California's dry summers and summer dry-lightning storm events. When conditions cause wildfires to "blow up" engulfing the vegetation canopy they create fire storms that locally become serious threats to life and property.

Additionally large scale wildfires followed by seasonal episodes of heavy precipitation and snow melt inevitably produce high sediment delivery causing chronic landslides, road failures, and adverse wreckage to fisheries, cultural resources sites, ceremonial areas,

vegetation, and the resilience of ecosystems.

On the evening of June 20th, 2008 the Karuk Tribes Aboriginal Territory was hammered by lightning strikes. The resulting wildfires burned from that night on through the end of September. Tragically, two firefighters were lost on the Klamath River that year. One, a Karuk Tribal member and experienced equipment operator was killed on the Siskiyou Complex, near Dillon Creek 18 miles southwest of Happy Camp. The resulting smoke from back burns and burnouts was recorded as hazardous to unhealthy for two months. The Karuk Tribe enacted its Emergency Operations Plan, declaring a state of emergency and sought relief from state and federal agencies for the costs incurred to respond to the emergency.

On July 29, 2013 a wildfire burned through the Community of Orleans and into Tribal Housing, destroying one residence, several outbuildings, and some critical infrastructure resulting in an estimated one million dollars in damages and a FEMA Disaster Declaration DR-4142 which the Tribe was able to obtain Federal Assistance Grants to recover from the disaster.

On August 12, 2014 at 1:00 AM PDT, lightning strikes in Northern California ignited the Happy Camp Complex. During the next 6 weeks, the wildfire quickly spread to 130,496 acres by September 19, making the Happy Camp Complex the largest wildfire of the 2014 California wildfire season and by September 27 the fire reached 135,369 acres of which 98,504 acres were in Karuk Aboriginal territory. The Happy Camp Complex is estimated to have caused a total of $86.7 million (2014 USD) in damage. The Karuk Tribe responded in coordination with the American Red Cross to open an evacuation shelter in Happy Camp for displaced residents.

Air Quality

This section has been updated to include the Orleans Fire and related Major Disaster Declaration DR4142 2013 and the 2013 Klamath and Six Rivers wildfires and 2014 Klamath wildfires that adversely affected air quality. It also has been updated to include statistics from the 2014 event.

The primary adverse impact to air quality in the region is smoke from wildfires. Particulate matter created by intense wildfires is an ongoing health and safety threat. Even small wildfires burning under inversion conditions can have a significant impact on air quality. Large scale fires experienced in 1987, 2008, 2013 and 2014 in California and Oregon effected air quality hundreds of miles from the fire for weeks at a time. The Federal Clean Air Act, the California Air Resources Board, and the Siskiyou and Humboldt County Air Pollution Control District also help identify and regulate air quality conditions in the region.

The Tribe's Hazard Mitigation Plan Air Quality Goal is to reduce health related respiratory risks from smoke emissions created during wildfire incidents.

In Karuk Aboriginal Territory where there is no direct threat to rural communities, back

burning management practices are controversial. Some Tribal members consider back burning inappropriate in such areas because it creates prolonged intense smoke and the back burning impacts under some conditions are greater than wildfires that burn without intervention, such as during peak burn hours when the relative humidity is low and inversions have lifted. Fire Managers for the Tribe have observed back burning techniques during these conditions that are conducive to high fire intensity such as area ignitions and extreme rapid rates of spread causing high tree mortality, these operations often cause more damage to the forest than if the fire was able to spread naturally.

Severity of wildfire smoke emissions is random in both time and space depending on fire intensity, fuel type conditions, and meteorological influences. Inhalation of smoke particulates less than 10 microns in size-1 millionth of a meter, have a particularly long residence time in the atmosphere and are a concern because of respiratory toxicity. Carbon monoxide levels from prolonged smoke are a serious health and safety issue.

Between 2007 and 2008 fire related respiratory problems increased significantly with other symptoms caused by poor air quality and high carbon monoxide levels resulting in low blood oxygen levels (e.g., malaise/fatigue/poor concentration/irritability) as noted in Table 1. Since 2007 and 2008 the Tribe was able to put in place an Emergency Operations Plan which allowed for the activation of the Karuk Incident Management Team (KIMT) to initiate the pre-planned response measures to alleviate the effects of the poor air quality impacts lessening the severity of health related problems from long term smoke exposure as noted in Table 2- 2013/2014 Wildfire Related Health Visits. Because of the emergency operations planning, evacuation /clean air centers and distribution of HEPA Filters to the at-risk population, the Tribe was able to limit the health impacts to Tribal Members, Descendants and the communities we serve that were affected by smoke inundation.

Table 1. Wild Fire-related Patient Visits in Tribal Health Clinics

	2007			2008		
	Orleans	Happy Camp	Combined	Orleans	Happy Camp	Combined
Respiratory Problems	58	24	82	68	151	219
Headaches	8	2	10	9	15	24
Malaise/ Fatigue	5	22	27	2	30	32

Table 2. 2013/2014 Wildfire Smoke Related Tribal Health Clinic Visits

	2013				2014			
	Yreka	Orleans	Happy Camp	Combined	Yreka	Orleans	Happy Camp	Combined
All Respiratory Related	**27**	**14**	**11**	**62**	**23**	**3**	**13**	**39**

Illness								

In 2008, 2013 and 2014 the air quality impacts were not limited to health respiratory issues. Poor visibility suspended air support for firefighting and air transports to hospitals for emergency patients and it also created poor visibility for fire fighters working under dangerous conditions.

August 14, 2014 the Tribal Council declared a State of Emergency on Tribal Lands and began to immediately assess the risk to the public health and its unmet needs in the communities most impacted by heavy smoke. Response Activities included;

- August 14 Tribal IMT activated for response.
- August 14 Happy Camp Clean Air center opened.
- August 14 Public Health Staff prioritizing distribution of air filters.
- August 18 made clean air centers available as evacuation centers if needed. Ordered and distributed 50 air purifiers.
- August 18 Opened the Orleans Clean Air Center.
- August 14 thru September 23 Distributed information regarding Air Quality Alerts from Humboldt Co. and Siskiyou County by email.
- August 14 thru September 23 maintained contact with Fire IMT and State, Federal, Local and County agencies.

The Tribe again responded with a Declaration of a State of Emergency in 2013 and 2014 for a Public Health Emergency due to Dangerous and Hazardous levels of Smoke (particulate matter of 2.5 microns or pm2.5) and Carbon Monoxide in the air, these conditions lasted in excess of 30 days each. The emergencies included the entire Karuk Service area with Clean Air Centers located in Orleans, Happy Camp and as needed in Yreka. The Tribe met with the Fire Incident Management Teams and various government agencies as well as coordinated with Volunteer organizations to Staff the Clean Air Centers.

The Tribe has two Grant Funded personnel trained to respond, however, with the nature and expanse of the incident, additional responders are necessary, therefore, existing staff took on roles and responsibilities in addition to their regular job duties. During the 2013 event available resources (air quality monitors) from outside agencies were limited due to the number of fires in the state (equipment was unavailable). Due to the size of the Karuk Service Area - including150 miles along Klamath Corridor from Yreka to Bluff Creek, the affected area residents are isolated and separated by great distances, often lack power and communication ability in some areas making it difficult to determine the severity of impacts from the smoke. Knowing the severity of the situation would have been useful in prioritization of the areas to which the Tribe would respond. In 2014, the Fire Teams came with an Air Quality section to assist in our response which helped identify areas with a critical need for air centers or air purifiers. The air quality in one area does not represent the air quality in all tribal areas; therefore, more monitors are needed and they must be placed in strategic areas.

There needs to be a centralized source for information that is EASY to navigate. There are numerous agency representatives that we have to communicate with, providing for a centralized source of information would cut down on time spent repeating the same information. A permanent Office of Emergency Services with an adequate staff to handle Type 3 (extended) incidents that works in coordination with the Health and Human Services Staff would fill that gap.

Landslide Events

There have been no changes to this section for this 2015 update.

Northwestern California's proliferation of steep mountains and erosive soils puts it at high risk for landslides. Any slope of 15 degrees or greater is susceptible to mud flows or landslides. The majority of the terrain within the Karuk Aboriginal Territory is greater than 40% slope and especially susceptible to erosion and landslides.

The area's geologic context is predominately metamorphic forms in the Orleans, Somes Bar, and Happy Camp areas, and includes volcanic forms in the Yreka area. Ultramafic bedrock is common in the mid-Klamath area and is highly fractured, containing numerous groundwater concentrations and springs. It has a high potential for slumping and landslides when saturated by storm events. On steep ground, metamorphic soils are usually more deeply weathered and subject to large earthflow landslides. Soils derived from granitic materials are also highly erodible when disturbed. These soils are extremely sensitive to road cuts and fills and are therefore prone to additional landsliding in future rainstorms. According to data collected, road- related landslide rates range from 60-800 times greater than undisturbed rates in granitic soils (de la Fuente and Haessig 1991). These granitic rocks form sandy, easily eroded soil when deeply weathered and are typically referred to as decomposing granite (DG). This soil is susceptible to greatly accelerated surface erosion, channel erosion, and shallow debris sliding. Active earthflows present chronic problems during years of above average rainfall. Karuk lands are located on steep slopes or on flats adjacent to steep terrain and subject to potential landslide hazards. We have high incidences of landslides that close off our roads.

Landslides that can impact our resources, homes, roads, facilities, and other assets are typically triggered by heavy precipitation events or other cumulative impacts, including wildfire events. The intensity of past logging, road construction, and lack of road maintenance by the United States Forest Service has also aggravated mass landslide incidents.

Intense rainfall that results in widespread landslides increases course sediment deliveries to streams, which degrades spawning habitat and water quality for our salmon subsistence needs. Past landslide incidents that caused considerable disturbance occurred locally in 1955, 1964, 1974, 1997 and 2006.

Cyber Threat/Attack (New)

Our risks from naturally caused disasters are intensified due to the rugged terrain and the lack of alternate routes to get between locations. Human Cyber-attacks can be random or targeted, large scale or just a few key personnel. Moreover the smaller targeted attacks are most often the most dangerous as the attacker is looking for specific information from pre-identified individuals. Attacks on the Tribal Information Technology could debilitate the Tribe and compromise medical, dental and financial records and expose personal information. If an attacker obtains access through the network's administrative passwords an attacker may take over every PC, server, router and firewall in the network and once the attack is underway for months or years if the attack is not detected.

There have been several attempts at cyber-attacks from 2010 to 2014.

Drought Events

This section has been updated to identify the Tribal and State of California response to the ongoing drought situation throughout the state of California.

Tree ring studies, conducted by the Pacific Southwest Research Center for the Forest Service in Thompson Creek near Happy Camp, indicate that the past century (1900-2000) was the second wettest century in seven hundred years locally. Research also indicates that, prior to 1850, the Karuk landscape was managed for more open grassland oak woodlands, indicating that the previous centuries were dryer.

Drought events in the Klamath Mountains stress trees, and promote insect & disease attacks that kill forests. Prolonged drought will also kill forest stands. Drought conditions encourage wide scale wildfires that are devastating. Prolonged episodes of drought impact domestic and tribal water systems.

The State of California, including the Karuk Aboriginal Territory, have been in a 10 year drought with 2014 being most notable with many rivers and streams flowing at 30% or less of normal, the Karuk Tribe, Siskiyou County, Humboldt County and the State declared a state of Drought Emergency. The Karuk Tribe received funding to install water storage tanks on qualifying Tribal members and descendants properties as a mitigation measure. Other local droughts occurred from 1977-87, and during that time the Karuk Tribe's Orleans Council operated an emergency water supply "Drought Relief Program" system from Orleans to Forks of Salmon to Ti Bar.

The Karuk Tribe is seeking funding for a project to perform a Drinking Water Assessment for the Aboriginal Territory that will identify and map sources outside the existing community systems, such as ground water and surface water sources. Some communities in the Aboriginal Territory have no community water systems available. The Bureau of Reclamation Native American Affairs office in Sacramento is providing the Tribe with technical assistance for this project. This project has not yet been funded between the 2010 update and the 2015 update.

Other Natural Hazard Events

There have been no other new natural hazard events since the 2010 HMP.

Tornados, hurricanes, hailstorms, windstorms, avalanches, earthquakes, volcanoes and snow storms are considered low hazard threats to the Tribe. Although what seemed to be infrequent in the past are now the norm, there have been several snow events and wind events that have caused power outages, road closure and major tree blowdown areas increasing fuels that could add to wildfire intensities, these events occurred most recently in 2012 and 2013.

Water Quality

This section has been updated to reflect latest water quality information.

The Bureau of Reclamation's massive Klamath Irrigation Project and runoff from pesticides, fertilizers, and animal waste has contaminated the Klamath River, degrading water quality. Additionally, contaminated storm water and high amounts of sediment can pollute the Klamath River. Water contamination affects the health of humans, animals, the ecosystem, and our subsistence use of species such as salmon, eel, and sturgeon.

Poor water quality conditions from altered land use, dams, and legacy mining have exacerbated fish disease issues in the Klamath River. In the spring as juvenile salmonids are out-migtrating, high water temperatures combined with escalating levels of Ceratonova Shasta are a deadly combination. For example, in 2008 it was estimated that as many as 92% of out-migrating juvenile Chinook at Beaver Creek would die from C. Shasta (http://microbiology.science.oregonstate.edu/content/monitoring-studies).

The Karuk Tribe started sampling for toxic algae in the Klamath in 2004 and found Microcystis aeruginosa that produces the potent hepatoxin microcystin. Sampling in the following years showed world record high levels in Iron Gate and Copco reservoirs annually from about July to October (http://www.karuk.us/index.php/departments/natural-resources/somes-bar-water-quality). Iron Gate reservoir discharges the toxic algae and associated toxin into the Klamath River below which has a direct impact on Tribal member's health and Tribal Trust species. The algae are present at its highest in the River during World Renewal Ceremonies having a direct impact on cultural use. The toxin has also been found to bioaccumulate in subsistence foods including freshwater mussels.

Natural and human-induced hazards have significantly diminished the availability and quality of natural resources the Karuk depend on. The decline of our subsistence foods, especially salmon, has dramatically affected our People's quality of life and health. Our traditional diet and food sources have been significantly altered.

Located along the California-Oregon border, the Klamath is a unique River Basin home to many diverse species of wildlife, as well as economically and culturally diverse rural communities.

The Klamath River Basin is huge. Encompassing over 12,000 square miles the Klamath River Basin is about the size of the state of Maryland. The Karuk Tribe still harvests salmon and eel from the river for cultural and subsistence purposes. Family farmers and ranchers use the river for irrigation of diverse crops, and coastal commercial fishing families depend on Klamath salmon to earn their living. For many years, these competing demands have led to uncertainty for all Klamath communities as dwindling fish runs and too many demands on limited amounts of water led groups to fight against one another's interests. Fishing closures, fish kills, and irrigation shut-offs have resulted in a rotating crisis for Klamath

Volcanic Eruptions
There have been no changes to this section.

The Cascade Mountain Range is a volcanically active range as recent as Mount Saint Helens eruption of 1980 in southern Washington State. Nearby volcanic Mount Shasta (Map G), 35 miles southeast of Yreka is believed to have erupted at least once per 800 years during the last 10,000 years, and about once per 600 years during the last 4,500 years. The last known eruption was thought to occur in 1786. The most recent regional volcanic activity is from Mount Lassen 150 miles south east of Yreka. Lassen erupted in 1915 and remained active to about 1917. The Lassen Peak eruption blasted a hot pyroclastic flow and a column of volcanic ash & gas more than 30,000 feet that fell on Winnemucca Nevada some 200 miles east. One reference stated Mount Shasta and Mount Lassen have a higher probability of becoming active again over the next few centuries than other dormant volcanic peaks in the Cascade Range. A sign of an impending volcanic eruption is seismic activity beneath the volcanic area. The warning signs appear a few weeks to months before an eruption but can last for centuries without leading to an eruption. Catastrophic impacts due to a major eruption on the northwest face of Mount Shasta could be tremendously devastating to the Karuk domain. Volcanic activities have not impacted any Tribal resources in the past few centuries. Volcanic events pose no significant threats to Tribal resources and therefore were not addressed in depth in the plan and were not addressed in our goals or mitigation considerations.

Earthquakes
There have been no changes to this section.

Earthquake events in the region are not uncommon considering earthquake frequencies, but seismographic activity is historically less active than the southern California or the San Francisco Bay area. California is considered a high risk area because of major faults and its history of earthquake events. While no major faults run through Siskiyou County, the Cascade Range, near Mount Shasta, is susceptible, as indicated by Map F in the Attachments.

Available earthquake data is scarce within our Aboriginal Territory. Supplemental studies conducted in the future may provide more useful data. The Tribe meets or exceeds earthquake safe construction compliance on all facilities constructed since 1990.

The USGS-Earthquake website listed the most recent regional earthquake event as January 9th, 2010 tremor ~30 miles WSW of Eureka California. Eureka is 80 miles southwest of our

southwestern Aboriginal Territory boundary. There have been no reports of significant earthquake damages to any of our Tribal facilities of this 2015 update. However because our geography is extremely mountainous, the extent of damage from a major earthquake could be crippling and widespread, cutting off access in and out of the area. There is only one primary access route in western Siskiyou County, Highway 96, which is narrow and winds through the mountains along the Klamath River.

The Earthquake map layers provided by USGS found in the attachments (Map G) indicates that Tribal lands fall into 0-40% gravity, which is a moderate to low rating. Earthquakes are not considered a significant hazard priority so they were not addressed in our goals or mitigation considerations.

Previous Approved Plan Deficiencies:
The Previous plan did not address Cyber Attack, however infrequent as cyber-attacks are, these attacks could debilitate the Tribe and compromise medical, dental, financial and personal information.

Requirement §201.7(c)(2)(ii)(A)NOT REQUIRED: *The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.*

and

Requirement §201.7(c) (2) (ii)(B) NOT REQUIRED: *the plan should describe the vulnerability in terms of an estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate*.

Hazards to Facilities and Infrastructure (Table 11 in Attachments)

Protecting infrastructure is essential to the health and welfare of our communities. Local infrastructure needs include: roads and bridges that provide access for emergency vehicles, medical care, food, shelter, and water; utilities that provide water, electricity, and communication services; local law enforcement; emergency responders; medical facilities; fire stations; schools; tribal buildings; grocery stores; and other businesses essential to the community's economy and safety. Hazardous materials have the potential to impact public health in a disaster or a hazardous event and must be contained.

This assessment has taken into account the location of Tribal facilities and relevant infrastructure to better determine hazards that are likely to threaten life, specific resources, facilities, housing, and roads. The following hazardous events make our facilities and infrastructure particularly vulnerable:

Flooding: Facilities or homes near lowland rivers or streams are highly vulnerable to flooding. This includes the Tribal Administration Offices and other Tribal facilities in Happy Camp, Tribal housing and facilities in Orleans, the Fish Hatchery in Orleans, Highway 96, and other low lying roads or settings that become inundated by overflowing streams and

rivers. Erosion disturbances from flooding can cause significant damage and repair costs to Tribal resources, forest environments, and local rural infrastructure. Floods have a significant impact on accessibility due to landslides, road failure, and flooded roads.

Dam failure has the potential to cause catastrophic losses to Tribal facilities and infrastructure. The risk of dam failure is reasoned to be low. Any collapse of up river dams would cause complete devastation of river lowland areas by creating water levels that are many times higher than ever recorded during flood events. Seismic activities, internal erosion, and terrorism could cause failure of Iron Gate, Copco I or II, Dwindell, or the J.C. Boyle dams. (Dams and Bridges can be found on Map F in the Attachments)

The Estimated monetary losses were obtained using the current insured values of the actual buildings/infrastructure affected. The effects on development are insurmountable and would cripple the Tribes ability to provide services in a large scale event.

The estimated monetary loss in a major flooding/inundation, road and bridge failure, event in the following areas would be:

Table 3

KARUK FACILITIES	
Facility Threats	Real Property Value
Orleans (Map H)	
Natural Resources Department/TANF	$1,198,557.00
Fisheries Office	$251,980.00
KTHA and Maintenance Shop (Complex)	$1,375,000.00
Senior Nutrition Program/ Computer Center	$758,583.00
36 Housing Units (single family)	$9,486,571.25
Medical Clinic	$714,490.00
Fire Crew Quarters	$25,000.00
Emergency Alert System	$32,171.00
Emergency Supplies Container	$1,800.00
Laundromat	$54,400.00
Communications Tower (New spring 2015)	N/A
Somes Bar (Map I)	
Somes Bar Workstation	N/A
Water Treatment Facility	N/A
2 Housing Units	N/A
Happy Camp (Map J)	
Tribal Head Start	N/A
KTHA Maintenance Facility	N/A
Tribal Community Development Corporation (KCDC)	N/A
HHS/IT Modular	$234,493.00

Tribal Maintenance/ TERO Offices	$483,693.00
Tribal Mechanics Shop	$76,027.00
Tribal Happy Camp Admin Health/Dental Clinic	$1,744,056.00
Tribal Housing Administrative Offices (KTHA)	N/A
Tribal Housing/IT and Maintenance Facility	N/A
Housing "Headway" Community Facility	$1,250,000.00
Tribal Judicial Program/Social Services Office	N/A
Peoples Center, Museum and Gift Shop	$1,029,483.00
Tribal Office of Emergency Services	$262,320.00
Emergency Supply Container	N/A
Yellow House" and Apartment Buildings	N/A
Tribal RV Park/TANF Office	$315,477.00
2 water tanks	
Billing Office	$239,979.00
Karuk Storage Units	$107,873.00
Multi-Purpose Building	$573,531.00
42 Housing Units (single family)	N/A
Klamath River (Map K)	
Oak Knoll Records Archives Facility	$782,116.00
Yreka (Map L)	
Tribal Head Start	N/A
Tribal Health and Dental Clinic	N/A
Tribal/ Housing Authority Administrative Offices	N/A
Yreka Trailer Park	N/A
Amkuuf Smoke Shop	N/A
Tribal Wellness Center (Spring 2015)	$3,000,000.00
TANF	N/A
Administrative Satellite Office	$477,136.00
Administrative Maintenance Shop	N/A
KTHA Community Computer Center/Security Office	N/A
Emergency Supply Container	N/A
63 Apartments (15- 4 unit and 1- 3 unit)	N/A
64 Single Family Units	N/A

Wildfires are very common west of Interstate 5 because the area is heavily forested, difficult to access, and has hot summers with lightning weather. Virtually all the Tribal communities, facilities, and housing west of Interstate 5 are threatened by wildfires.

The Estimated monetary losses were obtained using the current insured values of the actual

buildings/infrastructure affected. The effects on development are insurmountable and would cripple the Tribes ability to provide services in a large scale event.

The estimated monetary loss in a major wildfire event in the following areas would be:

Table 4

KARUK FACILITIES	
Facility Threats	Real Property Value
Orleans (Map H)	
Natural Resources Department/TANF	$1,198,557.00
Fisheries Office	$251,980.00
KTHA and Maintenance Shop (Complex)	$1,375,000.00
Senior Nutrition Program/ Computer Center	$758,583.00
36 Housing Units (single family)	$9,486,571.25
Medical Clinic	$714,490.00
Fire Crew Quarters	$25,000.00
Emergency Alert System	$32,171.00
Emergency Supplies Container	$1,800.00
Laundromat	$54,400.00
Communications Tower (New spring 2015)	$90,000.00
Somes Bar (Map I)	
Somes Bar Workstation	$165,489.00
Water Treatment Facility	$28,083.00
2 Housing Units	$273,190.00
Happy Camp (Map J)	
Tribal Head Start	$1,050,933.00
KTHA Maintenance Facility	$599,200.00
Tribal Community Development Corporation (KCDC)	$290,896.00
HHS/IT Modular	$234,493.00
Tribal Maintenance/ TERO Offices	$483,693.00
Tribal Mechanics Shop	$76,027.00
Tribal Happy Camp Admin Health/Dental Clinic	$1,744,056.00
Tribal Housing Administrative Offices (KTHA)	$1,625,000.00
Tribal Housing/IT and Maintenance Facility	$979,200.00
Housing "Headway" Community Facility	$1,250,000.00
Tribal Judicial Program/Social Services Office	$488,988.00
Peoples Center, Museum and Gift Shop	$1,029,483.00
Tribal Office of Emergency Services	$262,320.00
Emergency Supply Container	$1,800.00
Yellow House" and Apartment Buildings	$361,286.00

Tribal RV Park/TANF Office	$315,477.00
2 water tanks	
Billing Office	$239,979.00
Karuk Storage Units	$107,873.00
Multi-Purpose Building	$573,531.00
42 Housing Units (single family)	$10,451,426.00
Klamath River (Map K)	
Oak Knoll Records Archives Facility	$782,116.00
Yreka (Map L)	
Tribal Head Start	$252,414.00
Tribal Health and Dental Clinic	$2,029,766.00
Tribal/ Housing Authority Administrative Offices	$1,233,750.00
Yreka Trailer Park	$164,044.00
Amkuuf Smoke Shop	$130,032.00
Tribal Wellness Center (Spring 2015)	$3,000,000.00
TANF	$216,514.00
Administrative Satellite Office	$477,136.00
Administrative Maintenance Shop	$510,000.00
KTHA Community Computer Center/Security Office	$1,240,000.00
Emergency Supply Container	$1,800.00
63 Apartments (15- 4 unit and 1- 3 unit)	$14,380,000.00
64 Single Family Units	$13,580,486.00

Air Quality: Air quality issues are not a threat to facilities or infrastructure however it may cause irreparable damages to artifacts and cultural displays on exhibit at the Museum. Particulate matter created by intense wildfires also creates an, ongoing health and safety threat.

There is negligible loss to infrastructure due to the effects of unhealthy air quality, however the Museum has artifacts and items of historical significance that is irreplaceable and deemed invaluable which may be adversely affected by the residues created from wildfire smoke.

Landslides: Typically landslides are triggered by rain storms that saturate the ground and other disturbances that aggravate geologically instable slopes. The magnitude and occurrences are also exacerbated by an extensive U.S.F.S. road network that is located on steep and sometimes unstable terrain. A direct and immediate threat is when individuals are stranded due to roads blocked by slides or road wash outs or road failures. As stated earlier, there have been numerous occasions where assistance can only be provided by helicopter. A few residents are situated in locations that are vulnerable to landslide and erosion damages. These housing facilities are exposed to unstable slopes.

The Estimated monetary losses were obtained using the current insured values of the actual

buildings/infrastructure affected. The effects on development are insurmountable and would cripple the Tribe's ability to provide services in a large scale event.

The estimated monetary loss in a major landslide event in the following areas would be:

Table 5

KARUK FACILITIES	
Facility Threats	Real Property Value
Orleans (Map H)	
Natural Resources Department/TANF	$1,198,557.00
Fisheries Office	$251,980.00
KTHA and Maintenance Shop (Complex)	N/A
Senior Nutrition Program/ Computer Center	N/A
36 Housing Units (single family)	N/A
Medical Clinic	N/A
Fire Crew Quarters	$25,000.00
Emergency Alert System	N/A
Emergency Supplies Container	N/A
Laundromat	N/A
Communications Tower (New spring 2015)	$90,000.00
Somes Bar (Map I)	
Somes Bar Workstation	$165,489.00
Water Treatment Facility	$28,083.00
2 Housing Units	$273,190.00
Happy Camp (Map J)	
Tribal Head Start	N/A
KTHA Maintenance Facility	N/A
Tribal Community Development Corporation (KCDC)	N/A
HHS/IT Modular	N/A
Tribal Maintenance/ TERO Offices	N/A
Tribal Mechanics Shop	N/A
Tribal Happy Camp Admin Health/Dental Clinic	N/A
Tribal Housing Administrative Offices (KTHA)	N/A
Tribal Housing/IT and Maintenance Facility	N/A
Housing "Headway" Community Facility	N/A
Tribal Judicial Program/Social Services Office	$488,988.00
Peoples Center, Museum and Gift Shop	$1,029,483.00
Tribal Office of Emergency Services	$262,320.00
Emergency Supply Container	$1,800.00
Yellow House" and Apartment Buildings	$361,286.00

Tribal RV Park/TANF Office	$315,477.00
2 water tanks	
Billing Office	$239,979.00
Karuk Storage Units	$107,873.00
Multi-Purpose Building	$573,531.00
42 Housing Units (single family)	$10,451,426.00
Klamath River (Map K)	
Oak Knoll Records Archives Facility	N/A
Yreka (Map L)	
Tribal Head Start	N/A
Tribal Health and Dental Clinic	N/A
Tribal/ Housing Authority Administrative Offices	N/A
Yreka Trailer Park	N/A
Amkuuf Smoke Shop	N/A
Tribal Wellness Center (Spring 2015)	N/A
TANF	N/A
Administrative Satellite Office	N/A
Administrative Maintenance Shop	N/A
KTHA Community Computer Center/Security Office	N/A
Emergency Supply Container	N/A
63 Apartments (15- 4 unit and 1- 3 unit)	N/A
64 Single Family Units	N/A

Cyber Threat/Attack: Cyber-attacks can be random or targeted, large scale or just a few key personnel. Moreover the smaller targeted attacks are most often the most dangerous as the attacker is looking for specific information from pre-identified individuals. Attacks against rank & file employees will usually get far less usable information than an attack targeting administrators, finance personnel, medical records users or network administrators. Possibly the most dangerous is the attack against the IT team that uses administrator passwords in their daily jobs. Once an attacker has the network's administrative passwords they can take over every PC, server, router and firewall in the network and if they are sly no one will even know the attack is underway for months or years.

Attacks on the tribal Information Technology could debilitate the Tribe and compromise medical, dental and financial records and expose personal information with the value on the release of personal information is unsurmountable.

The effects of a cyber-attack would be negligible to structures however the amount of damaged to the Tribal records and communication system are unsurmountable.

Drought: Prolonged episodes of drought also impact domestic and tribal water systems.

The effects long term drought will have negligible effects on existing infrastructure however the negative effects on water quantity, water quality, aquatic habitat and available water for daily activities may be devastating to tribal residences, hunting areas and food sources and are deemed invaluable.

Requirement §201.7(c)(2)(ii)(C)NOT REQUIRED/RECOMMENDED): *The plan should describe vulnerability in terms of a general description of land uses and development trends within the tribal planning area so that mitigation options,*

and

Requirement §201.7(c)(2)(ii)(D)NOT REQUIRED/ RECOMMENDED: *The plan should describe vulnerability in terms of cultural and sacred sites that are significant, even if they cannot be valued in monetary terms.*

Protection of "Trust Resources" on Federal Lands (Map C and H-L)

While the Karuk have 861 acres of trust lands and over 702 acres of fee lands, many of the Tribe's most valued resources (i.e. cultural assets) are located on federal lands, which encompass approximately 1.04 million acres of Aboriginal Territory which is concurrently located within National Forest lands. Karuk cultural resources are trust resources the government is obligated to protect as part of its trust responsibility to Federal Recognized Indian Tribes. Karuk trust resources include: traditional subsistence foods such as fish, shellfish, wild game, acorns, mushrooms, and plants to make baskets and objects for ceremonial & sacred uses. Many irreplaceable cultural resources are adversely impacted by uncharacteristically intense fires and floods. Activities associated with these events such as fire suppression impact these vital resources directly and indirectly. In accordance with traditional ecological knowledge, practice, and belief, frequent fire at the landscape scale is in all actuality an effective means of mitigating or protecting these resources from undue harm. Artifact looting and vandalism increase when artifacts are exposed by such events. In the past, floods have washed away burial sites and fires have incinerated cultural resource related settings.

The Tribe has developed a draft Tribal Eco-Cultural Resource Management Plan (ECRMP) that provides a comprehensive range of resource management considerations. Local Fire Safe Council Community Wildfire Protection Plans have adopted the ECRMP as being used as a guide until finalized. It has also been incorporated by reference into the Katimiin MOU that was developed between the Tribe and US Forest Service as per the Klamath National Forest Land and Resource Management Plan. The Karuk Hazard Mitigation Plan (KHMP) and Tribal Emergency Operations Plan (EOP) are compatible with this integrated resource management planning effort. The 2015 KHMP update is tiered to the overall resource protection and intent of the Karuk Eco-Cultural Resource Management Plan.

The Karuk Tribe maintains Fire/Fuels and Watershed Restoration programs as well as MOUs with local Untied States Forest Service Offices (USFS) that encourage the Karuk Tribe's involvement in wildfire suppression, fuel reduction projects, and watershed restoration (road decommissioning) activities. This allows the Tribe to monitor fire suppression, pro-actively

reduce fuel loads, and reduce the threat posed by un-maintained road miles in its Aboriginal Territory.

Tribal staff and representatives from Tribal Council meet quarterly (previously monthly meetings) with the USFS to address other activities that may impact Karuk resources. Tribal Council and Forest Service Line Officers meet Bi-Annually at a Summitt Meeting held in May and November each year to discuss government-to government engagement and issues. When fire events occur, the Karuk Tribe encourages the USFS to implement responsible mitigation to protect Tribal resources and needs. In some instances, there is not enough time to take the action(s) needed. For this reason, safeguarding our irreplaceable natural and cultural resources in advance is critical.

As the tribe continues to grow and add infrastructure and housing, the tribe has made it a priority to not build any additional infrastructure in flood or slide prone areas. Much of our area is surrounded by forested wood and grass lands and sits in the wildland urban interface The Tribe is doing its best to keep up with hazard fuel reduction through prescribed fire, brush piling, chipping and removal of natural fuel accumulation in and around tribal properties.

The December 31, 2005, flood impacted locations where ceremonial activities occur. It also affected areas where the Karuk are dependent on forest resources and road access to them. These resources include, but are not limited to:

- Ceremonial Grounds
- Gathering Sites for Subsistence
- Trails
- Road Access
- Fish Hatchery

MITIGATION STRATEGY: 201.7(c)(3): *[The plan shall include a] mitigation strategy that provides the Indian Tribal government's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools*

and

Requirement §201.7(c)(3)(i): *The Tribal mitigation strategy shall include a description of Tribal mitigation goals to reduce or avoid long term vulnerabilities to the identified hazards.*

For this update the planning committee decided the present structure of the mitigation section needed clarification and reorganization. The goals and objectives in the 2010 plan were all reviewed and validated then condensed in a table shown below (Goals and Objectives).

Below, Table 6 is a summarized list of the 2010 and 2015 goals and corresponding objectives.

Table 6

Mitigation Objectives	Prioritized Hazards										Time Line	Lead Department	Cost Factors	Possible Outside Funding Options	Mitigation Goals				2010	2015
															A	B	C	D		
	Floods	Wildfire	Air Quality	Landslides	Cyber Attack (New)	Water Quality	Drought								Minimize losses to human life and public safety	Protect cultural environmental and natural resources	Minimize losses to homes and facilities	Protect against internal threats and external threats		
1. Establish early warning system.	x	x	x	x							On-going	Emergency Mgmt.	Staff Time, Equipment	Cal OES, DHS/FEMA Grants	x	x	x	x	x	x
2. Conduct yearly educational workshops for the public concerning hazards and preparation.	x	x	x	x	x	x	x				On-going	Emergency Mgmt.	Staff Time, Equipment, supplies	Cal OES, DHS/FEMA Grants	x	x			x	x
3. Produce detailed GPS mapping of new residences, structures, and infrastructure	x	x		x							On-going	Emergency Mgmt.	Staff Time, Engineering, Construction	Cal OES, DHS/FEMA Grants	x	x	x	x	x	x
4. Provide a study that will show the structures within the hazard areas that should be decommission, relocated or elevated.	x	x		x			x				Long-term	Dept. of Lands	Staff Time, Construction	BIA DHS/FEMA Grants	x	x	x	x	x	x
5. Identify all possible cultural and environmental sites that may be affected.	x	x	x	x							On-going	THPO	Staff Time, Training Materials	BIA, EPA Grants		x		x	x	x
6. Where impossible to protect cultural resources through pre-planning, create priority list for post-recovery efforts.	x	x		x							On-going	THPO	Staff Time, Equipment	BIA, DHS/FEMA Grants		x		x	x	x
7. Continue to reduce flammable fuels around communities in the WUI.		x					x				On-going	DNR	Staff Time, Supplies	BIA, USDA, DHS/FEMA Grants	x	x	x	x	x	x

Mitigation Objectives	Prioritized Hazards										Time Line	Lead Department	Cost Factors	Possible Outside Funding Options	Mitigation Goals				2010	2015
															A	B	C	D		
	Floods	Wildfire	Air Quality	Landslides	Cyber Attack (New)	Water Quality	Drought								Minimize losses to human life and public safety	Protect cultural environmental and natural resources	Minimize losses to homes and facilities	Protect against internal threats and external threats		
8. Seek reoccurring funding for an assistance program for elders and others in Karuk communities during times disasters.	x	x	x	x		x	x				On-going	Emergency Mgmt.	Staff Time, Supplies	IHS, HUD, DHS/FEMA Grants	x	x		x	x	x
9. Relocate or decommission structures with known high hazard areas.	x			x							Long-term	Dept. of Lands	Property Acquisition, Construction, Engineering, Equipment	HUD, DHS/FEMA Grants	x	x	x	x	x	x
10. Continue and maintain clearance around homes and buildings to reduce hazard fuels.		x					x				On-going	KTHA/ DNR	Staff Time, Supplies, Equipment	USDA, HUD, BIA Grants	x	x	x	x	x	x
11. Purchase three portable air quality monitors that are compatible with local county (Siskiyou and Humboldt) monitoring equipment.		x	x								Long-term	HHS	Staff Time, Supplies, Equipment	IHS, EPA, BIA Grants	x			x	x	x
12. Provide air filters for elders and others with respiratory health issues in times when smoke health risks are high.		x	x								On-going	HHS	Staff Time, Supplies and Equipment	IHS, EPA, HUD, BIA Grants	x	x		x	x	x

Mitigation Objectives	Prioritized Hazards										Time Line	Lead Department	Cost Factors	Possible Outside Funding Options	Mitigation Goals A	B	C	D	2010	2015
	Floods	Wildfire	Air Quality	Landslides	Cyber Attack (New)	Water Quality	Drought								Minimize losses to human life and public safety	Protect cultural environmental and natural resources	Minimize losses to homes and facilities	Protect against internal threats and external threats		
13. Encourage the Bureau of reclamation, the federal government, agricultural industries, and private power companies to take measures to protect the quality of water downstream from their activities.	x			x		x					Long-term	DNR	Staff Time	DWR, USF&WS, USDA Grants	x	x		x	x	x
14. Conduct planning aimed at reducing the severity of droughts with federal, state and Tribal government and other non-governmental stakeholders so that fish species will be protected and water quality improved with quantity.	x			x		x	x				On-going	DNR	Staff Time, Supplies	EPA, DWR, USF&WS, USDA Grants	x	x		x	x	x
15. Maintain Tribal Water Quality Standards.	x			x		x	x				On-going	DNR	Staff Time, Equipment, Supplies	EPA, DWR, USF&WS, USDA Grants	x	x		x	x	x
16. Continue fishery recovery programs that help restore the health of aquatic systems.	x					x	x				On-going	DNR	Staff Time, Equipment, Supplies	EPA, DWR, USF&WS, USDA Grants	x	x		x	x	x
17. Install water storage facilities for communities at risk by 2020.		x					x				On-going	Emergency Mgmt.	Staff Time, Equipment, Supplies	IHS Grants	x	x	x	x	x	x
18. Adopt building codes and ordinances that will regulate development in high hazard areas.	x	x		x							Long-term	KTHA/ Dept. of Lands	Staff Time	HUD Grants	x		x	x	x	x

Mitigation Objectives	Prioritized Hazards										Time Line	Lead Department	Cost Factors	Possible Outside Funding Options	Mitigation Goals				2010	2015
	Floods	Wildfire	Air Quality	Landslides	Cyber Attack (New)	Water Quality	Drought								A Minimize losses to human life and public safety	B Protect cultural environmental and natural resources	C Minimize losses to homes and facilities	D Protect against internal threats and external threats		
19. Require annual Cyber Security training for all employees.					x						On-going	Information Technology	Staff Time	IHS, DHS/FEMA Grants		x		x		x
20. Maintain high quality servers, routers, equipment and firewalls in the network					x						On-going	Information Technology	Staff Time, Equipment, Supplies	IHS, DHS/FEMA Grants	x	x		x		x

Requirement §201.7(c)(3)(iv): *The mitigation strategy shall include a discussion of the Indian Tribal government's pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including: An evaluation of tribal laws, regulations, policies, and programs related to hazard mitigation as well as to development in hazard prone areas; and a discussion of tribal funding capabilities for hazard mitigation projects.*

Pre- and Post-Disaster Program Capacities

This section has been updated to include the Tribe's recent experience in response to emergency situations and major disasters along with associated hazard mitigation funding,

The Karuk Tribe's pre- and post-hazard management capacity is limited because our programs and organization are almost entirely dependent on available federal funding. Our situation is compounded by the fact that our geographic location makes us highly vulnerable to disaster events that further isolate our rural communities.

While the Karuk Tribe has been mostly dependent on local government responses to disaster relief, coordinating with law enforcement, search and rescue, the Red Cross, the Forest Service, State, and County agencies, we are the only medical provider in Orleans and Happy Camp (encompassing a large portion of western Siskiyou County and northeastern Humboldt County). During the 2006 flood event we provided continuous emergency medical care, coordinating relief with the Red Cross and other agencies where communities were cut off from the outside world.

We have medical plans and general emergency management policies, but lack funding to develop more detailed comprehensive hazard mitigation program. We are interested in grant opportunities such as FEMA's Hazard Mitigation Grant Program (HMGP) and Flood Mitigation Assistance (FMA). To date we have received Hazard Mitigation funds through the Karuk Tribe 2013 Orleans Fire DR 4142 to treat wildland urban interface hazard fuels, however as of this 2015 update, the Tribe has not applied for grant assistance through the Hazard Mitigation Assistance Grant Program.

In 2013 the Tribe experienced a wildfire which resulted in a Presidential Major Disaster Declaration (Karuk Tribe Wildfire DR-4142). The Tribe had a Hazard Mitigation Plan and an Emergency Operations Plan in place to help guide any response and recover efforts. With limited resources the Tribe developed the Karuk Employees Emergency Preparedness Response (KEEPR) Team and was able to respond to the incident and activate a KIMT under the direction of the Tribal Office Emergency Services and to start recovery efforts in a short time period.

The Karuk Tribe has established agreements with the Klamath and Six Rivers National Forests and Cal-Trans to facilitate a coordinated mitigation effort aimed at protecting Tribal resources within our Aboriginal Territory from hazards. These agreements allow the Tribe to monitor federal and state activities during and after hazard incidents that may impair tribal lands and natural & cultural resources. In addition, Tribal preventative pre- and post-disaster mitigation planning activities include:

- Establishing property protection measures for structures located in hazard areas;
- Establishing partnerships at all levels of government and in each community to improve and implement methods that help protect property;
- Reducing or eliminating repetitive property losses due to flood, fire, and earthquake events; and
- Researching, developing, and adopting measures to mitigate damage to land-based resources, such as low-intensity, prescribed hand crew fuel reductions, road decommissioning, and storm-proofing roads on forest lands.

The Tribe's construction planning process includes evaluating sites on a case by case basis as new projects are identified and funds are available. That evaluation includes determining what vulnerabilities and hazards (floodplain, high fire hazard) exist at the site and what measures are necessary to mitigate them, including but not limited to, maintaining flood insurance on necessary structures, utilizing defensible space landscaping methods, maintaining fire insurance on all structures, applying construction measures that eliminate or minimize flood damage, etc.

Implementing Effective Emergency Management Response Activities

This section has been updated to reflect the Tribes experience in Emergency Management Response activities.

The Tribe's infrastructure may be at risk for failure during or after a hazardous threatening event. Maintaining partnerships with other emergency response entities will be important. Ensuring that critical facilities and infrastructure are retrofitted or built to standards that make them less vulnerable in a hazard event is important, though problematic due to the costs involved. To this date there has not been funding available to retrofit older facilities to the current standards.

Additionally the Karuk Tribe is developing its capacity to having equipment available and work force services to better respond to emergency fire and flood events and to other hazards. To date the Tribe has secured a 3 year grant to build up the response capabilities through training personnel in Incident Management and purchasing emergency response equipment to strengthen communications which has proved invaluable in response to one major disaster, two health related emergencies and a long term drought response.

Incident Readiness & Responsiveness

This section has been updated to reflect the Tribes progress in readiness and responsiveness in hazard planning and identification.

The Tribe developed the KEEPR Team to analyze high-risk areas and develop mitigation strategies that address the risks. The Team will utilize the Hazard Mitigation Plan and the Karuk Emergency Operations Plan to guide initial responses that help ensure the safety & health of tribal members and the protection of life & property.

Local hazard events frequently cause power outages and create significant disruptions to our communities and infrastructure. It is especially important that facilities designated as emergency shelters have back-up power generators. In flood events, many Tribal residents are often cut off from services due to road closures and without electrical power. Tribal heavy equipment that has been purchased since the 2010 HMP may now be utilized to re-open roads and assist in any manner deemed necessary to alleviate conditions, to date no funding has been available to purchase additional equipment. Generators can provide residents emergency power if the Tribe can purchase or rent generators. Tribal facilities that have emergency generators may be utilized also if residents have access to these facilities.

Individual households should be prepared for emergency situations. Assuring that Tribal households are informed of the necessity of maintaining a five day supply of provisions is critical. This includes a: five-gallon supply of water per person stored in sealed, unbreakable containers; supply of non-perishable packaged or canned food; non-electric can opener; first aid kit; prescription medications; battery-powered radio, flashlight; and extra batteries.

In 2013 the Tribe began utilizing GIS software to aid in reducing the risk of hazards. GIS is used to: determine areas of high risk and exposure; plan for road and utility network needs; and update and maintain data so there is consistency and coordination among all Tribal

emergency response activities.

Restoration activities after a hazard event are carried out in a responsible manner in order to: minimize impacts to the extent possible, conserve natural resources and ecosystems, as well as maintain natural drainage courses. Property owners should use effective pollution prevention measures and maintain adequate water quality.

Flood Prevention Measures

There has been little progress to implement these measures. To date the Tribe has a small stockpile of sandbags for water diversion and identified escape routes for Tribal Members, residents and employees that will be in flood areas. At this time it is cost prohibitive to move facilities outside the flood and slide prone areas, furthermore many slide and flood areas affecting ingress and egress are outside of tribally administered jurisdiction.

Flood and landslide prevention measures will include referencing past data and prioritizing prevention activities that can be addressed realistically. Flood/landslide hazard measures include: evacuation awareness and relocating resources, if practical; having policies and procedures in place that are readily available and useful; and providing provisions, shelter, and transportation, as needed. These measures may also include: sand bag diversions if time permits; emergency stream diversions; and clearing debris and reopening roads. Relocating structures that are now in floodplains is more problematic because of the cost involved.

Karuk Tribal Landslide Prevention Measures

This project is ongoing and the landslide prevention measures remain unchanged.

Past and present exploitation of natural resources under the U.S.F.S. has led to significantly degraded watershed health with severe consequences. Extensive logging and the labyrinth of associated roads have led to severe and ongoing erosion and sedimentation problems. The Karuk Tribe is working diligently with the Forest Service and other partners to address these problems.

As with most federal agencies, the Forest Service is inadequately funded and does not have the resources to address the wide-array of issues related to watershed health. Specifically, chronic erosion problems related to logging roads that were poorly engineered plague U.S.F.S. lands. A declining budget has decreased road maintenance leading to a steadily degenerating road system.

The potential for landslides and other erosion-causing events is abnormally high within the Aboriginal Territory. For example, according to data collected in the Salmon River sub-basin, rates of road-related landslides range from 60 to 800 times greater than undisturbed rates in similar granitic soils (de la Fuente and Haessig 1991).

The Karuk Tribe addresses persistent erosion and subsequent deposition problems. The high

likelihood of debris torrents poses the greatest threat during severe storm events. Reestablishment of historic hydrology is the primary objective. To date Ishi Pishi Analysis area is completed for road decommission and the Orleans Roads Analysis will be completed in 2015. Due to the dynamics of the area this is an ongoing project.

In addition to the chronic sediment transport from these roads, the high number of stream crossings has a high potential for failure during a significant storm event. Stream crossing failures result in debris torrents that scour stream channels. Depending on slope position and channel gradient, these debris torrents can trigger successive debris torrents as they move downstream. As mentioned above, road related landslides rates in a nearby watershed ranges from 60-800 times greater than undisturbed rates in granitic soils (de la Fuente and Haessig 1991).

Specific management strategies adopted by the Karuk Tribe are to minimize hydrologic and erosion concerns by addressing the high road density and implementing restoration activities that include decommissioning & storm-proofing.

"Proper road closure is essential in preventing future erosion and sedimentation from abandoned roads and skid trails. Proper closure incorporates removal of temporary structures in watercourses, returning stream crossing approaches to their original grades (Kochenderfer, 1970; Rothwell, 1978).

Road decommissioning projects remove unstable fill at stream crossings, swales, springs, and seeps and reestablish the natural hill slope drainage pattern along the intervening road reaches. Our treatment specifications detail the work schedule by itemizing: excavation & disposal sites and post-project erosion & sediment control measures. The treatment specifications require the removal of road fill from stream crossings, swales, and other unstable areas. Stream crossings are excavated to original width, depth, and slope to expose natural channel and buried topsoil. Unstable fill material with high failure potentials is excavated to reduce erosion hazard and expose buried topsoil. Excavated material is moved to stable road locations, placed along cutbanks, and then shaped to specific slope and compaction requirements.

Since 1997, our unique relationship with the Six Rivers and Klamath National Forests has allowed for cost-effective road decommissioning projects to occur within our Aboriginal Territory. Since the inception of this program, we have removed approximately 427,776 cu.yds updated from the 2010 of 301,136 cubic yards of fill material and designed over 201.72 miles of road updated from the 2010 figures of 46 miles of road decommissioning. To visualize this, imagine 42,906 dump trucks filled with fill material lined bumper-to-bumper for 162 miles.

Karuk Tribal Fire Prevention Measures

This project is ongoing and fire prevention measures are cyclical with treatments needed every 3 to 10 years depending on location.

Our Karuk Aboriginal Territory is one of the most rugged, rural environments in the United States. Steep, densely forested terrain and hot summers makes suppressing wildfires difficult, at best. The flammable National Forest lands that surround our Tribal facilities, homes, and lands are a serious concern of the Tribe.

Due to federal policies of fire suppression and logging, there is an unprecedented accumulation of forest fuel west of Interstate 5 that has built up over the past eight decades. 1.025 million acres of our Aboriginal Territory is managed by the U.S.F.S., which is faced with the daunting task of restoring our forests. From the Karuk perspective, additional federal funding should be made available to pre-treat these flammable lands, rather than trying to suppress destructive wildfires, which cost tax payers millions of dollars.

The Tribe supports initiatives that introduce low-intensity prescribed fire as well as mechanical & hand piling and brush burning to minimize chronic wildfire hazards. The Tribe has a twenty person fire crew working on federal and tribal lands to help reduce fire hazards, including thinning the understory and utilizing under-burning practices; however, due to federal funding, these critical mitigation activities are restricted. The Tribe is seeking funds to utilize the crew in a permanent capacity to accomplish forest fuels reduction needs and fire suppression in the Tribal aboriginal territory.

Fires that do not pose a threat to life or property should not be suppressed because low-intensity fires can actually benefit forests by cleaning up the vegetation understory fuels.

Flammable Forest Conditions

This section has been updated to include most recent statistics for fuel treatment on tribal lands and collaborative and partnership efforts with the USFS, and community based environmental restoration organizations.

Changes in the natural sequence of vegetation occur over time in response to current disturbances and forest types, past disturbances, and climate. Logging activities and a relatively wet climate over the past century, combined with fire exclusion, have altered local forests settings considerably. Two years after a fire on logged areas where the forest canopy has been removed, there may be more than 300 live hardwood sprouts and more than 1900 live brush sprouts per acre. With no overstory vegetation shading, sprouting brush competes with young trees and decaying wood does not hold moisture during the hot summer. The subsequent forest recovery cycle is prolonged due to successive fires across our homeland.

In the Klamath Mountains, low intensity fires are the natural, primary force for sustaining the vitality and natural resiliency of the forests. Before it was illegal to do so, Karuk people burned the forest understory. Wildfires were not a threat because prearranged fires promoted fire- resilient forest environments.

There is no complete substitute for fire as the natural force for promoting resilient, vigorous

ecological processes. The challenge is how to integrate prescribed fire back into the land management process. Many forests are so flammable they need to be pre-treated before reintroducing fire.

For 2010 to 2015, the following Tribal fuel reduction activities have been completed on Tribal Forest lands that abut Tribal housing or facilities:

- A prescribed fire treatment on 12 acres in Orleans near the mouth of Camp Creek;
- Mechanical and hand treatment fuels reductions surrounding Happy Camp housing, housing administration facilities, Head Start, and Economic Development;
- Hand crews have treated another estimated 10 acres around ceremonial grounds and Tribal owned trust lands in western Siskiyou County and northeastern Humboldt County.
- Hand crew has completed the Orleans Community Fuel Reduction treatment of 109 acres on a culturally sensitive trail;
- Pile burning or the removal of the slash piles on 14.3 acres surrounding Happy Camp housing, housing administration facilities, Head Start, and Economic Development.

The 20 person Karuk Fire Crew has been reducing concentrations of National Forest fuels on National Forest lands that adjoin the communities of Happy Camp and Orleans. To date, 193 acres have been treated by mechanical and hand treatments. The Klamath N.F., Happy Camp Ranger District and the Six Rivers N.F., Orleans Ranger District has coordinated rural community fuels reduction activities with the Tribe, striving to provide opportunities that utilize our Fire Crew to reduce wildfire hazards. Since 2006, federal funding has been cut drastically for such programs. The funding cuts are a concern of the Tribe given the fact that forest fires are burning many large areas of our Aboriginal Territory as this plan is being completed. As such, the Tribe is in collaboration with several community organizations within our Aboriginal Territory like:

- The Tribe has taken the lead role as part of the Western Klamath Restoration Partnership (WKRP), to begin the planning process for large landscape-scale fuels treatment projects that lessen the threat and severity of wildfires.
- The Tribe is active with The Mid-Klamath Watershed Council (MKWC) to restore the threatened Klamath River in Northern California, and the upslope habitats upon which the river depends.
- The Tribe is an active influence with the Orleans/Somes Bar Fire Safe Council.
- The Tribe is collaborating with the Salmon River Restoration Council (SRRC) that works to assess, maintain, restore, and preserve the Salmon River ecosystems.

Reducing Tribal Facilities/Housing Fire Hazards

This section has been updated to reflect ongoing fuels reduction measures being taken around Karuk Tribal Housing Authority administered lands, these measures are cyclical and need to be maintained on a 3 to 10 year basis for an effective hazard fuel break around Tribal Housing.

The following protection measures are being applied around our Tribal facilities and housing resources in Happy Camp, Orleans, Yreka, and Somes Bar:

- Removal of flammable materials from roofs, rain gutters, decks, sidewalks, and parking areas;
- Removal of pine needles, leaves, and other flammable materials within 50' of structures;
- Lawns are kept green and watered in the summer;
- Vegetation within 100' of structures is being thinned to a 10' spacing between individual trees and shrubs. Trees are trimmed 6-10' or 1/3 of their crown height; and
- Fire breaks have been cut around some residences and facilities.

The Karuk Tribe has a comprehensive ongoing environment review policy in place to evaluate development in all hazard prone areas. The existing policies are consistent with the 2015 plan and FEMA's Tribal Multi Hazard Mitigation Guidance manual. These areas were evaluated by assessing the hazard fuels in the Defensible space zones recognized by Cal Fire, who is responsible for initial attack on tribally administered lands, and reducing hazard fuels to that standard.

Summation of 2010 thru 2015 Projects:

This table was created during the review process to clarify the status of 2010 proposed mitigation actions.

Table 7

2010-2015 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Flood							
Educate Tribal Communities through regularly scheduled workshops to increase awareness of hazards and hazard mitigation.	A,B/2	High	Emergency Preparedness	DHS/FEMA, Cal OES, IHS	Collateral cost with funding Emergency Preparedness Department.	On Going	Education is a continuous program and would need to be completed annually.

2010-2015 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Time frame	Comments
Relocate or decommission structures out of hazard area where possible.	A, B, C,D/ 4, 9, 18	High	Dept. of Lands	DHS/FEMA, ICDBG Block Grants, HUD, IHS	Collateral cost with funding Watershed and fisheries program.	Long Term	This will be carried over to the 2015 HMP.
Identify critical road infrastructure.	A, B, C, D/ 3	High	Emergency Preparedness	DHS/FEMA, Cal OES	Collateral cost with funding Emergency Preparedness Department.	On Going	The critical road infrastructure has been identified in the 2010 to 2015 HMP period and will need to be continuously updated as the Tribe grows. This will not be carried over to the 2015 HMP.
Prepare or obtain detailed GPS mapping of residences, structures, and infrastructure	A, B, C, D/ 3	High	Emergency Preparedness	DHS/FEMA, Cal OES	Collateral cost with funding Emergency Preparedness Department.	On Going	The GIS Inventory Resource Specialist has mapped tribal and community infrastructure in Orleans, Happy Camp and Yreka as well as updated all existing data currently on file and continues to update data layers as the Tribe continues to grow.
Re-channel altered stream courses that may threaten resources by 2015	A, B, C, D/ 13,15, 16	High	DNR	BIA, USDA, USF&WS	Collateral cost with funding Watershed and fisheries program.	On Going	This will not be carried over to the 2015 HMP.

2010-2015 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Adopt building codes and ordinances that will regulate development in high hazard areas.	A, B, C, D/ 4, 9, 18	High	KTHA/Admin Facilities Manger	ICDBG Block Grants, HUD	Collateral cost with funding Administrative and KTHA programs.	On Going	This is being implemented with new construction or building remodels. This will be carried over to the 2015 HMP.
Wildfire							
Educate Tribal Communities through regularly scheduled workshops to increase awareness of hazards and hazard mitigation.	A, B/ 2	High	Emergency Preparedness	DHS/FEMA, Cal OES, IHS	Collateral cost with funding Emergency Preparedness Department.	On Going	Education is a continuous program and would need to be completed annually.
Relocate or decommission structures out of hazard area where possible.	A, B, C, D/ 4, 9, 18	High	Dept. of Lands	DHS/FEMA, ICDBG Block Grants, HUD, IHS	Collateral cost with funding Administrative and KTHA programs.	2015	This will be carried over to the 2015 HMP.
Identify critical road infrastructure.	A, B, C, D/ 3	High	Emergency Preparedness	DHS/FEMA, Cal OES	Collateral cost with funding Emergency Preparedness Department.	2015	The critical road infrastructure has been identified in the 2010 to 2015 HMP period and will need to be continuously updated as the Tribe grows. This will not be carried over to the 2015 HMP.

2010-2015 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Prepare or obtain detailed GPS mapping of residences, structures, and infrastructure	A, B, C, D/ 3	High	Emergency Preparedness	DHS/FEMA, Cal OES	Collateral cost with funding Emergency Preparedness Department.	On Going	The initial maps were created in the 2010 to 2015 HMP period and will need to be continuously updated as the Tribe grows.
Fund a Wildland Fire Suppression, Fuels Management Crew, Wildland Fire Engine with crew and Overhead Management	A, B, C, D/ 7, 10	High	DNR/BIA	BIA, USDA, USF&WS	$1.1 Million	Long Term	This program has only received temporary finding. This will be carried over to the 2015 HMP.
Adopt building codes and ordinances that will regulate development in high hazard areas.	A, B, C, D/ 4, 9, 18	High	KTHA/Admin Facilities Manger	ICDBG Block Grants, HUD	Collateral cost with funding Administrative and KTHA programs.	On Going	This is being implemented with new construction or building remodels. This will be carried over to the 2015 HMP.
Install water storage facilities for communities at risk by	A, B, C, D/ 17	High	Facilities Manager/Emergency Preparedness	ICDBG Block Grants, HUD, IHS	$500,000	On Going	This will be carried over to the 2015 HMP.
Air Quality							
Air Monitors: Purchase and maintain air quality monitors for three communities for emergency air quality monitoring to help determine the magnitude of potential threats.	A, D/ 11	High	Emergency Preparedness	DHS/FEMA, BIA, IHS	$100,000. One unit purchased for $20,000 from IHS Grant.	2015	One unit purchased after 2013 health emergency from IHS Grant.

2010-2015 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Time frame	Comments
Provide air filters for elders and others with respiratory health issues in times when smoke health risks are high.	A, B, D/12	High	Tribal Health		$20,000. Actual $42,000	On Going	The Tribe allocated a portion of discretionary funds 10K and $32,000 in IHS Grant funds for Air Purifiers, Filters and annual maintenance will still be needed.
Landslides							
Educate Tribal Communities through regularly scheduled workshops to increase awareness of hazards and hazard mitigation.	A, B/ 2	High	Emergency Preparedness	DHS/FEMA, Cal OES, IHS	Collateral cost with funding Emergency Preparedness Department.	On Going	Education is a continuous program and would need to be completed annually.
Relocate or decommission structures out of hazard area where possible.	A, B, C, D/ 4, 9, 18	High	Land Dept.	DHS/FEMA	Collateral cost with funding Administrative and KTHA programs.		This is being implemented with new construction or building remodels. This will be carried over to the 2015 HMP.
Identify critical road infrastructure.	A, B, C, D/ 3	High	Emergency Preparedness	DHS/FEMA, Cal OES	Collateral cost with funding Emergency Preparedness Department.	On Going	The critical road infrastructure has been identified in the 2010 to 2015 HMP period and will need to be continuously updated as the Tribe grows. This will not be carried over to the 2015 HMP.

2010-2015 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Time frame	Comments
Prepare or obtain detailed GPS mapping of residences, structures, and infrastructure	A, B, C, D/ 3	High	Emergency Preparedness	DHS/FEMA, Cal OES, IHS	Collateral cost with funding Emergency Preparedness Department.		The initial maps were created in the 2010 to 2015 HMP period and will need to be continuously updated as the Tribe grows.
Adopt building codes and ordinances that will regulate development in high hazard areas.	A, B, C, D/ 4, 9, 18	High	KTHA/Admin Facilities Manger	ICDBG Block Grants, HUD	Collateral cost with funding Administrative and KTHA programs.	On Going	This is being implemented with new construction or building remodels. This will be carried over to the 2015 HMP.
Water Quality							
Educate Tribal Communities through regularly scheduled workshops to increase awareness of hazards and hazard mitigation.	A, B/ 2	High	Emergency Preparedness	DHS/FEMA, Cal OES, IHS	Collateral cost with funding Emergency Preparedness Department.	On Going	Education is a continuous program and would need to be completed annually.
Prepare or obtain detailed GPS mapping of residences, structures, and infrastructure	A, B, C, D/ 3	High	Emergency Preparedness	DHS/FEMA, BIA, IHS	Collateral cost with funding Emergency Preparedness Department.	On Going	The initial maps were created in the 2010 to 2015 HMP period and will need to be continuously updated as the Tribe grows.

2010-2015 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Dam Removal Priority: The Tribe will advocate for the removal of four Klamath River upstream Dams	A, B, D/14, 15	High	DNR	BIA, DOI, USDA, USF&WS		On Going	The Tribe has no direct control over this project.
Watershed Restoration Crew: and equipment Caterpillar D7R Dozer: $407,825 Caterpillar 325DL Excavator: $290,000 Caterpillar 950 Loader: $240,000 Caterpillar 140H Grader: $293,000 Annual operating budget: $120,000 Personnel costs: $350,000 The unmet need is currently $1,700,825.	A, B, C, D/ 7, 10, 15,16, 17	High	DNR	BIA, USDA, USF&WS	$1,700,825. Actual cost $698,000 for equipment purchased.		The Caterpillar D7R Dozer and Caterpillar 325DL Excavator were purchased in the 2010 to 2015 HMP period. The additional equipment will be carried over to the 2015 HMP.
Drought							
Educate Tribal Communities through regularly scheduled workshops to increase awareness of hazards and hazard mitigation.	A, B/ 2	High	Emergency Preparedness	DHS/FEMA, Cal OES, IHS	Collateral cost with funding Emergency Preparedness Department.	Ongoing	Education is a continuous program and would need to be completed annually.

2010-2015 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Time frame	Comments
Reducing forest land fuels which feed wildfires that cause heavy smoke episodes that are long lasting is important for sustaining high quality air	A, B, C, D/ 7, 10, 18	High	DNR	BIA, USDA, USF& WS	$500 to $3,500 acre depending on fuels treatment method.	Ongoing	Fuels reduction is cyclical and needs to be completed on a rotational basis based on site conditions, fuel type and geographic location.
Re-channel altered stream courses that may threaten resources by 2015	A,B, D/14, 15,16	High	DNR	BIA, USDA, USF& WS	Collateral cost with funding Watershed and fisheries program.	Ongoing	This will not be carried over to the 2015 HMP.
Install water storage facilities for communities at risk by	A, B, C,D/ 17	High	Facilities Manager/Emergency Preparedness	DHS/FEMA, Cal OES, USDA, IHS		2015	This will be carried over to the 2015 HMP.
All Hazard							
Search and Rescue	A, B, C,D/ 1	High	Emergency Preparedness	DHS/FEMA, Cal OES	$150,000	2015	The Tribe would like to establish a collaborative, multi-agency search and rescue capacity and has an unmet need for a vehicle, equipment & training, and a coordinator who would work with local agencies. No funds were obtained for the 2010 to 2015 HMP period to complete this project.

2010-2015 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Emergency Communication Services	A, B, C,D/ 1	High	Emergency Preparedness	DHS/FEMA, Cal OES	Projected $20,000. Actual cost $210,000	2015	The Karuk Tribe is planning to develop an Emergency Services Department that would be compatible with county, state, federal communications systems. This system is funded under a 2013 THSG.
Emergency Power Systems for Clinics and Critical Administrative Offices.	A, B D/8	High	Administrative Facilities Manager	DHS/FEMA, IHS	$200,000	2015	No funds were obtained for the 2010 to 2015 HMP period to complete this project. An addition building will be added to the 2015 HMP.
Tribal Transportation Planning & Tribal Infrastructure Needs	A, B, C,D/4	High	Transportation	Federal DOT	$350,000	2015	Asses the transportation needs and prepare a transportation plan and maintain improve and repair access to our rural housing, facilities, ceremonial, fisheries and transportation access for road maintenance.

2010-2015 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Emergency Storage Facilities	A, B D/8	High	Emergency Preparedness	DHS/FEMA, Cal OES, ANA	$21,280	2015	Completed 2015, containers, cots, blankets, solar power and 1st aid station x 3, however these are not permanent structures, the Tribe would like permanent structures for the long term.
Emergency Response Coordinator	A, B, C,D/ 1,2, 3, 8, 17	High	Emergency Preparedness	DHS/FEMA, Cal OES, ANA	$150,000 Actual cumulative cost for a 3 year grant period $861,000		The Tribe would like to develop Emergency Response positions. This program could address HAZMAT, emergency response, training, and preparedness. This program was temporarily funded between 2012 and 2015 under an ANA SEDS Grant. The Tribe will seek funding for the long term.
Seek reoccurring funding for an assistance program for elders and others in Karuk communities during times disasters.	A, B D/8	High	Emergency Preparedness	DHS/FEMA, Cal OES, IHS, ANA	Collateral cost with funding Tribal Health Program	Long Term	This will be carried over to the 2015 HMP.

Tribal Capability Assessment- Funding Limitations

Current Challenges:

Many of the challenges remain the same;
The Karuk Tribe is a non-gaming tribe located in a large economically depressed area. There are few opportunities for economic development due to the remoteness of its geographic location however the Tribe is currently in negotiations to build a Gaming Facility to help build the economic development in the communities.

State and federal grant opportunities have steadily decreased due to the recession and the budget crisis in the state. Many grant opportunities require matching funds, and the Tribe is unable to provide funding for match due to the lack of discretionary resources. The limited amount of discretionary resources that the Tribe has is used for support of existing programs.

The Tribal Homeland Security Grant Program and the State Tribal Equipment Assistance Grant Program are two grants that have become available to the Tribe while the Emergency Preparedness Program has been funded and has funded communications and response equipment. The Emergency Management Performance Grant is available through the State but due to its 100% match requirement the Tribe lacks the available discretionary non-governmental funds to provide a match to fund the program.

Planning and the Development of Karuk Emergency Response Operations

The Karuk Tribe has developed an Emergency Operations Plan (EOP) that identifies pre- and post-disaster emergency procedures and mitigation actions to address hazards. The EOP strengthens the mitigation initiatives identified in this Hazard Mitigation Plan. The EOP focuses on preparedness, prevention, and disaster response. In a disaster situation, KEEPR Teams will form into a the KIMT which is a modular organization and will work in partnership with other agencies to help ensure there is sufficient water, food, evacuation if needed, medical care, shelter, fire services, and order.

The Karuk Tribe is an interdisciplinary player working directly under Incident Command with planning and operations on Wildfire incidents. We have been an interdisciplinary agency participant on at least twelve wildfire incidents within our Territory in the past decade. The Tribe's EOP is similar to what is used by Local, State and Federal Wildland Fire Agencies.

The KIMT is an internal Incident Management Team (IMT) structured under the Incident Command System and is a modular organization which can easily integrate into a larger IMT as needed or function as a single team under the Sovereignty of the Karuk Tribe.

During hazard events, the Tribe will collaborate with the Forest Service, County, State, community services, Red Cross, and law enforcement, as needed. The Karuk EROP's pre-disaster and recovery-response activities include:

- Hazard Warnings
- Evacuation
- Education, including First Aid
- Shelter
- Food and Water
- Emergency Transportation
- Medical Care
- Emergency Power & Communication
- Damage Repair/Restoration

The designated KIMT, Incident Commander (IC) will oversee the response activities, facilitating hazard relief and recovery/ restoration efforts. The KIMT will be responsible for implementing the Karuk Tribe's Emergency Operations Plan (EOP) and Hazard Mitigation Plan (HMP) along with and directing the response of Tribal departments, services, and operations to any situation deemed necessary by the Tribal Council. When a threat is present, the IC will consult with the Chairman, Vice Chairman or Secretary/Treasurer prior to taking action, and then provide briefings daily or as needed.

The KEEPR Teams and/or affected departments and staff under the supervision of the IC may participate in post- disaster repair work & emergency relief activities or may be deployed in relief instances where disasters are foreseen. Volunteer assistance agreements may be put in place with the Community Emergency Response Teams (CERT) to aid in response and recovery efforts.

Requirement §201.7(c)(3)(ii): *The mitigation strategy* ***shall*** *include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.*

and

Requirement §201.7(c)(3)(iii): *The mitigation strategy* ***shall*** *include an action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the Indian Tribal government.*

Action Plan

Two new Tribal facilities have been constructed (Orleans- Karuk Tribal Clinic and Yreka- Wellness Center) since the 2010 Karuk Hazard Mitigation Plan was approved. The Karuk Tribe complies with the National Environmental Policy Act (NEPA) and environmentally sound assessments prior to building facilities. Any disaster relief activities are conducted in such ways as to protect water quality and the environment. Hazardous materials are dealt with according to strict HAZMAT regulations, taking all appropriate safety measures.

Any hazard mitigation activity will be conducted in a cost effective manner consistent with our fiscal and project management policies. The Karuk Tribe applies contract and fiscal policies to all projects through internal services or the management, advertising, bidding,

award, and closeout processes. Our Contract Compliance Specialist monitors all project activities to ensure that procurement and contract management policies are followed.

To the best of our ability, we will evaluate disaster incidents carefully and prioritize the hazard mitigation recovery activities as technically feasible as possible by using experienced and knowledgeable professionals. We will develop more detailed responses as each incident disturbance is evaluated.

The Karuk Tribal Council has prioritized the mitigation needs in the following sequence of importance based on our assessment and capabilities. Utilizing the STAPLEE process the Tribal hazard plan mitigation team came up with priority hazard mitigation actions requested under **Requirement §201.7(c)(3)(iii):** These priorities will be contingent on available funding.

The STAPLE+E process permitted the Tribe to identify and prioritize hazard mitigation activities. After identifying mitigation goals, these goals were listed and ranked using the STAPLE+E Criteria worksheets. Using the Priority Totals on the STAPLE+E Criteria worksheets, these are ranked for High to low based on a numeric scale with zero thru 7 being the lowest priority 8 thru 15 having a medium priority and 16-23 having the highest priority. The Tribe evaluated and ranked the 20 highest priorities for mitigation, many of which may operate to mitigate for more than one hazard. These priorities focus on hazard mitigation activities. The STAPLEE forms are available upon request and are located at the Tribal Office of Emergency Services.

Priorities 2015 Plan:

Table 8

2015-2020 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Flood							
Relocate or decommission structures out of hazard area where possible.	4, 9	High	Dept. of Lands	DHS/FEMA, ICDBG Block Grants, HUD, IHS	Collateral cost with funding Administrative and KTHA programs.	On Going	Happy Camp Tribal Health Clinic is located within the flood zone.
Adopt building codes and ordinances that will regulate development in high hazard areas.	4, 9, 18	High	KTHA/Admin Facilities Manger	ICDBG Block Grants, HUD	Collateral cost with funding Administrative and KTHA programs.	2020	

2015-2020 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Wildfire							
Relocate or decommission structures out of hazard area where possible.	A, B, C, D/ 4, 9,	High	Dept. of Lands	DHS/FEMA, ICDBG Block Grants, HUD	1.5 Million	2020	
Fund a Wildland Fire Suppression, Fuels Management Crew, Wildland Fire Engine with crew and Overhead Management	A, B, C,D/ 7, 10	High	DNR/BIA	BIA, USDA, USF&WS	$1.1 Million	Long Term	Temporarily funded at the time of the 2015 update.
Adopt building codes and ordinances that will regulate development in high hazard areas.	A, B, C, D/ 4, 9, 18	High	KTHA/Admin Facilities Manger	ICDBG Block Grants, HUD	Collateral cost with funding Administrative and KTHA programs.	On Going	This is being implemented with new construction or building remodels.
Install water storage facilities for communities at risk.	A, B, C, D/ 17	High	Facilities Manager/Emergency Preparedness	ICDBG Block Grants, HUD, IHS	$500,000	2020	
Reducing forest land fuels which feed wildfires that cause heavy smoke episodes that are long lasting is important for sustaining high quality air	A, B, C, D/ 7,10, 18	High	DNR	BIA, USDA, USF&WS	$500 to $3,500 acre depending on fuels treatment method.	Ongoing	Fuels reduction is cyclical and needs to be completed on a rotational basis, based on site conditions, fuel type and geographic location.
Air Quality							

2015-2020 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Air Monitors: Purchase and maintain air quality monitors for three communities for emergency air quality monitoring to help determine the magnitude of potential threats.	A,D/ 11	High	HHS	DHS/FEMA, BIA, IHS	$5,000	On Going	
Provide air filters for elders and others with respiratory health issues in times when smoke health risks are high.	A, B D/12	High	HHS		$20,000.	On Going	Filters and annual maintenance will be needed.
Reducing forest land fuels which feed wildfires that cause heavy smoke episodes that are long lasting is important for sustaining high quality air	A, B, C, D/ 7,10, 18	High	DNR	BIA, USDA, USF&WS	$500 to $3,500 acre depending on fuels treatment method.	Ongoing	Fuels reduction is cyclical and needs to be completed on a rotational basis, based on site conditions, fuel type and geographic location.
Landslides							
Relocate or decommission structures out of hazard area where possible.	A, B, C,D/ 9	High	Dept. of Lands	DHS/FEMA	Collateral cost with funding Administrative and KTHA programs.		This is being implemented with new construction or building remodels. This will be carried over to the 2015 HMP.
Adopt building codes and ordinances that will regulate development in high hazard areas.	A, B, C, D/ 4, 9, 18	High	KTHA/Admin Facilities Manger	ICDBG Block Grants, HUD	Collateral cost with funding Administrative and KTHA programs.	On Going	This is being implemented with new construction or building remodels. This will be carried over to the 2015 HMP.

2015-2020 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Cyber Attack (New 2015)							
Require annual Cyber Security training for all employees.	B,D/ 19	High	IT Dept.	IHS	Collateral cost with funding Administrative programs.		New 2015
Maintain high quality servers, routers, equipment and firewalls in the network.	A,B, D/20	High	IT Dept.	DHS/FEMA, Cal OES, IHS	$150,000 annually	On Going	New 2015
Drought							
Reducing forest land fuels which feed wildfires that cause heavy smoke episodes that are long lasting is important for sustaining high quality air	A, B, C, D/ 7, 10, 18	High	DNR	BIA, USDA, USF&WS	$500 to $3,500 acre depending on fuels treatment method.	On Going	Fuels reduction is cyclical and needs to be completed on a rotational basis, based on site conditions, fuel type and geographic location.
Install water storage facilities for communities at risk by	A, B, C, D/ 17	High	Facilities Manager/Emergency Preparedness	ICDBG Block Grants, HUD, IHS	$500,000	2020	
All Hazard							
Prepare or obtain detailed GPS mapping of residences, structures, and infrastructure	A, B, C, D/ 3, 5, 6	High	Emergency Preparedness	DHS/FEMA, BIA, IHS	Collateral cost with funding Emergency Preparedness Department.	On Going	This has been combined from Flood, Wildfire, Landslide, Water Quality and Quality and moved to All Hazard.

2015-2020 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Educate Tribal Communities through regularly scheduled workshops to increase awareness of hazards and hazard mitigation.	A, B/ 2	High	Emergency Preparedness	DHS/FEMA, Cal OES, IHS	Collateral cost with funding Emergency Preparedness Department.	On Going	This has been combined from Flood, Wildfire, Air Quality, Landslide, Water Quality and Quality and moved to All Hazard.
Search and Rescue Team	A, B, C, D/ 1	High	Emergency Preparedness	DHS/FEMA, Cal OES	$150,000	2020	This cost reflects, training and equipment, the program would be administered through the Tribal OES
Emergency Communication Services	A, B, C, D/ 1	High	Emergency Preparedness	DHS/FEMA, Cal OES	Actual cost $210,000. $6000 annually for maintenance and airtime contracts	2015	The Karuk Tribe is planning to develop an Emergency Services Department that would be compatible with county, state, federal communications systems. This system is funded under a 2013 THSG.
Emergency Power Systems for Clinics and Critical Administrative Offices.	A, B, D/ 8	High	Administrative Facilities Manager/KTHA	DHS/FEMA, IHS	$200,000	2020	An addition building has been added to the 2015 HMP.

2015-2020 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Tribal Transportation Planning & Tribal Infrastructure Needs	A, B, C, D/ 4	High	Transportation	Federal DOT	$958,000	Long Term	The budget reflects an annual operating budget to build new roads, asses the transportation needs and update the transportation plan and maintain improve and repair access to our rural housing, facilities, ceremonial, fisheries and transportation access for road maintenance.
Permanent Emergency Storage Facilities	A, B, D/ 8	High	Emergency Preparedness	DHS/FEMA, Cal OES, ANA	$75,000	2020	In 2014/2015, containers were purchased however these are no permanent structures; the Tribe would like permanent structures for Emergency Equipment in the long term.

2015-2020 Karuk Mitigation Projects	Goal/ Objective Satisfied	Priority	Responsible Tribal Dept. /Cooperating Agency	Potential Funding Source	Cost	Timeframe	Comments
Office of Emergency Services (OES)	A, B, C, D/ 1, 2, 3, 8, 17	High	Emergency Preparedness	DHS/FEMA, Cal OES	$375,000 annually.	Long Term	Formerly Emergency Response Coordinator, this budget reflects the OES Department and will take on oversight of Search and Rescue coordination.
Seek reoccurring funding for an assistance program for elders and others in Karuk communities during times disasters.	A, B, D/ 8	High	HHS/OES	DHS/FEMA, Cal OES, IHS, ANA	Collateral cost with funding Tribal Health and Emergency Preparedness Programs	Long Term	
Dam Removal Priority: The Tribe will advocate for the removal of four Klamath River upstream Dams	A, B, D/13, 14,15	High	DNR	BIA, DOI, USDA, USF&WS		On Going	The Tribe has no direct control over this project.

Watershed Restoration Crew: and equipment Caterpillar 950 Loader: $240,000 Caterpillar 140H Grader: $293,000 55 ton Lowboy Transport: $50,000 Kenworth Truck: $100,000 Annual operating budget: $120,000 Personnel costs: $350,000	A, B, C, D/ 7, 10, 15,16, 17	High	DNR	BIA, USDA, USF&WS	$1,850,825	On Going	A lowboy transport and truck have been added and are needed for moving the equipment around to the project areas or for servicing.

Requirement §201.7(c)(4)(i): *The plan maintenance process shall include a section describing the method and schedule of monitoring, evaluating and updating the Mitigation Plan.*

and

Requirement §201.7(c)(4)(ii) and (v): *The Tribal Plan Maintenance Process shall include a system for monitoring implementation of mitigation measures and project closeouts; and a system for reviewing progress for achieving goals as well as activities and projects outlined in the mitigation strategy.*

Maintaining the Plan:

Monitoring, Evaluating, and Updating

An analysis of the 2015 Tribal Hazard Mitigation Plan was completed with FEMA on May 5-7, 2015. Tribal staff revised the plan to substitute current statutory requirement language for the outdated 2010 state plan language, updated staff and Council rosters. The Tribe's Hazard Mitigation Team reviewed the plan and recommendations were made to update and improve the plan.

The Karuk Tribal Council Designee will oversee each mitigation project. Activities will be monitored until repairs or relief activities are completed. Project activities will be undertaken in a manner that ensures activities are completed within a reasonable schedule. The Tribal Council Designee will identify any obstacles and resolve issues to complete the activity within scheduled time-frames. Annual reports will be submitted to the Tribal Council. Budget requests will be submitted to the Tribal Council on an annual or as needed basis.

For this 2015 update the previous maintenance schedule was not fully implemented and followed as there was no dedicated staff or department to maintain and update the plan as

identified.

Maintenance Schedule for 2015

Monitoring Activity	**Date Due**
Development with Hazard Mitigation Team	Dec 2014- March 2015
New HMP to Tribal Council for Approval	April 2015
Final HMP for FEMA	May 2015
Progress Report to Tribal Council/Hazard Mitigation Team	Jan 2016
HMP Review with Council to amend as needed	April 2016
Progress Report to Tribal Council/ Hazard Mitigation Team	Jan 2017
HMP Review with Council to amend as needed	April 2017
Progress Report to Tribal Council for Amendments if needed	Jan 2018
HMP Review with Council to amend as needed	April 2018
Progress Report to Tribal Council/ Hazard Mitigation Team	Jan 2019
HMP Review with Council to amend as needed	April 2019
New HMP to Tribal Council for Approval	Dec 2019- March 2020
Progress Report to Tribal Council	April 2020
Final HMP for FEMA	May 2020
Budget Requests	Indeterminate

The Tribal Council, through designated staff will identify on-going projects and activities in support of the mitigation goals identified in the Tribes Hazard Mitigation Plan. They will integrate necessary technical and fiscal resources to implement projects and activities. The Contract Compliance Specialist will assist the Tribal Council in ensuring that all contracts and grants are managed in accordance with specified terms and conditions. This department will monitor project progress and will work with project managers to prepare close-out documents for submission to FEMA and include that information in reports to the Council. Activity reports will be prepared and submitted monthly to the Tribal Council. Programs and activities, and requirements will be coordinated to assure project implementation(s) attain the desired mitigation goals.

To ensure that the Karuk Hazard Mitigation Plan (KHMP) is effective, it will be evaluated and updated every five years. The KEEPR Team will make recommendations and provide for adequate Tribal Council oversight; oversee monitoring and mitigation strategies to assure the document reflects current hazard/risk analyses, development needs, and ordinance changes; meet annually with department managers and Tribal staff to assess and prioritize the cost-benefit analysis methodology that FEMA and the Tribe have developed; and coordinate with relevant departments or program managers in preparation for the five year plan update. Updates will be added to the affected section of the plan as they are approved. Any new hazards and possible corresponding mitigation actions will be analyzed and added to the plan during annual updates.

The Tribal Council will provide an opportunity for the members of the Tribe to review and consider the updates before submitting it to FEMA for approval and formally adopting it. In

addition to the duties listed above, the KEEPR Team will also develop and coordinate the Karuk Tribe's emergency management and preparedness programs; plan, oversee, and provide training in all aspects and phases of emergency management; coordinate the biannual update of the Karuk Emergency Operations Plan; establish partnerships with local governments; and initiate public awareness and education campaigns for all hazards.

Public awareness programs can provide information about mitigation measures for different hazards as well as preparedness, response, and recovery measures after a disaster event. To increase the community's awareness of hazards, we will distribute information about them, develop a preparedness packet for Tribal members, provide workshops and training programs that address specific issues related to the hazards, and post and distribute hazard incident briefings as needed.

The Tribe has updated the plan to include a description of the grants management process institutionalized within the Tribe's Fiscal Policy that requires that all funding requests made by departmental directors are subjected to a review by compliance and finance staff prior to submission. The process has been added to the plan to make the review and monitoring of the plan consistent with Tribal policy.

Requirement §201.7(c)(3)(v): *The mitigation strategy* ***shall*** *include and identification of current and potential sources of Federal, tribal, or private funding to implement mitigation activities.*

The Tribe's current funding and assistance sources include: BIA-Fire Suppression, EPA - Water Quality Sampling and Watershed Restoration, NOAA Salmon Recovery, Fish & Wildlife- Program Funding, Administration for Native Americans: Social and Economic Development Strategies- ANA: SEDS program, National Resource Conservation Service (NRCS) and Bureau of Reclamation - AFA Funding.

Potential Funding Sources

- U.S. Natural Resource Conservation Service (Fuels Reduction Projects)
- U.S. Forest Service (Fuels Reduction, Habitat Improvement, Restoration Programs)
- U.S. Environmental Protection Agency (Hazardous Waste Disposal, Training)
- U.S. Geological Survey-(Stream Channel Restoration)
- Department of Homeland Security (New) (Tribal Homeland Security Grants, Emergency Management Performance Grants)
- Federal Emergency Management Agency (New) (Hazard Mitigation Grants, Training)
- U.S. Bureau of Indian Affairs Roads Maintenance Program (Road Infrastructure)
- U.S. Indian Health Service (Tribal Compacts)
- Humboldt Area Foundation (Various Grant opportunities available for restoration projects)
- DOI Bureau of Indian Affairs (Tribal Compacts)
- Bureau of Reclamation (Streambed Restoration, Drought Relief)
- California Office of Emergency Services (Cal OES) (Formerly CALEMA) (Equipment Assistance Grants, Training)

Requirement §201.7(c)(4)(iii): *The plan maintenance* ***process shall*** *include a process by which the Indian Tribal government incorporates the requirements of the mitigation plan into other planning mechanisms such as reservation master plans or capital improvement plans, when appropriate.*

Plan incorporation

The Tribe has incorporated the HMP into the Emergency Operations Plan and the Threat Hazard Identification Risk Assessment.

The Karuk Tribe will incorporate information from the Hazard Mitigation Plan when considering the existing and future development of a facilities construction "master plan", which at this time, the Karuk Tribe does not have.

The new collaborative relationship between the North West California Tribes has been instrumental in encouraging Humboldt County to recognize the importance of annexing Tribal Emergency Operations Plans and Hazard Mitigation Plans to their county plans. We will continue to collaborate with Humboldt and Siskiyou Counties to ensure our plans' goals and mitigation strategies are congruent.

The Tribe has developed a draft Tribal Eco-Cultural Resource Management Plan (ECRMP) that provides a comprehensive range of resource management considerations. Local Fire Safe Council Community Wildfire Protection Plans have adopted the ECRMP as being used as a guide until finalized. It has also been incorporated by reference into the Katimiin MOU that was developed between the Tribe and US Forest Service as per the Klamath National Forest Land and Resource Management Plan. The Karuk Hazard Mitigation Plan (KHMP) and Tribal Emergency Operations Plan (EOP) are compatible with this integrated resource management planning effort. The 2015 KHMP update is tiered to the overall resource protection and intent of the Karuk Eco-Cultural Resource Management Plan.

The Western Klamath Restoration Project (WKRP) is also using the ECRMP in a partnership and planning based approach using interagency agreements and collaborative partnerships for ecological restoration and reducing risk, hazard fuels in the local communities.
Future land use development will coordinated with the THIPO plans and guidance.

Requirement §201.7(c)(4)(iv): *The plan maintenance process shall include a discussion on how the Indian Tribal Government will continue public participation in the plan maintenance process.*

Public Participation

The Tribal council will designate staff to review and update the Karuk Hazard Mitigation Plan. The plan was posted on the Tribe's website from February 2 thru March 4, 2015 and was easily accessible to the public. Notices were posted in the Tribal Community as to the date of

availability of the plan and the locations it may be found for review. Hard copies were bound and placed in each of the Tribes administrative offices in the three communities. The plan was available on the Tribal Emergency Preparedness Web Page to the general public and cooperators for comment at the Regular Tribal Council meetings with the comments to be gathered and taken into consideration for any changes made on the annual review.

Requirement 201.7(c)(3)(vi): *An Indian Tribal government may request the reduced cost share…under FMA and SRL programs…if they have an approved Tribal Mitigation Plan meeting the requirements of 201.7 and that: identifies actions the Indian Tribal government has taken reduce the number of repetitive loss properties, (which must include properties identified as severe repetitive loss properties), and specifies how the Indian Tribal government intends to reduce the number of such repetitive loss properties.*

Not applicable, there are no repetitive loss properties in the Karuk Tribe's Hazard Mitigation Plan.

Requirement 201.7(a)(4): *Multi-jurisdictional plans (e.g., county-wide or watershed plans) may be accepted, as appropriate, as long as the Indian Tribal government has participated in the process… Indian Tribal governments must address all the elements identified in [44 CFR 201.7] to ensure eligibility as a grantee or sub grantee.*

Not applicable, the plan is not a multijurisdictional plan.

Requirement 201.7(c)(6): *The plan* ***must*** *include assurances that the Indian Tribal government will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 13.11(c) of this chapter. The*
Indian Tribal government will amend its plan whenever necessary to reflect changes in tribal or Federal laws and statutes as required in 13.11(d) of this chapter.

Plan Review & Updates

The Karuk Tribe will perform a complete update its Hazard Mitigation Plan every five years, but will do a review each year and update staff or council information if needed. The Karuk Tribe will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 13.11(c) of this chapter, and will amend its plan whenever necessary to reflect changes in tribal or Federal laws and statutes as required in 44 CFR 13.11(d).

Attachments

Maps:

A) Geographic Area Overview
B) Service Area
C) Aboriginal Territory Overview
D) Wildland Fire Threat Category
E) Ten Year Fire History
F) Dams and Bridges
G) Earthquake Faults/Volcano
H) Orleans Tribal Lands and Hazard Areas
I) Somes Bar Tribal Lands and Hazard Areas
J) Happy Camp Tribal Lands and Hazard Areas
K) Oak Knoll Tribal Lands and Hazard Areas
L) Yreka KTHA, Tribal Lands and Hazard Areas

Tables:

Service Area Overview

Karuk Tribe

Hazard Mitigation Plan Map

Map A

Legend

- Karuk_Lands
- US State Boundaries
- Service Area
- Karuk Aboriginal Lands Boundary

1:2,000,000

Map created by
The Karuk Tribe's Emergency Preparedness Dept,
R.Rhinehart, May 15,2015

Service Area

Karuk Tribe

Hazard Mitigation Plan Map

Map B

Happy Camp
Seiad
Yreka
Montague
Ti Bar
Somes Bar
Orleans
Sawyers Bar
Forks of Salmon
Etna
Weed
Mount Shasta
Dunsmuir
McCloud
Gazelle
Fort Jones

OREGON
CALIFORNIA
SCOTT BAR MOUNTAINS
SALMON MOUNTAINS
SCOTT MOUNTAINS
TRINITY MOUNTAINS
HASTA VALLEY
SISKIYOU
DEL NORTE
HUMBOLDT
TRINITY

Redwood National Park
Prairie Creek Redwoods State Park
Smith River Nra
Klamath National Forest
Trinity National Forest
Shasta-Trinity National Forest
Hoopa Valley Indian Reservation
Yurok Indian Reservation
Whiskeytown Shasta Trinity Nra
Castle Crags State Park
Mount Shasta

97
96
5
3
299

0 1.75 3.5 7 10.5 14 Miles

Legend

- Major_Roads
- Building_Footprints
- Karuk_Allotments
- Karuk Fee Lands
- Karuk/KTHA Fee Land
- Karuk Trust Lands
- KTHA Fee Lands
- KTHA Trust Lands
- Service Area
- Karuk Aboriginal Lands Boundary

1:500,000

Map created by
The Karuk Tribe's Emergency Preparedness Dept,
R.Rhinehart, May 15,2015

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),

Aboriginal Territory

Karuk Tribe

Hazard Mitigation Plan Map

Map C

Happy Camp
Seiad
Ti Bar
Somes Bar
Orleans
Sawyers Bar
Forks of Salmon
Yreka
Montague
Fort Jones
Gazelle
Weed
Mount Shasta
Dunsmuir
McCloud
Hoopa
Willow Creek
McKinleyville

OREGON
CALIFORNIA
SCOTT BAR MOUNTAINS
SALMON MOUNTAINS
SCOTT MOUNTAINS
TRINITY MOUNTAINS
SISKIYOU MOUNTAINS
HUMBOLDT
DEL NORTE
HASTA VALLEY

Klamath National Forest
Trinity National Forest
Shasta-Trinity National Forest
Whiskeytown Shasta Trinity Nra
Smith River Nra
Redwood National Park
Hoopa Valley Indian Reservation

97 96 5 3 299

0 1.75 3.5 7 10.5 14 Miles

Legend

- Major_Roads
- Karuk_Lands
- Karuk_Aboriginal_Territory_Mask

1:500,000

Map created by
The Karuk Tribe's Emergency Preparedness Dept,
R.Rhinehart, May 15,2015

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),

Wildland Fire Hazard Threat Categories and Resposibility Zones

Curry
Josephine
Jackson
Klar
Del Norte
Humboldt
Trinity
Shasta
Happy Camp
Somes Bar
Orleans
Yreka
Siskiyou
5
96
97
3
299

0 1.5 3 6 9 12 Miles

Sources: Esri, USGS, NOAA

Karuk Tribe
Hazard Mitigation Plan Map
Map D

Legend

- CA_OR_Counties
- Karuk_Aboriginal_Lands_Boundary
- Major_Roads
- Karuk_Lands

- Unincorporated
- Incorporated

SRA Fire Hazard

HAZ_CLASS

- Moderate
- High
- Very High

FRA Responsibility Zone

HAZ_CLASS

- High
- Moderate
- Non-Wildland/Non-Urban
- Urban Unzoned
- Very High
- KNF_Lakes
- CA_OR_Counties
- World Terrain Base

1:500,000

This map was created by The Karuk Tribe on 5/18/15 for the Karuk Hazard Mitigation Plan.
Fire Hazard and Resonsibility Zone layers are from CAL FIRE's Siskiyou County FHSZ Map.

Ten Year Fire History

Happy Camp
Seiad
Klamath River
Ti Bar
Somes Bar
Sawyers Bar
Orleans
Forks of Salmon
Yreka
Montague
Mount Shasta

Karuk Tribe
Hazard Mitigation Plan Map

Map E

Legend

- Karuk_Lands
- Karuk_Allotments
- Service Area
- Building_Footprints
- Karuk Aboriginal Lands Boundary

Fires_since_2004

YEAR_

- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2014_Fires

1:500,000

Map created by The Karuk Tribe's Emergency Preparedness Dept, R.Rhinehart, May 15,2015

0 4 8 16 24 Miles

Dams and Bridges

Karuk Tribe

Hazard Mitigation Plan Map

Map F

Happy Camp

Orleans

Yreka

Mount Shasta

Copco Dam

Iron Gate Dam

Legend

- Karuk_Lands
- Service Area
- Copco_Dam_Failure
- IronGate_Dam_Failure
- Bridges
- Karuk Aboriginal Lands Boundary
- Karuk_Allotments

1:500,000

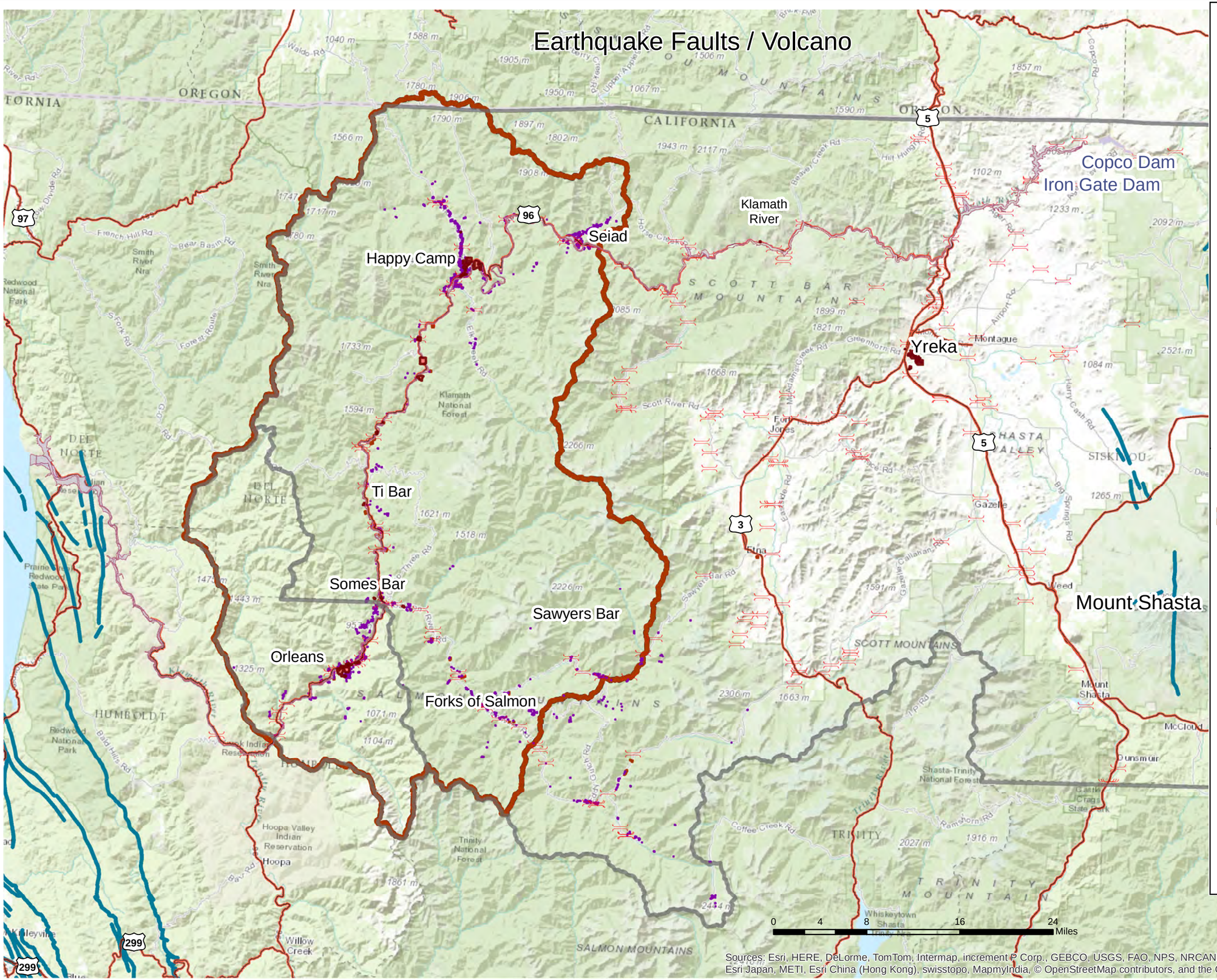
0 4 8 16 24 Miles

Map created by The Karuk Tribe's Emergency Preparedness Dept, R.Rhinehart, May 15,2015

Karuk Tribe

Hazard Mitigation Plan Map

Map G

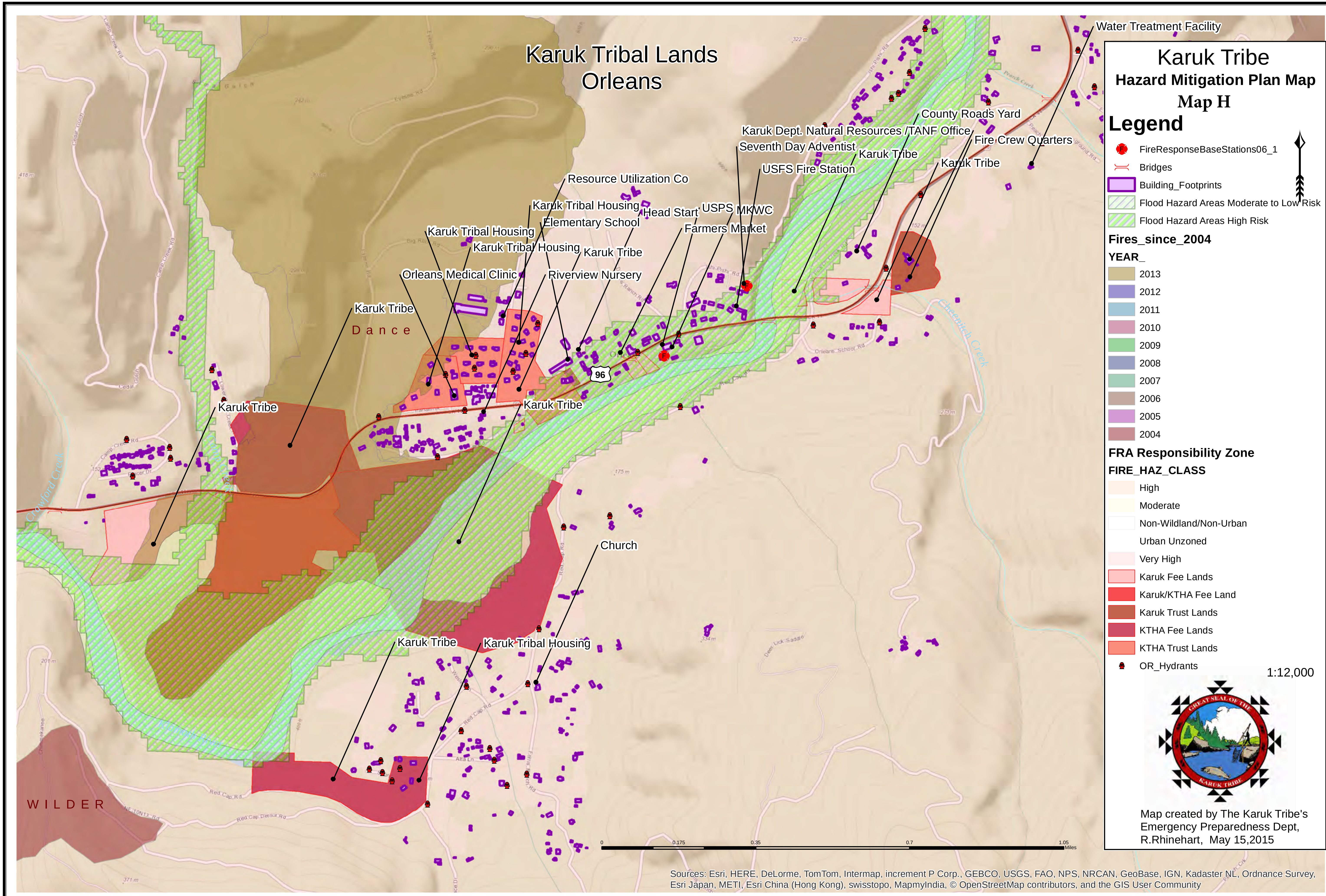


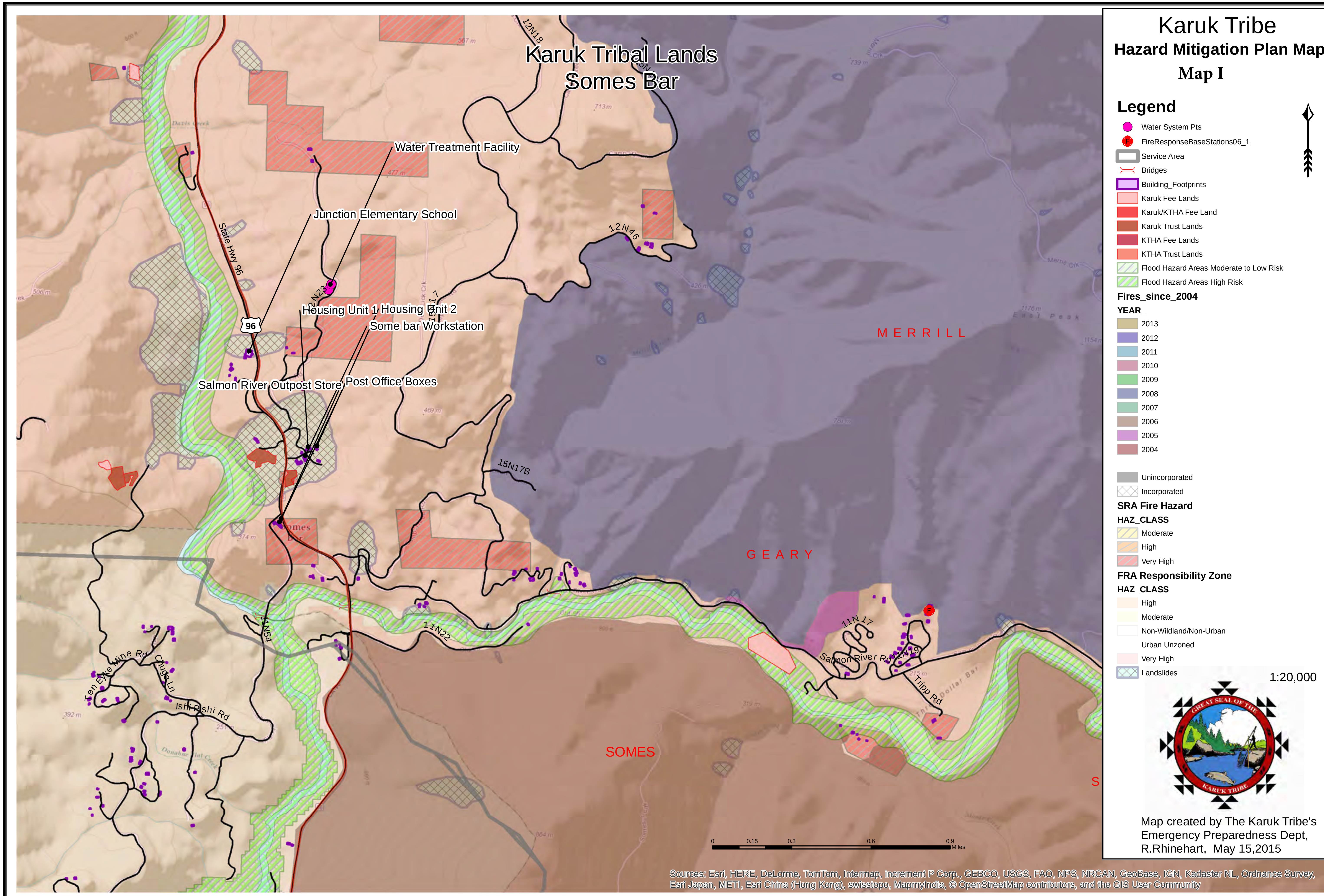
Legend

- Karuk_Lands
- Karuk_Allotments
- Service Area
- Copco_Dam_Failure
- IronGate_Dam_Failure
- Bridges
- Building_Footprints
- Karuk Aboriginal Lands Boundary
- Quaternary Fault Lines

1:500,000

Map created by The Karuk Tribe's Emergency Preparedness Dept, R.Rhinehart, May 15,2015


Karuk Tribal Lands
Orleans
Karuk Tribe
Hazard Mitigation Plan Map
Map H
Legend
FireResponseBaseStations06_1
Bridges
Building_Footprints
Flood Hazard Areas Moderate to Low Risk
Flood Hazard Areas High Risk
Fires_since_2004
YEAR_
2013
2012
2011
2010
2009
2008
2007
2006
2005
2004
FRA Responsibility Zone
FIRE_HAZ_CLASS
High
Moderate
Non-Wildland/Non-Urban
Urban Unzoned
Very High
Karuk Fee Lands
Karuk/KTHA Fee Land
Karuk Trust Lands
KTHA Fee Lands
KTHA Trust Lands
OR_Hydrants
1:12,000
Map created by The Karuk Tribe's
Emergency Preparedness Dept,
R.Rhinehart, May 15,2015
Water Treatment Facility
County Roads Yard
Karuk Dept. Natural Resources /TANF Office
Fire Crew Quarters
Seventh Day Adventist
Karuk Tribe
Karuk Tribe
USFS Fire Station
Resource Utilization Co
Karuk Tribal Housing
Head Start
USPS
MKWC
Elementary School
Farmers Market
Karuk Tribal Housing
Karuk Tribal Housing
Karuk Tribe
Orleans Medical Clinic
Riverview Nursery
Karuk Tribe
Dance
Karuk Tribe
Karuk Tribe
96
Church
Karuk Tribe
Karuk Tribal Housing
WILDER
0
0.175
0.35
0.7
1.05
Miles
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community


Karuk Tribe
Hazard Mitigation Plan Map
Map I
Karuk Tribal Lands
Somes Bar
Water Treatment Facility
Junction Elementary School
Housing Unit 1
Housing Unit 2
Some bar Workstation
Salmon River Outpost Store
Post Office Boxes
State Hwy 96
96
12N18
12N46
15N17B
11N22
11N54
11N 17
Salmon River Rd
Tripp Rd
Ten Eyck Mine Rd
Chuck Ln
Ishi Pishi Rd
MERRILL
GEARY
SOMES
Legend
Water System Pts
FireResponseBaseStations06_1
Service Area
Bridges
Building_Footprints
Karuk Fee Lands
Karuk/KTHA Fee Land
Karuk Trust Lands
KTHA Fee Lands
KTHA Trust Lands
Flood Hazard Areas Moderate to Low Risk
Flood Hazard Areas High Risk
Fires_since_2004
YEAR_
2013
2012
2011
2010
2009
2008
2007
2006
2005
2004
Unincorporated
Incorporated
SRA Fire Hazard
HAZ_CLASS
Moderate
High
Very High
FRA Responsibility Zone
HAZ_CLASS
High
Moderate
Non-Wildland/Non-Urban
Urban Unzoned
Very High
Landslides
1:20,000
0 0.15 0.3 0.6 0.9 Miles
Map created by The Karuk Tribe's
Emergency Preparedness Dept,
R.Rhinehart, May 15,2015
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Karuk Tribal Lands
Happy Camp

LITTLE GRIDER

Roman Catholic Church
Assembly of God
Karuk Tribal Housing
Karuk Tribal Housing
KTHA Water Tank
Karuk Tribal Housing
KTHA Maintenance Facility
Karuk Tribal Housing
KTHA Offices
KCDC Offices
Barry's Market
USPS
Al's Garage and Glass
New 49ers
Big Foot RV Park & Cabins
K-S Art Center
Karuk Storage Units
Karuk Tribe
Double J HCSD
Napa Auto Parts
Big Foot Car Wash
USFS Happy Camp District
Happy Camp High School Dell
LDS Church
Happy Camp Community River Park
HCC Computer Center
Karuk Tribe OES
HCCSD
Happy Camp Library
Happy Camp Elementary
USFS Barracks
USFS Lower Station
Yellow House
Park (Private)
Emergency Supply Container
HHS/IT
Karuk Tribal Billing Office
Karuk Gymnasium
Happy Camp Airport
Happy Camp Grange
Siskiyou Telephone
Klamath River RV Park
Curly Jack Campground
Tribal Mechanics Shop
96
2014 Happy Camp Complex

0 0.175 0.35 0.7 1.05 Miles

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Karuk Tribe
Hazard Mitigation Plan Map
Legend
Map J

- FireResponseBaseStations06_1
- Bridges
- Building_Footprints
- Flood Hazard Areas Moderate to Low Risk
- Flood Hazard Areas High Risk

Fires_since_2004

YEAR_
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2014_Fires

- Unincorporated
- Incorporated

SRA Fire Hazard

HAZ_CLASS
- Moderate
- High
- Very High

FRA Responsibility Zone

FIRE_HAZ_CLASS
- High
- Moderate
- Non-Wildland/Non-Urban
- Urban Unzoned
- Very High
- Karuk Fee Lands
- Karuk/KTHA Fee Land
- Karuk Trust Lands
- KTHA Fee Lands
- KTHA Trust Lands
- Landslides
- Hydrants

1:12,000

Map created by The Karuk Tribe's Emergency Preparedness Dept, R.Rhinehart, May 15,2015

Karuk Tribe

Hazard Mitigation Plan Map

Map K

Karuk Tribal Lands
Klamath River

2014 Beaver Fire

Klamath River

Beaver Creek Rd

Klamath River Rd

State Hwy 96

46N52

40S01

Oak Knoll Records Archive Facility

Doggett Creek Rd

46N82

Oak Knoll Rd

OAK KNOLL

Walker Rd

Logging Rd

McKinney Creek Rd

Lockhaven Dr

LOCKHAVEN

Yreka Walker Rd

47N39

96

0 0.175 0.35 0.7 1.05 Miles

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Legend

- FireResponseBaseStations06_1
- Bridges
- Building_Footprints
- Karuk Fee Lands
- Karuk/KTHA Fee Land
- Karuk Trust Lands
- KTHA Fee Lands
- KTHA Trust Lands
- Flood Hazard Areas Moderate to Low Risk
- Flood Hazard Areas High Risk
- Unincorporated
- Incorporated

SRA Fire Hazard

HAZ_CLASS

- Moderate
- High
- Very High
- 2014_Beaver_Fire
- SiskiyouCountyRoads
- Major_Roads

1:24,000

Map created by The Karuk Tribe's Emergency Preparedness Dept, R.Rhinehart, May 15,2015

Karuk Tribal Housing & Facilities
Yreka

Karuk Clinic

Yreka Trailer Park

Amkuuf Store

Karuk Tribal Housing / Apartments

KTHA Laundramat

Karuk Headstart

Greenhorn Reservoir

Administrative Satellite Office

Emergency Supply Container

Karuk Housing Authority/Community Center

KILGORE HILLS

0 0.175 0.35 0.7 1.05 Miles

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Karuk Tribe
Hazard Mitigation Plan Map
Map L

Legend

- FireResponseBaseStations06_1
- YK_Hydrants
- Bridges
- Building_Footprints

Flood Hazard Areas High Risk

FLD_ZONE

- 1 PCT ANNUAL CHANCE FLOOD HAZARD
- 1 PCT FUTURE CONDITIONS
- A
- A99
- AE
- AH
- AO
- Flood Hazard Areas Moderate to Low Risk
- Flood Hazard Areas High Risk

- Unincorporated
- Incorporated

SRA Fire Hazard

HAZ_CLASS

- Moderate
- High
- Very High

FRA Responsibility Zone

FIRE_HAZ_CLASS

- High
- Moderate
- Non-Wildland/Non-Urban
- Urban Unzoned
- Very High
- Karuk Fee Lands
- Karuk/KTHA Fee Land
- Karuk Trust Lands
- KTHA Fee Lands
- KTHA Trust Lands

1:12,000

Map created by The Karuk Tribe's Emergency Preparedness Dept, R.Rhinehart, May 15,2015

Threats Commonly Recognized by the Karuk Tribe

Table 9

HAZARD	LOCATION	SIZE/ SEVERITY	PREVIOUS OCCURANCES	LIKELIHOOD
Flood/ Inundation	Map	Frequent small with occasional significant events	Major flooding has occurred about once a decade, with the most recent in 1964, 1997, and 2005-2006.	HIGH
Wildfire	Map	Small to large events	Annually, Major fires 1977, 1987, 1994, 1999 and 2008	VERY HIGH
Air Quality	Entire Karuk Aboriginal Territory	Small to large scale events usually tied to wildfire activity.	1987, 1994, 2003 and 2008.	HIGH
Landslides	Confined to roadways and Highway 96 west of Interstate 5	Small to large events.	Continually, especially during heavy rains	HIGH
Cyber Threat	System Wide	Frequent small with occasional significant events	Web server has been hacked this year and we see hundreds of attempts to gain entrance monthly	HIGH
Drought	Map	Periodic	1905, 1941, 1977-1987.	HIGH
Water Quality	Klamath River and tributaries	Periodic with significant impacts to fish habitat	Annually.	HIGH
Volcanoes	Entire Karuk Aboriginal Territory	Spectacular events	Mt. Shasta erupted in 1786.	LOW
Earthquake	Entire Karuk Aboriginal Territory- higher risk east of Interstate 5	Moderate seismic risk	Mt. Shasta and Pacific coastal areas in 1979.	LOW

Risk Identification Summary Assessment the Karuk Tribe

Table 10

Hazard Type	Potential Threat	High Risk	Low Risk	Extent Wide	Extent Limited	Frequent	Infrequent	Probability High	Probability Low
Flood/Inundation	♦	♦		♦		♦		♦	
Wildfire	♦	♦		♦		♦		♦	
Air Quality	♦	♦		♦		♦		♦	
Landslides	♦	♦		♦		♦		♦	
Cyber Threat	♦	♦		♦		♦		♦	
Drought	♦	♦		♦			♦	♦	
Water Quality	♦	♦		♦		♦		♦	
Volcanoes	♦		♦	♦			♦		♦
Earthquake	♦		♦	♦			♦		♦

Table 11

KARUK FACILITIES THREATENED									
Facility Threats	**Flood**	**Wildfire**	**Air Quality**	**Land-slides**	**Cyber Attack**	**Drought**	**Water Quality**	**Volcanic Eruptions**	**Earthquake**
Orleans									
Natural Resources Department/TANF	high	high	high	low	high	high	high	low	low
Fisheries Office	high	high	high	low	high	high	high	low	low
KTHA and Maintenance Shop (Complex)	high	high	high	no	high	high	high	low	low
Senior Nutrition Program/ Computer Center	high	high	high	no	high	high	high	low	low
36 Housing Units (single family)	high	high	high	no	low	high	high	low	low
Medical Clinic	high	high	high	no	high	high	high	low	low
Fire Crew Quarters	high	high	high	low	high	high	high	low	low
Emergency Alert System	high	high	high	no	low	high	high	low	low
Emergency Supplies Container	high	high	no	no	low	no	no	low	low
Laundromat	high	high	low	low	low	low	low	low	low
Communications Tower (New spring 2015)	no	high	no	low	high	no	no	low	low
Somes Bar									
Somes Bar Workstation	no	high	high	high	high	high	high	low	low
Water Treatment Facility	no	high	no	high	no	high	high	low	low
2 Housing Units	no	high	high	high	low	high	high	low	low
Happy Camp									
Tribal Head Start	no	high	high	no	high	high	high	low	low
KTHA Maintenance Shop	no	high	high	no	high	high	high	low	low
Tribal Community Development Corporation (KCDC)	no	high	high	no	high	high	high	low	low
HHS/IT Modular	high	high	high	no	high	high	high	low	low
Tribal Maintenance/ TERO Offices	high	high	high	no	high	high	high	low	low
Tribal Mechanics Shop	high	high	high	no	high	high	high	low	low
Tribal Happy Camp Admin Health/Dental Clinic	high	high	high	no	high	high	high	low	low
Tribal Housing Administrative Offices (KTHA)	no	high	high	no	high	high	high	low	low
Tribal Housing/IT and Maintenance Facility	no	low	high	no	high	high	high	low	low
Housing "Headway" Community Facility	high	low	high	no	high	high	high	low	low
Tribal Judicial Program/Social Services Office	no	high	high	no	high	high	high	low	low
Peoples Center, Museum and Gift Shop	high	low	high	no	high	high	high	low	low
Tribal Office of Emergency Services	high	low	high	no	high	high	high	low	low
Emergency Supply Container	no	low	high	no	low	no	no	low	low
Yellow House" and Apartment Buildings	no	low	high	no	low	high	high	low	low
Tribal RV Park/TANF Office	high	low	high	no	low	high	high	low	low
2 water tanks	no	high	no	no	low	high	high	low	low
Billing Office	high	low	high	no	high	high	high	low	low
Karuk Storage Units	low	low	low	low	low	low	low	low	low
Multi-Purpose Building	high	low	high	no	low	high	high	low	low
42 Housing Units (single family)	no	high	high	no	low	high	high	low	low

Klamath River									
Oak Knoll Records Archives Facility	high	high	high	no	low	high	high	low	low
Yreka									
Tribal Head Start	no	high	high	no	high	high	low	high	low
Tribal Health and Dental Clinic	no	low	high	no	high	high	low	high	low
Tribal/ Housing Authority Administrative Offices	no	high	high	no	high	high	low	high	low
Yreka Trailer Park	no	high	high	no	high	high	low	high	low
Amkuuf Smoke Shop	no	high	high	no	high	high	low	high	low
Tribal Wellness Center (Spring 2015)	no	high	high	no	high	high	low	high	low
TANF	no	low	high	no	high	high	low	high	low
Administrative Satellite Office	no	high	high	no	high	high	low	high	low
Administrative Maintenance Shop	no	low	high	no	high	high	low	high	low
KTHA Community Computer Center/Security Office	no	high	high	no	high	high	low	high	low
Emergency Supply Container	no	low	no	no	low	no	no	high	low
63 Apartments (15- 4 unit and 1- 3 unit)	no	high	high	no	low	high	low	high	low
64 Single Family Units	no	high	high	no	low	high	low	high	low