# Orleans Community Fuels Reduction and Forest Health Project
# Tribal Forest Protection Act Proposal



A Proposal for the Planning and Implementation of Wildland Fire Management Pre-Suppression Activities, to protect Indian Forest Lands while Enhancing Cultural/Natural Resources in the Orleans Community Protection and Forest Health Project.

**(A) The status of the Karuk Tribe as an Indian Tribe;**

The Karuk Tribe of California (Karuk Tribe) is a federally recognized Indian Tribe (Federal Register, Vol. 5 1, No. 132, July 10, 1986) occupying ancestral lands along the middle course of the Klamath and Salmon Rivers in Northern California. The Tribe's Aboriginal Territory has been previously mapped and includes an estimated 1.38 million acres, within the Klamath River Basin (see Attachment A map).

**(B) The trust status of the forest land of the Karuk Tribe**;

Karuk Trust Lands are comprised of a checkerboard of individual and Tribal Trust land scattered along the Klamath River between Yreka and Orleans, California, with Tribal centers and administrative facilities located in Happy Camp, Orleans, Somes Bar, and Yreka.

Most Tribal Trust and Individual Trust Lands in the Aboriginal Territory are forested and susceptible to impacts from high intensity fire. As a byproduct of fire suppression and other past management practices, the condition class that is host of the natural fire regimes in territorial watersheds with one hundred year fuels accumulations is prone to disastrous fire occurrences.

There are numerous Trust Lands in and around the community of Orleans, California. There are three large tracts that are held in Tribal Trust, and many other individual trust parcels. Much of the lands proposed for treatment have been determined eligible for the National Register of Historic Places (Panamnik World Renewal District), which holds a unique trust obligation in itself.

**(C) The cultural, traditional, and historical affiliation of the Karuk Tribe with the land subject to the proposal;**

The land subject to this proposal is specific to the OCFR footprint in the Six Rivers National Forest. The families from the villages in this area, as well as numerous other Tribal members continue to utilize the cultural/natural resources throughout the watershed. There are undisclosed sacred sites, gathering areas, hunting camps, fishing spots and other prehistoric and contemporary use areas scattered across the entire landscape. Tribal people continue to hold a unique relationship with the land and value many of the resources as sacred. These areas has been occupied and traditional uses have continued since time immemorial.

Approximately 50% of the project area is within the Panamnik World Renewal District. Annual World Renewal Ceremonies occur annually utilizing the sacred trail systems, prayer sites, and dance grounds associated with the features determining eligibility for the listing in the National Register of Historic Places.

**(D) The treaty rights or other reserved rights of the Indian tribe relating to the land subject to the proposal;**

The treaties of 1851 were never ratified. There were three treaties signed that were subject to lands within Karuk Country. The treaties intended the Tribe to cede the land but continue to occupy the land and utilize the resources as long as the river flows and the grass is green. With the fact that the treaty was never ratified, the question of rights remains un-litigated and undefined. The Karuk Tribe retains by virtue, all rights un-extinguished by formal treaty, discovery, or conquest.

The Karuk Tribe of California is currently not actively pursuing litigation, in regards to the above issue. We are however, seeking recognition of our ability to be actively and meaningfully involved in the management of the resources within our ancestral homelands. This includes the formal establishment of a co-managerial framework that involves the Tribe in all aspects of ecosystem management from conceptual project formulation to implementation in the interest of restoring natural disturbance regimes.

**(E) The indigenous knowledge and skills of members of the Indian Tribe;**

Karuk Tribal members hold information critical to the inter-workings of the natural environment. The Karuk Department of Natural Resources was developed to work toward completion of the following:

"***The mission of the Karuk Department of Natural Resources is to protect, promote, and preserve the cultural/natural resources and ecological processes upon which the Karuk People depends.***"

We as an indigenous people can relate the creation stories we were told as children into a working relationship with agency staff, to marry indigenous management practices and western science in the interest of re-establishing functioning eco-cultural landscapes. The human influence on natural disturbance regimes has suffered a terrible loss due to the fact that people are no longer recognized as a working component of the natural environment.

Tribal people recognize factors relating to land and resource management that current western science is just beginning to realize. Such things as restoring Beaver populations will help expand and rejuvenate juvenile Coho rearing habitat, as well as thin riparian vegetation for balancing access and use of these areas by elk and deer. Restoring porcupine populations will help to reduce ladder fuels accumulations, and maintain oak woodlands also critical to elk winter range, calving habitat and deer forage. Reestablishing multi-layered multi-species canopies with an old growth component and open understory in and adjacent to plantations and over large tracts of land is going to be critical in restoring Northern Spotted Owl populations.

The Karuk Tribe has an established planning infrastructure in the Department of Natural Resources with experience in collaborative NEPA documentation and project level planning. The Department also has a trained workforce in the form on a 20 person type II wildland fire crew which should reach Type II IA qualifications soon. This crew is well

versed in completing fuels reduction treatments at large scales. The Department has been completing these treatments including prescribed burning practices since 1994 without a single escaped fire. There are 9 sawyers on the crew and we are striving for 100% Class B minimum saw qualifications.

The Tribe would like this crew to achieve year-round employment in the restoration of fire adapted ecosystems while remaining available to implement the appropriate management response during wildland fire management activities. The Tribe believes that this is a critical factor in building local capacity for restoring fire adapted ecosystems while providing a local response to handle local problems.

The Department also has experienced staff in the fields of fisheries, water quality, watershed restoration, and environmental education. The majority of departmental staff positions are grant funded, with a specific tasks associated. There is now one position funded for the next four years to work part time on enhancing Tribal stewardship activities which is what triggered our ability to submit this proposal and contribute to the collaborative planning effort for the OCFR project to date. Funding submitted, under this proposal is intended to further dedicate staff time towards the planning, implementation, monitoring and maintenance activities of this stewardship endeavor in a co-managerial government to government context.

Without a significant tie to Tribal Stewardship, time spent on this project will no longer be a valid expenditure under current part time funding programmed for the purpose of the Karuk Stewardship Pilot Program, and the potential for the Tribe to be adequately and meaningfully involved in the OCFR project through completion will be severely hampered.

For more information on potential practices under this agreement, please see Attachment B, which is an excerpt from the Karuk Tribe's Integrated Resource Management Plan, currently entitled Draft Eco-Cultural Resource Management Plan. Although many of these practices are not currently incorporated into the planning process, we hope to utilize them to direct the collaborative workings and outcomes of this project. These practices are currently in development and we hope to integrate lessons learned throughout this Stewardship Project into our final plan.

**(F) The features of the landscape of the land subject to the proposal, including watersheds and vegetation types;**

The OCFR footprint is focusing on treating the accessible ground on the upper third slopes surrounding the community of Orleans and west side of Somes Bar, California. If properly treated, this project would establish a good working base for interconnecting reasonable control features for the safe and effective management of fire in and around the wildland urban interface.

Vegetation classifications within the OCFR footprint range from non commercial shrub/pole to commercial late mature with 70% being plantation. Conifer encroachment on meadows and oak woodlands has become a causative factor of fire related damages to

the cultural/natural resources of the watershed and the wildland urban interface. The area in general is one of the richest in species diversity in the world. Eighty percent of Karuk traditional use plants are fire dependant species, but require low burn intensities to proliferate. The old growth black oak, white oak, and grassland components in the watershed are nearly lost. In the Karuk tribal perspective, the historical human component of people working to enhance natural processes is in itself a distinguished feature of the landscape characteristics that can be noted through Traditional Ecological Knowledge coupled with an identifiable process known as "landscape memory".

Aside from the improved fire management and community protection objectives involved in this project, the Karuk Tribe believes that this project, with a Tribal stewardship component will also benefit the Northern Spotted Owl. Given the presence of Red Tree Voles in small confined stands transected by plantations with an abundance of wood rats, owl foraging, dispersal, and future nesting habitats as well as fledgling survival can be improved within the project area. Future stewardship projects should look at interconnecting access from known nesting sites of a distance 10 to 15.5 miles away. This should be done in the in the interest of promoting full benefit to this species while primarily focusing on interconnecting reasonable control features for wildland fire management.

The combined treatment areas are approximately 3000 acres in size and span for a linier distance of approximately 10 miles. With the amount of timber that may be removed from this project the Tribe believes that revenues generated may only cover less than 50% of the costs associated with total treatment needs in this landscape.

**(G) The working relationships between the Karuk Tribe and Federal Agencies in coordinating activities affecting the land subject to the proposal;**

The Karuk Tribe Department of Natural Resources is currently working collaboratively with the USDA Forest Service under a Memorandum of Understanding for the participation on the Interdisciplinary Team for this project. The Karuk Tribe and USDA Forest Service Orleans/Ukonom ranger district have a long history of maintaining working relationships. Aside from standard MOU development for Government to Government consultation, Wildland Fire Management, Utilization of Cultural Resources such as Mushrooms and Port Orford Cedar, and Interdisciplinary Team participation, there have been many other agreements formulated that build successful working relationships.

Other agreements utilized include participatory, cost share, collection agreements, and service purchases. The most recent and expedient process established is task orders for fuels reduction and prescribed fire work. This process is authorized through the Interagency Agreements for Wildland Fire Management, and Prescribed Fire. Through a cooperative agreement between the Tribe and BIA in combination with the Interagency Agreements, the Forest Service can transfer funds for project work to the BIA. These funds are then transferred into the Tribal compact or passed through to the Karuk Community Development Corporation to achieve the administration rate cap for project implementation.

The proposed stewardship agreement for this project is outlined in the Draft Memorandum of Understanding for the Cooperative Stewardship of the OCFR Project (Attachment C). This agreement would serve as an overall umbrella agreement for all aspects of planning, oversight, and implementation of this project. The idea is to continue cooperative planning and development of site specific treatment prescriptions, but expand current working relationships to cooperative development, administration and monitoring of contract, agreement and task order work within the OCFR footprint.

As contracts, agreements, and interagency task orders are completed in the interest of reducing fuels accumulations, protecting communities, and enhancing cultural values, the monetary sum of restoration byproducts would cycle back into additional implementation. These funds would then transfer through the task order process, goods for services mechanisms, and/or other avenues to offset costs associated with follow up and adjacent fuels treatments. Such treatments include but are not limited to piling, chipping, thinning, utilization/marketing of additional byproducts, temporary road obliteration, and burning activities (see attached draft MOU).

**(H) The access by members of the Karuk Tribe to the land subject to the proposal**.

Access to the land subject to this proposal is not in peril so much as access to adequate quantities of high quality cultural use resources such as basketry materials, medicinal plants and traditional food sources. Access to these resources includes the ability of the Tribe to manage for all of these resources in conjunction with agency staff and community groups. The demonstration of a watershed scale collaborative approach to the restoration of eco-cultural landscapes through safe and effective wildland fire management is currently the primary focus of Karuk stewardship principals.

Additional efforts will need to be made to incorporate planning and implementation efforts that span across jurisdictional, administrative, and land use designation boundaries. This can be completed through the newly established Forest Service/Bureau of Land Management, Traditional Gathering Policy that includes Tribal access for harvesting, pruning, coppicing, and burning for enhancement of traditional use plants.

Working together to restore watersheds will increase their carrying capacity, thus enhancing deer, elk, and fish populations, as well as traditional use plants. This will not only improve access to these resources by the general public, but can recover traditional harvest of these resources for ceremonial, subsistence, and personal use purposes of the Tribal Membership.

**(I) Budget**

With changing timber prices, unknown yield, and indeterminate contract costs for this project, the following budget is a baseline determination calculated on projected shortfalls in restoration byproduct revenues. Complete implementation costs will vary and the following funds are intended to offset retained timber revenues.

**Annual Budget**

**DNR Staff Time**

| | |
|---|---|
| Contract Forester, $35.00 per hour for 240 hours. | $8,400 |
| Eco-Cultural Restoration Specialist, $35.01 per hour for 560 hours. | $19,606 |
| Watershed Restoration Coordinator, $36.99 per hour for 560 hours. | $20,714 |
| Environmental Administrative Coordinator, $33.57 for 127 hours. | $4,236 |
| Fire Branch Director, $36.01 per hour for 320 hours. | $11,523 |
| Year One DNR Subtotal: | $64,479* |

**KCDC Staff Time**

| | |
|---|---|
| Fuels Crew at $655 per hour for 320 hours per year (20 person fire/fuels crew w/transportation and operating costs) | $209,600** |
| **Total Annual Base:** | $274,079 |
| Ten Year Total Base: | $2,740,790 |

* *DNR Staff Time covers partial costs associated with Tribal participation in project planning, prescription development, contract reviews, implementation monitoring, contact/agreement implementation compliance, task order negotiations, and crew direction.*

** *KCDC Staff Time covers costs associated with a 20 person crew completing work for 40 working days per year. This is intended to counterbalance completion of on the ground stewardship activities beyond the scope of Severity Assignment offsets (or preparedness activities if received within agreement period) and Interagency Task Orders supplying funding from restoration byproduct sales.*

# Attachment A

# Insert Map Here

# Attachment B

## Cultural Environmental Management Practices

Karuk Cultural Environmental Management Practices are intended to more efficiently employ tribally driven restoration needs across broader landscapes. They are based on actions the Karuk Tribe wishes to achieve, while providing a baseline for prioritizing treatment areas and outlining success, failure, and the need for adapting site specific prescriptions. Though many of these practices will employ similar prescriptions, there will be minor differences in resource objectives and indicators for success, failure or adaptation determinations. The following practices should be whenever possible, combined, interconnected, or systematically prioritized at the watershed scale in order to achieve landscape level restoration of natural disturbance regimes.

### Management Practices 1

Reduction of Fuel Loading in Tan Oak Stands

Tan Oak stands and adjacent threats within prioritized treatment areas will be managed through the reduction of ground and ladder fuels. Fuels will be cut, gathered and piled with any feasible materials removed for commercial cost offset, biomass supply and/or firewood. Tan Oak is very susceptible to high intensity fire, snow down and wind cast in overcrowded stands. Only natural selection is to be utilized for removal (if any) of mature Tan Oaks. Not all large down trees should be taken as they are a host to many fungi, build soils quickly, and are in general a critical ecosystem component at natural (pre-contact) levels.

This tree species rots fast when on the ground and produces a lot of smoke and ash. When burned during high intensity wildland fire events there is an abundance of particulate matter generated and distributed into the atmosphere with global effects. When burned at a moderate to low intensity, this thick smoke settles into the valleys potentially causing human health issues. When burned traditionally, smoke generated remains local and reduces insect infestations, while reducing burn intensity, duration and subsequent severity during wildland fire events in these stands.

#### Resource Objectives

1. Protect Tan Oak stands from wildland fire events.
2. Promote wildlife habitat connectivity.
3. Enhance the abundance and use quality of cultural resources.
4. Restore the human interacted natural fire regime.
5. Reduce potential high intensity fire related global air quality impacts.
6. Increase potential for implementing a Confinement Strategy or Fire Use as the Appropriate Management Response during wildland fire events in treated landscapes.

**Management Indicators**

1. The Tan Oak Acorn is the primary Management Indicator for this CEMP. A success, failure, or adaptation determination should be weighted heavily toward the use quality of this traditional food source. The reduced population of worm infestations is the determining factor for this species. However, the total absence of these worms should also trigger a failure or adaptation determination.

2. Sugar Pine population is another primary Management Indicator for this CEMP. These trees need to be protected when existing within and adjacent to Tan Oak stands. Sugar Pine is a significant cultural resource at all life stages including snags and downed trees. The presence of sugar pine at all life stages may need to be re-established. This is a long term Management Indicator Species for this stand type. Removal of this species at any life stage in areas where the population is not in abundance should constitute a failure or adaptation determination.

3. The Tan oak mushroom is a secondary Management Indicator for this CEMP. This indicator will be hard to measure but is entirely necessary for the purposes of exercising care in pile placement and ensuring minimal fire use intensities. Variables that make this a secondary indicator for this practice include commercial harvesting which may significantly effect the ability to monitor the species populations before, during and after treatment. A success or adaptation determination should be made based on the presence and abundance of the species following pile burning and wildland fire events. Relating to this indicator specifically, a failure or adaptation determination should be made if it is found that burn piles have been made atop of individual population locations which cause a loss in site production.

**Management Practice 2**

<u>Reduction of Fuel Loading in Previously Managed Stands</u>

Plantations threatening life, property, or cultural/natural resources within prioritized treatment areas will be managed through the reduction of ground and ladder fuels. Thinning of plantation conifers will be completed in the interest of releasing the existing hardwood and/or grassland components. Special attention should be given to maintaining shade in early entries to suppress brush and promote additional restoration byproducts for offsetting the costs of future management practices. All activity fuels should be removed, handpiled and burned, or chipped, with any feasible materials removed for commercial cost offset, biomass supply and/or firewood.

Plantations are very susceptible to high intensity fire, snow breakage and are not conducive of developing wind firmness utilizing past management practices. Conifer selection should be based on the ability to minimize damage to leave trees during operations while keeping in mind reducing potential damage during future entries. Proper management of previously managed stands is critical to the restoration of fire adapted ecosystems. Plantation restoration may be the easiest way to reestablish

diversity, healthy forest structure, and fire adapted ecosystems while supplying a sustainable yield of restoration byproducts

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When plantations burn during high intensity wildland fire events there is an abundance of heat generated distributing particulate matter into the atmosphere. When burned at a moderate to low intensity, plantations can still experience excess mortality reducing the potential to extract value added restoration byproducts to offset costs associated with future managerial practices.

**(Above Right, Katimiin Plantation Thinning Project before treatment.) Note the abundance of contigous ground and ladder fuels. In this condition, plantations can experience excessive mortality during wildland fires and are not readily accessable to many wildlife species.**

**(Above Left, Katimiin Plantation Thinning Project 3 years after treatment) Note the reduced fuel loading and minimal resprout. Enough shade component at ground level to reduce solar radiation and brush growth, yet enough light to canopy to protect shade intolorant species until next entry. Stage is set for restoration of species and age class diversity.**

## Resource Objectives

1. Protect previously managed stands from being adversely effected by wildland fire events.
2. Promote wildlife habitat connectivity.
3. Enhance and maintain ecological diversity in plantations.
4. Restore the human interacted natural fire regime.
5. Reduce potential high intensity fire related global air quality impacts.
6. Increase potential for implementing a Confinement Strategy or Fire Use as the Appropriate Management Response during wildland fire events in treated landscapes.
7. Enhance the quantity and quality of culturally utilized medicinal, edible and/or basketry materials.

**Management Indicators**

1. Black Oak trees are the primary Management Indicator for this CEMP. Plantations currently hold the largest, most viable population of Black Oak trees that maintain the health and vigor that is conducive of restoring old growth Black Oak trees over time. Of course, this indicator only applies to plantations where this species is present. Plantations with Black Oak may also contain Hazel. A determination of success, failure or adaptation should be weighed heavily on the health and quality of Black Oaks, as well as Hazel when co-existing on an individual basis.

2. Sugar Pine population is another primary Management Indicator for this CEMP. These trees need to be protected when existing within and adjacent to Tan Oak stands. Sugar Pine is a significant cultural resource at all life stages including snags and downed trees. The presence of sugar pine at all life stages may need to be re-established. This is a long term Management Indicator Species for this stand type. Removal of this species at any life stage in areas where the population is not in abundance should constitute a failure or adaptation determination.

3. Non-native invasive species are a secondary Management Indicator identified for this CEMP. As the nature of previously managed areas suggest, there has been extensive unnatural disturbance regimes occurring over the past century. This may have set a foothold for these species to potentially take over and create virtually unmanageable populations of highly flammable vegetation when restoring natural disturbance regimes. As a secondary indicator it is intended more as a trigger for an adaptation determination for incidental discovery, yet a requirement for success relating to this CEMP. Effectively suppressing spread of existing populations would qualify for a success determination as the mere presence of preexisting populations should not cause negative repercussions on restorative actions. However, the incidental discovery of populations should weigh towards an adaptation determination.

**Management Practice 3**

<u>Reduction of Fuel Loading Along Key Ridge Systems Interconnecting Reasonable Control Features</u>

Key ridge systems within prioritized treatment areas will be managed through the reduction of contiguous ground and ladder fuels. Fuels will be cut, gathered and piled with some feasible materials removed for commercial cost offset, biomass supply and/or firewood. Ridge systems are in some of the most prominent features that are capable of stopping wildland fires, but are in many cases incapable with excess fuel loading that has accumulated since fire suppression began.

Prominent ridge systems are very susceptible to severe fire behavior and reactive management practices during wildland fire events. Many ridges within the Karuk Aboriginal Territory have cultural and/or spiritual significance. Large scale wildland fire events generally trigger suppression efforts that have a tendency to denude the vegetation

in preparation for back burning operations. These activities can cause flame lengths to triple whenever two flame fronts converge which in turn increases fire severity. In many cases we are left with large tracts of land that are covered with brush re-growth and these activities inherently become perpetual management practices.

Interconnecting treatment areas at the watershed scale can help to reverse this trend and maintain a safer working environment for firefighting personnel. It can allow more variance in the implementation of the appropriate management response and reduce the need for management ignited converging flame fronts. Utilization of management ignited fire within designated maximum confinement areas could then be in the form of blackline burnout rather than backburning, which may potentially reduce suppression rehabilitation and Burned Area Emergency Rehabilitation needs.

**(Above left, Geary Fire 2005) Main ridge on west flank prepped for backburn, trigger point never reached, fire stopped at natural barrier. Excess fuels remain untreated and vegetation regrowth will now be 30 years behind adjacent fuels increasing suppression/restoration complexity and/or cost.**

**(Above right, Geary Fire 2005) Adjoining ridge on east flank prepped for blackline burnout operations, flame lengths under 1 foot, future oak overstory remaining, shade left to reduce solar radiation and suppress re-sprout. Stage now set for age class diversity and reduced costs for restoration efforts. Unfortunately, this treatment only occurred on approximately 200 yards of fireline.**

## Resource Objectives

1. Increase potential for implementing a Confinement Strategy or Fire Use as the Appropriate Management Response during wildland fire events in treated landscapes.
2. Promote wildlife habitat connectivity.
3. Enhance and/or maintain ecological diversity.
4. Restore fire adapted ecosystems.
5. Reduce potential high intensity fire related global air quality impacts.
6. Initiate an effective fire suppression cost containment strategy.
7. Improve working conditions and firefighter safety on wildland fire assignments.

8. Enhance the quantity and quality of culturally utilized medicinal, edible and/or basketry materials.

**Management Indicators**

1. Species/habitat diversity is the primary Management Indicator for this CEMP. Although this should be a significant factor in any treatment area or CEMP, it is intended for this practice in particular. Ridge systems interconnect wildlife use corridors; are significant travel routes to and from gathering/hunting areas; and are critical to the proper managerial use of fire. This indicator was selected as specific to this CEMP because of the interconnectivity to other treatment areas that is associated with this practice. It may be difficult to achieve increased species diversity in previously managed stands, riparian areas, and tanoak stands alone. In interconnecting treatment areas a success determination should be made when there is a notable increase in species/habitat diversity or assurance that shade intolerant/fire dependant species/habitat types are protected, enhanced, or re-established. A failure and/or adaptation determination should be made when it is found that the combined treatment areas are focusing on single species/habitat types or there is no notable increase in population viability of shade intolerant/fire dependant species over time.

2. Roosevelt Elk are a secondary Management Indicator for this CEMP. This is a secondary species as they are currently not present or are not physically adapted to the prevalent landscape characteristics of some territorial watersheds. As a reintroduced species, elk have not as of yet returned to their entire historical range. As a secondary indicator, they would not necessarily trigger a failure determination, but should be considered in managerial prioritization as benefits to this species are universal to the intent of this plan. Elk browse, calving, rubbing and migration are a significant natural disturbance regime and/or manager of forest and grassland ecosystems. Improvements made though this CEMP that increase and/or establish interconnected use corridors for winter range, calving habitat, and summer range should be construed as a success. This determination could also be made when treatments trigger heard splitting into unoccupied watersheds with significant habitat improvement potential. An adaptation determination could be made to modify the prioritizations or prescriptions/descriptions in the event unforeseeable negative or beneficial factors are identified.

**Management Practice 4**

<u>Reduction of Fuel Loading in Riparian Areas and Drainage Headwalls</u>

Riparian areas and drainage headwalls within prioritized treatment areas will be managed through the reduction of ground and ladder fuels. Focus will be on small diameter dead fuels, contiguous large diameter dead and down fuels, and shallow rooted small diameter conifer species. Fuels will be cut, gathered and piled with some feasible materials removed for commercial cost offset, biomass supply and/or firewood. Piles will be located a minimum of 10 feet from the high water mark. In the transition from spring

head to headwall, focus should be on releasing and/or establishing deep rooted old growth trees while reducing potential crown fire intensities.

Riparian areas and drainage headwalls are very susceptible to severe fire behavior and can trigger catastrophic fire intensities. High fuel loading in these areas can cause a chimney effect making fire move through a watershed extremely fast. This can in turn make it nearly impossible to stop a fire at the ridge without backburning and causing a potential increase in burn intensity and/or fire severity.

Treating these areas should help to protect water temperatures, and may increase summer base flows while providing for a safer working environment for firefighting personnel. It can allow more variance in the implementation of the Appropriate Management Response and increase the effectiveness of correlating fuels treatments at the watershed/landscape scale. These areas can in some cases be maintained as effective natural barriers for prescribed burning projects and wildland fire events.

**Resource Objectives**

1. Increase potential for implementing a Confinement Strategy or Fire Use as the Appropriate Management Response during wildland fire events in treated landscapes.
2. Promote wildlife habitat connectivity.
3. Enhance and/or maintain ecological diversity.
4. Restore fire adapted ecosystems.
5. Reduce potential high intensity fire related global air quality impacts.
6. Initiate an effective fire suppression cost containment strategy.
7. Improve working conditions and firefighter safety on wildland fire assignments.
8. Increase potential prescribed fire management opportunities.
9. Improve and/or protect cold water summer base flows.
10. Balance macro-invertebrate populations.
11. Improve and/or protect cold water refugial qualities for juvenile anadromous fish species.

**Management Indicators**

1. Water temperature is a primary Management Indicator for this CEMP. Significant changes in the diurnal fluctuation curve should indicate a problem with or a benefit of the management in a watershed. Regardless of ambient air temperature, the diurnal fluctuation curve should not change much when conditions change slightly. However, drastic changes like denuded watersheds, total loss of riparian canopy, excess sedimentation filling pools, and/or loss of old growth components, can cause the range of fluctuation to increase and degrade the refugial capacity of territorial watersheds. A success determination should be made when treatments can occur at the landscape/watershed scale and the cumulative effects on water temperature are not detrimental or are noted to be beneficial and the fluctuation signature for any given monitoring site remains balanced. There is a high probability that even though shading

may be slightly reduced, summer base flows may actually increase thereby maintaining balanced disturbance related diurnal fluctuation. A long range success determination should be triggered when a fire occurs and stand replacing fire is subsequently avoided within and adjacent to treated riparian areas and drainage headwalls. A failure and/or adaptation determination should be made when treated areas experience a notable and lasting change in the measurable site specific temperature signature.

2. Old growth Trees are another primary Management Indicator for this CEMP. In many areas where this practice will be implemented there has been a severe decline in the old growth component of differing stand types. This indicator is important as to the health and functionality of spring-fed wetlands and watercourses. This can be planned and visually interpreted by the presence of large stumps in areas void of an old growth component, as well as the condition and species present in areas to be treated. Seasonal seeps and springs should be monitored for potential flow balance as the old growth component is restored. Success should be weighed heavily towards the old growth recruitment trees remaining undamaged after each entry. Treatments around these areas should occur with multiple entries to ensure wind firmness of the old growth component and ensuring that they will not be killed by fire. Failure and/or adaptation determinations should be made when overcrowding or excess removal of recruitment trees cause seeps/springs to dry up or otherwise hamper old growth and correlating age class diversity restoration.

3. Port-Orford Cedar is a secondary Management Indicator for this CEMP. It is considered a secondary indicator as not all riparian areas have this species present. With the potential for inter-watershed transfers of Port-Orford Root Rot Disease during treatment activities and/or wildland fire events it is critical that all areas containing this species be protected from infection. Any infection triggered by this management practice should automatically constitute a failure and adaptation determination.

**Management Practice 5**

Reduction of Fuel Loading in Burned Areas

Areas burned within and/or adjacent to prioritized treatment areas will be managed through the reduction of contiguous ground and ladder fuels. Fuels will be cut, gathered and piled with some feasible materials removed for commercial cost offset, biomass supply and/or firewood. Burned areas within and/or adjacent to areas treated or planned for treatment should be prioritized for follow up treatment and/or maintenance activities beyond BAER recovery efforts. If fire does not naturally occur, or fires are suppressed within or adjacent to these areas, priorities should shift towards utilizing prescribed fire with the intent of maintaining the natural fire return interval.

Wildland fires have been increasing in burn intensity and severity since the beginning of fire suppression. One can only imagine a time when fires burned over large areas with little damage to stand dynamics. With the suppression of multiple fire return intervals, fuels accumulations have caused many recent wildland fires to burn entire drainages,

leaving them void of vegetation. In many cases large tracts of land are left to regenerate from brush fields. This is a difficult cycle to break. When fire return intervals change, correlating watershed conditions become more conducive of repeated stand replacing fire occurrence.

A combination of fuels reductions, prescribed fire, wildland fire confinement strategy and wildland fire use, is what is needed to reverse this trend and may in many cases be the fastest way to restore fire adapted ecosystems in condition class I burned areas. In most cases, areas should not be considered condition class I until fuels treatments are completed, or multiple fire return intervals occur throughout the burned area.

**Resource Objectives**

1. Maintain burned areas in a condition class I.
2. Utilize a Confinement Strategy or Fire Use as the Appropriate Management Response during wildland fire events within and adjacent to treated areas.
3. Promote wildlife habitat connectivity.
4. Enhance and/or maintain ecological diversity.
5. Restore fire adapted ecosystems.
6. Promote low to moderate intensity fire reducing global air quality impacts.
7. Maintain an effective fire suppression cost containment strategy.
8. Improve working conditions and firefighter safety on wildland fire assignments.
9. Increase potential prescribed fire management opportunities.
10. Promote balanced hydrologic function.
11. Maintain conditions for balanced macro-invertebrate populations.
12. Improve and/or protect cold water refugial qualities for anadromous fish species.

**Management Indicators**

1. Fire Suppression Cost Containment in the primary Management Indicator for this CEMP. Over time, a notable reduction in per acre costs should be realized as this practice is employed over large tracts of land. With the majority of dead fuels generated by wildland fires being treated within recently burned areas, the condition class is restored and the fire return interval can be re-established without uncharacteristically intense fire. This should in turn reduce the quantity of suppression resources required to implement the appropriate management response when fire occurs within these areas. A success determination should be made when fire can be returned to previously burned areas upon the next fire return interval and the excess fuels have been reduced to the point to where the fire achieves resource benefits with fewer suppression/fire use resources assigned. There is a high probability that this practice combined with others, will eventually balance fire management costs to a point that they are annually predictable and increasingly manageable from a budgetary standpoint. A failure and/or adaptation determination should be made when wildland fires within treated areas have a notable increase in cost or budgetary predictability associated with the multiple fire entries is unbalanced.

2. Another primary Management Indicator for this CEMP is the restoration of fire adapted ecosystems. As the successful re-introduction of multiple fire return intervals occurs, and follow up treatments take place, a multitude of maintainable fire adapted habitat structure should emerge. With reoccurring fire in these areas, food sources for humans and wildlife will be enhanced and available in unsuppressed quantities. Subsequently, correlating wildlife populations coupled with traditionally influenced human interaction should help to achieve balanced fire adapted ecosystems. A success determination should be made when there is a notable increase in wildlife and/or endangered species habitat interconnectivity that is maintained or enhanced by multiple fire intervals. Habitat interconnectivity should benefit all species occupying the fire influenced area as the habitat for one species may provide a food source for another that without fire is inaccessible by predators, thereby limiting population expansion of certain species. A failure and/or adaptation determination should be made when establishment of these interconnected habitats does not occur after multiple fire entries. It should be noted that under this scenario, more fire return intervals should occur before making these determinations.

**Management Practice 6**

Reduction of Fuel Loading Adjacent to Homes

Excess fuel loading around homes will be managed through the reduction of contiguous ground and ladder fuels. Fuels will be cut, gathered and piled, or chipped. Fuels within 30 feet of homes should rate the highest priority. Fuels within 300 feet should receive the next highest, followed by fuels extending and/or adjacent to property boundaries. Access/egress routes to safe locations should also be considered a high priority for treatment.

Rural communities have a high potential for homes being lost from fire. In treating adjacent fuels this threat can be significantly reduced. Protecting life is of the utmost importance in approaching a wildland fire situation. Many people elect to not leave their homes until the last minute when fire occurs. Public and firefighter safety can be better achieved when homes, properties, and access/egress, as well as other natural features can be enhanced in anticipation of wildland and/or prescribed fire occurrence.

As a condition of tribally assisted treatment around homes, a map of all structures, outbuildings, fuel storage, turnaround areas water sources and hazards should be made for the property to be maintained at Tribal and Volunteer Fire Departments.

**Resource Objectives**

1. Protect homes from wildland fire events.
2. Establish and/or maintain a safe working environment for residents and firefighting personnel responsible for structure protection efforts.
3. Promote wildlife habitat connectivity.
4. Enhance and/or maintain ecological diversity.

5. Restore fire adapted ecosystems.
6. Improve safe access for firefighting personnel.
7. Maintain an effective fire suppression cost containment strategy.
8. Improve safe egress for residents escaping wildland fire events.
9. Increase potential for prescribed fire management opportunities.
10. Improve effectiveness of firefighting personnel.

**Management Indicators**

1. The primary Management Indicator for this CEMP is homes within burned areas remaining intact. When wildland fires occur, firefighters have safe access to effectively protect structures, and homes are not lost, a success determination can be made. In the event that homes are lost from wildland fire due to excess vegetation and/or unsafe access then a failure or adaptation determination should be made.

2. A secondary Management Indicator is outbuildings and other resources important to the landowner identified on the structure protection map remain intact. Firefighting personnel make onsite determinations of what can be protected at a glance. If firefighting forces determine that everything on the map can be safely and effectively protected then a success determination can be made. If it is determined unsafe to protect any identified concern, a failure or adaptation determination should be made. Some species such as Himalayan Blackberry need annual maintenance by the property owner. Total eradication for this noxious species near structures and control features is preferred but can be very time consuming and expensive.

**Management Practice 7**

Reduction of Fuel Loading Along Forest Roads

Forest roads provide access/egress for gathering cultural resources, forest visitors, and recreational enthusiasts as well as firefighting personnel. A 300 foot treatment area along each side of forest roads will help to ensure safe access/egress during wildland fire events. Ridge system roads should receive the highest priority as these are generally utilized as control features during fire events. Pretreatment of these areas can help to reduce costs and increase effectiveness of firefighting efforts as crews will be less likely be dedicated to the improvement of forest road control features.

Forest roads transect many other areas identified for treatment. To ensure effectiveness of these treatments interconnectivity of treatment areas along road systems should also be considered in prioritization. Contiguous ground and ladder fuels should be cut, piled and burned or chipped, with potential restoration byproducts removed for commercial cost offset or suppress noxious weeds. Forest roads slated for decommissioning should also be considered in prioritization as limited access for treatment will increase fuels reduction costs and reduce cost offset opportunities after roads are hydrologically restored.

### Resource Objectives

1. Improve firefighter safety and effectiveness.
2. Enhance reasonable control features interconnecting treatment areas.
3. Enhance wildlife forage and travel corridors.
4. Achieve quick fix road maintenance needs (cleaning culverts and ditches).
5. Enhance and/or maintain ecological diversity
6. Promote efficient use of restoration byproducts.
7. Establish easily maintainable shaded fuel breaks.
8. Restore fire adapted ecosystems.
9. Improve effectiveness of adjacent treatment areas.
10 Maintain an effective fire suppression cost containment strategy.
11. Increase potential for prescribed fire management opportunities.
12. Increase success rates for initial attack on roadside accidental and/or incendiary fire starts.

### Management Indicators

1. Re-sprout potential is a primary management indicator for this CEMP. Fuels treatments should be formulated to reduce potential for re-sprouting throughout many different vegetation types, elevations, slopes and aspects. Some degree of re-sprout will help to enhance wildlife forage, but in excess can nullify the effectiveness of treatment prescriptions in less than a decade. Multiple stem hardwood species should only be pruned to enhance productivity and maintain a shade component to suppress re-sprout and reduce solar radiation. Root grubbing may be needed in some instances to ensure long term effectiveness of treatment prescriptions.

Conditions within treatment areas that are conducive of maintenance with fire after 5 to 10 years should trigger a success determination. If a contiguous ladder fuel component is reestablished in less than a decade, a failure or adaptation determination should be made. Consideration should be given for pockets of brush for wildlife cover and successional habitats. Multiple entries may be needed in areas that are primarily dominated by early mature stands or brush.

2. Improved access to high quality traditionally utilized medicinal, edible, and basketry materials is another primary Management Indicator for this CEMP. Pruning coppicing and/or burning of species such as hazel, mock orange, deer brush, redbud, iris, live oak, etc., should be utilized for increased use quality whenever found within treatment areas. In many cases specific burning prescriptions should be included in planned treatment activities. Maintenance schedules should be formulated to coincide with the burning cycles for these species. Roadside access to areas with enhanced high quality materials should be mapped and distributed to basket weavers, as use intervals are necessary for proper treatment and maintenance of these cultural resources.

Increased use quality over time as determined by traditional users should trigger a success determination. A failure and/or adaptation determination should be made when

use quality is not increased or of optimal consistency. It should be noted that multiple entries may be needed in order to re-establish the proper balance of light, nutrient transfer, and accessibility without receiving a failure determination on Management Indicator 1 for this CEMP.

3. A Secondary Management Indicator for this CEMP is the effectiveness of the roadside treatments in the event of a wildland fire. As a linear control feature that spans many elevations, vegetation types, slopes and aspects, these treatments may not enable firefighting personnel to safely suppress all wildland fire events, especially on steep midslope sections. These sections are generally not utilized by suppression forces as control features, but can serve as safe access to better control areas. Midslope sections of road systems can however slow fire spread and potentially bring a fuels and topography driven crowning fire to the ground.

With this particular secondary Management Indicator, a failure determination is usually not made. However a success or adaptation determination can be made in conjunction with indicators 1 and 2 if the outcome of treatments assist firefighting personnel to safely access and control a wildland fire event. In some cases an adaptation determination should be made prior to a fire event. For example, treatment prescriptions may need to be extended to 1000 feet or more on the downhill side of the road; or if treating the entire extent of a ridge system or chimney is needed in order to effectively bring a fuels and topography driven crowning fire to the ground before reaching the road. This extension may also be needed if it is determined that the steep midslope road segment can be safely and effectively utilized as a control feature by burning out a blackline adjacent to the road system.

**Management Practice 8**

Fire Suppression Preparedness Work/Rest and Mobilization

Fire suppression activities are and have always been a part of traditional management since time immemorial. Though most traditional Karuk actions are in the form of preparing for when fire comes, wildland fire was also suppressed in a utilitarian fashion. Contemporary fire suppression actions will have to fit into the national fire suppression infrastructure. This CEMP relates to readiness for when fire comes, mobilization to fire incidents, and Tribal/Interagency partnerships in collaborative decision making.

Through the development and maintenance of Memorandum of Understandings or other agreements, the organizational infrastructure of collaborative decision making is maintained. The key to successful tribal fire infrastructure is availability to respond to fire incidents locally. In order to remain available to efficiently achieve integrated fire and fuels management, Tribal Fire/Fuels Reduction Crew(s) need to work through the fire season implementing other CEMP projects. Ideally, 5 to 10 person crews would be completing high priority project work until a high fire severity period begins.

When severity begins the crew(s) would come together in the form of 20 person type II IA handcrew(s). While on a 14 day fire severity assignment, the crew(s) will complete project work within ½ hour of their designated dispatch location. In the interest of maintaining adequate rest for an initial attack callout, production would slow to 5 to 10 of 20 crewmembers consistently achieving progress, alternating every ½ to 1 hour during these periods. When unassigned crews remain five day effective, and maintain a minimum of 2 consecutive days off for each 14 day assignment period.

**Resource Objectives**

1. Achieve consistent progress toward implementation of high priority CEMP projects.
2. Restore fire adapted ecosystems.
3. Promote the efficient use of firefighting resources.
4. Establishment, expansion, and maintenance of appropriate management response areas for achieving wildland fire resource benefits.
5. Restore, enhance, or maintain ecological diversity.
6. Enhance wildlife habitat interconnectivity.
7. Enhance quality and quantity of traditional use plants.
8. Promote public and firefighter safety.
9. Protect endangered and sensitive species from detrimental effects of large scale high intensity wildland fire.
10. Implement a locally led, community based approach to adaptive problem solving.
11. Develop and maintain local capacity for handling local problems.
12. Increase economic and biological sustainability in utilization of stewardship based restoration byproducts.

**Management Indicators**

1. One primary Management Indicator for this CEMP is the systematic, cost effective implementation of Cultural Environmental Management Practices requiring the use of hand labor. This is the most labor intensive, and time consuming portion of any CEMP. Integration of this managerial infrastructure into stewardship based or other priority projects should enable consistent progress toward programmatic goals while achieving multiple resource objectives.

In most cases, stewardship based utilization of restoration byproducts will not cover all costs associated with watershed scale restoration of natural disturbance regimes. While such utilization will reduce this burden on the taxpayer, integration of wildland fire preparedness and effective implementation of restoration actions can reduce this burden even further.

For example, funds collected from the Hazel Timber Sale generated $225 per acre for jackpot prep, under stewardship authorities this figure would be approximately $360 per acre (225 + 60%). In the interest of completing ecologically sound follow up treatment this figure should be closer to $600 per acre. If this treatment can be completed by

implementation forces already in place, these dollars can be utilized to offset additional restoration activities in and adjacent to the project area while improving the effectiveness and efficiency of preparedness forces.

Success would be determined by quality and quantity of work performed that would not have otherwise occurred, compared to costs vs. resource benefits achieved, and value of retaining available qualified initial attack forces locally. Failure or adaptation determinations would be made based on inability to respond to an initial attack incident in a timely manner and/or inability to utilize shared suppression forces across jurisdictional boundaries within areas of mutual interest.

2. All other Management Indicators apply to this CEMP dependent upon which practices are incorporated into individual projects performed by this workforce. It is important to remember that quality of work and long term effectiveness is more beneficial and cost effective than just meeting short term single resource objectives. Especially when utilizing funds that would otherwise be spent achieving little if any progress toward restoring natural disturbance regimes.

**Management Practice 9**

Reduction of Fuel Loading Post Fire Suppression Rehabilitation Activities

Fire suppression actions can have environmental impacts in many shapes and forms. These actions are mitigated through suppression rehabilitation activities when the fire is controlled and/or declared out. Generally speaking, these rehabilitation efforts are mitigations for the negative impacts caused by suppression activities. As these mitigations are outlined by resource professionals from the local unit and approved by line officer and/or agency administrator, this CEMP is focused on further mitigating for the effects of excess fuel loading following suppression rehabilitation activities.

Typical treatment of excess fuels created by fire suppression activities are quick fixes relating to fuels and erosion or other unforeseen impact. In most cases treatments consist of loping and scattering or piling of these fuels. This CEMP is designed to treat remaining fuels left after suppression rehabilitation actions are over, and the goals of correlating mitigations are achieved. Burning of piles and piling of fuels scattered for erosion control mitigations are generally not achieved during or following suppression rehabilitation actions.

In the interest of restoring, enhancing or maintaining the effectiveness of established firelines for use during future fire events, these fuels should be burned or chipped after erosion control objectives are met. In many cases, this will occur when fire season comes to an end, if not in the following year. If left untreated, these fuels can increase the workload and reduce efficiency, and/or effectiveness of firefighting personnel during future emergency situations.

The best time to burn these fuels, are after the first rains, but before major snow events. This will allow time for sediments to settle, fuels to dry for burning and allow for access to burn before major snow events or occupied by salamanders, and/or other wildlife. With the amount of dead fuels generated in many instances, covered windrows may need to be created and covered during suppression rehabilitation. This will not only make ignition during the wet season easier, but will decrease ignitions needed and improve cost effectiveness during additional efforts. Excess scattered fuels should be added to the piles or windrows as they are ignited and chunked.

**Resource Objectives**

1. Increase effectiveness of firefighting personnel during future wildland fire events.
2. Improve effectiveness of natural control features (ridge systems) during wildland or prescribed fire activity.
3. Ensure effectiveness of fire suppression rehabilitation erosion control mitigations.
4. Ensure fire management activities do not increase fuel bed loading for future fire events.
5. Promote the safe and efficient use of firefighting resources.
6. Restore fire adapted ecosystems.
7. Enhance probability of re-creating effective shaded fuel breaks around areas of moderate to high fire occurrence.
8. Facilitate an effective wildland fire suppression cost containment strategy.
9. Enhance wildlife use corridors and access to forage materials.
10. Enhance the quantity and quality of culturally utilized medicinal, edible and/or basketry materials.

**Management Indicators**

1. Ridge system erosion control is the primary Management Indicator for this CEMP. Erosion control measures normally in place following suppression rehabilitation need adequate time and moisture to settle loose sediments created by fireline construction. Adequate moisture is also needed before safely burning piles and windrows. If piles are burned prior to adequate settling of sediments and significant erosion occurs as a result, a failure and/or adaptation determination should be made. Adaptations such as burning these fuels in the spring and/or touching up water bars as piles are burned could be good mitigations for achieving a success determination in the event late fall/early winter burning does not meet erosion control objectives.

Additional erosion control measures like creating small sediment catchments below water bar outlets that have been experiencing high erosion rates may further ensure a success determination for this Management Indicator. It should be noted that additional erosion control measures should be attempted before delaying burning until spring, to reduce the chances of occupation of piles by salamanders or other wildlife that may be incapable of escape when burning occurs.

2. A secondary Management Indicator for this CEMP is improved access and efficiency of fire suppression and/or fuels reduction forces. Approximately 10 to 20 years after suppression activities occur, a re-entry may be needed if the fireline is not utilized for additional suppression activities. This CEMP will reduce the quantity of dead ground fuels making it possible to more efficiently achieve future entries whether for suppression or fuels reduction activities. In the interest of ensuring long term effectiveness of these ridges as reasonable control features, brush re-sprout will need to be cut to maintain a minimum of one stem per clump in hardwood stands. Improved access and efficiency is hard to definitively measure over long periods to time by any other means than photo points which may or may not be readily identifiable over the long term. Adaptations such as increased treatment intervals, or expanding treatment areas to be maintained by prescribed fire, may be the most efficient and cost effective means of ensuring locations where suppression/rehabilitation actions occur continue to serve as reasonable control features.

**Management Practice 10**

Timber Harvest as a Means of Reducing Fuel Loading and Ensuring Ecological Diversity

Timber removal is a practice that should occur when feasible during implementation of other CEMPs. This should be completed with minimal ground disturbance when the continuity of fuels can be more widely distributed and is needed to enhance, promote, protect, restore, or maintain, ecological systems. Locally led community based stewardship principals should be applied whenever this practice is employed in conjunction with projects intended to achieve multiple resource objectives/practices.

To the largest extent possible, local resources should be utilized to achieve stewardship based tasks. Agreements/implementation mechanisms should be formulated in the interest of ensuring collaborative local control in the definition and achievement of the long term end result. Selection of individual trees for removal should achieve some level of ecological benefit in addition to fuels reduction objectives. Selection of individual trees for retention and/or protection during managerial operations and implementation should also be carefully considered and monitored for compliance.

When this practice is employed, it is important for harvest levels, combined with project funding, to be commensurate with ecological benefits as opposed to timber covering total treatment costs. This will provide for more sustainable and cost effective managerial opportunities in the future. Treatment cost offsets can be more valuable over time than one free entry, as sustainable yields of timber can contribute to the costs of necessary future practices that serve as integrated maintenance intervals. Ideally this practice should maintain a balance of cost contributions to ecological benefits in a sustainable yet cost effective manner.

### Resource Objectives

1. Promote long term cost effectiveness while reducing the taxpayer burden when implementing long range integrated ecosystem management practices.
2. Enhance the integrity of site specific and correlating ecological processes and systems.
3. Restore natural fire regimes.
4. Protect sensitive habitat infrastructure from high intensity crown fires.
5. Supplement a sustainable supply of ecologically sound wood products to help meet the intent of the Northwest Forest Plan.
6. Reduce crown fuel continuity.
7. Build local capacity and promote community based infrastructure development.
8. Protect threatened and endangered species from loss of habitat and physical harm from catastrophic high intensity fire events.
9. Promote growth of ground level forage such as grasses and forbs to benefit wildlife populations.
10. Enhance the quantity and quality of culturally utilized medicinal, edible and/or basketry materials.

### Management Indicators

1. Shade intolerant and open meadow species are a primary Management Indicator for this CEMP. Conifer encroachment since fire suppression has initiated a significant reduction in the health and abundance of shade intolerant species and open meadows. The systematic implementation of reducing crown continuity over time can assist in the protection or reestablishment of shade intolerant species present in any treatment area. A multiple entry approach should be considered when reversing this trend. The first entry should focus on allowing additional light to the crown of shade intolerant trees and/or to the ground where there are indications of suppressed grasses or other shade intolerant ground level vegetation. The next entry should ensure effective low intensity fire during the third entry of prescribed or natural fire. Additional entries should be based on site specific needs following these initial treatments.

Success determinations should be based on shade intolerant grasses, trees, or shrubs being the primary growth in the lighted areas. In some cases an adaptation should be made for additional entries to enhance the population of the pre-fire suppression population, and or remnant seed source. In many cases, adaptations will need to be made for additional entries to reduce conifer seedlings and/or noxious weeds following treatments. This is most easily accomplished when they can be pulled by hand and left on the ground so as to reduce the need for pile burning as part of this entry. A failure or adaptation determination should be made when shade dependant ground level plants are not considered and/or protected to the greatest extent possible when existing or reoccurring following fire. Failure and/or adaptation determinations should also be made when follow up treatments do not occur in a timely manner and/or increase potential fire behavior.

2. Old growth conifers and hardwoods are Management Indicator species. for this CEMP. This Management Indicator can be either a primary or secondary Management Indicator based upon the availability of representative presence in treatment areas. Some treatment areas will not have any representative indicators of pre-suppression presence of these species in this age class. In this type of treatment area this is a secondary Management Indicator. In most areas where this practice is employed there will be some evidence of pre-suppression old growth presence. In some cases it may be little more than conifer stumps and remnant large diameter hardwood boles. Where such evidence exists, this is considered a primary Management Indicator.

In a secondary Management Indicator situation, the extent of restorative actions may be indeterminate as there is no baseline for representative presence. Therefore failure based on lack of an old growth component in this situation may not be warranted. For example, a 50 year old stand of mixed hardwoods/conifers may in fact call for eventual meadow restoration, in which case some degree of old growth restoration should be a component, but to lesser extent. This type of treatment area should have increased vegetative structure mimicking a more open environment following initial treatments. Success determinations may be more difficult to achieve in a short time frame due to the span of time it will take to complete the staged entries necessary for this restorative action. This situation will more likely trigger adaptation determinations over time involving further thinning, shorter fire return intervals, and to some extent hardwood extraction may be needed when re-sprout potential can be reduced.

As a primary Management Indicator the need for success, failure and/or adaptation determinations should be more readily identifiable. Success determinations should be based on the probability of protecting and/or re-establishing the old growth population and species distribution over time to at or near the level identified by the evidence of pre-suppression old growth presence. In achieving a success determination, recruitment of a future old growth component should also be considered while allowing for sustainable harvest potential into the future. With a success determination based on this probability, site specific adaptation determinations should also be made to achieve further success over long periods of time. A failure determination should be made when the managerial, operational, or contractual safeguards are not institutionalized; the existing old growth component is not protected; is no longer capable of diversified restoration; old growth habitats are altered too quickly for adaptation by existing wildlife populations; or excess reduction of aerial fuels trigger a significant increase in ladder fuel production.

**Management Practice 11**

Appropriate Management Response During Wildland Fire Events

This CEMP is intended to serve as guidance for Tribal/Agency collaborative decision makers for determining the Appropriate Management Response during wildland fire events within and adjacent to the Karuk Aboriginal Territory. Typically, wildland fire use, and/or managing fire for resource benefits occur in wilderness areas as conditions warrant. Through implementation of this CEMP, expansion of these principals to large

areas that have been pre-treated, in condition class I, and/or in condition class II and surrounded by interconnected reasonable control features, may also be appropriate. As contiguous acreage is treated through implementation of these CEMP's, managing fire for resource benefits should become a more viable option.

GIS tracking of treatment areas such as, date of initial treatment, date of last and/or scheduled fire occurrence, maintenance intervals by type, condition class, cultural/natural fire frequency, crown to base height, crown bulk density, and estimated fire intensity level by at least 3 different reference conditions, (i.e. NE winds 15-30 MPH, humidity less that 20% with a range of fuel moisture variability, etc.,) should be readily accessible when fire occurs. This will allow Agency Administrators, Incident Commanders, and Tribal Representatives, to guide more informed decisions as to the appropriate management response in emergency situations. This practice will be a key component in making the transition from the historical "suppress all fires" managerial approach to the future restoration of natural fire regimes.

**Resource Objectives**

1. Restore natural fire regimes.
2. Enhance informed collaborative decision making during wildland fire events.
3. Promote maintenance of treated areas with natural fire when safe and effective.
4. Protect, restore, and maintain fire adapted ecosystems.
5. Maximize the safe and efficient use of firefighting resources.
6. Improve wildland firefighting efforts across multi-jurisdictional boundaries.
7. Establish a baseline mechanism for tracking and flagging maintenance intervals in pre-treated areas.
8. Reduce the cost and complexity of future wildland fire events.
9. Protect threatened and endangered species from the detrimental effects of reoccurring high intensity wildland fire.

**Management Indicators**

1. Protection of life and property is a primary Management Indicator for this CEMP. Although re-establishment of natural fire regimes is critical in achieving restoration of fire adapted ecosystems, protection of life and property is of the utmost concern in implementing the appropriate management response.

A success determination should only be made when treatments are completed to a level in which fire can be allowed to burn up to reasonable control features without damaging property or taking lives. Other reasonable control features should also be completed to a level conducive of safe and effective control of wildland fires in order to achieve this determination.

Failure or adaptation determinations should be made as unforeseen problems arise during the management of wildland fires in restoration landscapes. Adaptations will likely be needed over time as we experience extreme burn periods and fire weather events that call

for expanded treatments or additional entries. The loss of life should not occur in any restoration landscape and should constitute a failure determination when occurring as a direct result of inadequate treatment or lack of maintenance.

2. The ability to manage wildland fires for resource benefits outside of wilderness is a primary Management Indicator for this CEMP. The ability to make well informed immediate decisions during wildland fire events is critical in re-establishing the natural range of variability in fire return intervals to restoration landscapes. As treatments occur that interconnect reasonable control features, the area within the external boundary of the completed treatments should be considered a restoration landscape.

In order to achieve a success determination, pertinent information should be collected, tracked and made readily available, to enhance the ability to make the decision to manage wildland fires for resource benefits and restore natural fire regimes. Failure or adaptation determinations should be made if a wildland fire event occurs in a restoration landscape and fire managers elect to suppress the wildland fire. Upon the decision to suppress the fire in this situation an informal analysis of the decision should be made and failure or adaptations should be determined. This should be completed by receiving the reason(s) for the decision to suppress from the Agency Administrator. From these reasons it should be determined if treatments were not extensive enough; maintenance intervals were inadequate; interior fuels should receive additional treatment; more information should have been collected and conveyed; or fire weather was the determining factor. In any case, an adaptation should be made to mitigate all concerns influencing the suppression decision.

In the event that the decision was based on extenuating circumstances beyond the control of managerial staff, such as political pressure, resource priorities, etc. the reasons and conditions at time of the decision should be recorded as one of the baseline reference conditions for future wildland fire events and adaptive prescription development in the restoration landscape.

3. A secondary Management Indicator for this CEMP is the protection of resources and/or habitats within the restoration landscape during the wildland fire event. Regardless of decision to manage a fire for resource benefits, to utilize a wildland fire use strategy, or to suppress the fire, cultural/natural resources, wildlife populations, and habitats should be protected to the greatest extent possible while maintaining a safe and effective working environment.

As Tribal Members, the Public, and Resource Managers all live with the end results of a wildland fire event, the appropriate management response in a suppression situation may be to reduce fire intensity and contain the fire to within the most appropriate reasonable control features. Human ignited fire as a control action should be carefully planned when utilized to eliminate the trapping of wildlife between converging flame-fronts and to keep burn intensities to a minimum. In most cases, localized burn intensities are best managed with water. It is important to realize that in an extended attack suppression situation,

appropriate timing of suppression actions is sometimes the most critical to the end result habitat quality, wildlife survival, and safe and effective control of the fire.

As this is an emergency situation, and conditions vary, success and failure determinations may be difficult to identify under this Management Indicator. However, in many cases adaptation determinations can be made. Resource Advisors assigned to the incident should track ignition patterns in relation to burn severity and location of flame-front at ignition. When there is an increase in burn intensity and severity in ignited areas it should be recorded as a suppression/control action and mitigated when possible. This information should be utilized to improve institutionalized knowledge and establish adaptation recommendations for better protection of cultural/natural resources during future wildland fire events.

**Management Practice 12**

Reduce Fuel loading in and Adjacent to Degraded Spotted Owl Habitat

This CEMP is intended to fill in potential gaps of other fuels reduction practices in the interest of increased potential for delisting of the Northern Spotted Owl. When completed in conjunction, or in addition to, other CEMP's, this practice should help to protect, enhance, restore and/or maintain nesting, roosting, foraging, dispersal, and fledgling survival for the Northern Spotted Owl.

In areas selected for treatment of other CEMP's that overlap or are directly adjacent to Spotted Owl activity centers or vegetation characteristics indicate high potential for dispersal (contiguous fair to good habitat characteristics within 10 to 15.5 miles from occupied nesting sites), focused attention should be placed on treatments benefiting the Northern Spotted Owl. In practicing other CEMP's, many benefits to this species should be indirectly applicable. However, when re-establishing the potential for restoration of natural fire regimes in individual watersheds there may be a critical need to perform interior treatments in areas not indicated as a high priority by other practices.

In areas indicating potential nesting and roosting habitat, special attention should be placed on retaining 60 to 90 percent canopy closure while re-establishing or maintaining multi-layered/multi-species structural diversity, with large overstory trees (greater than 30" DBH or existing prior to effective fire suppression (1932)). Some quantities of large woody debris should remain after treatment, but only quantities/continuities ensuring low to moderate burn intensities in the event of wildland fire. To the greatest extent possible ladder fuels should be removed in the presence of remaining ground fuels. Occasional pockets of small vegetation thickets as well as small openings (where indications show pre-existing openings) should be retained or re-established to promote prey availability.

Within ¼ mile radius of occupied nests sites established limited operating periods (LOP) should be considered (February 1st to July 15th). However, with the quantity of work needed in order to restore natural fire regimes at the watershed scale, restoration activities are not to exceed ½ of a LOP in every three years for any occupied nesting site, with no

more than two sites receiving treatment in a watershed per year. The remaining time can be spent enhancing and/or restoring foraging and dispersal habitats or implementing other CEMP's outside occupied nesting sites.

**Resource Objectives**

1. Recovery of high quality Spotted Owl habitat.
2. Reduce fledgling mortality potential.
3. Protect Spotted Owl populations from high intensity wildland fire.
4. Improve access to site specific prey base habitats.
5. Restore fire adapted ecosystems.
6. Establish dispersal habitat corridors interconnecting occupied with unoccupied nesting habitats.
7. Balance prey base habitat cover and accessibility.
8. Improve potential inter-watershed elk heard splitting.
9. Expand the operational effectiveness season.
10. Establish a mosaic of multi-species/multi-level canopies with an open understory and large tree component.
11. Enhance habitats transecting inter-watershed treatment areas further reducing fire behavior characteristics in restoration landscapes.

**Management Indicators**

1. Spotted Owl populations are the primary indicator for this CEMP. With the focused attention the Spotted Owl has received in recent decades, the Tribe has identified this species as being of special concern. Although this species was not traditionally managed for specifically, it is now an issue that needs resolution. Most management planning documents limit integrated treatment capabilities. This CEMP is based on solving problems associated with habitat fragmentation and species survival as opposed to crippling expansive treatment capabilities in occupied nesting areas. Many of these occupied areas consist of correlating habitat qualities that severely limit the potential for successful forage, dispersal and fledgling survival which is critical to species proliferation.

A success determination can be achieved by different means. First, retained use in occupied stands can be considered effective when there is a mating pair in the stand within 2 years of treatment implementation. Second, successful mating and fledgling survival is automatic grounds for success. Third, dispersal to unoccupied stands through treated areas is critical to species expansion, therefore this would also receive a success determination. This is especially true when male and female juveniles from different nesting pairs successfully disperse to occupy a treated stand.

When one the above successes do not occur, an adaptation determination will most likely be needed and treatments within the occupied area should cease until limited operating periods are over. This should be immediately followed by focusing more on

interconnecting habitats to suitable areas a greater distance away. New information on species requirements should be researched and applied to treatment prescriptions.

Given the vast area that will be in need of treatment, and scale of time it will take to re-create and/or interconnect suitable habitats for this species, failure determinations are expected to only relate to direct harm. In the event that a nesting tree is damaged, removed, or mortality otherwise occurs as a direct effect of treatment activities, a failure determination is immediate and an alternate strategy for species restoration needs to be developed for occupied stands.

2. Habitat quality in unoccupied areas is a secondary management indicator for this CEMP. In some cases (plantations), this will take nearly a century to develop, and is therefore considered a secondary indicator. When suitable habitats cannot be directly interconnected without multiple entries over a long period of time, focused attention should also be applied to establish high quality habitat corridors around these areas.

When there is a multi-layered, multi-species canopy with a large tree component and an open understory at 60 to 90 percent closure immediately following treatment activities, a success determination should be made. In areas where multiple entries will be needed, adaptations can be determined by potential for establishing species and age class diversity. In this type of area, occupied use such as foraging may be observed, in which case a success determination should also be triggered. Wood rat nests should be retained whenever possible to increase this potential.

# Attachment C

MEMORANDUM OF UNDERSTANDING
**FOR**
The Cooperative Stewardship of the OCFR Project
Between
THE KARUK TRIBE
**And**
USDA-FOREST SERVICE
SIX RIVERS NATIONAL FOREST

**SRF-07-MU-**

This Memorandum of Understanding (MOU) is entered into by the Karuk Tribe, here after referred to as the Tribe, and United States Department of Agriculture - Forest Service, Six Rivers National Forests, here after referred to as the Forest Service and collectively as Parties.

## I. PURPOSE:

Fire management and ecological stewardship in the Nations wildlands is an on-going concern to the American public and to the land management bureaus of the Department of the Interior and the Department of Agriculture, Forest Service, hereafter Agencies, as well as Tribal Governments. Considerable progress has been made in fire management planning, fire use, and fire suppression by all Agencies and continued progress can be achieved by concerted cooperation and coordination among the agencies with Tribes. Because fire, cultural resources, and ecological function recognize no boundaries, programs must lead to more productive cooperation and efficient local stewardship among the parties to this agreement.

The Orleans Community Fuels Reduction and Forest Health Project is comprised of a multitude of treatment areas requiring a wide variety of treatment needs. Through intensive collaborative efforts between the Tribe and Forest Service with other interested stakeholders there has been an identified need to solidify the collaborative working relationship throughout the planning, implementation and monitoring of stewardship activities associated with the Orleans Community Protection and Forest Health Project.

## II. STATEMENT OF MUTUAL BENEFITS AND INTERESTS:

The Tribe and the Forest Service through established Government-to-Government relationships, the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, American Indian Religious Freedom Act, Sacred Sites Executive Order 13007, Executive Order No. 13175 on Consultation and Coordination with Indian Tribal Governments, Healthy Forest Restoration Act, Tribal Forest Protection Act, Interagency Agreement for Wildland Fire Management, Forest Service/Bureau of Land Management Traditional Gathering Policy, and other statutes and regulations, share mutual interests related to the effects of wildland fire management and ecological

stewardship on and adjacent to significant cultural resources, Tribal Trust Properties, and the Wildland Urban Interface.

Through the Healthy Forest Restoration Act the Tribe and the Forest Service share a mutual interest in the identification, planning, implementation and maintenance of fuels reduction and forest health projects at the landscape scale to protect Indian Forest Lands, cultural resources, wildlife habitats, and the Wildland Urban Interface from the detrimental effects of high intensity wildland fire. Mutual interest is also shared amongst the involved parties in capacity building for the restoration of natural fire regimes and the facilitation of a locally led, community based approach to local problem solving.

The Parties will work within a collaborative approach to ecological stewardship that will result in safer and more effective wildland fire management activities adjacent to tribal trust lands, cultural properties, and the wildland urban interface.

Implementation of the Orleans Community Fuels Reduction and Forest Health Project will help to enhance the interconnection of reasonable control features resulting in safer and more efficient use of wildland fire management resources during wildland fire events. Reduced fuels accumulations at the landscape scale will also assist in the protection and restoration of threatened and endangered wildlife species such as the Northern Spotted Owl through integrating access to significant populations of red tree vole and wood rats through reestablishment of a contiguous open understory with multilayered multi-species canopies and a large tree component.

Visual corridors and sacred trail systems associated with the Panamnik World Renewal District will also be protected and/or enhanced as a part of this project. This collaborative stewardship endeavor will help to protect, promote and enhance the values associated with the features determining eligibility for listing in the National Register of Historic Places, while ensuring an appropriate level of confidentiality as to the specific locations and contemporary uses of important Cultural Historic Properties.

In consideration of the above premises, the parties agree as follows:

**III. TRIBE SHALL:**

A. Participate in a co-managerial context with Forest Service to plan specific treatment prescriptions for individual treatment areas in the OCFR footprint.

B. Work with Forest Service staff to plan and implement specific treatment mitigations that relate to spiritual, archaeological, and traditional use resources in the interest of maintaining confidentiality and ensure protection and enhancement measures will be adequately upheld.

C. Co-administer appropriate agreements, contracts and task orders developed under this stewardship agreement with the Forest Service to ensure an adequate level of consultation in determining best value implementation, evaluation of end results,

establishment of maintenance intervals, and identification of additional treatment needs.

D. Work with parties to ensure mutual benefit is maintained through the end result and reasonable maintenance intervals are developed and implemented.

E. Maintain crew availability for Severity and Task Order project implementation when not on other emergency assignment or on BIA sponsored projects on trust lands.

F. Dedicate staff and apply for additional funding to assist in implementation of Tribal obligations under this agreement.

G. Implement Interagency Task Orders in sensitive locations and in areas that expedited processes are needed to ensure timely completion of follow up treatments.

H. Dedicate 40 crew working days per year, if funded through TFPA proposal, to alleviate operational shortfalls, fill contractual gaps, complete restoration treatments and/or ensure prescribed fire activities are implemented in a timely manner.

I. Work with the BIA to improve processes for utilization of Interagency Task Orders, cost effectiveness, and the ability to utilize additional 5 person fuels modules while crew is assigned to an incident.

**IV. FOREST SERVICE SHALL**:

A. Recognize this agreement as the avenue to collaboratively implement ecological stewardship activities in respect to the Orleans Community Protection and Forest Health Project.

B. Participate in a co-managerial context with Tribe to plan specific prescriptions for individual treatment areas in the OCFR footprint.

C. Work with Tribal staff to plan and implement specific treatment prescriptions/mitigations that relate to spiritual, archaeological, and traditional use resources in the interest of maintaining confidentiality and ensure protection and enhancement measures will be adequately upheld.

D. Co-administer appropriate agreements, contracts and task orders developed under this stewardship agreement with the Tribe to make more informed decisions in regards to best value implementation, evaluation of end results, establishment of maintenance intervals, and identification of additional needs.

E. Work with parties to ensure mutual benefit is maintained through the end result and reasonable maintenance intervals are developed and implemented.

F. Retain 100% of restoration byproduct revenues to offset costs of on the ground treatments through co-developed agreements, contracts, and/or task orders enacted under this stewardship agreement within the OCFR footprint until expiration.

G. Dedicate staff and apply for additional funding to assist in implementation of Forest Service obligations under this agreement.

H. Utilize Tribal crew for severity assignments when available to complete handwork while remaining available for initial attack on wildland fires.

I. Pursue opportunities for internal and/or external funding to enhance collaborative planning, implementation, monitoring and maintenance efforts of the OCFR Project by virtue of this stewardship agreement and Karuk TFPA proposal.

J. Authorize extension of this agreement mechanism to 10 years by virtue of stewardship principals under the Healthy Forest Restoration Act.

**V. IT IS MUTUALLY AGREED:**

A. The Tribal Council and the Forest Supervisor maintain their distinctive responsibilities as the primary decision-maker for their respective entities.

B. The Forest Supervisor(s) and the Tribal Council shall be responsive to communications and interactions through the formal consultation process as defined in the Government-to-Government protocol agreement if irresolvable issues arise during activities under this stewardship agreement.

C. Severity standby implementation forces should remain within 2 minutes of vehicle or be in route to dispatch location during potential peak lightning activity periods locally, generally between 4:00pm and 6:00pm.

D. Interagency Task Order assignments with the Karuk Crew will be utilized to complete implementation phases of the OCFR Project, with the intent of retaining additional suppression forces, while maintaining progress outside of severity periods.

E. When on severity standby and task order assignments, dispatch will be informed of crew location by latitude and longitude of project location and crew will remain in radio contact with the appropriate dispatch center.

F. The 40 working days per year for the Karuk Crew, if funded by the TFPA proposal, will be utilized to maintain progress in between designated Severity and

Task Order assignments, and is intended to supply additional cost offsets to the OCFR Project for fuels reduction, prescribed fire, or optional stewardship treatments.

G. Implementation of a wide range of treatments by the Tribal crew will enhance opportunities for increasing crew qualifications such as 100% class B sawyer and maximum number of ICT5 qualifications for leadership in potential multiple crew splitting into 5 person fuels crews, feller squads, and fire use modules.

H. Opportunities will be collaboratively developed to incorporate participation by a variety of interested stakeholders in implementation, monitoring and maintenance.

I. A variety of authorities, including "piecemeal" authorities, and implementation methods will be utilized to incorporate multiple stakeholder involvement.

J. It is the intent of this MOU to simplify the stewardship contracting authorities to co-administer smaller, more manageable implementation mechanisms, to facilitate the safe and efficient performance of mandatory and optional treatments across broader landscapes while maintaining an increased level of institutional knowledge over longer periods of time.

K. Additional stewardship projects will be collaboratively identified, planned and implemented as appropriate to further protect enhance, promote, and restore natural/cultural resources and ecological processes, that will otherwise gain ground in the restoration of fire adapted ecosystems.

L. A collaborative multiparty 5 year review of this specific instrument will be conducted and adaptation needs will be incorporated and/or documented to further ensure success, cost effectives and/or identify additional partners in future agreements of this nature.

M. MODIFICATION. Changes within the scope of this instrument shall be made by the issuance of a bilaterally executed modification.

N. FREEDOM OF INFORMATION ACT (FOIA). Information furnished to the Forest Service under this instrument is subject to the Freedom of Information Act (5 U.S.C. 552).

O. Archaeological Site Records, maps with site locations and pictures of sites generated or utilized under this agreement will be deposited in Forest Service and Tribal heritage resource archives, per current Memorandum of Understanding with the Tribe. The records are maintained in the Forest Heritage Resource Program offices and in the Tribe's Heritage Archives with restriction to access to such records being to those individuals who have a need to know the information as per current agreement between the Six Rivers National Forest and the Karuk Tribe. All parties follow the same legal process regarding the denial of release of information about the nature and location of

cultural resources that is controlled under the FOIA 5 U.S.C. 552 by reference to the Archaeological Resources Protection Act (16 U. S. C. 470hh (ARPA) Section 9(a), 36 CFR 297.18(a)).

In order to promote meaningful collaboration, the parties intend to keep certain information shared under this MOU confidential and will seek to protect such information from disclosure and discovery through the use of various exceptions, such as that provided by law in the National Historic Preservation Act.

P. TERMINATION. Either party(s), in writing, may terminate the instrument in whole, or in part, at any time before the date of expiration.

Q. NONDISCRIMINATION. The parties shall comply with all Federal statutes relating to nondiscrimination and all applicable requirements of all other Federal laws, Executive orders, regulations, and policies. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (40 U.S.C. 2000), which prohibits discrimination on the basis of race, color, disability, or national origin; (b) Title IX of the Education amendments of 1972, as amended (20 U.S.C. 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; and Section 504 of the Rehabilitation Act of 1973 as amended (29 USC 794) which prohibits discrimination on the basis of disabilities.

R. All hiring will be pursuant to 5 USC 5102 (c)(19), 7 USC 2225 and 2226, and 43 USC 1469. All conditions of hire (OF-288) will be strictly adhered to. All personnel hiring, equipment rental and contracting, etc. conducted by the Forest Service must follow all Federal laws, Executive Orders, rules, regulations and policies as discussed in Section Q above regardless of where said activities occur.

This does not prohibit the Tribe from preferential hiring in favor of American Indians to the extent such hiring is authorized under the law.

S. PARTICIPATION IN SIMILAR ACTIVITIES. This instrument in no way restricts the parties from participating in similar activities with other public or private agencies, organizations, and individuals. This instrument should in fact further the abilities to expand opportunities for participation in activities under this stewardship agreement to include a wider variety of interested stakeholders in project implementation, monitoring and maintenance.

T. COMPLETION DATE. This instrument is executed as of the date of last signature and, unless sooner terminated, is effective through **December 31, 2018** at which time it will expire unless renewed.

U. NON-FUND OBLIGATING DOCUMENT. This instrument is neither a fiscal nor a funds obligation document. Any endeavor or transfer of anything of value involving reimbursement or contribution of funds between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures including those for Government procurement and printing, stewardship authorities, and interagency fund

transfers passed through to the Tribe. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authorities. This instrument does not provide such authority. Specifically, this instrument does not establish authority for noncompetitive award to the cooperator of any contract or other agreement. Any contract or agreement for training or services must fully comply with all applicable requirements for competition.

This does not however, limit the collaborative determination of best value or sole sourcing for sub awards under this stewardship agreement as authorized by applicable stewardship authorities.

V. All parties shall review any press releases regarding this MOU, or the relationship established between the parties to this MOU, before release.

W. PRINCIPAL CONTACTS. The principal contacts for this instrument are:

District Ranger
USDA Forest Service
Six Rivers National Forest
PO Box 410
Orleans, CA 95556
(530) 627-3291

Director of Natural Resources
Karuk Tribe of California
Department of Natural Resources
P.O. Box 282
Orleans, Ca 95556
(530) 627-3440

X. Meetings may be scheduled periodically to review the implementation and effectiveness of this MOU, as well as, discuss and identify opportunities for mutually beneficial activities that meet the intent of this MOU.

**IN WITNESS WHEREOF**, the parties hereto have executed this MOU as of the last written date below:

_____ Date_____
**Arch Super**, Chair
Karuk Tribe

_____ Date_____
**Tyrone Kelly**, Forest Supervisor
USDA Department of Agriculture

The authority and format of this agreement has been reviewed and approved for signature.

_____ Date_____
, Grants and Agreements Coordinator

_____ Date_____
, Chief Financial Officer
Six Rivers National Forest