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**THE HOOPA VALLEY TRIBE'S  
UTILIZATION OF OLD GROWTH STANDS  
UNDER FSC CERTIFICATION  
HOOPA VALLEY INDIAN RESERVATION**

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## **INTRODUCTION**

During the 2012 FSC Compliance Audit, a suggestion was made that it would be prudent for Hoopa Tribal Forestry to draft a paper outlining the Tribe's compliance with FSC Guidelines even though the Tribe actively manages old growth stands. To this end, the Planning Department has undertaken the task of explaining this compliance. The following paper outlines the Tribe's compliance, not only to the Old Growth management, but to a number of other FSC Guidelines. This is provided so that future FSC auditors might have a point of reference when addressing the unique position of the Hoopa Tribe and the ongoing relationship with the Forest Stewardship Council.

### **History of FSC**

From the inception in 1990 through the actual birth of FSC in 1994, the rise of the FSC program has matched the development of the Tribe's current Forest Management Plan. In 1992, while the FSC interim Board of Directors was being established, the Tribe commenced the process of drafting a Forest Management Plan. With the 1994 approval of the FSC Principles and Criteria, FSC came to life as The Hoopa Tribe approved the FMP in April of 1994, and received the BIA approval September 1994.

The following threefold vision outlines the FSC mission to promote environmentally appropriate, socially beneficial, and economically viable management of the world's forests. This vision is that the world's forests meet the social, ecological, and economic rights and needs of the present generation without compromising those of future generations. This vision is achieved through adherence to the following three premises.

- 1). Environmentally appropriate forest management ensures that the harvest of timber and non-timber products maintains the forest's biodiversity, productivity, and ecological processes.
- 2). Socially beneficial forest management helps both local people and society at large to enjoy long term benefits and also provides strong incentives to local people to sustain the forest resources and adhere to long-term management plans.
- 3). Economically viable forest management means that forest operations are structured and managed so as to be sufficiently profitable, without generating financial profit at the expense of the forest resource, the ecosystem, or affected communities. The tension between the need to generate adequate financial returns and the principles of responsible forest operations can be reduced through efforts to market the full range of forest products and services for their best value.

To accomplish these goals, FSC adopted a number of Principles and Criteria.

### **FSC Guideline development**

The following is taken from the FSC website. The FSC Principles and Criteria were first published in 1994. They were amended in 1996, 1999 and 2001. A comprehensive review commenced in 2009, which resulted in major revisions to the wording – although not the substance – of the Principles and Criteria being proposed in 2011. Voting on the new version

closed in January 2012, with the new version of the FSC Principles and Criteria (FSC-STD-01-001 V5-0 D5-0 EN) being approved by 75% of the membership vote.

All ten principles and criteria must be applied in any forest management unit before it can receive FSC certification. The Principles & Criteria apply to all forest types and to all areas within the management unit included in the scope of the certificate.

The Principles and Criteria are applicable worldwide and relevant to forest areas and different ecosystems, as well as cultural, political and legal systems. This means that they are not specific to any particular country or region.

In order to help forest managers, stakeholders and certification bodies interpret the Principles and Criteria for a specific region; FSC is developing a set of International Generic Indicators. These are being produced following the most recent revision of the Principles and Criteria in 2012 and are based on the extensive explanatory notes that were developed to support discussion of the revised Principles and Criteria prior to their approval. For detailed information on the International Generic Indicators process please visit the website.

In many countries, FSC working groups have developed FSC National Standards. These are based on the Principles and Criteria, and provide locally appropriate indicators for each criterion to show compliance can be demonstrated in that national situation

## **History of Hoopa's FSC Certification**

In 1989, the Hupa began to manage their forest resources with trust oversight and federal approval granted by the BIA. Since 1990, the Hupa have exercised the full powers of self-governance as authorized by P.L. 100-472. By early 1991, the Hoopa Forestry Program was run entirely by the Tribe. The Tribe has a Forestry Division within the Natural Resources Department that administers forest management on Tribal lands.

In 1993, The Hoopa Valley Indian Reservation began considering the advantages that independent certification of their forestry operations might bring Tribal members. In 1996, the Tribal Council determined that it was in the best interests of the Hupa to explore the concept in detail. After several conversations between Tribal Forestry personnel, the Institute for Sustainable Forestry (ISF) and SmartWood, the decision was made for ISF/SmartWood to conduct a certification scoping of the Hoopa. A scoping, rather than a full assessment, was determined to be the most appropriate first step for the following reasons:

- Relatively recent changes in Hoopa forestry practices were purported to be improvements over past practices, but had not yet been examined on-the-ground by independent reviewers and documentation was minimal.
- While the Hupa's preservation of old-growth was impressive, the cutting of any such forests is a contentious issue in the Pacific Northwest, and needed to be examined prior to determining the appropriateness of going through a full certification assessment.

- The tribe wanted to gain additional information regarding certification and its potential benefits prior.
- ISF/SmartWood wanted to obtain a clearer understanding of the whole situation in order to better plan the assessment team, timeline and budget for a full certification assessment if it were considered the appropriate next step for the Hoopa Valley Tribe.

During the scoping, which occurred in March, 1997, Hoopa staff provided an introduction to key personnel, a general overview of the basic Tribal Forestry operations, updates on management changes and future directions, and logistical arrangements to speak with key individuals and visit field sites. Several management units were visited by the three-person scoping team to gain an understanding of management, environmental impacts, logging practices, and Chain-of-Custody:

The full certification field assessment occurred from July 26-August 1, 1998, at which time the full assessment team was able to evaluate all criteria. On August 12 and 13, Steve Gretzinger and Chris Maser made an additional visit to the Hoopa.

The Tribe was deemed compliant with the Forest Stewardship Counsel's guidelines and was certified as SmartWood compliant on April 15, 1999. Compliance is maintained through yearly inspections over the past decade with the most recent certification occurring October 2012. Certification of compliance with FSC and SmartWood is totally dependent on FSC conformance with the management goals of the Hoopa Valley Tribe. At no time shall the FSC compliance override the goals for the Hoopa Valley Tribe.

The FMP will comply with the Pacific Coast (USA) Regional Forest Stewardship Standards for such time as FSC mitigation measures are compatible to the FMP. However, the Forest Management plan is the overriding document governing Forest Management on the Reservation. The original compliance came under the present management. The management has not changed with the Revision of the FMP, the second revision in its nearly twenty-year life. Once approved, this revision will be in place for the remainder of a fifteen year period. In the past, the FMP has changed at a much slower rate than FSC rules or the interpretation of those rules. It is conceivable that there may come a time when the FSC rule interpretations place FSC certification outside the bounds of the FMP. The tribe will adhere to the FMP and will not violate the FMP to gain FSC compliance.

### Federal Forest Management Plan requirements

In meeting the needs to manage the Tribe's forestlands in accordance with the Tribal wishes, the Hoopa tribe has drafted a Forest Management Plan. This is required by the US government in the Title 25 of the Code of Federal Regulations, as well as other regulations. Those regulations are described below.

A Forest Management Plan is the principal document, approved by the Secretary (of the Department of Interior), reflecting and consistent with an integrated resource management plan, which provides for the regulation of the detailed, multiple-use operation of Indian forest land by methods ensuring that such lands remain in a continuously productive state while meeting the objectives of the tribe and which shall include: Standards setting forth the funding and staffing requirements necessary to carry out each management plan, with a report of current forestry funding and staffing levels; and standards providing quantitative criteria to evaluate performance against the objectives set forth in the plan. (25 CFR, Chap 1, Sub Chap H, 163.1)

The National Indian Forest Resources Management Act (25 U.S.C. §§ 3101-3120, November 28, 1990, as amended 1994) requires the Secretary to undertake forest land management activities on Indian forest lands in a manner designed to achieve a number of objectives, including:

1. Development,
2. Maintenance and enhancement of lands in a perpetually productive state in accordance with the principles of sustained yield;
3. Regulation of lands through forest management plans developed with the full participation of Indian tribes;
4. Development of forest industries by Indians to promote self-sustaining communities;
5. Retention of lands in their natural state when a tribe determines that is their highest and best use;
6. Management and protection of forest resources;
7. Maintenance and improvement of timber productivity, grazing, wildlife, fisheries, recreation, aesthetic, cultural and other traditional values.

The Secretary must withhold a reasonable deduction from the proceeds of Indian forest product sales to cover, in whole or part, the cost of managing and protecting the lands, with the remainder paid to the tribe.

The Bureau of Indian Affairs further states in 53 IAM FORESTRY Chapter 2 Item 2.4 Policy that all forested reservations, as categorized in 53 IAM 2.8A, in trust or restricted status, shall have a current Forest Management Plan (FMP) which satisfies 25 CFR 163.11 prior to the authorization of activities or expenditure of funds for forest management activities, except as provided for under 53 IAM 2.7. FMPs shall be covered by an appropriate environmental document in accordance with the National Environmental Policy Act (NEPA).

### Hoopa's FMP Development

The following timeline shows how the current Forest Management Plan was done to meet Tribal needs and to conform to Tribal control. This includes the Revision of the FMP which began in 2007.

In 1981 the BIA prepared and interim Forest Management Plan without Tribal input.

In 1982 by Tribal resolution, the Tribe rejected the BIA Interim Forest Management Plan.

In 1986, despite the Tribal resolution, the BIA adopted the Interim Forest Management Plan with a ten year span from 1983 to 1992.

In 1988 the Reservation was divided, allowing the Hoopa Tribe to have more control over the Square. In 1990 the Tribe took over Forest Management and began work on a Tribal forest Management Plan.

At the end of 1991, the BIA Interim FMP was extended for one year.

In March of 1992 with letters went out to the various tribal entities to initiate the Tribal FMP drafting process.

In April of 1992, the first of two newsletters went out with a Tribal questionnaire.

A Policy Committee was formed in February of 1992 and held meetings through December of 1993.

Meetings with the Tribal Council occurred in June and July of 1992, and again in October and November of 1993.

Tribal hearings were held in December of 1993.

The BIA consultation officially began September of 1993 and continued until February of 1994.

The Tribal Council approved the FMP on April 20, 1994 and the BIA finalized their Finding of No Significant Impact (FONSI) on September 9, 1994.

On March 22, 2000 the Council adopted minor recommended changes to the FMP and extended it until 2008.

On March 27, 2007, a Project Initiation Letter was put out to commence the Revision of the Hoopa Valley Indian Reservation Forest Management Plan that was set to expire in December 2008.

Between April 2007 and October 2010, numerous IDT meetings were held to consider potential revisions to the FMP. Additionally, a tribal newsletter was published and yearly surveys occurred to gain Tribal input to the Revision process.

The Tribal Council extended the amended FMP for a one year period on November 20, 2008 and again on December 30, 2009.

On November 9, 2010 an Interdisciplinary Team (IDT) of Tribal resource specialists recommended adoption of the proposed revisions to the FMP.

Tribal Forestry met with the Tribal Council on November 12, 2010 and December 15, 2010 to present the proposed Revisions to the FMP.

In December of 2010, the Tribal Council extended the FMP for the period until the Revised Forest Management Plan for the Period of 2011-2026 is approved, not to exceed three years.

Tribal Forestry, TEPA, and Tribal Fisheries met with the Tribal Council on January 25, 2011 to discuss the RPZ provisions of the FMP. The Council voted to accept the proposed FMP

Revision for LPA review on February 23, 2011. Two public meetings were held on March 28, 2011 and April 11, 2011. During those meetings all members of the public and Tribal Council were able to ask questions. There were no proposed amendments to the FMP during these meetings. The Council approved the FMP in its entirety without any proposed revisions or amendments on April 22, 2011.

The NEPA Review of the FMP has been conducted concurrent with the FMP revision. The IDT concluded that an Environmental Assessment was adequate NEPA review. This EA was presented to the Tribal Council for a decision on July 19, 2011. The decision was approved by the Tribal Council and signed by the Chairman on January 23, 2012.

A Consultation with the US NMFS was commenced on May 4<sup>th</sup>, 2011 with the submission of a Biological Assessment from the Tribe. The NMFS has yet to issue a Biological Opinion.

The USFWS Consultation was initiated on January 16, 2012 with the submission of a Biological Assessment. The USFWS issued a Biological Opinion on June 6, 2012.

The EA for the FMP was sent to the BIA on January 24, 2012, which included the Tribal Decision Notice. The BIA will issue a FONSI once the Consultations are complete. At the Present time, the NMFS has estimated to have a draft BO by December 31, 2012. Based on this, the BIA is prepared to issue a Conditional FONSI on the EA to the FMP Revision, which will allow for the Revision to the FMP to be approved.

## HOOPA FORESTRY'S COMPLIANCE WITH FSC GUIDELINES

This section will address specific Principles and explain Hoopa's compliance to each Principle. For the purpose of this paper, Principle 3, 6.3 and 6.10 were chosen as these were deemed the most important for auditors to understand.

### Compliance with Principle 3

PRINCIPLE 3: Indigenous Peoples' Rights reads as follows:

"The legal and customary rights of indigenous peoples to own, use, and manage their lands, territories, and resources shall be recognized and respected." The Hoopa Valley Indian Reservation is owned and managed by the Hupa people. The entire Reservation is within the aboriginal lands of the Hupa people, and although their lands extended beyond the current boundary of the Reservation, the entirety of the FSC lands is owned and managed by the Hoopa Tribe.

#### **C3.1 Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies.**

**Indicator 3.1.a** Tribal forest management planning and implementation are carried out by authorized tribal representatives in accordance with tribal laws and customs and relevant federal laws.

**Indicator 3.1.b** The manager of a tribal forest secures, in writing, informed consent regarding forest management activities from the tribe or individual forest owner prior to commencement of those activities.

Hoopa Tribal Forestry is responsible for the management of the Tribe's forestlands. Tribal Forestry is made up professionals who are both Tribal members and non-tribal specialists. All are under the employment of the Hoopa Valley Tribal Council. Tribal Forestry adheres to a Forest Management Plan, which was developed by a Tribal Policy Committee in conjunction with the Tribes Cultural Committee. The Policy committee was disbanded after the approval of the FMP as it was no longer needed. The Cultural Committee remains in service and is consulted on Tribal Forest Management on at least a yearly basis.

The Forest Manager is a Tribal Member and each year's environmental documents go before the Tribal Council for approval, before going to the BIA. All projects follow NEPA for approval before implementation and although the BIA is the signatory authority, It falls to the tribal Council to be the Decision Makers.

#### **C3.2 Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.**

**Indicator 3.2.a** During management planning, the forest owner or manager consults with American Indian groups that have legal rights or other binding agreements to the FMU to avoid harming their resources or rights.

**Indicator 3.2.b** Demonstrable actions are taken so that forest management does not adversely affect tribal resources. When applicable, evidence of, and measures for, protecting tribal resources are incorporated in the management plan.

Hoopa Tribal Forestry is a multiple-use management organization. Tribal Forestry manages the forestlands for timber production, protection of Threatened and Endangered species, as well as

culturally important species, protection of the watercourses for healthy anadromous fish populations, and protection and enhancement of cultural gathering resources, including basketry materials, acorns and other medicinal plants.

Meeting with the Cultural Committee at the outset of the NEPA scoping process allows Tribal Forestry to identify cultural resources and provide them protection. Many of the Forestry staff utilize cultural resources, or are related to someone who utilizes cultural resources. The FMP lists a number of reserves and partial cut areas for various tribal resources. For instance, there is a moratorium on the cutting of Port Orford cedar for anything other than cultural uses. Another example is the FMP measure to maintain all tanoaks greater than 16" DBH within one-half chain (33 feet) of a seasonal road for acorn production in areas easily accessible to Tribal elders. These are just two of numerous provisions in the FMP.

**C3.3 Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognized and protected by forest managers.**

**Indicator 3.3.a** The forest owner or manager invites consultation with tribal representatives in identifying sites of current or traditional cultural, archeological, ecological, economic or religious significance.

**Indicator 3.3.b** In consultation with tribal representatives, the forest owner or manager develops measures to protect or enhance areas of special significance (see also Criterion 9.1).

Hoopa Tribal Forestry maintains a confidential record of all known archaeological resources on the reservation. In addition, there is a complete archaeological survey completed on every ground disturbing activity that is planned. The yearly meetings with the Cultural committee are used to identify any cultural or religious resources or sites that are not presently known to Tribal Forestry. Location of any features resembling a potential cultural or archaeological resource is brought before the Tribe's Cultural Committee.

**C3.4 Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.**

**Indicator 3.4.a** The forest owner or manager identifies whether *traditional knowledge* in forest management is being used.

**Indicator 3.4.b** When traditional knowledge is used, written protocols are jointly developed prior to such use and signed by local tribes or tribal members to protect and fairly compensate them for such use.

**Indicator 3.4.c** The forest owner or manager respects the confidentiality of tribal traditional knowledge and assists in the protection of such knowledge.

Part of any Archaeological survey is a meeting with members of the Tribe's Cultural Committee. As the surveyors contact Committee members, the surveyor is to compensate the cultural committee members for their time. In addition, if any Cultural Committee member goes out on the surveys, they are compensated for their time as agreed upon by the Surveyor and the Committee member.

## Compliance with Principle 6.3

### PRINCIPLE 6: ENVIRONMENTAL IMPACT

**Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.**

Principle 6 focuses on maximizing positive environmental impacts and minimizing adverse environmental impacts from forest management operations: assessment of impacts, protection of species and communities, maintenance of ecological functions, the use of pesticides and forest conversion. The intent of 6.1 has been mentioned above as various Environmental Assessments have been mentioned. Principle 6.2 has not typically been a concern, since Hoopa Tribal Forestry is very aggressive at monitoring for and protecting listed species. However, as Principle 6.3 has many facets and some of those have potential to bring up concerns among auditors, that Principle will be discussed at length.

**C6.3 Ecological functions and values shall be maintained intact, enhanced, or restored, including:  
Forest regeneration and succession.  
Genetic, species, and ecosystem diversity.  
Natural cycles that affect the productivity of the forest ecosystem.**

Criterion 6.3 addresses the full range of biodiversity attributes in general management zones and in special management zones that are not specifically addressed in other Criteria. Each of the following Indicators is intended to address a specific attribute of biodiversity, and as a whole the Indicators represent an integrated approach to managing biological diversity.

The outline for Criterion 6.3 is as follows:

Landscape-Scale Indicators

- 6.3.a.1 Successional stages
- 6.3.a.2 Rare ecological communities
- 6.3.a.3 Old growth
- 6.3.b Animal species and habitat diversity
- 6.3.c Riparian Management Zones

Stand- or Site-Scale Indicators

- 6.3.d Plant species diversity
- 6.3.e Local seed sources
- 6.3.f Full range of tree sizes / Declining trees, snags, and coarse debris
- 6.3.g Even-aged retention
- 6.3.h Invasive species control
- 6.3.i Fuels management

### Landscape-scale indicators

**Indicator 6.3.a.1** The forest owner or manager maintains, enhances, and/or restores under-represented **successional** stages in the FMU that would naturally occur on the types of sites found on the FMU. Where old growth of different community types that would naturally occur on the forest are under-represented in the landscape relative to natural conditions, a portion of the forest is managed to enhance and/or restore old growth characteristics.

The FMP considers the landscape patterns as demonstrated by the large number of acres in reserves (1/3 of Reservation) and the connectivity of those reserves. In revising the FMP, Hoopa tribal Forestry has re-evaluated the connectivity of the reserves and adjusted the reserve acres to increase connectivity throughout the Reservation and with adjacent ownerships.

Hoopa's Silvicultural practices mimic the disturbance regimes of snow, wind, fire, insects, disease, and geological events. Prescriptions are based on the habitat and successional stage of each unit. Regeneration prescriptions and subsequent planting is based on site specific ecology. Every unit is designed to maintain old-growth structures across the landscape. The Tribe is currently struggling with the most appropriate way to treat second growth stands that are entering merchantable size classes. Since the older second growth units tend to be large contiguous blocks additional thought is being given to how to manage each watershed at the landscape level including considerations of the condition of adjacent stands.

The conservation zones (approximately one third of Reservation) are set aside from management and natural processes are allowed to occur. Most of the conservation zones are comprised of late successional stands. No timber harvesting occurs in any of the designated conservation zones however non-timber forest products (i.e. mushrooms, acorns, berries, deer, bear grass, etc.) are available for subsistence and ceremonial harvest by the Tribal members on a majority of the conservation zones. There is no commercial salvage harvesting in the conservations zones although firewood may be gathered.

**Indicator 6.3.a.2** When a *rare ecological community* is present, modifications are made in both the management plan and its implementation in order to maintain, restore or enhance the viability of the community. Based on the vulnerability of the existing community, **conservation zones** and/or **protected areas** are established where warranted.

The FMP has identified a handful of rare ecological communities that have been placed in protected status. In addition, Tribal Forestry undertakes an assessment of rare, threatened and endangered (RTE) species and rare ecological communities (including plant communities) which each project level Environmental Assessment. This review has been observed to be as thorough as that required by the rigorous California THP process. This is as varied as the protection of the Tribe's small natural redwood grove and the preservation of grasslands through mowing and controlled burning.

**Indicator 6.3.a.3** When they are present, management maintains the area, structure, composition, and processes of all **Type 1** and **Type 2 old growth**. Type 1 and 2 old growth are also protected and buffered as necessary with conservation zones, unless an alternative plan is developed that provides greater overall protection of old growth values.

Type 1 Old Growth is protected from harvesting and road construction. Type 1 old growth is also protected from other timber management activities, except as needed to maintain the ecological values associated with the stand, including old growth attributes (e.g., remove exotic species, conduct controlled burning, and thinning from below in dry forest types when and where restoration is appropriate).

Type 2 Old Growth is protected from harvesting to the extent necessary to maintain the area, structures, and functions of the stand. Timber harvest in Type 2 old growth must maintain old growth structures, functions, and components including individual trees that function as refugia (see Indicator 6.3.g).

On public lands, old growth is protected from harvesting, as well as from other timber management activities, except if needed to maintain the values associated with the stand (e.g., remove exotic species, conduct controlled burning, and thinning from below in forest types when and where restoration is appropriate).

On American Indian lands, timber harvest may be permitted in Type 1 and Type 2 old growth in recognition of their sovereignty and unique ownership. Timber harvest is permitted in situations where:

1. Old growth forests comprise a significant portion of the tribal ownership.
2. A history of forest stewardship by the tribe exists.
3. High Conservation Value Forest attributes are maintained.
4. Old-growth structures are maintained.
5. Conservation zones representative of old growth stands are established.
6. Landscape level considerations are addressed.
7. Rare species are protected.

In 2010, Hoopa Tribal Forestry classified the Tribes forestlands based on FSC definitions of old-growth. Out of the 87,500 acres of commercial forestland, there are approximately 27,380 acres of Type 1 Forests and 11,690 acres of Type 2 Forests. Type I and II forests make up 31% and 13% of the Reservations Forestlands, respectively. The total of Type I and II forests is 39,070 acres, or 44% of the Reservation.

The Hoopa Valley Tribe does manage and harvest Type I forests in accordance with Section 6.3.a.3, which states: “On American Indian lands, timber harvest may be permitted in Type 1 and Type 2 old growth in recognition of their sovereignty and unique ownership.” However, this is subject to 7 provisions, which shall now be addressed.

1. Old growth forests comprise a significant portion of the tribal ownership. For the past 40 years harvesting has taken place on the Tribe’s 87,500 acres. And yet, Type I and type II forests make up over four-tenths of the reservation. This is mostly due to the change in forest management over the past 20 years. The use of modified silvicultural practices to maintain old growth characteristics in harvest units has resulted in an increase in Type II stands. However, available Type I stands are becoming a scarce commodity for the Tribe and it is anticipated that only a decade of available stands remain. When this barrier it hit, there will remain in reserves and traditional areas approximately 22,700 acres of Type I forests, or 26% of the reservation. In past FSC audits, this has been determined to meet the standard of a “significant portion.” However, under the Tribe’s consideration having one-quarter of their land locked up in reserves is a boon to many and a hindrance to those looking at the forest merely for revenue. Either way, from a Tribal point of view, it is a significant portion.
2. A history of forest stewardship by the tribe exists. As mentioned above, the Tribe’s forestlands have been managed for the past 60 years. However, it was not until the Tribe exerted control over its lands that true stewardship began. The timber cut dropped from unsustainable levels as much as 20 MMBF per year to a reasonable 10.5 MMBF per year. And when areas, such as the East Side of the Valley Viewshed, were made off limits to harvesting, the Annual Allowable Cut (AAC) dropped even further to 9.853 MMBF. With the last CFI survey, the cut was once more dropped to account for the damage and loss due to problems with tree-stripping bears and the impacts of fires. The past 18 years of operations under the Tribe’s Forest Management Plan (FMP) show their track record of stewardship.
3. High Conservation Value Forest attributes are maintained. The Tribe maintains 1,250 acres of ceremonial Reserves, a 1,550 acre reserve around the culturally important De NO TO Trail, and 40 acres around nearly 120 archaeological sites. Also, there are cores areas for the Northern Spotted owls, a listed species, amounting to 2,190 acres. Another 1,675 acres are in reserve for plant communities with cultural importance. The 3,410 acres of no Cut Creek buffers are for the protection of the listed SONCC Coho and Chinook salmon runs. These

among others make up the 24,665 acres of reserves on the Reservation for High Conservation Value Forests. A discussion of what constitutes a High Conservation Value Forest follows the discussion of these 7 Criteria.

4. Old-growth structures are maintained. All harvests of Type I forests are designed to maintain Old Growth Characteristics. Although shelterwood is a common practice for regenerating stands, the Tribe has switched to a modification of this called a Group Shelterwood. The FMP contains the following description of a Group Shelterwood.

*Under the group shelterwood system leave trees will be left in compact aggregations ranging from 1/10<sup>th</sup> to 1/2 acre. The main objective under this system will be the amount of acreage left in groups instead of basal area per acre. Leave trees should generally be windfirm, need not necessarily be overly healthy, and need not be able to put on good volume growth. However, markers should look for leave trees without exposed roots, and which are free from cat faces or fire scars.*

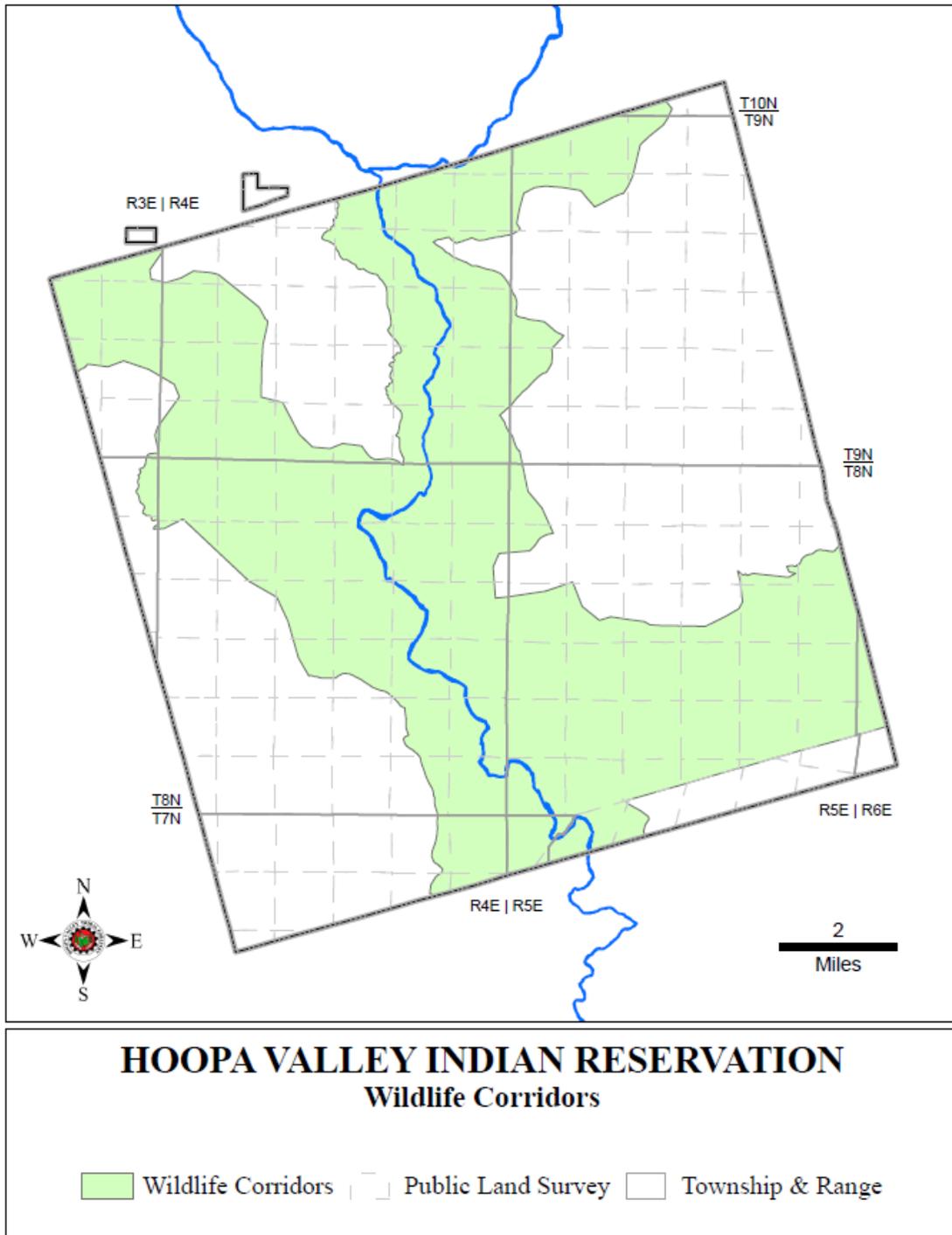
The groups typically make up at least 30 percent of the unit and are centered on critical habitat components, or other important features on the landscape that take precedent over economic benefits. Many of these save groups are combined with other features, like stream protection zones and account for the increase in Type II forest stands. Even the modified clearcuts have the following provision to maintain old growth characteristics.

*A combination of conifers and hardwoods should be left such that approximately 2-5 trees remain after site preparation treatments are complete. Vertical structure components should generally be cull trees or otherwise be high wildlife value trees. All merchantable material should be removed, unless the number of retained trees stated above cannot be fulfilled, then leave a combination of good growing or cull trees.*

The Tribe is proud of its ability to maintain Old Growth Structure throughout the Reservations Forestlands.

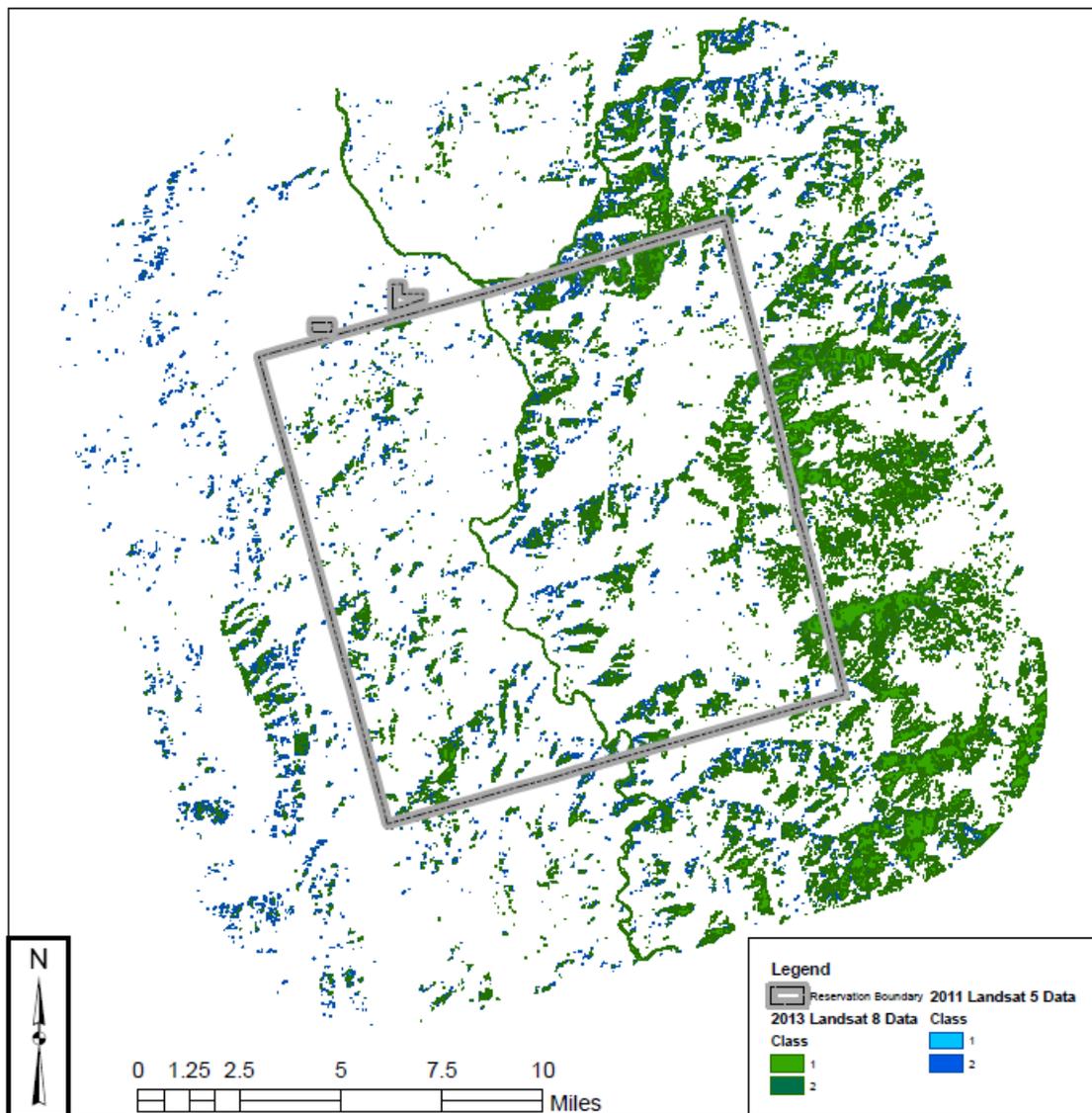
5. Conservation zones representative of old growth stands are established. Of the 24,665 acres of reserves, currently 8,445 acres contain Type I forests and another 6,770 acres contain Type II forests. These 15,215 acres will increase over time as stands cut before the introduction of the FMP develop into Old Growth Stands.
6. Landscape level considerations are addressed. The Hoopa Valley Indian Reservation is located in the eastern portion of Humboldt County adjacent to the Six Rivers National Forest, managed by the US Forest Service (USFS). The National Forest wraps around the north, east, and south sides of the Reservation. In addition, the Bureau of Land Management (BLM) holds Lacks Creek Management area which is another 8,673 acres with a couple miles of the Reservation's western boundary. Management on the Reservation took these lands into consideration as save areas were developed for the Forest Management Plan. The application of no-cut areas like the De No To Boundary, the Valley Face reserve, and NSO core areas were combined with partial harvest areas such as Traditional Species areas, the Wild and Scenic River Corridor and the valley viewshed to create general wildlife migration corridors as shown in the graphic on the following page.

These corridors provided potential migration corridors for various animal species from the eastern USFS lands to the Klamath River and the Pine Creek Drainage and the Bald Hill Prairies to the west of the Reservation. With the eastern boundary of the Reservation adjacent to the 541,200 acre Trinity Wilderness the migration corridor through the Reservation was one attempt to associate local management with landscape level considerations.



These corridors provided potential migration corridors for various animal species from the eastern USFS lands to the Klamath River and the Pine Creek Drainage and the Bald Hill Prairies to the west of the Reservation. With the eastern boundary of the Reservation adjacent to the 541,200 acre Trinity Wilderness the migration corridor through the Reservation was one attempt to associate local management with landscape level considerations.

These migration corridors become more obvious when one considered the abundance of old growth in the vicinity of the Reservation. The figure below shows the abundance of Old Growth Douglas-fir forests as analyzed in 2011 using Landsat 5 data and again in 2013 utilizing Landsat 8 data. This shows that the majority of old growth Douglas-fir forests is on the eastern side of the Reservation blending into the Trinity Wilderness.



In dealing with Listed Species, the Hoopa Valley Tribe has partnered with the US Fish and Wildlife Service (FWS) to attempt to manage Barred owl populations in an attempt to stabilize the northern spotted owl populations. Matched with the Willow Creek USFS Ranger District, the Hoopa Tribe will manage the invasive owls and compare data with the USFS. This will allow the FWS to track impact of barred owl management versus non-management on the spotted owl populations. This co-operative survey will provide data for large-scale management across the species range which is being impacted by the invasive barred owls.

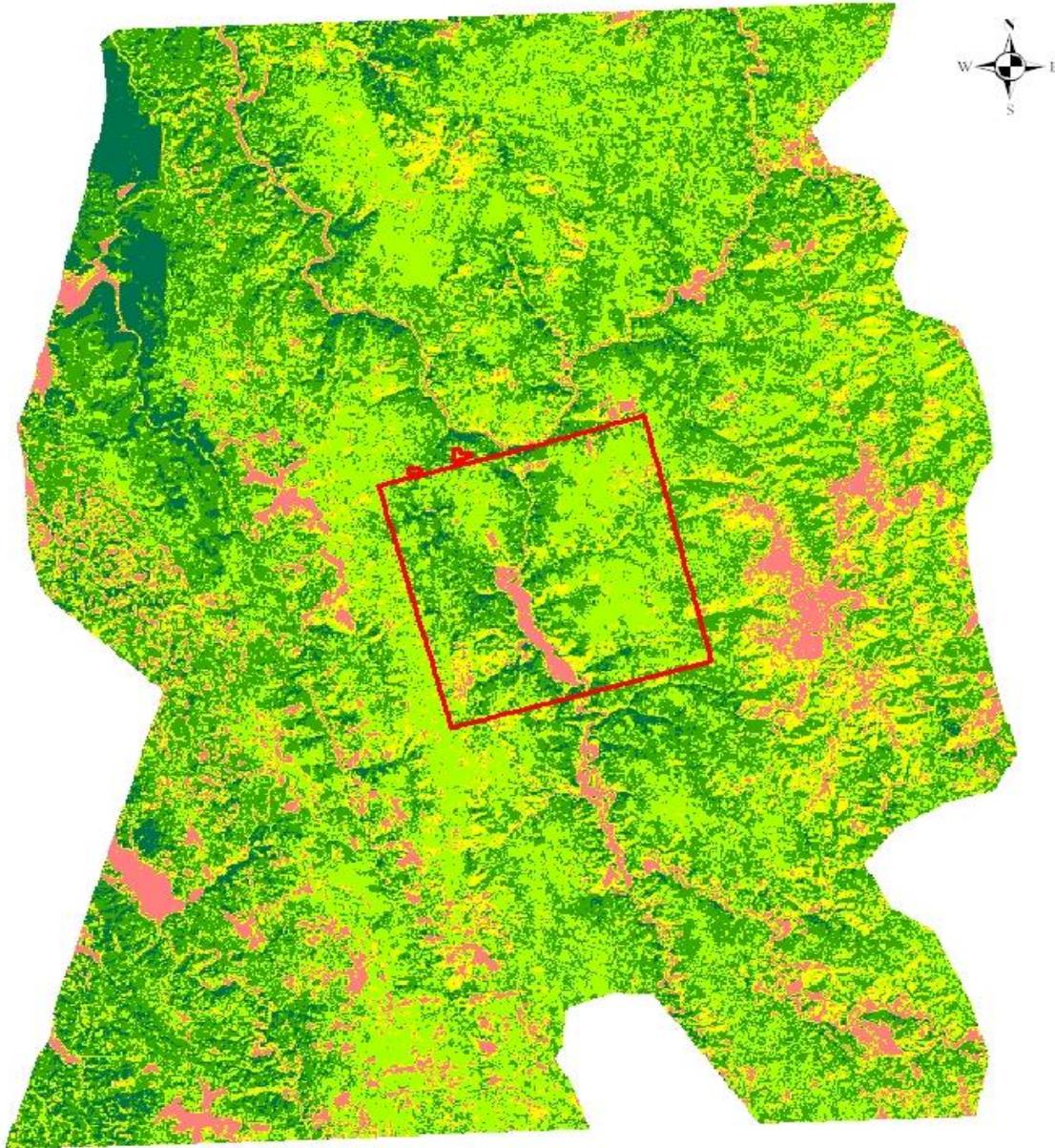
The Hoopa Valley Tribal has been an integral part in the consideration of the Pacific Fisher for potential listing under the Endangered Species Act. Data from the Hoopa Reservation has been provided to the task force considering this species and management practices implemented on the reservation used to determine acceptable management acceptable for the preservation of this species. The Hoopa Tribe's head Wildlife Biologist has produced the following assessment of Pacific Fisher habitat throughout the range in Humboldt and Trinity counties. The map on the following page shows the potential habitat with that landscape level assessment areas.

These are examples of Hoopa's landscape level considerations of how the Tribe's old growth stands and management impact adjacent lands.

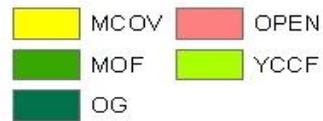
7. Rare species are protected. This has been already demonstrated in the reserves and High Conservation Value Forest discussions.

Because the Tribe is in compliance with the provisions of Section 6.3.a.3, they continue the practice of harvesting Type I forests. This is, as stated before, a practice that has a definite close. The following graph and table show the current practice of Type I harvesting, and the resulting increase of Type II forests. It also shows that in 2020, the harvest of Type I stands lessens and ends by 2025. From there the development of stands in the reserves begins to raise the level of both Type I and Type II forests. Due to the complexity of the calculations, these increases were marked in decade level increases, thereby creating the stair step appearance of the graph's increase. At the latter end of the Type I line, there is an increase in acres. This is in anticipation of the increase in growth from leave groups and protection zones in plantation that were harvested prior to the implementation of the FMP. As these plantations are brought under management, there will be save groups and protection zones that will ultimately develop into projected Type I stands.

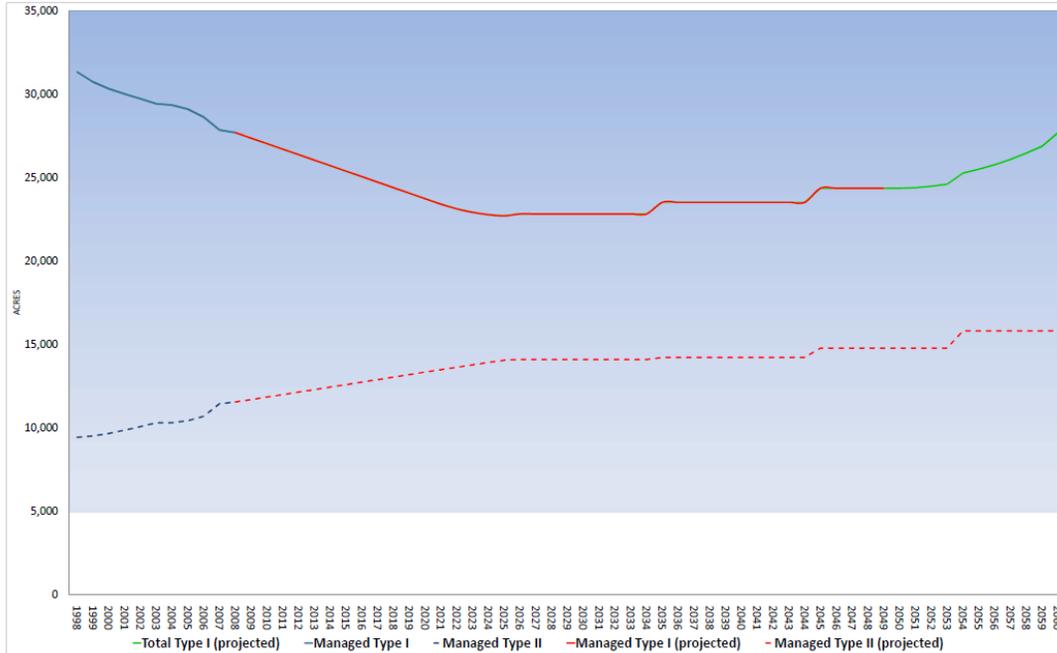
This trend is shown on the graph on page 17. The solid line shows the Type I forests and the lower dashed line shows the Type II forests in terms of acres. The graph projects the harvest out to the year 2060, which is the projected end of the second complete rotation of the Tribes Forestlands.



**Final 5 Classes Following Reclassification and Majority Filter Processing**



Final 5 classes following reclassification and majority filter processing of a 15 class supervised maximum likelihood classification of the landscape scale assessment area within portions of Humboldt and Trinity Counties. Classes: MCOV dense over fisher cover low tree cover, i.e. brushy or small trees, OPEN non-forested to moderate cover of brush or trees, YCCF, young closed canopy forest, MOF, mature and old growth forest hardwood and conifer, OG dense old growth conifer.



The following is a table documenting the levels of harvest over a ten year period starting back from 2008. This shows the average level of cut used to make the projections, and represents the blue lines on the graph above.

Type	Acres	Type 1 stands Change	Type 2 stands Change	Net loss of Old Growth
<b>1998</b>	1	31,362.45	0 ac	0 ac
	2	9,426.92		0 ac
<b>1999</b>	1	30,761.52	-600.92 ac	-515.27 ac
	2	9,512.57		85.65 ac
<b>2000</b>	1	30,349.01	-412.52 ac	-268.02 ac
	2	9,657.07		144.50 ac
<b>2001</b>	1	30,041.04	-307.97 ac	-106.77 ac
	2	9,858.26		201.19 ac
<b>2002</b>	1	29,747.40	-293.64 ac	-79.29 ac
	2	10,072.62		214.35 ac
<b>2003</b>	1	29,444.10	-303.30 ac	-74.01 ac
	2	10,301.91		229.29 ac
<b>2004</b>	1	29,365.55	-78.55 ac	-75.32 ac
	2	10,305.14		3.23 ac
<b>2005</b>	1	29,128.40	-237.15 ac	-123.58 ac
	2	10,418.71		113.57 ac
<b>2006</b>	1	28,652.87	-475.53 ac	-205.64 ac
	2	10,688.60		269.89 ac
<b>2007</b>	1	27,868.99	-783.88 ac	-24.68 ac
	2	11,447.80		759.20 ac
<b>2008</b>	1	27,711.73	-157.26 ac	-64.34 ac
	2	11,540.72		92.92 ac
Total Change			-3,650.72 ac	2,113.80 ac
Average change per year			-365.07 ac	211.38 ac

Thus at the present time there is an average 365 acre reduction in Type I stands, of which 211 drops into a Type II classification. Harvesting Type I stands results in a net loss of 154 acres of Old Growth Forests, or a 1.3% reduction in Type I stands each year.

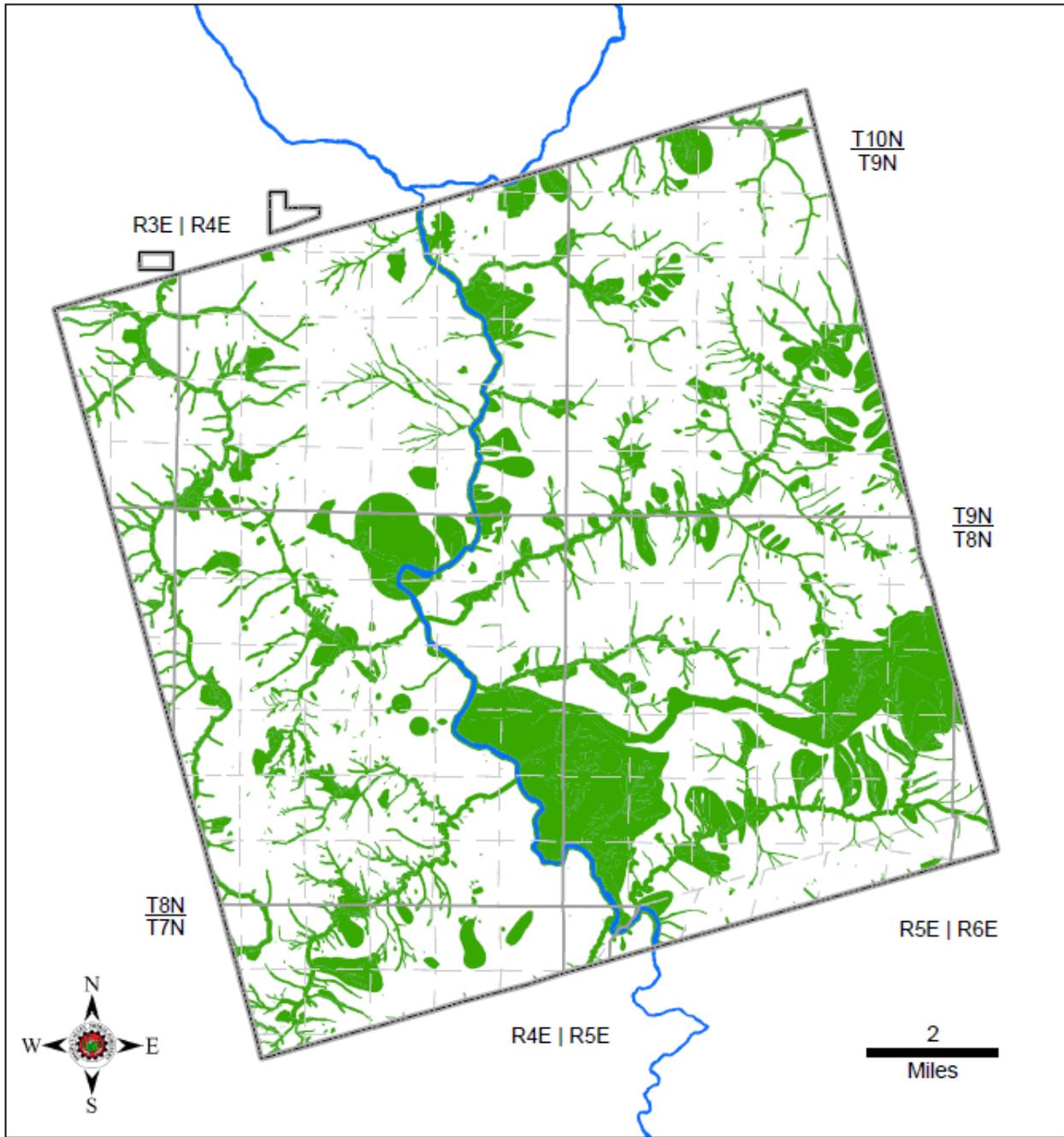
High Conservation Value Forests

In addressing this issue, it is important to begin with the understanding that old-growth characteristics are not necessarily what creates a High Conservation Value to the Hoopa Tribe. Certainly there are a number of Old-Growth dependant features that create a high conservation value, but the size and density of the trees is not necessarily what creates the conservation value of the forest.

For the purposes of this discussion, there are 24,665 acres of designated “No-Cut” stands on the Reservation outside the urban areas, and excluding Fee lands. These are acres that are set aside for one of many reason including: 1,250 acres of Ceremonial Reserves, a 1,550 acre reserve around the culturally important De NO To Trail, 40 acres around nearly 120 archaeological sites, 2,190 acres of Northern Spotted owls cores areas, 1,675 acres for sensitive plant communities, and 3,410 acres of no Cut Creek buffers. This also includes oak woodlands, viewshed acres, and tribally designated wilderness acres. All of these acres are High Conservation Value Forest Acres. However, only 15,215 acres of the 24,665 “No-Cut” acres have old-growth characteristics. The remainder is in growing forests, oak woodlands, or previously impacted riparian protection zones. The “No-Cut” areas are shown on the map on the following page.

Where Old-growth characteristics exist in the “No-Cut” acres, these features are maintained. This does not necessarily mean an absence of operations, but it does mean a preservation of the overstory canopy. Activities such as sanitation harvest, brush removal and understory thinning can and do take place within these designated “No-Cut” areas. The most common example of this is shaded fuelbreaks where the fuels specialist has all understory ladder fuel removed within the fuelbreak area, but leaves all vegetation over 10” DBH untouched, or merely pruned to the height a person with a chainsaw can reach.

Year	Non HCVF Old growth		HCVF	
	FSC Class I Acres	FSC Class II Acres	Old Growth Acres	Plantation Acres
1998	38,131.70	18,271.83	19452.49	8793.82
1999	37,530.77	18,357.48	19452.49	8793.82
2000	37,118.26	18,501.98	19452.49	8793.82
2001	36,810.29	18,703.17	19452.49	8793.82
2002	36,516.65	18,917.52	19452.49	8793.82
2003	36,213.35	19,146.82	19452.49	8793.82
2004	36,134.80	19,150.05	19452.49	8793.82
2005	35,897.65	19,263.62	19452.49	8793.82
2006	35,422.12	19,533.51	19452.49	8793.82
2007	34,638.24	20,292.71	19452.49	8793.82
2008	34,480.98	20,385.63	19452.49	8793.82



## HOOPA VALLEY INDIAN RESERVATION High Conservation Value Forest

H.C.V.F
  Public Land Survey
  Township & Range

There is no formal annual monitoring of the “No-cut” old-growth characteristics. However, the “No-cut” acres are informally assessed through every activity that takes place in and around such stands. For example, when a plantation crossing the De-No-To Trail buffer is to be treated, the buffer boundary becomes the treatment boundary and only the area outside the buffer is treated. Through this process, any old-growth characteristics within the designated “No-Cut” areas are preserved.

Also the initiation of harvest operation planning begins with an assessment of the stands available, by removing all designated “No-Cut” areas. Through this process, only old-growth stands without the HCVF designation are made available for further harvest consideration.

The actual monitoring process becomes more of an office exercise as the HCVF areas are not subject to harvest management. As stated above, this does not exclude operations which do not impact the overstory conditions. The following is a table showing for ten years change in old growth stands and in HCVF stands. Old growth stands The HCVF, the number of old growth stand acres in non HCVF stands, both Type I and Type II, and the number of HCVF acres, broken up into Old Growth and non-old growth (plantation) acres.

As mentioned previously, there are HCVF acres outside the “No-Cut” acres, but these are in places where old-growth characteristics are currently absent. One of the primary locations is the oak woodlands. These stands are of high value to the tribe, and have anciently been maintained through periodic burning. With the advent of the fire suppression mentality, this landscape burning was prohibited. The Hoopa Tribe is diligently working to re-establish these cultural burns back into the forest management. This will result in the removal of invading conifers in the oak. However, these conifers are typically not old-growth trees.

As mentioned previously, there are HCVF acres outside the “No-Cut” acres, but these are in places where old-growth characteristics are currently absent. One of the primary locations is the oak woodlands. These stands are of high value to the tribe, and have anciently been maintained through periodic burning. With the advent of the fire suppression mentality, this landscape burning was prohibited. The Hoopa Tribe is diligently working to re-establish these cultural burns back into the forest management. This will result in the removal of invading conifers in the oak. However, these conifers are typically not old-growth trees.

Another severely impacted High Conservation area within the Hoopa Ancestral lands is the prairies. Like the oak woodlands, these prairies have been adversely impacted by the fire suppression/prevention mentality. The Hoopa Tribe has planned and will soon be implementing the restoration of these prairies. This too will require the removal of conifers. Where historic boundaries can be established, this might result in the cutting of some pre-dominant overstory trees and removal of old-growth characteristics from areas with a high conservation value. But since that value is in the prairie grasslands, the removal of those old-growth characteristics will improve the High Conservation Value of those acres. Granted this is a rare instance as most designated prairie encroachment removal is young growth trees, but it will occur.

A consideration in creating a high conservation value is the gathering potential of the understory. Where bear grass or hazel stick or medicinal herbs are adversely impacted by old-growth

conifers, treatment will occur. Typically treatments are restricted to the understory vegetation, but may require some sanitation removal, or even a canopy thinning operation. At no time will these stands be altered to the point where the old-growth characteristics will be lost.

There is also an HCVF issue occurs in stands with a Port-Orford cedar (POC) understory. Because of the cultural significance of this species, there is a Tribal moratorium on cutting POC. However, that does not preclude operations in a stand with POC. In these stands, the POC is protected and sufficient canopy is retained to maintain the shaded condition the POC desires. Through the selective harvest, the POC is protected and old growth characteristics are maintained in the stand by retaining overstory old-growth trees for shade. Also, this moratorium does not preclude cutting a POC for ceremonial purposes.

Because the Tribe manages old-growth timber, there will continue to be a general removal of old-growth characteristics from many stands. However, these are stands in the active management areas and are not High Conservation Value Forests. The drafting of the FMP designated the stands with High Conservation Values and these were incorporated in the “No-Cut” areas. Where high conservation values are discovered in these manageable stands, Special Management Zones are created. These are reviewed at the end of each year’s operation through a Timber Sale Review. In this way, the Tribe monitors the HCVF characteristic and old-growth characteristic preservation. No additional monitoring will be implemented.

**Indicator 6.3.b** To the extent feasible within the size of the ownership, particularly on larger ownerships, management maintains, enhances, or restores habitat conditions suitable for well-distributed populations of animal species that are characteristic of forest ecosystems within the landscape.

The FMP identifies the needs of several critical species and their habitat requirements. It also outlines what protection measures are necessary. The effort to restore encroached prairies is an example of management to maintain and enhance habitat to keep a well-distributed population of animals. Hoopa Tribal Forestry has collected more data on Pacific fisher than most other landowners and has played a vital role in the Pacific fisher task for considering the potential for listing the species. Other studies include monitoring pileated woodpeckers to learn more about this species activities and needs.

The acquisition of this knowledge and the protection measures already included in the FMP, including spotted owl and Murrelet reserves, traditional species special management zones, and numerous cultural reserves will, in conjunction with prairie restoration efforts, will preserve conditions suitable for well-distributed populations of numerous animal species.

## Stand-scale Indicators

**Indicator 6.3.d** Management practices maintain or enhance plant species composition, distribution and frequency of occurrence similar to those that would naturally occur on the site.

The Tribe's FMP contains numerous practices to promote the natural diversity of the forest stands. This is exemplified by the following section taken from the Silvicultural guidelines.

*Manage for "biodiversity", including tanoak. Leave tanoak for habitat/islands. In areas requiring geologic mitigation, use hardwoods for site protection. Do not girdle tanoak in non-stocked areas in HTR blocks. Leave tanoak for wildlife mitigation if needed. Leave tanoak along roads where possible.*

One of the eighteen main objectives of the FMP is to “*Preserve forests in their natural state wherever it is considered and authorized.*”

The use of the various Silvicultural methods, the multiple reserves, and the various management provisions of the FMP are designed to maintain the plant species, composition, distribution, and frequency of the plant communities occurring on the Reservation.

**Indicator 6.3.e** When planting is required, a local source of known provenance is used when available and when the local source is equivalent in terms of quality, price and productivity. The use of non-local sources are justified, such as in situations where other management objectives (e.g. disease resistance or adapting to climate change) are best served by non-local sources. **Native species** suited to the site are normally selected for regeneration.

Hoopa Tribal Forestry leaves seed and legacy trees of a whole range of species, form and size classes to provide on-site genetic diversity. This should not result in genetic erosion since they are not taking just the good trees, and a diversity of seed sources is left. Replanting with local seed stock also contributes to a sound genetic base. Finally, logging contracts require the loggers to leave a mix of species.

The Tribe maintains a Tribal Nursery for conifer tree seedlings that are planted throughout the Reservation. The seed bank used by this nursery is from the local seed zone and no non-local seed sources are used.

**Indicator 6.3.f** Management maintains, enhances, or restores habitat components and associated stand structures, in abundance and distribution that could be expected from naturally occurring processes.

These components include:

- a) large live trees, live trees with decay or declining health, **snags**, and well-distributed coarse down and dead woody material. **Legacy trees** where present are not harvested; and
- b) vertical and horizontal complexity.

Trees selected for **retention** are generally representative of the dominant species naturally found on the site.

The following are taken directly from the FMP showing provisions for the components the Hoopa Tribe maintains the first is from the Silviculture portion of the FMP (Section IV.B.4 – Down Woody Material)

4. *Down Woody Material. Silvicultural systems shall be employed which leave at least 2-5 coniferous logs per acre, 20" or more in diameter and a minimum of 10' in length, when available, widely scattered across all acres in tractor blocks and relatively widely scattered in cable blocks. If the material cannot be widely scattered, then DWM shall be removed to the landing, and then flown back into the unit before a yarder road change. Cull logs should not be bucked to 10' lengths, but should be left in the longest condition possible.*

Immediately following that is the discussion of standing trees (Section IV.B.5 – Retention Trees)

5. *Retention Trees – Habitat requirements of many species of wildlife associated with older forests in western North America are intricately linked to a complex web of ecological processes that include natural disturbances (e.g., wind, fire), tree pathogens, and other organisms (e.g., primary excavators) that create and influence the distribution and abundance of microstructures (e.g., cavities, mistletoe brooms) in live trees, snags, and logs. In old growth stands, leave trees should be green culls, snags, wolf trees, low grade trees, fast growing "old growth" growing 9-15 rings per inch, depending on site, and medium to large hardwoods (18-25" and >25" respectively). Leave trees shall be protected from logging damage, slash treatment effects and site treatment effects, to as great an extent as possible. Leave trees can be widely scattered, but when possible grouped or clumped together with other original vegetation. Tribal Wildlife personnel have developed a guidebook to aid in recognizing high value wildlife trees suitable for retention. Some of the important characteristics follow:*

- 5.1 *Old growth Douglas-fir trees having high potential for wildlife habitat such as: broken top, fork or candelabra top, high cull factor, (e.g. heart rot fungi) , large limbs, trees with existing nests or cavities, trees being used by woodpeckers for feeding, presence of basal cavities, etc.*

- 5.2 *Dominant position hardwood. Any hardwoods selected for retention should be either protected from wind or be previously exposed to the wind. Hardwoods that have grown up with other trees protecting them will likely blow over if the sheltering trees are removed. High quality hardwoods for wildlife are generally among the largest hardwoods in the stand, have heart rot, and/or often have multiple cavity openings both at the base and in the upper portion of the bole. They frequently have dead limbs or tops and are host to many epiphytic bryophytes, ferns and lichens.*

- 5.3 *Codominant conifer trees with at least 25% live crown ratio that can be combined in a group with another codominant tree, an intermediate tree, or both. The intent here is to leave a small clump (usually no more than 3-5 trees) whose crowns, taken together, form the equivalent of a full crowned tree. Many codominants only have a full crown on one side. If left alone in a shelterwood situation, the flat side of the crown acts like a sail, and the tree blows over. This provision is designed to avoid that fate for these trees.*

- 5.4 *Vigorous, full crowned, dominant position Douglas-fir, with at least 40% live crown ratio*

5.5 *Although conifers and hardwoods with basal cavities, cat faces and fire scars are often high quality wildlife trees, they are difficult to retain in units that require broadcast or under burning for site prep. This is especially true in cable units. Therefore such trees should not be left as leave trees in these situations. If there are no other options, select clumps of trees near unit boundaries near the bottom and sides that might be protected with fire lines.*

5.6 *Islands may be left in Modified Clear-cuts in lieu of widely scattered leave trees if they are widely dispersed at the 10% rate, and contain sufficient structural wildlife components. Islands of habitat shall not be less than 1 island per 4 acres (i.e. 10% of all treated acres should be in islands). Islands of habitat shall be large enough to leave a minimum of 2-5 trees per acre, if possible, with 60% of the leave trees in conifers, if possible. Retention trees whether widely scattered or in leave groups shall be maintained through the next rotation, regardless of silvicultural system. The following guidelines should also be considered in leave tree designation.*

- a. *Mitigate soil exposure in regeneration units by leaving vegetative islands or residual trees that reduce rain splash erosion and provide filter strips to reduce rill and gully erosion. These buffers should be situated in natural drainage channels such as swales, and on steep pitches.*
- b. *In difficult regeneration areas, leave a partial canopy closure to modify site conditions. This provision applies particularly to steep south-facing slopes on the north side of Tish Tang Creek.*
- c. *Whenever practical, layout personnel will avoid rocky or shallow soils found within units during layout. If included within harvest units, existing cover will be retained on these sites whenever feasible.*

Between these two provisions, the abundance and distribution of habitat components and associated stand structures are maintained throughout the harvest units. This ensures habitat structures for numerous species on the Reservation.

**Indicator 6.3.g.1** In the Southeast, Appalachia, Ozark-Ouachita, Mississippi Alluvial Valley, and Pacific Coast Regions, when **even-aged systems** are employed, and during salvage harvests, live trees and other native vegetation are retained within the harvest unit as described in Appendix C for the applicable region.

In the Lake States Northeast, Rocky Mountain and Southwest Regions, when even-aged silvicultural systems are employed, and during salvage harvests, live trees and other native vegetation are retained within the harvest unit in a proportion and configuration that is consistent with the characteristic natural disturbance regime unless retention at a lower level is necessary for the purposes of restoration or rehabilitation. See Appendix C for additional regional requirements and guidance.

Retention of live trees and other native vegetation is at the heart of Hoopa Silviculture. The following provisions from two regeneration systems are provided as evidence. The primary two regeneration systems used by the Tribe are Modified Clear-cuts and Groups Shelterwood. Each has its own retention requirements. These are included below.

For modified Clear-cuts, the following retention standards apply. *A combination of conifers and hardwoods should be left such that approximately 2-5 trees per acre remain after site preparation treatments are complete. Leave Trees should be representative of the stand's overstory size class. Vertical structure components should generally be cull trees or otherwise be high wildlife value trees. All merchantable material should be removed, unless the number of retained trees stated above cannot be fulfilled, then leave a combination of good growing or cull trees.*

In the Groups Shelterwood units, the following retention standards apply. *Under the group shelterwood system leave trees will be left in compact aggregations ranging from 1/10<sup>th</sup> to 1/2 acre. Group shelterwood is preferred for wildlife and plant resource conservation over the dispersed shelterwood method to preserve micro-site conditions better than dispersed individual trees. For example, a 1/2 acre group may provide undisturbed soil and duff layers, a variety of lichens, bryophytes, several large diameter conifers and hardwoods in a wind firm group surrounding a large piece of down wood or a snag. This type of retention may allow for plants and sedentary animals such as salamanders to continually occupy the site and then re-colonize the young stand at the earliest opportunity. The main criteria under this system will be the amount of acreage left in groups instead of basal area per acre. The target for retention is 15-30% of the unit area in groups of retained trees. Leave trees should generally be windfirm, need not necessarily be overly healthy, and need not be able to put on good volume growth. However, markers should look for leave trees without exposed roots, and which are free from cat-faces or fire scars.*

By following these standards, the Hoopa Tribe maintains live trees and other native vegetation throughout the harvest units.

**Indicator 6.3.g.2** Under very limited situations, the landowner or manager has the option to develop a qualified plan to allow minor departure from the opening size limits described in Indicator 6.3.g.1. A qualified plan:

1. Is developed by qualified experts in ecological and/or related fields (wildlife biology, hydrology, landscape ecology, forestry/silviculture).
2. Is based on the totality of the **best available information** including peer-reviewed science regarding natural disturbance regimes for the FMU.
3. Is spatially and temporally explicit and includes maps of proposed openings or areas.
4. Demonstrates that the variations will result in equal or greater benefit to wildlife, water quality, and other values compared to the normal opening size limits, including for sensitive and rare species.
5. Is reviewed by independent experts in wildlife biology, hydrology, and landscape ecology, to confirm the preceding findings.

The maximum size of the openings is found in Appendix C: Regional Limits and Other Guidelines on Opening Sizes Indicator 6.3.g.1. For the Pacific Region the following standard applies.

Within harvest openings larger than 6 acres, 10-30% of pre-harvest basal area is retained. The levels of green-tree retention depend on such factors as: opening size, legacy trees, adjacent riparian zones, slope stability, upslope management, presence of critical refugia, and extent and intensity of harvesting across the FMU. Retention is distributed as clumps and dispersed individuals, appropriate to site conditions. Retained trees comprise a diversity of species and size classes, which includes large and old trees. Regeneration harvest blocks in even-aged stands average 40 acres or less. No individual block is larger than 60 acres.

The provisions listed above for modified Clear-cut and Group Shelterwood units meet this retention standard. Although limited to ten (10) acres in size, the modified clear-cuts are often larger than 6 acres in size. This is far below the 40 acres limit.

Groups Shelterwood units on the other hand can be as large as 40 acres, but are typically between 20 and 30 acres in size. No individual units are 60 acres in size or larger. However, in order to mimic natural occurring events, such as lightning fires, units may sometimes be clumped into clusters, called a Unit Complex. This method is preferred by the wildlife Department as it mimics natural events, such as the lightning fire mentioned above. These complexes are often 60 to 100 acres in size, but are made up of individual units and are usually fractured by Riparian Protection Zones and Special Management Zones, in additions to save groups.

**Indicator 6.3.h** The forest owner or manager assesses the risk of, prioritizes, and, as warranted, develops and implements a strategy to prevent or control **invasive species**, including:

1. a method to determine the extent of invasive species and the degree of threat to native species and ecosystems;
2. implementation of management practices that minimize the risk of invasive establishment, growth, and spread;
3. eradication or control of established invasive populations when feasible: and,
4. monitoring of control measures and management practices to assess their effectiveness in preventing or controlling invasive species.

The FMP has an extensive Invasive species \discussion in the Pest Management Section of the FMP (Section IV.M). This includes both plant and animal invasive species.

**Indicator 6.3.i** In applicable situations, the forest owner or manager identifies and applies site-specific fuels management practices, based on: (1) natural fire regimes, (2) risk of wildfire, (3) potential economic losses, (4) public safety, and (5) applicable laws and regulations.

The Tribe has a separate 10-year Fuels Management Plan which is now in its fourth year. This plan outlines site specific practices across the Reservation. Copies of this plan are available from Hoopa Tribal Forestry.

## **Compliance with Principle 6.10**

**C6.10 Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion:**

- a) entails a very limited portion of the forest management unit; and
- b) does not occur on high conservation value forest areas; and
- c) will enable clear, substantial, additional, secure, long term conservation benefits across the forest management unit.

**Indicator 6.10.a** Forest **conversion** to non-forest land uses does not occur, except in circumstances where conversion entails a very limited portion of the forest management unit (note that Indicators 6.10.a, b, and c are related and all need to be conformed with for conversion to be allowed).

The Hoopa Valley Tribe is actively working to restore the forestlands to some of the conditions that existed before the creation of the Reservation. This includes aggressive burning for cultural purposes. It also includes the restoration of several prairies that have been encroached by commercial conifers due to the prohibition of burning. Currently the Tribe has a plan to restore

five prairies. This will include the conversion of 283.54 acres surrounding 33.52 acres of grassland, resulting in 317.06 acres of prairies. This accounts for the loss of approximately 0.3% of the reservations forestlands, and all of these acres presently under the intensive timber management classification. The small size indicates the limited size of the operation. The stands are ingrowth, typically 40 to 80 years in age and are not classified as High Conservation Value Forests. The long term gain will be in the restoration of habitat that is rapidly disappearing from the Reservation, which the Tribe anticipates will bring back grassland species that are being dislocated from the Reservation boundaries due to a lack of habitat. This should have benefits to the cultural needs of the Tribe and as these lands have historically been grasslands, the loss of forests will not be an adverse impact on the Reservation habitat when taken as a whole.

**Indicator 6.10.b** Forest *conversion* to non-forest land uses does not occur on high conservation value forest areas (note that Indicators 6.10.a, b, and c are related and all need to be conformed with for conversion to be allowed).

As mentioned before, the areas to be converted are actually a restoration of previous prairies that have been encroached. None of these stands are high conservation value forest areas. All are under the intensive management classification and there are few restrictions, other than Riparian Protection Zones that will restrict the removal of these invasive trees. Where possible former native trees, such as true oaks, will be retained, to provide natural grassland conditions.

**Indicator 6.10.c** Forest *conversion* to non-forest land uses does not occur, except in circumstances where conversion will enable clear, substantial, additional, secure, long term conservation benefits across the forest management unit (note that Indicators 6.10.a, b, and c are related and all need to be conformed with for conversion to be allowed).

The long term conservation value of this conversion, as mentioned above, is the restoration of prairie habitat that is rapidly disappearing from the Reservation. By reopening these grasslands, Tribal Forestry expects the return of a handful of species that are dependent on this open habitat. This includes some bird species, but also some herbivores, and possibly even the return of Roosevelt elk which is found on prairie grasslands to the west of the Reservation. These species cannot return to much of the grasslands on the reservation due to the development that has taken place on these lands. The reopening of remote areas in the heart of the forestland will allow for natural grasslands to develop with the intended consequence of the return of species adapted to that habitat.

**Indicator 6.10.d** Natural or semi-natural stands are not converted to plantations. Degraded, semi-natural stands may be converted to restoration plantations.

The FMP calls for the prairies to be rehabilitated with native grasses. The Tribe is working on a blend of native grasses and forbs that will be used to rehabilitate the grasslands.

**Indicator 6.10.e** Justification for land-use and stand-type conversions is fully described in the long-term management plan, and meets the biodiversity conservation requirements of Criterion 6.3 (see also Criterion 7.1.1)

The 2011 Revision of the Tribe's Forest Management Plan devotes one of the guideline sections to other forestry objectives. The two programs discussed there are grazing and prairie restoration. Currently grazing is closed on the Reservation, and these provisions are included to set guidelines that the adjacent USFS lands can follow. The Prairie Restoration is to the other non-

forest management practice that is included in the FMP since it is designed to occur deep in the Tribe's forestlands, away from current development. This project will increase biodiversity since it restores habitat that is being lost due to the encroachment of conifer trees.

**Indicator 6.10.f** Areas converted to **non-forest use** for facilities associated with subsurface mineral and gas rights transferred by prior owners, or other conversion outside the control of the certificate holder, are identified on maps. The forest owner or manager consults with the CB to determine if removal of these areas from the scope of the certificate is warranted. To the extent allowed by these transferred rights, the forest owner or manager exercises control over the location of surface disturbances in a manner that minimizes adverse environmental and social impacts.

The proposed prairie restoration will not have any facilities nor will it be used to develop subsurface rights. No other objective exists, other than the restoration of prairies that have been encroached upon by commercial conifers in a natural succession that has come about due to the lack of burning. No rights will be transferred and the Tribe will maintain complete control over the areas to be converted.