

**Oak Woodlands of Mendocino County:
An Assessment of Their Distribution, Ownership Patterns and
Policies and Projects affecting their Conservation.**



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Preface

An ancient Chinese proverb reportedly counsels those contemplating a risk by asserting that every long journey begins with the first step. This report is just such a step. It is the beginning of a long and challenging exercise for the people of Mendocino County and the land they call home. It is the beginning of a process to evaluate, understand and choose a direction for the oak forests found within its boundaries.

History paints the current scenes in other California counties where natural resources were not conserved while still plentiful. Sadly, oak-rich dominated counties of the central valley have lost most, if not all, of their rich natural heritage which were once dominated by the grandeur of valley oaks, sycamores, vernal pools and associated wildlife and fish populations. The same legacy is true for many of the coastal counties surrounding the San Francisco Bay and the counties farther to the south. Unfortunately, today, many of those regions are struggling to deal with past practices that have forced people to haggle and fight over remnant stands of oaks, even trees, where once stood magnificent forests.

Mendocino County has a rich past and a bright future that are intimately intertwined between the people and their land. Today, we know that past forest activities were not always conducted in such a way that afforded the highest attention toward stewardship and conservation for the land. This attitude toward the land can be and is being altered, and affords an opportunity for those of us now charged with stewardship to protect and enhance our resources for our children and us.

The lessons of history also remind us all to be diligent to the ever-present threat of newly introduced pests and diseases. The oak landscape has been changed forever during the past century with the introduction of numerous plant and animal species that have shaped the land that we witness today. Even today, a newly discovered disease threatens the oak woodlands immediately south of Mendocino. As is the case with so many forest tree diseases a cure to the problem does not appear close at hand.

This report outlines the current state of knowledge with regard to oak forests within Mendocino County. It identifies the different kinds of oaks found within the county, ownership patterns, conservation and educational efforts aimed at oak stewardship and current local policies targeting oak conservation.

As the ancient proverb teaches us, it is just the first step in a planning process that hopefully will help Mendocino County avert the path taken by too many regions of California.

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Acknowledgments

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Executive Summary

The Oak Conservation Committee was a collaborative effort between the County of Mendocino and the UC Integrated Hardwood Range Management Program (IHRMP). The Committee membership, developed by the IHRMP, consisted of individuals who have long had an interest and/or experience in oak woodland management throughout Mendocino County.

The committee was charged with addressing the directive provided to counties by the Board of Forestry in 1993 to develop locally based conservation strategies (Appendix 1). The committee met monthly over a period of six months. The meetings were structured to allow focused presentations and discussions on selected topics. The committee's agenda was divided into four comprehensive phases with each phase guiding the focus for the monthly meetings.

Phase I – An assessment of current status of oak woodlands in Mendocino County.

This first phase allowed participants to understand the current distribution, ownership patterns, land-use patterns and biological and physical aspects of the oak woodlands found within the county. This phase provided an opportunity for members to have an equitable understanding of the issues and topics to be discussed.

Phase II – An assessment of current programs and activities focusing on oak woodland conservation in Mendocino County.

A number of independently organized efforts are currently underway addressing a number of conservation issues throughout the county. This phase gave participants an opportunity to hear from land trusts, educators, land managers and special districts and their current efforts aimed at oak woodland conservation.

Phase III – An assessment of oak resources at risk.

The term risk has different definitions for various audiences. This phase gave committee participants an opportunity to hear information pertaining to physical, biological and social risks in the absence of strategies to conserve oak woodlands. Identified risks include: 1) loss of biological diversity, 2) fragmentation of functional habitat, 3) impacts to family farming operations, 4) increased regulatory oversight, and 5) decreased land values. Conservation strategies were identified and discussed that could benefit landowners and landscape level issues.

Phase IV – A comprehensive evaluation of current programs and future needs.

This phase provided an opportunity for the participants to discuss and debate the information that had been provided during the previous meetings. Information gaps were identified in addition to possible future actions. It became clear that both voluntary and mandatory solutions might be appropriate for specific projects.

Phase V – Final report of the committee's efforts.

According to the Fire Resource Assessment Program (FRAP) of the California Department of Forestry and Fire Protection (CDF), Mendocino County has approximately 374,000 acres of oak woodlands (based on 1990 estimates). These acres are considered those dominated by true oaks and other hardwood species. This figure does not include hardwood acres found in association with conifers growing on timberlands, e.g. tanoak (*Lithocarpus densiflorus*) growing on redwood sites.

Today, oak woodlands continue to provide quality agricultural sites in addition to opportunities for residential, commercial and industrial development. However, modern development practices are often more aggressive than historical land use practices resulting in the net loss of contiguous oak woodland canopy which has led to increasing public concern over the resource. Future planning processes must identify and address the various land use practices impacting oak woodlands and develop appropriate mechanisms that achieve conservation objectives.

This fact captures the essence of the current dialogue occurring throughout California as the State wrestles with the challenge of an ever-increasing human encroachment on a finite natural resource base. This document is intended to provide a basis for discussion to assist Mendocino County in addressing similar pressures that continue to impact local resources.

The development of any future conservation plan for natural resources must include an overview of ownership patterns and the recognition of the juxtaposition of both *public* and *private* holdings and their inherent relationships. This document provides information as to the distribution of oak resources on both private and public lands. This understanding of the relationship between ownership patterns is essential when considering the spatial and temporal needs of terrestrial and aquatic oak woodland dependent species and how they might move freely between ownerships.

Mendocino County is unique among north coast counties in the number of private, non-profit organizations that exist explicitly for the purpose of conserving lands. Entrepreneurs who work voluntarily with landowners to secure financial assurances while providing a mechanism for long-term resource protection spearhead conservation efforts in Mendocino County. The principal conservation vehicle provided by all of these groups is the conservation easement. These organizations share some common ground in that they provide specific voluntary services to private landowners who are interested in land conservation. These services include educational efforts, outreach efforts, conservation easements, estate planning and cooperative conservation programming. An opportunity may exist to work cooperatively between land trusts and commercial developers in the

establishment of deeded “greenbelts” and other planning options as a means of minimizing negative impacts to oak woodlands.

Currently, Mendocino County does not have a monitoring program or an administrative process that can track human impacts on oak woodlands over time and space. The committee explored various assessment technologies available that might have utility for monitoring impacts on oak resources and discussed possible funding options to support such a project.

This committee identified a number of ongoing activities relating to the management of oak woodlands in Mendocino County affecting both private and public lands. Additionally, the process has identified policy inconsistencies that are creating frustration and confusion among county residents potentially increasing resource management disputes. A summation of the committee’s findings regarding current policies is included under phase III to facilitate further discussions.

Through the committee’s efforts a number of future steps and actions are advanced for the purpose of facilitating future discussion aimed at developing a comprehensive conservation strategy. These include:

- 1) Incorporating General Plan Language that assists in providing guidance for oak woodland resource conservation,
- 2) Secure funding and cooperative planning from Federal, State, county and private sources to address oak woodland resource planning,
- 3) Apply GIS and other newly emerging technologies to facilitate accurate information gathering and transfer,
- 4) Provide a central source of information aimed at promoting voluntary oak resource conservation programs i.e. land trusts,
- 5) Provide for an ongoing assessment and monitoring of oaks and oak habitats,
- 6) Address the pressures that have been identified in this report that are impacting oaks and oak woodlands,
- 7) Address policy discrepancies and inconsistent application of environmental standards regarding oak woodlands,
- 8) Address the threat of Sudden Oak Death Syndrome by supporting other county and non-county initiatives aimed at preventing its spread,
- 9) Explore self-regulation through education, PEIRs, and other initiatives (see appendix 4),
- 10) After further review and discussion establish a framework for countywide conservation of oak resources.

Finally, the document provides language from various sources for consideration in future planning exercises. Examples are provided by the Brooktrails community regarding their oak protection measures and General Plan language is provided from the County of Mendocino to assist a broader understanding of current policies. Lastly, Rudy Light, a member of the oak conservation committee, has prepared a template for an oak conservation strategy that he has put forward for further public discussion. He has provided an innovative and provocative treatise that should assist all of us to move this dialogue forward.

Introduction

The Oak Conservation Committee was a collaborative effort between the UC Integrated Hardwood Range Management Program (IHRMP) and the people of Mendocino County. The Committee membership, developed by the IHRMP, consisted of individuals who have long had an interest and/or experience in oak woodlands throughout Mendocino County (Appendix 6). Consequently, the group represented a wide array of stakeholder groups, though membership and members were not selected for the sole purpose of achieving a political balance. The impetus for coordinating the committee was in response to the 1993 directive from the California Board of Forestry and Fire Protection asking each county to develop a comprehensive conservation strategy for oak woodlands in lieu of statewide regulations (Appendix 1). Though the initial directive from the Board of Forestry and Fire Protection provided a three-year time frame to accomplish the task, subsequent conifer forest issues pre-empted the County's earlier attempts at addressing the Board's request.

Discussions regarding trees, forests and forest management have long been a politically charged issue on the north coast. Recent residential, commercial and industrial land-use activities, throughout coastal counties, have intensified local awareness and the community's focus toward oak woodland protection and management, subsequently increasing the call for political action. Similar scenarios have occurred throughout the biological range of true oaks in California resulting in a variety of ordinances, zoning changes, and other regulatory actions. In most cases, each of those actions proceeded by intense and often polarizing discussions between competing interest groups resulting in a political compromise that may or may not have accomplished significant conservation strategies.

The Mendocino group was convened in the hope of addressing and developing a strategy aimed at oak conservation that could be implemented over time. The group undertook a process evaluating current and potential actions that included:

- Assessing current policies and practices,

- Evaluating conservation alternatives, and
- Identifying future steps necessary to conserve oak woodlands.

Oak woodlands occupy significant acreage in the county of Mendocino, particularly in the interior and eastern portions of the county (Fig. 1). These lands have historically been used for agricultural production, residential and urban development (Cities of Ukiah and Willits).

The oak conservation committee was presented with information from a wide array of sources in order to facilitate the necessary assessment of past and present conditions of oak woodlands. The information was provided in such a manner as to allow the committee to explore management alternatives in order to protect, promote and enhance the condition of the oak resource.

The committee's activities were structured over a six-month process intentionally designed to collect and assimilate information through an educational process, not a political one. This atmosphere permitted the committee members to explore and evaluate the variety of management and planning tools currently available while

identifying where deficiencies exist. This report is a compilation of the committee's efforts.

Committee Process

The committee met monthly. Each meeting was structured to allow focused presentation and discussion on a selected topic. The committee's agenda was divided into four comprehensive phases with each phase guiding the focus for the monthly meetings. The four phases included:

Phase I – An assessment of current status of oak woodlands in Mendocino County.

Phase II – An assessment of current programs and activities focusing on oak woodland conservation in Mendocino County.

Phase III – An assessment of oak resources at risk.

Phase IV – A comprehensive evaluation of current programs and future needs.

Phase V – Final report of the committee's efforts.

Phase I – An assessment of current status of oak woodlands in Mendocino County.

Biological Assessment of oak woodlands

- species present
- range of oak species
- distribution
- habitat associations

Data assessment of oak woodland resources

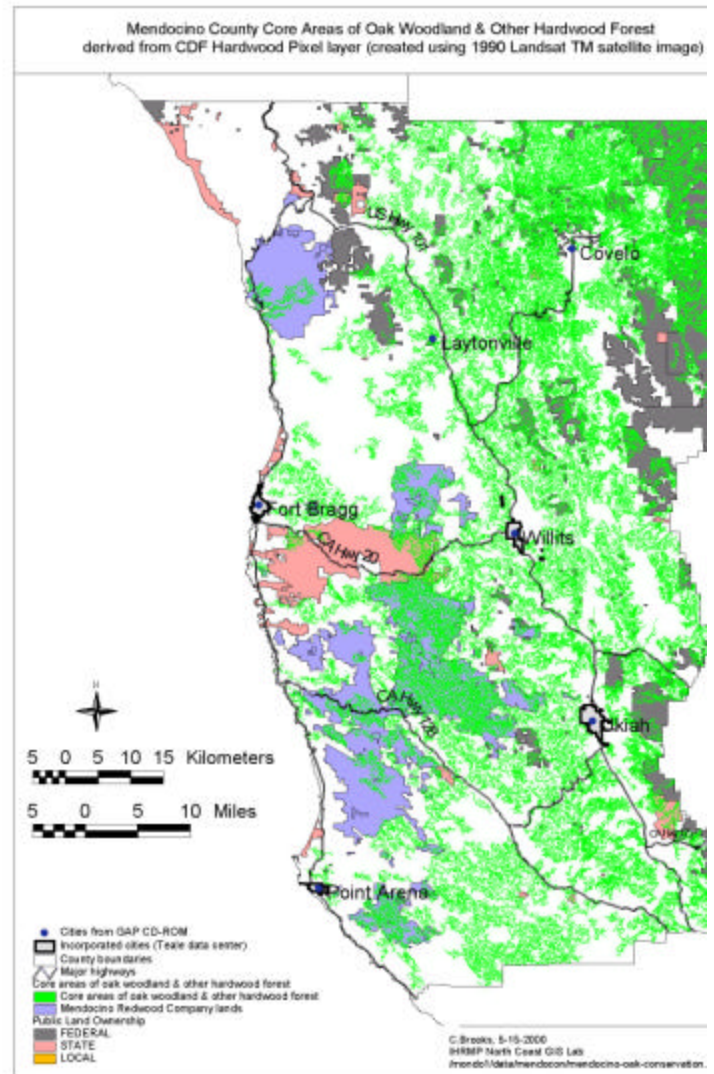
- current acreage
- ownership patterns

Oak Species and Distribution in Mendocino County

True oaks are those species included in the taxonomic Family Fagaceae limited to the genus *Quercus*. The true oaks found in Mendocino County include representatives from both evergreen (live) and deciduous forms and one intermediate hybrid. They include: Interior Live Oak (*Q. wislizeni*)

- Canyon Live Oak (*Q. chrysolepis*)
- Black Oak (*Q. kelloggii*)
- Coast Live Oak (*Q. agrifolia*)
- Scrub Oak (*Q. berberidifolia*)
- Oracle Oak (*Q. moreha*)
- Valley Oak (*Q. lobata*)
- Oregon White Oak (*Q. garryana*)
- Blue Oak (*Q. douglasii*)

Fig. 1. Core oak woodland areas of Mendocino County.



In very general terms, oak trees can be found throughout the portions of Mendocino County that are not dominated by redwood forests. As their names imply, particular species are found in limited geographical portions of the county, e.g. valley and canyon oaks.

Others cover larger, more diverse geographic distributions. A cursory overview of oak distribution includes:

Valley Oak

This is one of the species generally recognized as not regenerating sufficiently across its range to insure its ecological survival.

Valley oaks, sometimes referred to as mush oaks, are generally associated with the areas of Ukiah Valley, Round Valley, Redwood Valley, Potter Valley, Anderson Valley, Sanel Valley, etc. This is not to imply that individual valley oak trees may not be found outside their expected distribution. For example, it is quite common to find an individual, mature valley oak growing in a stand of blue oaks. Because oaks produce such a large seed, and have been traditionally important to non-European cultures, it is conceivable that many seeds may have been distributed throughout Mendocino County by human activities over time. Additionally, it is well known that some animal species (scrub jays and tree squirrels) cache seeds leading to unexpected occurrence of species distribution. Acorns of this species

develop and mature within one growing season.

Blue Oak

This is another of the species generally recognized as not regenerating sufficiently across its range to insure its ecological survival.

As the name implies *Q. douglasii* has a distinctive blue sheen to its leaves most noticeable by mid-summer, after the leaves have fully emerged from their buds. Blue oaks generally occur on hillsides surrounding the valleys. Sometimes referred to as white oaks or post oaks, they are generally associated with hot, dry upland sites. They can grow in pure stands or in association with foothill pine (*Pinus sabiniana*). Blue oaks are the most commonly visible oaks growing in the interior portions of the county.

Stands of blue oaks are readily visible along the Highway 101 corridor between Hopland and Willits and along Highway 20 between Ukiah and the Mendocino-Lake county line. Acorns of this specie develop and mature within one growing season.

Oregon White Oak

This species can easily be confused with *Q. lobata* in both leaf and tree structure. Mendocino County is near the southern portion of this species' biological range. Pure stands of Oregon white oak within Mendocino County are not common. However, individuals can be found growing in association with both valley and blue oaks. Attributes necessary to distinguish this species may require an individual to consult many of the taxonomic keys available for oak identification. Acorns of this species develop and mature within one growing season.

Black Oak

Black oaks are widely distributed throughout the upper elevations of Mendocino County. They are commonly found in the hills above Ukiah, Hopland, Boonville and Covelo. Though pure stands of black oaks do occur, this species is most often found growing in association with other hardwoods (madrone) and conifers (often Douglas fir). Generally a good acorn producer, black oaks will often have relatively good nut crops in years of acorn scarcity. Acorns of this specie

require two years to mature following pollination of the female flower.

Interior Live Oak

As its name implies, this species is widely distributed throughout the interior portions of Mendocino County. *Q. wislizeni* can be found growing in pure stands or individually. Often, as is the case in areas surrounding Anderson Valley, Sanel Valley, and Ukiah Valley, interior live oaks are commonly associated with blue oaks. In the northern portions of the county *Q. wislizeni* is often found growing on slopes with southern exposures while canyon live oaks (*Q. chrysolepis*) are growing on northern slopes. A member of the "black oak" group, their acorns require two years to reach maturity often, providing an important source of wildlife food.

Canyon Live Oak

Again, this species' name provides some guidance to the locations where it is most often found. Canyon live oaks are the most dominant oak species along the inner gorges of the Eel River drainage. They are readily visible along Highway 101, along the Eel River

canyon near Piercy. Sometimes referred to as the maul oak, this species is often found growing in pure stands when appropriate conditions exist. This species is commonly found growing in association with California bay (*Umbellularia californica*) in seasonal riparian areas in all parts of the county that are not dominated by redwood forest. Acorns of this species require one year to mature following pollination of female flowers.

Coast Live Oak

Though not common, *Q. agrifolia* can be found in portions of the Russian River watershed south of Ukiah. As with the other live oaks, species identification can be somewhat problematic. Acorns of this species mature in the fall following pollination of female flowers.

Scrub Oak

Again as its name implies, scrub oak's growth form generally is described as a small tree or a large bush. It is widely distributed throughout the hottest and driest sites throughout the interior and eastern borders of the county. Scrub oaks are the common oak found

covering much of Cow Mountain, east of Ukiah. Acorns develop and mature within one growing season.

Oracle Oak

Q. moreha is a unique hybrid between Black Oak and Interior Live Oak, they are uncommon and found growing individually where the two parent species are present.

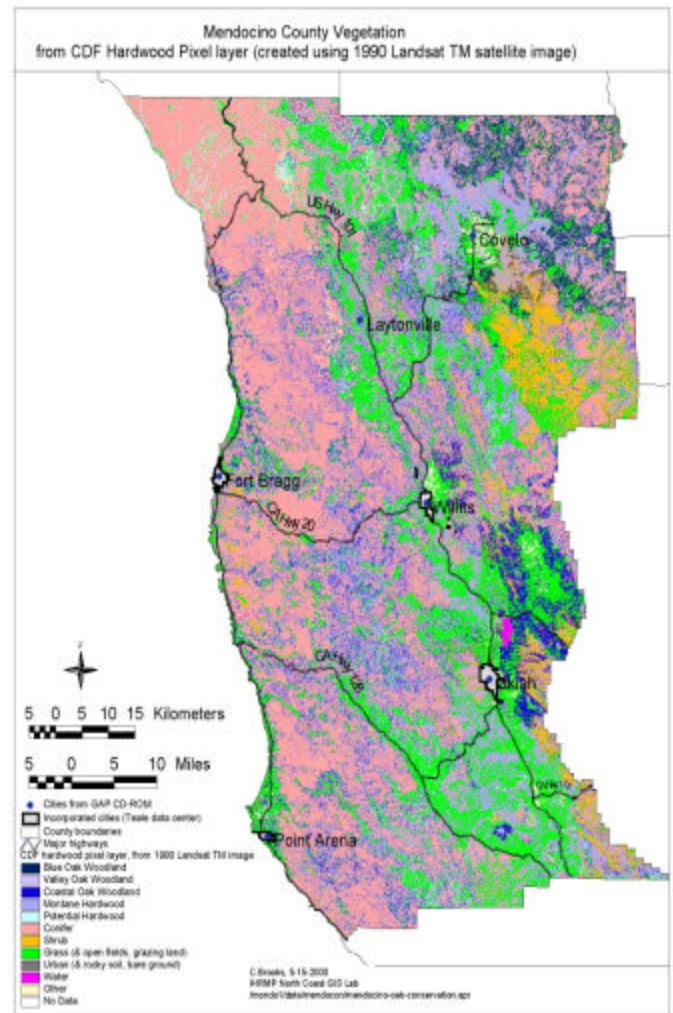


Fig. 2 Mendocino County Vegetation

Habitat Associations

As stated, some species of oaks (particularly valley and blue) grow in pure stands. However, because of Mendocino's unique geographic positioning and the various climatic influences true oaks are often found growing in aggregations with other hardwoods and even conifers. This fact is visibly apparent when traveling south to north or west to east within the county.

To facilitate a better understanding of vegetative distribution, several systems of classifications have been derived based on the dominant vegetative features. These systems, though varied, are designed to assist people when evaluating and characterizing flora throughout California. Much as been written in the scientific literature focusing on steps needed to cross-reference these various classification schemes.

Because of the ecological importance to many wildlife species, oak woodlands are often classified using a scheme that allows cross-references between oak dominated vegetation and associated wildlife dependencies. The system most often used for this

comparison is called the Wildlife Habitat Relationships (WHR) system. The WHR system is administered by the California Department of Fish and Game and is the classification system being used for this report.

In Mendocino County, examples of dominant oak woodland habitat are:

- **Montane Hardwood-Conifer (MHC)** type which contains a mix of both hardwoods (black oak, madrone, California bay, toyon, and others) in addition to a component of conifers (Douglas fir).
- **Blue Oak-Foothill Pine** type, another widely distributed habitat type, is composed primarily of these dominant tree species.

These vegetation classification systems proved useful when trying to communicate the similarities or differences among various habitat types, i.e. Valley Oak woodland when compared to Blue Oak woodland. Furthermore, they facilitated attention toward those types that are extremely limited in their distribution thereby identifying their susceptibility to disturbance.

By using standardized vegetation and habitat classification schemes the

committee focused its attention and discussions on the importance of recognizing the conservation of *habitats* rather than *trees*. The committee members made their intentions clear that they favored this approach.

Data assessment of oak woodland resources

Current Acreage

According to the Fire and Resource Assessment Program (FRAP) of the California Department of Forestry and Fire Protection (CDF), Mendocino County has approximately 374,000 acres of oak woodlands (based on 1990 estimates). These acres are considered those dominated by true oaks and other hardwood species. This figure does not include hardwood acres found in association with conifers growing on timberlands, e.g. tanoak (*Lithocarpus densiflorus*) growing on redwood sites.

Ownership patterns

The development of a conservation plan for natural resources must include an overview of ownership patterns and the juxtaposition of both *public* and *private* holdings. This

understanding of the relationship between ownership patterns is fundamental when considering the spatial and temporal needs of terrestrial and aquatic oak woodland dependent species (Fig. 3).

Private Lands

Statewide, private lands account for nearly 70% of oak woodland ownership. This pattern is similar in Mendocino County where the majority of oak dominated sites are privately held. This ownership pattern provides both challenges and opportunities in the development of any broad-spectrum oak conservation strategy that strives to recognize and protect private property while recognizing the need to protect public trust resources.

Oak woodlands have supported both pre-European and European cultures for centuries. Beginning in the mid 19th century land use practices began to shift to an agrarian dominated pattern. Throughout California oak woodlands were affected by changing needs to supply a growing urban population. During the early to mid 20th century the dominant agricultural land-use in north coast woodlands was

primarily livestock production. Limited intensive agricultural activities occurred on sites with the highest soil quality often in the valleys.

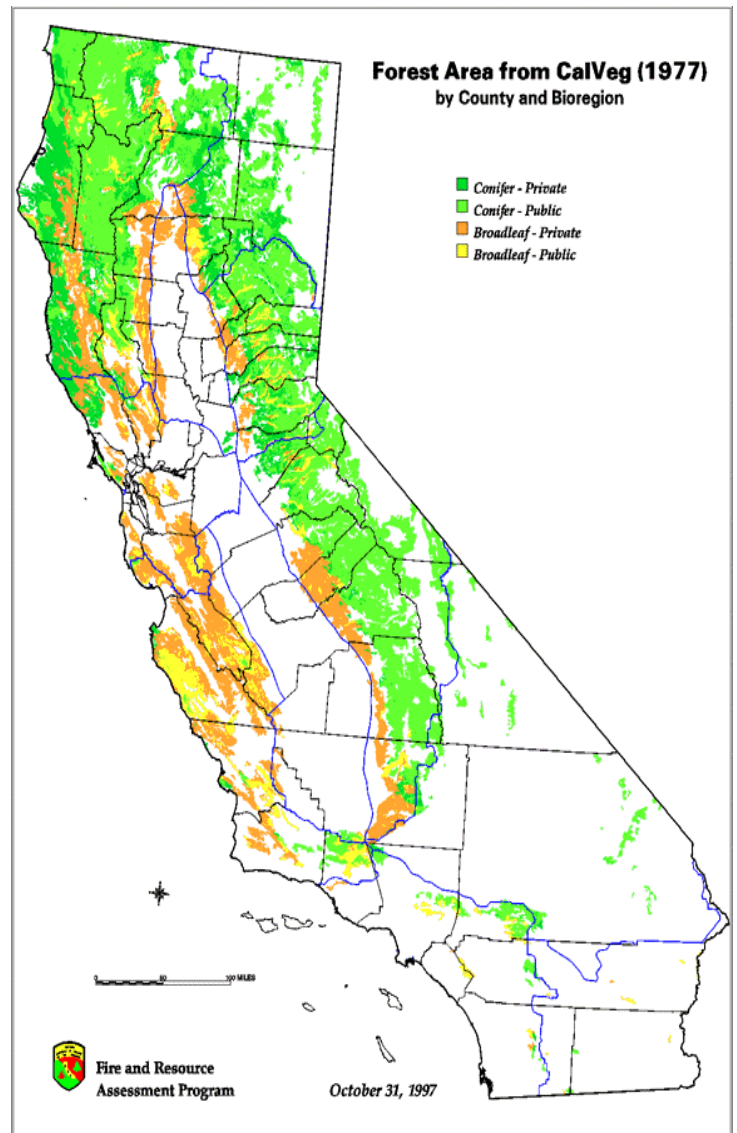
Today, oak woodlands continue to provide quality agricultural sites in addition to opportunities for residential, commercial and industrial development. However, modern development practices are often more aggressive than historical land use practices resulting in the net loss of contiguous oak woodland canopy. This fact captures the essence of the current dialogue occurring throughout California as the State tries to wrestle with the challenge of an ever-increasing population on a finite base of natural resources.

Public and Tribal Lands Management

Though management goals and objectives may vary greatly between agencies and departments, public and tribal lands offer a vital component when considering the maintenance of oak woodland heterogeneity necessary to insure habitat connectivity and oak-dependent population viability. Both Federal and Tribal lands are well represented within Mendocino's oak woodlands. However, contiguous acres

under State jurisdiction specifically for the management of oak woodlands are conspicuously absent.

Fig. 3. Forest Areas of California.



Phase II – *An assessment of current programs and activities focusing on oak woodland conservation in Mendocino County.*

State Lands

Though the State of California is a major stakeholder in the management of natural resources within Mendocino County its role in oak woodland administration is minor within the county's boundaries. This ownership pattern is atypical when compared to adjacent counties in which the state, through the California Department of Parks and Recreation (CDPR), manages oak woodland parcels in Lake, Sonoma and Napa Counties. The CDPR does not manage oak woodland parks within the boundaries of Mendocino County.

The University of California currently manages the largest contiguous blocks of state-owned oak woodlands within the county boundaries. These properties include the:

U.C. Hopland Research and Extension Center,

Blue oak woodlands with some limited valley oak stands dominate the 5,300-acre Hopland site. The property is

maintained as animal science and natural resource research and extension facility.

http://danrrec.ucdavis.edu/hopland/home_page.html

The other, **U.C. Branscomb Natural Reserve** is 7, 895 acres, of mixed vegetation types but does

<http://nrs.ucop.edu/reserves/hmacrr.html>

contain both black oak and Oregon white oak dominated sites.

Both the Reserve and the Extension Center are maintained for the benefit of UC and non-UC students, faculty and researchers. Because of concerns regarding the protection of ongoing research both UC sites have limited public access.

The committee recognized other state agencies that have control or influence over vast acreages of potential oak woodland restoration and protective sites, e.g. Caltrans roadside right-of-way easements. Such agencies potentially offer sites for oak regeneration, recruitment and mitigation, set-asides and projects aimed at maintaining habitat connectivity.

The committee further recognized the current problem of non-authorized use and trespass of oak woodland sites. These conflicts often

result from the lack of appropriate resources to deal with refuse disposal, unlawful trespass, and vandalism. The committee recognizes this current situation as an opportunity for the state of California to secure appropriate oak woodland sites as a means of providing public access to highly desirable areas while providing the support resources to minimize problems.

Federal Lands

Three Federal departments representing four different agencies currently have jurisdiction of oak woodland acreage within Mendocino County. Each of these agencies manages contiguous acres of oak woodlands. They include:

<u>Agency</u>	<u>Department</u>
Bureau of Land Mgmt.	Interior
Bureau of Indian Affairs	Interior
Forest Service	Agriculture
Army Corps of Engineers	Defense

Army Corps of Engineers

The Corps currently controls approximately 1,300 acres of oak woodlands surrounding Lake Mendocino. Blue oaks dominate the area but other native and non-native

species exist on the site. Though the Corps does not actively *manage* the oaks they do have an active educational program targeting summer visitors that often includes topics focusing on ecology and cultural aspects of oak woodlands, e.g. Native American culture, watershed functions and other natural history topics. The area surrounding Lake Mendocino, particularly the campgrounds and boat ramps is heavily utilized throughout the summer season. The Corps reported to the committee that an average of 500,000 recreational user-days are annually recorded at the Lake.

Bureau of Land Management (BLM)

The Bureau of Land Management owns substantial acreage of oak woodlands in Mendocino County and in surrounding counties. The Ukiah office of the BLM is responsible for administering approximately 85,000 acres of oak woodlands in eight counties. The Bureau's holdings include areas near Ukiah and near the Mendocino-Humboldt County boundary. The largest contiguous BLM Mendocino block is Cow Mountain east of Ukiah. The area consists of approximately 3,000

acres of blue oak, scrub oak and mixed oak-pine woodlands. Though BLM does not actively manage the trees, they are heavily involved in managing human impacts to these sites. Currently, the Cow Mountain site receives an average of 50,000 recreational user-days/year. This level of recreational activity necessitates a focus on Off Highway Vehicles (OHV) impacts and vandalism to natural and man-made resources.

BLM's current goals include acquisition of desirable oak woodland parcels (from willing sellers) for the specific purpose of improving long-term, high quality wildlife habitat. During this assessment process the Bureau outlined its management objectives of the newly acquired Paine Ranch in Lake and Colusa counties. This 14,000-acre parcel was intentionally purchased to assure continued habitat access for tule elk.

Forest Service –

Mendocino National Forest

The Mendocino National Forest (MNF) has existed since 1907. The forest contains a wide array of tree species and vegetative types including representatives of many oak species and their subspecies. The Forest Service has

a long history of actively and aggressively managing oak trees and oak stands. Since 1995, the Forest Management Plan has shifted attention toward hardwood retention and away from depletion. Current Federal management philosophy recognizes a new paradigm for the balancing of multiple-use on the National Forest System lands. Currently, of the nearly 205,000 acres of MNF that are within the boundaries of Mendocino County, approximately 28,400 acres are available for scheduled timber harvest. Much of the remaining acreage is designated for other management objectives including late successional forest reserves, congressionally designated areas and riparian reserves.

Management objectives within the matrix lands for commodity production call for a minimum of five square feet basal area of hardwood of varying size and age to insure recruitment. The Forest Service recognizes that passive management may lead to long-term reduction of an oak component in some areas in the absence of disturbance. Local MNF staff acknowledges the need for continued research on oak woodland

regeneration and recruitment as it relates to controlled burns and other management techniques.

The MNF is often used for a number of recreational activities including hunting, hiking, horseback riding, camping and OHV use. Public use of the forest is not surveyed, thereby making accurate counts of visits difficult to estimate. However, given the number of people witnessed by MNF staff utilizing the forest, the committee was provided an opportunity to appreciate the many public values associated with the forest.

Tribal Lands

The Round Valley Reservation represents a large contiguous block of oak woodlands. Their involvement in future resource conservation planning is paramount to achieving any level of success in resource conservation.

Summary

The representatives from the various agencies that participated in this process clearly demonstrated the attractiveness of Mendocino County's publicly managed oak woodlands. The Army Corps estimates visitor use at

Lake Mendocino at 500,000 user-days/year. The BLM estimates visitor use on the Cow Mountain site at 50,000 user-days/year. Though the Forest Service does not maintain a daily tally of visitor use, approximations of use are high reflecting seasonal use patterns. When considered in a larger context, these publicly managed oak woodlands sites should be considered an important economic asset to communities in close proximity to these lands.

Clearly, publicly owned lands provide an opportunity for long-term maintenance of contiguous acres of oak woodlands in Mendocino County. Publicly owned lands include the headwaters of many of the County's rivers and streams. Inclusion of these lands in any future planning processes is paramount to the protection and enhancement of Mendocino's natural resources.

An opportunity exists for the State of California to be a more active participant in the protection and management of oak resources within Mendocino County. The committee recognized the opportunity for creative planning scenarios by including state agencies that may not often be

considered when developing oak woodland management strategies; e.g. California Department of Parks and Recreation and Caltrans.

Private Lands

Privately owned oak woodland management reflects the diversity of those who own the land and was reflected in the make-up of the committee members. Members were invited to participate based on their knowledge and experience of managing oak resources for a number of objectives including but not limited to: recreational management, homeowner associations, livestock production, greenbelt management, row and vine crops, arboriculture, urban forestry and conservation.

In assessing current activities and projects aimed at oak woodland conservation the committee heard from a number of representatives who provided information on existing voluntary and involuntary approaches. Additionally, some committee members are currently involved in using both voluntary and involuntary schemes to manage oak resources, e.g. Brooktrails Township and Greenfield Road Association.

Voluntary Programs targeting Private Lands - *Land Trusts*

Mendocino County is unique among north coast counties in the number of private, non-profit organizations that exist explicitly for the purpose of conserving lands. Unlike Sonoma County, which has a publicly subsidized Agricultural and Open Space District, land conservation efforts in Mendocino County are spearheaded by conservation entrepreneurs who work voluntarily with landowners to secure financial assurances while providing a mechanism for long-term resource protection. The principal conservation vehicle provided by all of these groups is the conservation easement.

A number of land trust organizations were invited to share their programs with the committee to help provide a better understanding of their collective role in oak conservation. The organizations that participated in the discussion included:

- Anderson Valley Land Trust
- Mendocino Land Trust
- Comptche Conservancy
- Inland Mendocino Land Trust

- Pacific Forest Trust

In all cases, these organizations share some common ground in that they provide specific voluntary services to private landowners who are interested in land conservation. These services include educational efforts, outreach efforts, conservation easements, estate planning consultation and cooperative conservation programming. Some of the unique qualities among the group are the different approaches each has to serving geographic areas of the county and beyond. For example, as their names imply the Anderson Valley, Comptche Conservancy and the Inland Mendocino Land Trust target their efforts to specific geographic regions of the county. Other organizations, such as the Mendocino Land Trust, provide service throughout the county while the Pacific Forest Trust (located in Boonville) provides their services throughout California, Oregon and Washington. These local organizations represent a growing movement throughout the United States wherein private, non-profit, non-governmental organizations are fulfilling a leadership void by providing conservation services to private landowners. Nationally, Land Trusts

represent approximately 1,200 organizations that have assisted in the conservation of more than three million acres.

The land trust representatives generally agreed that conservation easements provide a valuable planning mechanism for landowners interested in long-term, generational planning. Specifically, conservation easements provide:

- permanent, legal restrictions, voluntarily negotiated between the landowner and the land trust,
- a recorded deed restriction that stays with the land over time,
- a tailored approach to achieve the financial, ownership and conservation goals of the landowner,
- an opportunity to reserve land use rights that can include agriculture, timber and limited development rights, and
- monetary benefits from property and estate tax reduction.

Because of the negotiated manner in which conservation easements are established, it may take between six months to a year for all parties involved to agree on the most appropriate easement.

Committee members shared a number of commonalities when the issue of long-term, generational planning was addressed. Specific issues of concerns that were raised included:

- Concerns focusing on transferring property from one generation to another without incurring large tax consequences that could result in the subsequent liquidation of property assets and/or wholesale parcel sales in order to service the tax debt,

- The recognition among committee participants of the inherent threat to conservation efforts targeting oak woodlands in the face of continued commercial development pressures,

- Need to target the owners of oak woodlands for educational efforts to explore the utility of conservation easements in a similar way as past efforts targeting other forest land owners,

- Certain regulatory actions could impinge upon a land trust's ability to offer financial incentives to private landowners (most of the tax related benefits are based on the ability of the land owner to provide non-mandated public benefits aimed at conservation of natural resources),

- Opportunities may exist to work cooperatively between land trusts and commercial developers in the establishment of deeded "greenbelts" and other planning options as a means of minimizing negative impacts to oak woodlands.

The committee recognized the need to expand the general public's knowledge of the availability and utility of working with land trusts and conservation easements and the need to be creative in the application of easements.

Currently, there are fewer than 5,000 acres of oak woodlands under easement protections in Mendocino County. This number most likely would increase if more landowners were provided with the necessary information to access this utility. Another possibility for increasing overall protected acreage may include identifying specific

geographic regions within the county for inclusion into conservation easements. This scenario could include large, industrial timber-based ownerships that control substantial parcels of oak woodlands that may realize benefits associated with easements. A possible scenario suggested protecting timber production lands from encroaching commercial and residential development by protecting oak woodland buffers as a means of separating these inherently conflicting land uses. A possible outcome from this type of application could provide long-term woodland protection from commercial development while insuring continued timber harvests.

Currently, there does not exist a central source of information located within the county that is explicitly aimed at promoting land trusts. However, the committee generally agreed that awareness about the utility of Land Trusts and Conservation Easements is increasing among landowners through “word of mouth” channels. Interested individuals can access specific

Some of these educational opportunities may or may not focus

information about each of the various land trust organizations through the Land Trust Alliance website (www.lta.org).

Educational Programs focusing on Oak Woodlands

A number of organizations and institutions provide ongoing educational opportunities for county residents.

Oak resource educational programs within Mendocino County are provided by:

- Mendocino Community College,
- College of the Redwoods,
- Anderson Valley High School,
- California Native Plant Society, Dorothy K. Young Chapter and Sanhedrin Chapter,
- Anderson Valley Land Trust,
- Peregrine Chapter of the National Audubon Society,
- Leadership Mendocino,
- Mendocino County Resource Conservation District,
- University of California Cooperative Extension,
- University of California Hopland Research and Extension Center.

exclusively on oaks and may be offered in a variety of formats including but not

limited to workshops, seminars, field trips, and classroom teaching.

Regardless of their specific educational objectives and interests, Mendocino County appears to have an impressive depth of local knowledge regarding oak woodlands. It is evident that a solid working relationship between the various providers of educational programming exists throughout the county. This assessment process clearly identified a strong commitment on the part of those who are currently involved in oak related educational programs to continue sharing information and support the collaborative nature that currently exists among educators.

Phase III – *An Assessment of Oak Resources at Risk.*

Currently, Mendocino County does not have a monitoring program or an administrative process that can track human impacts on oak woodlands over time and space. However, the County appears to have the personnel, equipment and expertise capable of developing such a program. The committee explored various assessment technologies available that might have

utility for monitoring impacts on oak resources and discussed possible funding options to support such a project.

Phase I identified how some types of geographically limited oak woodlands have been disproportionately altered during the recent century, e.g. valley oak woodlands, riparian woodlands. The committee further recognized the importance of focusing any monitoring efforts on oak habitats rather than focusing on single tree protection as a means of addressing the myriad of environmental issues associated with native forest types, i.e. water quality and quantity, wildlife and fisheries habitat, aesthetics, etc. In order to comprehend the scope of such an approach, the committee was presented with an overview of monitoring efforts currently in progress in Sonoma County, under the direction of Dr. Adina Merenlender of the UC-Integrated Hardwood Range Management Program (IHRMP).

The Sonoma case study illustrated a monitoring system that utilizes digitized maps and computerized satellite imaging to develop a science-based planning tool. The model is used for identifying greenbelts, agriculture

land, natural resources and recreational access to improve and expedite decision-making in the planning process.

The Sonoma model (focusing explicitly on vineyard expansion) uses a Geographic Information System (GIS) for mapping of open space and overlying non-spatial information. This model was developed with the aid of a technical advisory committee to insure the model's integrity and to provide for local input into the process. This model also includes geophysical variables (urban areas, roads, etc.) that when added to the overlays within the model can be used to develop a variety of planning needs. The purpose of the exercise was to 1) map existing vineyards; 2) identify areas of potential oak woodland conversion to vineyards based on soil and slope requirements; and 3) identify habitat linkages important for conserving to minimize habitat fragmentation. The cost for this project was about \$80,000. Funding was provided by Sonoma County's Open Space District tax assessment.

Similar baseline information used in the Sonoma County case study is available for Mendocino County, e.g. vegetation layers, subdivision

delineations, etc. It was generally agreed by those involved in this discussion that for a similar program to take place in Mendocino a collaborative agency effort would be necessary in order to provide the necessary data layers to build a complete model. Funding such a program most likely would require support from existing State or Federal departments or agencies.

El Dorado County has developed a planning model similar to the Sonoma Case Study. In that instance the County evaluated and modeled projected impacts of urban sprawl on oak woodlands. Funding support was provided from the CDF-FRRAP in the El Dorado County case study, and a similar approach may be available for Mendocino County. The El Dorado County project is outlined and available at:

http://frap.cdf.ca.gov/projects/eldo_buildout/abstractframes.html

Currently the Mendocino County Planning Department's GIS program maintains a database of site-specific data by parcels. The system provides automated mapping capabilities currently using a variety of criteria from jurisdictional boundaries, e.g.

supervisory districts, tax code data and census tract data. This information is particularly helpful and useful when preparing Public Notices for distribution to landowners targeted in a specific area. Once mapped and Assessor Parcel numbers identified, the Planning Department can prepare address labels for landowners.

Planning Department staff actively participates in an educational GIS users group forum, organized by Colin Brooks at the UC Hopland Research & Extension Center. The group meets regularly and shares information via the Internet. This group facilitates cooperation and technology transfer between GIS users in the area. This cooperative effort has led to collaborative data sharing between participants including aerial photography, soil surveys, and other digitized data. This local knowledge base can serve as a powerful tool for assisting with model development, planning projections and technical support to help address some of the complex oak resource planning issues.

The committee did not pursue the application of countywide tree ordinances as a viable approach to oak

woodland conservation. However, representatives from the City of Ukiah and the Brooktrails Township did address the utility and consequences of tree ordinances at the city planning level.

Trees provide cities with valuable assets including shade, wind and dust abatement, increased real estate values and noise abatement. Both Ukiah and Brooktrails have carefully addressed tree protection through their planning processes.

While the City of Ukiah does not have oak-specific policies they do maintain an informal policy for the preservation of trees in general. Landscaping is a big part of the City's planning process, and developers and other planning applicants have generally been cooperative with the City's requests to preserve trees. Examples of this cooperative approach include: 1) Existing oaks were preserved and additional oaks planted at the new Catholic Church site. 2) Oak trees were left standing and building plans incorporated oak preservation on the city property at the south end of the Airport Industrial Park near Mendocino Brewing Company. 3) After public outcry, the Pear Tree Center redesigned its parking

lot to save existing shade trees and planted more trees. 4) a 30-foot driveway on a South Dora project was reduced to 20 feet to preserve an oak tree. Generally, the City has experienced positive cooperation with developers, and there is no current political pressure for an oak ordinance due in part to this level of cooperation.

Brooktrails currently has a grading and tree ordinance protecting any tree measuring over six inches in diameter. The township also has developed strict vegetation management guidelines that include oak protection and management (Appendix 2).

There was broad recognition among the group that tree ordinances could result in reactionary, negative impacts of the untimely removal of trees intended for protection prior to ordinance's enactment. Given the limited geographical acreage associated with most cities and already existing planning permit processes in place, it was generally agreed that cities can address tree retention and planting in more appropriate ways than county government. The committee again reiterated that the appropriate level of

countywide conservation efforts should be targeting habitats.

Pests and Pathogens

Oak trees are susceptible to a wide array of pests and pathogens. These include insects, vertebrates, bacterial and fungal pathogens. Historically, oak woodlands have not been subject to the massive pest and pathogen outbreaks that have been associated with conifer forests. Unfortunately, a newly diagnosed disease is attacking large tracts of oak forests in Santa Cruz, Marin and Sonoma counties.

<http://danr.ucop.edu/ihrmp/sodwkshp.html>

This new disease, Sudden Oak Death syndrome, has been responsible for the death of large stands of oaks in these counties. The pathogen, *Phytophthora* sp. has been closely linked to a similar fungus *P. lateralis*, the causative agent known to kill Port Orford Cedar trees in northwestern California and southern Oregon. To date this new disease has killed coast live oaks, black oaks and tanoaks growing in contiguous coastal stands. Currently, there have been no confirmed occurrences of this disease in Mendocino County.

(CAMFER)

Sources of Information

Information about north coast forest structure and stability (both hardwood and conifer forests) is available through a number of public agencies charged with resource management. Since monitoring of oak woodland resources can be an extremely costly project and since many resource agencies are currently involved with ongoing monitoring efforts, it was recognized that Mendocino County could take advantage of the information being generated by these efforts.

Cooperators who are currently involved in monitoring include:

- US Environmental Protection Agency
www.epa.gov
- US Geological Survey
www.usgs.gov
- CDF-Forest and Range Resource Assessment Program (FRRAP)
www.frrap.fire.ca.gov
- California Department of Fish and Game
<http://www.dfg.ca.gov>
- UC Center for Analysis and Monitoring of Forests and Environmental Resources

www.cnr.berkeley.edu

- Integrated Hardwood Range Management Program.
- www.danr.ucop.edu/ihrmp

Other list of agencies and organizations that provide landowner services can be found at:

<http://danr.ucop.edu/ihrmp/source.html>

The committee discussed the possibility of seeking support funding through cooperative programs to assist the County in developing a monitoring program that could aid in long-term conservation of its resources. Potential sources may include CDF-FRAP and USDA Forest Service grant funding.

Phase IV – An Evaluation of Current Programs, Policies and Future Considerations.

This committee identified a number of ongoing activities and needs relating to the management of oak woodlands in Mendocino County affecting both private and public lands. In addition, the committee identified a number of policy inconsistencies and limitations that are creating frustration and confusion among county residents,

potentially increasing resource management disputes.

A brief summation of the committee's findings regarding current programs and needs include:

Publicly- owned oak woodlands:

- Are under increasingly heavy recreational utilization that has both positive and negative economic and environmental implications for the county.
- Current oak woodland ownership patterns are heavily influenced by Federal land management agencies. Oak woodlands administered solely for recreational sites are currently not available in the county.
- Are sparingly managed for consumptive wood use; limited oak harvest occurs on Forest Service lands.
- Are minimally utilized for the production of food or fiber (livestock production).
- Are generally managed for non-consumptive purposes, i.e. improving or maintaining

wildlife habitat, OHV use, camping, etc.

- Are recognized as providing multiple values, i.e. recreation, watershed function, wildlife/fisheries habitat, etc.
- Current Bureau of Land Management activities are focused on securing large contiguous blocks of habitat. Limited expansion of BLM holdings is projected in the near future within Mendocino County.

Privately owned oak woodlands:

- Provide opportunities for site utilization, i.e. residential, commercial (including agriculture) and industrial developments and operations.
- Support and are essential in maintaining wildlife and fisheries resources.
- Illustrate management objectives that reflect the diversity of the owners.
- Ownership patterns and parcel sizes vary greatly

from small parcels of <1/4 acre to over 10,000 acres.

- Management programs and schemes currently include:
 - o livestock production and management,
 - o homeowner association guidelines/by-laws,
 - o greenbelt/open space designations (Brooktrails,)
 - o recreational management programs,
 - o conservation easements.

A brief summary of the committee's findings regarding current policies include:

- Much of the conservation attention is currently being focused on large acreages of oak woodlands controlled by one or a few owners. There was a concern expressed that minimal attention is currently afforded to small to mid-size ownerships, which in aggregation may be providing large blocks of functional habitat (Deerwood Estates, Greenfield Ranch). Programs

aimed at meeting the needs of these landowners are currently limited and should be expanded.

- Site utilization practices that impact oak woodlands (grading, native vegetation removal, stream impacts) regardless of the activity (residential, agricultural, commercial or industrial) lack standards or guidelines aimed at minimizing resource impacts.

- Site utilization practices that impact oak woodlands (grading, native vegetation removal, stream impacts) regardless of the activity (residential, commercial or industrial) lack a program which can monitor impacts over time.

Planning Options

The Board of Forestry has given each county the opportunity to develop a local plan for oak woodland conservation. Counties have the option to: 1) develop specific ordinances aimed at providing prescriptive direction, 2) developing General Plan language which provides legal guidelines or 3) institute voluntary measures focused on incentive based encouragement's to conserve oak woodlands.

Paramount to any discussions focusing on land-use initiatives is the

need to evaluate a broad spectrum of planning options. The available regulatory options include single-tree protection measures (tree ordinances), open space scenarios, project evaluation mechanisms (EIR, General Plan language, Performance Bonds), and private property land-use initiatives (conservation easements, preservation zoning). None of these options alone would suffice to conserve oak woodlands habitats in a diverse county such as Mendocino. The challenge facing the county will be to determine the appropriate combination of each of these planning options.

Tree Ordinance

Throughout California a number of counties have attempted to implement various oak conservation mechanisms with mixed results. The most commonly applied mechanism is the tree ordinance. Though useful in some situations (particularly in cities and townships) tree ordinances have not proven successful in providing adequate protection for oak woodland *habitats* and their ecological elements at the county level. It was the consensus of the oak conservation committee that an oak tree ordinance in

Mendocino County would fail to address the broad array of ecological and social issues associated with woodland conservation. To that end, the committee did not consider the application or development of an oak tree ordinance.

Open Space (project development and review)

At the project level:

A planning option available to Mendocino County when attempting to mitigate impacts to oak woodlands from commercial and residential development is the utility of cluster developments, open space/green belt considerations and site planning that can be addressed during project development and review. Incorporating aspects of oak woodland preserves within the context of a project is an option to assist protection of large contiguous tracts of relatively undisturbed habitat. Though fraught with complications, as evident by the challenge of greenbelt management as seen in the township of Brooktrails, open space inclusion into proposed projects is an option that could identify and initiate positive measures aimed at oak woodland conservation.

At the county level:

Though considered premature by the committee for Mendocino County, publicly funded open space models exist in some counties within California. The closest example, Sonoma County, generates approximately \$12 million annually to support an active open space and agricultural preservation district. The funds are available for district administration, land acquisition and public purchase of conservation easements on privately owned lands.

**Project Evaluation Mechanisms
(General Plan, Ministerial Permit,
Discretionary Permit (EIR))**

General Plan Considerations

Currently, no specific language exists within the General Plan to guide planners and other resource managers when considering impacts from residential, commercial and industrial activities on oak woodlands and their associated resources. Narrative language developed and included within appropriate sections of the county's General Plan could provide clear direction to project developers, planners

and the public when evaluating potential impacts from proposed projects. As the County of Mendocino contemplates new General Plan language, it would be timely to consider specific language aimed at providing clear, concise guidance to planners, developers and the public.

Ministerial Permit Process

Currently, no process exists that allows for the issuance of a ministerial permit to address project impacts on oak woodlands. A process of review and evaluation would have to be established in order to develop such a program. Such a process should be viewed in the context of language inclusion in the General Plan that could be used for guidance and direction. Such a process could be developed to assist in the monitoring of land use practices on oak woodlands and their associated resources.

Environmental Impact Report (EIR)

The EIR involves a discretionary permit process that most often is conducted on a project-by-project basis. The EIR document is intended to address the parameters established under the

California Environmental Quality Act (CEQA) and is intended to minimize project impacts to the surrounding environment. A commonly exercised mechanism under CEQA aimed at protecting oak woodlands is the development and implementation of various ordinances intended to evaluate the proposed impacts to native vegetation (Grading Ordinance, Lake County) or impacts to water quality (Hillslope Development Ordinance, Napa County). Under this scenario all proposed activities (residential, agricultural, commercial and industrial) are evaluated. Costs of this process are borne by the project developer and require a public review process.

Project Environmental Impact Report (PEIR)

A Project Environmental Impact Report (PEIR) is a relatively new option whereby a county assumes the leadership role in developing operating procedures for a specified land use e.g. subdivision development, vineyard development, etc. This process evaluates a project's ability to adhere to the practices, constraints and mitigations identified in the PEIR. The intent is to

provide an incentive-based approach to environmental impact mitigation whereby a proposed project that conforms to the PEIR would not have to develop subsequent environmental review documents. This option has been developed and applied in Lake County for in-stream gravel extraction and is being explored in both Lake and Santa Barbara Counties focusing on vineyard development in oak woodlands. The incentive feature of this alternative is that the county and not the individual project developer bear a substantial portion of the cost.

Private Property Land-use Initiatives (conservation easements, preservation zoning).

Inherent in all resource protection schemes is the necessity to recognize and respect the rights of private individuals and their right of self-determination while concurrently recognizing and respecting the need to protect public trust resources. To that extent, oak woodland conservation must include initiatives that allow private property owners to develop specialized approaches to meet their particular needs. Though incentive-based, private

property programs are limited, the programs that do exist should not be overlooked.

Preservation Zoning

Commonly referred to as Ag. Preserve Zoning or Williamson Act zoning, this designation has long been recognized as a major contributor to maintaining the viability of agriculture in the face of urban encroachment and market uncertainties. Currently, three distinct agricultural preserves exist in Mendocino County. The most under utilized type currently in the county is Type III agricultural preserve. This type provides preserve status to the land for non-agricultural commodity production e.g. “wildlife habitat area” (Ord. No. 3428, adopted 1983), “recreational use” (Ord. No. 3428, adopted 1983). Application of this zoning to lands that meet acreage criteria could serve as an incentive-based program for small to intermediate sized ownerships.

Conservation Easements

Conservation Easements are quickly becoming recognized as powerful planning tools for private ownerships as a means of addressing a

number of financially important issues, e.g. estate planning, tax burden relief. A diverse and knowledgeable cadre of Land Trusts is operating within Mendocino County. They are actively engaged with providing landowner services focusing on conservation easements as a primary tool. As with any financial planning exercise, landowners must evaluate the utility of conservation easements in relationship to other components of their investment portfolio.

Policy Inconsistencies affecting landowners

Policy discrepancies regarding native vegetation management that currently impact landowners differently were identified through this process. Specifically:

- Mandatory stream zone protective measures established under the California Environmental Quality Act (CEQA) and the Z’Berg-Nedjedly Forest Practice Act (FPA) aimed at salmonid and water quality protection in coniferous forest do not apply to oak woodlands, often within watersheds,
- Efforts aimed at reforestation and continued reproduction in conifer

forests through both the CEQA and FPA do not apply to oak woodlands,

- Road building standards and maintenance currently implemented through the Forest Practice Rules (FPR) on coniferous sites do not apply in oak woodlands, often within watersheds,

- The inconsistent application of environmental standards between landowners of conifer sites and oak woodlands has resulted in greater economic constraints on site utilization to landowners of coniferous forests than in oak woodlands, often within watersheds,

- The inconsistent application of environmental standards has resulted in a double standard of practices that may be unwittingly affecting resource restoration efforts within watersheds.

The disparate application of land use, resource protective measures between oak woodlands and coniferous forest in a county like Mendocino results in an incongruent economic situation for landowners operating within watersheds of mixed forest types. This situation is most apparent in the Russian, Navarro and Eel River watersheds where vegetation changes from west (conifers)

to east (oak dominated) result in uneven standards thereby holding landowners to inconsistent expectations of performance.

Summation

Through the committee's efforts a number of future steps and actions have been identified necessary to implement an oak woodland conservation strategy.

These include:

- 1) Develop General Plan Language that assists in providing guidance for oak woodland resources,
- 2) Secure funding and cooperative planning from Federal, State, county and private sources to address oak woodland resource planning,
- 3) Apply GIS and other newly emerging technologies to facilitate accurate information gathering and transfer,
- 4) Provide a central source of information aimed at promoting voluntary oak resource conservation programs i.e. land trusts,
- 5) Provide for an ongoing assessment and monitoring program for oaks and oak habitats,

- 6) Address the pressures that have been identified in this report that are impacting oaks and oak woodlands,
- 7) Address policy discrepancies and inconsistent application of environmental standards regarding oak woodlands,
- 8) Address the threat of Sudden Oak Death Syndrome by supporting other county and non-county initiatives aimed at preventing its spread,
- 9) Explore self-regulation through education, PEIRs, and other initiatives (see appendix 4),
- 10) After further review and discussion establish a framework for countywide conservation of oak resources.

and assessment is obvious to insure the overall success of any conservation program.

These criteria should serve as the basis for future discussion as Mendocino County moves toward the development of a comprehensive conservation strategy aimed at oak woodlands.

Furthermore, these guidelines should be considered for supportive information in the larger context of planning when other, independent actions or programs are considered.

Certainly, as with any management scheme the necessity for periodic review

APPENDIX 1

**1993 LETTER SENT TO MENDOCINO COUNTY FROM
THE CALIFORNIA BOARD OF FORESTRY AND FIRE
PROTECTION DIRECTING COUNTY-BASED APPROACH
TO OAK CONSERVATION.**

STAN OF CALIFORNIA

PETE WILSON, Governor

BOARD OF FORESTRY

1416 NINTH STREET
P.O. BOX 944246
SACRAMENTO, CA 94244-2460
(916) 653-8007
FAX (916) 653-0989



September 28, 1993

Mr. James Eddy
Mendocino County Board of Supervisors
County of Mendocino Courthouse
Ukiah, CA 95482

Dear Supervisor Eddy:

The California Board of Forestry recently took action to support oak woodland protection through local efforts. The Board has been examining oak woodland sustainability since the early 1980s and has decided that statewide regulation by timber harvest permit is not warranted at this time. Other local or regional conservation measures may however be needed. The decision, made in a recent hearing, reflects information from interagency efforts to evaluate impacts from population growth, firewood harvest, and other pressures, and to develop conservation alternatives.

The Board recognizes regional differences in ecological conditions, land use pressures, and management practices that affect conservation needs. For example, firewood harvest is responsible for most oak removal in the northern Sacramento valley while development is the main concern in southern California and the Sierra foothills. While firewood harvest is not regulated, vast acreages still remain intact as wildlands where trees may resprout and grow back into woodlands over time. Development-driven harvest, on the other hand, results in permanent losses or fragmentation of oak habitats. However, the process is subject to review and mitigation under CEQA. The resulting potential threat to oak woodland sustainability and the type of conservation options depend then on a variety of factors.

Mendocino County has significant acres of hardwoods. We understand that the County has produced a pamphlet in conjunction with University Extension to help landowners appreciate oak values and problems associated with construction, and that a training program for planners is also planned. We also recognize efforts by the city of Ukiah to promote oak plantings, valley oak/riparian restoration projects, and use of native species

Mr. Eddy
September 28, 1993
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through its general plan. These efforts and others may be useful in assessing oak ecosystem sustainability and addressing habitat conservation needs. The Board of Forestry is very supportive of local government's desire to retain authority over oak woodland areas, and of their expertise in selecting locally appropriate conservation options. We recognize, however, that information and resources (i.e. people) to develop adequate programs are scarce in these times. As a result, the Board has adopted a program to provide data and assistance to counties for developing and implementing-conservation strategies as needed.

The program will begin with a series of regional workshops by the University of California to clarify issues, concerns, and general conservation options. This will be followed by more focused hands-on efforts directed toward inventories and assessment needs, guidelines for evaluating development or harvest impacts, general plan language, mitigation measures, oak stand management guidelines, educational programs or materials, restoration or revegetation guidelines, ordinances, or other mechanisms. Please let me know who we can contact about these workshops.

I am sending a copy of two reports, A Planner's Guide for oak Woodlands and Guidelines for Developing and Evaluating tree ordinances to your planning director under separate cover. The California Department of Forestry and Fire Protection (CDF) have also sent, under separate cover, a map of your county's oaks and two reports about the mapping process. We will provide additional information once you have identified a contact person.

The Board will do all it can to support local efforts toward oak conservation because we believe it is the preferred alternative to statewide regulation. We encourage you to incorporate these concerns into more comprehensive planning efforts wherever possible to increase the overall efficiency of resource protection activities. The cooperative hardwood program by CDF, University of California, and the Department of Fish and Game will continue to evaluate trends in sustainability and will report their findings to the Board. We will also work with agencies, counties, and other groups to evaluate the effectiveness of local conservation efforts over the next few years. I look forward to working with you in this effort. If you have any questions, please call Cathy Bleier, Program

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Oak Resources Assessment Report
February 2001**

a.

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Manager, California Department of Forestry and Fire Protection, at (916) 227-2667 or Dean Cromwell, Executive Officer at (916) 653-8007.

Sincerely,

Franklin (Woody) Barnes
Acting Board Chairman

..

cc/Letter: John Harper, UCCE

 Raymond Hebrard, Ranger Unit Chief

cc/Publications: Ray Hall, Director of Planning

 A Planner's Guide for Oak Woodlands

 Guidelines for Developing and

 Evaluating Tree Ordinance

APPENDIX 2

An Abridged Version of Brooktrails Township Oak Woodland Policies and Regulations

An Abridged Version of:

**Brooktrails Township
Regulations**

Oak Woodland Policies and

**CHAPTER 20.232 DEVELOPMENT REVIEW PROCESS
FOR THE BROOKTRAILS TOWNSHIP**

Sec.20.232.010 Purpose.

The Board of Supervisors of the County of Mendocino finds and declares that development conditions are unique in Brooktrails Township Community Services District where the mixture of small parcel sizes and steep wooded terrain results in the need for intensive development review.

It further finds that, in connection with the adoption of the Brooktrails Specific Plan, the Brooktrails Township Board of Directors is authorized to provide development review consistent with the adopted Specific Plan.

Sec.20.232.020 Definitions.

(A) Architectural Review Commission. All references to "Architectural Review Commission" shall be to the Brooktrails Architectural Review Commission ("BARC") appointed by the Board of Directors of Brooktrails Township Community Services District pursuant to District Ordinance Number 60 to hear appeals by an applicant aggrieved by any decision made by the District Architect.

(B) Development Review Board. All references to the "Development Review Board" shall be to the Board of Directors of Brooktrails Township Community Services District, which shall be responsible for causing development review of all new construction and further acting as an appeals board for discretionary appeals from decisions of the Brooktrails Architectural Review Commission.

(C) District Architect. All references to the "District Architect" shall be to the office of District Architect as created by Article 2 of Brooktrails Township Ordinance Number 60.

District. All references to "District" shall be to the territory of Brooktrails Township Community Services District, excepting and excluding Spring Creek and Sylvandale.

(E) New Construction. All references to "new construction" shall be to the clearing or grading of a parcel, and construction which requires the issuance of a building permit relating to something other than interior alterations of an existing structure.

(F) Person. All references to "person" shall include any person, firm, association, organization, partnership, business trust, corporation or company. (Ord. No. 3885 (part), adopted 1994; Ord. No. 3898 (part), adopted 1994; Ord. No. 3959 (part), adopted 1997)

Sec. 20.232.025 Establishment of Development Review Board.

There is hereby established a Development Review Board whose function and duty shall be to cause the review of all applications for new construction in the District. The Development Review Board may delegate the review of such applications to the District Architect. (Ord. No. 3885 (part), adopted 1994; Ord. No. 3898 (part), adopted 1994; Ord. No. 3959 (part), adopted 1997)

Sec. 20.232.030 Work in District Requiring Approval.

None of the following work shall be commenced or continued within the District, nor shall any building or other permit necessary for such work be issued without prior approval of the Development Review Board.

(A) Construction of any structure where such work requires the issuance of a building permit relating to something other than interior alterations of an existing structure;

(B) Removal of vegetation where such action involves the removal of trees with a diameter of six (6) inches or more as measured at breast height;

(C) Any excavation of, or deposit of material upon a parcel in such manner as to materially alter the existing contour or condition of the land, including leveling, grading, piling or paving. (Ord. No. 3885 (part), adopted 1994; Ord. No. 3898 (part), adopted 1994; Ord. No. 3959 (part), adopted 1997)

Sec. 20.232.035 Procedure for Submission to Development Review Board.

Any person desiring to do or to have done any of the work mentioned in Section 20.232.030 of this Chapter, shall prior to the commencement of such work submit to the Development Review Board a comprehensive site plan, information sufficient for calculation of square footage, an elevation plan and a general list of materials to be used. All proposed and existing

structures and other improvements and features shall be shown to scale including where relevant or when required by the Development Review Board or its agents:

(D) Existing Trees. The location, type and approximate size of all trees over six (6) inches in diameter, as measured at breast height, proposed to be removed, which trees shall not be removed unless such removal is approved

(F) Additional Information. Any relevant additional information required by the Development Review Board, or its agents.

From Brooktrails Township Community Services District Specific Plan which has been adopted as part of the Mendocino County General Plan.

Section 6.3 VEGETATION AND WILDLIFE

Introduction

The predominant vegetation types in the Township consist of mixed evergreen/Douglas fir forest, early successional stage, dominated by tanbark oak. Douglas fir, coast redwood, Pacific madrone and manzanita occur in varied densities within the forest. In addition, the area supports montane riparian and riverine habitats, oak woodlands/savannah and chaparral. Several small areas of serpentine soils (serpentine rock breaks down into magnesium rich soils which are favored by an identifiable suite of rare plants) are scattered throughout the Township. The oak woodlands/savannah represent a diminishing habitat with increasing pressures to preserve remaining associations. A number of special-status plants occur in Brooktrails. The majority of the plants are typically associated with a specific habitat element such as moisture, exposure, or pg-6-10 serpentine soils. In addition, a number of special status wildlife types are likely to occur in Brooktrails. Sensitive reptile and amphibian species with potential to occur in the area are all highly aquatic species. The creeks and ponds represent potential habitat for the foothill yellow-legged frog, the California red-legged frog and the northwestern pond turtle. The foothill yellow-legged frog was observed during 1990 field studies. The Township also falls within the range of the northern spotted owl, a federally-listed threatened species. The Cooper's hawk and sharp-shinned hawk are widespread woodland and forest species. They are considered species of special concern to the California Department of Fish and Game. The yellow warbler is associated with riparian habitats and is also a species of special concern to the Department of Fish and Game. Several special status plants known to occur in the area--Serpentine collonia, Gresus buckwheat, Purdy's fulillary and Bolander's lily--are on the California Native Plant List 4, a "watch" list of plant species with a limited distribution whose vulnerability appears low at this time. In the future, constraints to development may result from status changes. The

North Coast semaphore grass is listed as rare. It is typically found in moist areas and meadows.

Goals and Implementation Policies

VEGETATION AND WILDLIFE GOAL ER-6.3-1: Protect and enhance the township's native vegetation and wildlife resources.

VEGETATION AND WILDLIFE POLICY ER-6.3-1A

Protect and enhance botanical resources including native plants, trees, and wild flowers.

VEGETATION AND WILDLIFE POLICY ER-6.3-1B

Promote the protection of rare and unique vegetation through appropriate management prescriptions. As noted previously, one of the principle vehicles designed toward the objective of, maintaining environmental stewardship is Future Planning Policy LU-4.3A in Chapter 4, Land Use and Planning, which calls for the continuous collection of environmental data and preparation of an Annual State of the Environment Report with recommendations for pg-6-11 submittal to the Brooktrails Board of Directors. The Advisory Committee would be responsible for formulating programs for the systematic collection of data relating to environmental conditions, in addition to preparing the annual reports. Implementation As part of the Environmental Advisory Committee data collection effort, identify and create an inventory of representative plant communities and rare/endangered plant species. Preserve areas of special biological significance for education and scientific research, including areas of representative plant communities and rare/endangered plant species. The serpentine areas, in particular, should be further surveyed and mapped due to the unique habitat they provide. Within the Greenbelt, preservation is more assured because of limitations on development and use. However, on private properties, coordination with the owners of record would be required. Adhere to state and federal regulations regarding endangered species.

Year: Ongoing.

Implementing Agency/Entity:

Township Board through the Environmental Advisory Committee.

VEGETATION AND WILDLIFE POLICY ER-6.3-1C

Establish a Brooktrails subdivision-wide tree cutting policy except for Forest Land and Timberland Production designated areas. Trees shall not be harvested for the primary purpose of obtaining revenue within District owned property. Implementation Forest Land (F-L) and Timberland Production (T-P) Zoning District lands are located within the western portion of the Specific Plan area. Timberland Production lands extends further to the west outside of the Specific Plan area. Mendocino County General Plan Goals and Policies call for the maintenance and protection of commercial timberland and forestry resources (General Plan pages I-34 through I-36), along with seeking to make optimum use of the County's timber resources under sound forest management practices on both public and private lands. Other concerns include the conversion of viable timberland to other uses and parcelization of timberlands that reduce timber yields. State and Federal regulations recognize the importance of forest lands that are potentially available for harvesting and establish regulations regarding forest practices that reduce the impact of timber harvesting operations on the site and streams. Fire protection is an additional concern. Any proposals for harvesting in such areas must take into account these regulations. Logging on non-federal lands is regulated by the California Department of forestry according to the Forest Practice Act of 1973.

Under the Specific Plan, create a heritage tree ordinance that protects specified trees and tree groves. Generally, such an ordinance includes a definition of the purpose of the Heritage Tree Ordinance, the particular tree species of concern, the criteria to determine heritage status (condition, trunk diameter at breast height), under what conditions heritage trees may be removed, and tree placement ratios to compensate heritage tree removal.

Year: Prior to the year 2000.

Implementing Agency/Entity:.

Township Board through the Environmental Advisory Committee.

APPENDIX 3

GENERAL PLAN LANGUAGE FOR THE COUNTY OF MENDOCINO

4.0 GENERAL PLAN AND ZONING

4.1 GENERAL PLAN

The State Planning and Zoning Law mandates that each planning agency shall prepare and adopt a comprehensive, long term general plan for the physical development of the county. The general plan and its elements and parts are to comprise an integrated, internally consistent and compatible statement of policies. The plan shall consist of development policies, diagrams, a text setting forth objectives, principles, standards, and plan proposals. The Elements required of the general plan are as follows:

- Land Use Element
- Circulation Element
- Housing Element
- Conservation Element
- Open Space Element
- Seismic and Safety Element
- Noise Element
- Recreation Element (for counties and cities that have a park land dedication ordinance)

The State Office of Planning and Research has prepared guidelines, which establish the content and format of the required general plan elements.

The Mendocino County General Plan contains a Coastal Element was adopted in 1985 pursuant to the Coastal Act requirements that each of the 53 cities and 15 counties along the California coast prepare a Local Coastal Program (LCP).

The Coastal Act requires that the Coastal Element be more detailed and specific than the Countywide General Plan and cover issues such as access, visual resources, and urban/rural boundaries that are not mandated by State Planning Law to be included in General Plans. The Countywide General Plan contains elements (noise, safety, and seismic safety) that are not specifically required by the Coastal Act. Thus countywide policies expressed in the Seismic Safety, Noise and Safety Elements apply within the coastal zone. The Coastal Element relies on the Countywide Housing Element of the General Plan for the framework for meeting low and moderate-income housing.

An adequate General Plan is one that serves as a useful guide for local decision making, which also meets the minimum requirements of state law. The General Plan is a comprehensive long-term document, which provides a basis for rational decision making regarding its long-term physical development. The General Plan acts as a "constitution" for development, the foundation upon which all land use decisions are to be based. It expresses community development goals and embodies public policy relative to the distribution of future land use, both public and private. All public and private projects

within the County must be consistent with the adopted General Plan. Increasingly growing, Mendocino County is like an incomplete and evolving puzzle. The General Plan serves as a generalized and dynamic picture of the puzzle. The Plan directs the Board of Supervisors, Planning Commission and staff in fitting together numerous community development components.

In reviewing and adopting a General Plan, to the extent possible, formal public review of the draft plan and the draft environmental impact report should take place together. All general plan proposals - new plans or elements, revisions, and amendments - must be considered by the Planning Commission before the Board of Supervisors takes formal action on them. State law requires that the Planning Commission hold at least one public hearing before it takes formal action on a general plan or general plan amendment (Government Code Section 65353).

The formal public review will inevitably lead to changes in the draft. If the community and the decision makers, particularly the legislative, have been actively involved from the beginning, there should be few major changes. If the legislative body makes substantial changes in the proposal not previously considered by the Planning Commission, such changes must be referred back to the Planning Commission for its consideration prior to final action by the legislative body (Government Code Section 65356).

General Plan Amendments are for the purpose of adjusting or fine-tuning the _ General Plan. The General Plan is designed to accommodate a balanced growth over a span of approximately 20 years. General Plan amendments are a way to more specifically direct development in the shorter term - five to ten years ahead. Amendments give the opportunity to look at the balance and relationships among land uses in smaller areas and to look at land supply on a countywide basis for a few years ahead.

4.2 ZONING

The zoning codes contain- specific regulations, which implement the broader guidelines of the General Plan. The zoning codes consist of zoning maps and printouts and certain designated zoning districts and regulations for each, as well as general requirements, which control the uses of land, population density, uses and locations of structures, height and bulk of structures, open spaces about structures, the aspects of certain uses in structures, the areas and dimensions of building sites, requirements for off-street parking, and attendant regulations, within such zoning districts. Mendocino County has an "inland" zoning code (Title 20 -Division I of the Mendocino County Code) which is applicable to the unincorporated area of the County inland of the Coastal Zone, and a "Coastal" zoning code (Title 20 - Division 11 of the Mendocino County Code) for the unincorporated areas of the County within the Coastal Zone except for the Town of Mendocino for which a third zoning code has been adopted (Title 20 - Division III of the Mendocino County Code).

As stated in the "Inland" zoning code, the purpose of the code is, "...to protect and promote the public health, safety, morals, peace, comfort, convenience, prosperity and general welfare; and further, the purpose of this Division is to prescribe land use regulations and a zoning plan for the County of Mendocino deemed necessary to promote forestry and agriculture; to provide open space for light and air and to prevent and fight fires and other hazards; to prevent undue dispersion -of concentration of populations; to promote orderly community development; to lessen congestion of streets and highways; and to facilitate adequate provisions for community utilities such as transportation, schools, parks and other public requirements."

An additional purpose of the "Coastal" zoning code is stated as follows:

A. This Division is adopted pursuant to Title 7 of the Government Code and Section 30500 et. seq. of the California Public Resources Code to implement the Mendocino County Coastal Element of the Mendocino County General Plan.

B. It is the intent of this Board of Supervisors that the Mendocino County Local Coastal Program be carried out in a manner fully in conformity with the provisions of the California Coastal Act (Public Resources Code Section 30000 et. seq.).

Because the Town of Mendocino has been designated as a special community, the Mendocino Town Zoning Code contains the following purpose:

This Division is adopted pursuant to Title 7 of the Government Code and Section 30500 et. seq. of the California Public Resources Code to implement the Mendocino Town Plan segment of the Coastal Element of the Mendocino County General Plan; to prescribe land use regulations for the Town of Mendocino deemed necessary to preserve the character of the Town; to allow for orderly growth by careful delineation of land uses, provision of community services and review of development proposals; to protect Mendocino's status as a special community, significant coastal resource, and a historic residential community; and to supplement the policies of Division 11.

The following factors limit the powers of the County zoning ordinances:

Preemption: State and federal laws and regulations may supersede local zoning.

Statutory Limitations: State law imposes a number of specific restrictions on local zoning power.

Discrimination: Inconsistent zoning is susceptible to court challenge if it discriminates against types of property, classes of people, or against specific parcels.

Unlawful Delegation: The duly elected legislative body must take final responsibility for zoning.

Vague Ordinances: A zoning ordinance should be clearly written, and the rules and regulations enforcing it must not conflict with the Ordinance's original intent.

Freedom of Speech: By regulating land use, zoning often indirectly regulates behavior, including expression and travel. Zoning can regulate time and place, but not content.

Rights of Association and Privacy: California courts have held that domestic living arrangements are private and cannot be discriminated against by zoning.

Vested Rights: Once substantial investment in' reliance of County action has been committed to a legally permitted project, a governmental agency's power to make zoning changes may be limited.

Taking for Public Use: If zoning effectively nullifies a property's value, the governmental agency may be required to pay compensation.

4-4
Revised 2197

Appendix 4

**Conservation Strategy for Mendocino County
submitted by Rudy Light**

Oak Conservation Committee
Conservation Strategy for Oak Woodlands
Meeting of April 12, 2000

Revised December 1, 2000

Prepared by Rudolph H. Light, Committee Member

A. Essential Topics, Issues and Considerations:

1. The oak species: Mendocino County contains 7 of the 9 tree species of oaks (genus *Quercus*) found in California, plus at least one fairly common hybrid.¹

White oak group	Black oak group	Intermediate group
valley (<i>Q. lobata</i>)	California black (<i>Q. kelloggii</i>)	canyon live (<i>Q. chrysolepis</i>)
blue (<i>Q. douglasii</i>)	interior live (<i>Q. wislizenii</i>)	
Oregon white (<i>Q. garryana</i>)	coast live (<i>Q. agrifolia</i>)	
	oracle (black x interior live hybrid (<i>Q. x morehus</i>))	

In addition to oak trees, California is home to about 10 species of shrub oak. These generally inhabit drier chaparral country but may be intermixed with tree oak species in the oak savanna. Their geographic distributions are poorly known compared to the tree species. Mendocino County certainly contains three and perhaps four shrub oak species.

White oak group	Black oak group	Intermediate group
scrub (<i>Q. berberidifolia</i>)	huckleberry (<i>Q. vaccinifolia</i>)	
leather (<i>Q. durata</i>)		
? brewer (<i>Q. garryana</i> <i>var. breweri</i>)		

To round things out for the Family Fagaceae, there exist in Mendocino County the tanoak (*Lithocarpus densiflora*) and the giant chinquapin (*Chrysolepis chrysophylla*).

2. Mendocino County as of year 2000 has many oaks (although most are mature trees) and is in no immediate danger of losing them. The estimated oak woodlands amount to 380,000 acres in this county and there are tens of thousands of more acres where tanoak may be found. (Refer to the map for oak woodlands of Mendocino County). In the respective suitable habitats of each species, only coast live oak is rare in the county, restricted to the Russian River riparian zone north of Hopland. All other species are currently abundant as adults.

3. Oaks are in decline throughout much of the state. While there are many mature trees, seedlings are uncommon and saplings are rare in this county. This is especially true of all three species in the white oak group, the oracle oak hybrid, and probably true of the coast live oak. In some parts of the county, black oak and interior live oak are regenerating successfully although it is emphasized that the distribution of successful current regeneration is spotty.

Reasons for the decline are varied, but we know that the causes include the annual

summer dry period of five to eight rainless months which desiccate and kill seedlings. Grass competition for moisture is an important factor. We also know that deer, rodents and rabbits browse seedlings back to the ground; in many areas, pocket gophers kill them by eating their roots. Finally, we know that livestock, especially cattle and sheep, trample seedlings. Basic remediation methods include summer irrigation and exclusion of herbivores.

4. The unit of conservation must be the oak woodland, not individual trees, since isolated trees, while majestic and beautiful, do not have a lot of overall habitat value.
5. Inasmuch as natural regeneration is poor, oak woodland conservation efforts must focus on the future, i.e., replanting or reforestation by artificial means or restoring conditions that will result in natural regeneration. This is by far the most important issue facing the long term sustainability of the oak woodlands.
6. Encourage or require the planting of oaks (especially white, valley and blue) whenever oaks are cut down in the development of residential, commercial, industrial, agricultural or forestry projects. It is well known that the presence of oaks in residential subdivisions add substantial economic value.

Reforestation of oaks at some level should be a regular part of normal agricultural and forestry operations. At the present time, as an educated guess it is probable that not more than 200 acres of oak forest is lost each year in Mendocino County and about 300 to 500 acres of lower density oak savanna are converted. While not an appreciable loss over 380,000 acres, most of the losses occur along state and federal highways and are highly visible, particularly on the hillsides. These areas are also the more densely populated rural areas. We must recognize that the visual impact is highly significant and tailor conservation and reforestation efforts accordingly.

7. Any planting requirement to replace cut oaks or the encouragement to plant even when not replacing cut trees must apply equally to the public sector as it does to the private landowner. This will include cities and counties, and state agencies such as the California Department of Transportation and the Department of Forestry and Fire Protection, and federal landowners such as the Bureau of Land Management and the Forest Service. As with private rural landowners, oak reforestation should be an integral part of the management of the public lands along roads, rivers and streams, and in forests and savannas.
8. Any required or encouraged best management procedure must include exceptions to allow landowners and homeowners to cut individual trees for specified purposes, such as firewood, new construction, removal of diseased trees, to obtain wood for barrels and furniture, etc. These exceptions can be limited so as not to invite abuse.
9. For each oak cut, encourage or require 25 seedlings to be planted and nurtured (plant bands, tree shelters, and irrigation) for the next 6 years or until 3 meters high. Under certain circumstances, substitutions for oaks may be made using pepperwood, buckeye or sycamore in appropriate habitats. This is especially important in the areas visible from roads, hillsides and along creeks and rivers.
10. Establish a permanent or semi-permanent Oak Woodland Conservation Commission answerable to the Supervisors composed of representatives from various organizations

such as California Farm Bureau, Cattlemen's Association, California Native Plant Society, County Fish and Game Commission, Resource Conservation District, Sierra Club, Mendocino Winegrowers Alliance, California Oak Foundation, Audubon Society, University of California Forestry Extension, Integrated Hardwood Range Management Program, Natural Resources Conservation Service, and members of the public.

The purpose of the commission will be to review all prospective oak woodland conversions for vineyards and other agricultural purposes, and residential, commercial and industrial development; also to evaluate consumptive uses such as furniture and barrel making, and firewood cutting. This body could monitor the health of the oak woodlands and be a major resource to landowners. It could also compile information on how other counties conserve oak woodlands and receive and distribute information from the Department of Forestry and the Integrated Hardwood Range Management Program (IHRMP).

The Oak Woodland Conservation Commission would report annually or biennially to the Supervisors on the condition of the oak woodlands, particularly with respect to sudden change such as conversion from oak woodland but also on fires, floods, diseases, and severe insect infestation which may cause significant mortality.

11. Mendocino County must join forces with other counties, the IHRMP and the University of California Cooperative Extension (UCCE) Program to study and combat Sudden Oak Death. This unnamed species of *Phytophthora* fungus responsible for killing tanoak, coast live oak, and California black oak is not present in Mendocino County as of November 2000, but likely will spread here. An extensive education program needs to be developed, to follow and disseminate the research currently being conducted. Such public education could eventually become the responsibility of an Oak Woodland Conservation Commission, but in the meantime, the county needs to act now.
12. With the help of CDF and researchers such as the UC Extension Forester, or those at UC Berkeley and Hopland Field Station, develop a manual of best management practices for the enhancement of oak woodlands and on how to avoid or at least mitigate damage to oak resources. At the end of this document is a list of pertinent references. The best management practices should set up a conservation plan for landowners, with incentives to plant and nurture oaks, and give landowners recognition for proper conservation and stewardship of the land. The Oak Woodland Conservation Commission can assist.
13. Establish an information repository within the authority of the Oak Woodland Conservation Commission where landowners can voluntarily report their conservation efforts. The repository will furnish reporting forms, and landowners can describe what species were planted, how many and where, the planting rate and reason or purpose. There should be a place also for a few photos. The form should be filed about every three years to demonstrate success or progress by landowners in both the public and private sectors.
14. Use information from the repository as data gathering but also to show everyone what efforts are being made in oak woodland conservation and oak regeneration. Remember that this county at present has 380,000 acres of oak woodlands, so reforestation results won't always show up quickly even if made over a relatively large area.
15. There needs to be a place for individuals to find out how to conserve oak woodlands and

how to propagate oaks. Information on availability of acorns, sources of tree shelters, mats to eliminate competition from grasses and other useful materials, how to irrigate seedlings and keep herbivores away should be easily obtainable in pamphlet form. This pamphlet should also explain the county policy and guidelines. The program must ensure that a person doesn't have to talk to ten different people and doesn't receive ten different opinions. The Parks and Recreation Department or the Building and Planning Department can be entrusted with disseminating the material once someone else has written it. The IHRMP has assembled much of this information already.

16. Encourage or require the landowner to pay particular attention to his or her riparian zones because rich species density and diversity tends to be located in these zones. There is little enough riparian habitat to begin with and it's been degraded more seriously than other habitats; restoration efforts in riparian areas pay back more dividends than on drier land away from the rivers or on hillside oak woodland or savanna. These areas are critically important wildlife habitat.
17. Don't worry about saving all older trees (the specimen tree trap). Many of these senior citizens are 200-400 years old and are likely to die in the next 20-50 years anyway. Their greatest value now is to provide acorns for the future. These trees represent one of the most important current seed sources and should be so managed but not revered. It takes close to a century before an oak is mature enough to reproduce. From the perspective of the oak woodland as the fundamental unit, these trees are also vital in their senescence and death. When they are old, dying and dead, they provide homes for vertebrates and invertebrates, granaries for acorn woodpeckers, and after death become a home to the various insects, other invertebrates, fungi and bacteria which decompose organic matter.

However, it makes little sense to try to save them all. Recently, the Town Council of Danville voted to spend \$150,000 to save one heritage oak. That same money could have planted 30,000 acorns clothing hundreds of acres with an oak woodland, a far more productive use of money. In other words, older trees are important but should not be the main focus of oak conservation.

B. Highly recommended practices:

1. Start with voluntary guidelines as opposed to general plan amendments or ordinances and attempt to retain that minimum of government and police which is the meaning of freedom and liberty. When such guidelines work, and they often do, landowners and the society is the better for it. If the ordinance route is chosen, it will be necessary to spell out every detail and this becomes complicated, lengthy and laborious, not to mention the necessity of establishing a bureaucratic police force. Ordinances invariably invite litigation. At this moment, I think ordinances are unneeded and unworkable here in Mendocino County. For examples of ordinances, see those drafted by the Counties of Sonoma, Santa Barbara, El Dorado and by the Cities of Visalia and Simi Valley. At this time and with Mendocino County's overall relative health and extent of oak woodlands, such draconian and restrictive measures are not needed. Let us try first the approach of reasonable people who recognize and honor the principle that personal freedom involves the limitation of intrusive government and carries with it the responsibility to the future generations of people who will be grateful both for our conservation efforts now and the wisdom to have avoided punitive governmental regulation.

I think it is far better to set some goals which are achievable rather than ones which

produce bitterness and antagonism as byproducts of their success. As food for thought, let us cooperatively attempt to achieve an 85% success rate (however operationally defined) using education, public opinion and voluntary guidelines that nearly everyone can approve of. In my opinion, this is far preferable to setting a 98% success rate of goals with onerous laws and regulations that make the landowners angry, uncooperative and litigious. Enlist the help of landowners rather than force crippling ordinances on them. We all will be better off.

In the future, voluntary guidelines might have to be abandoned in favor of more restrictive ordinances developed incrementally, but given the current condition and extent of the oak woodlands, let us make progress now in the forests rather than argue about ordinances which consume time, paper and antacids, and which don't get acorns planted.

2. Keep the Building and Planning Department out of it as enforcers. Utilize the Planning and Building Department only to the extent that necessary information such as the pamphlet regarding methods of oak conservation and county policy should be included in the packet applicants receive when they want to undertake commercial, residential, industrial or agricultural development. Utilize the Parks and Recreation Department to evaluate progress and suggest improvements if paid staff need to be involved.

In the event county resources are unable to monitor and protect oak woodlands, get the State involved, first from the scientific perspective, and only later from the enforcement branch. The University of California has many extension foresters, and the California Department of Forestry and Fire Protection and the IHRMP has staff with scientific and practical experience in the management and regulation of commercial forests. Their expertise could be invaluable in the management of noncommercial oak woodlands as well. See the list of references.

3. Retain a third party non governmental certification system for vineyards, orchards and farms similar to the system used by Fish Friendly Farming, but focused on farming practices compatible with oak conservation. This might be done through Smartwood or even the California Certified Organic Farmers organizations if either is willing. Certification will allow the farmer or rancher to guarantee to the public that his or her agricultural products aren't produced at the expense of oaks, and to publicize the bona fide conservation efforts that private landowners have made.
4. Allow offsite mitigation where onsite mitigation is not practical. Offsite should include federal public lands (BLM, USFS), state lands (state forests, state parks, rights of way), county lands (parks, schools, rights of way) and even private lands but with some constraints on the last named.
5. Encourage oak species diversity when planting, but recognize that individual species have individual requirements for elevation, soil type, drainage, water requirements, slope and aspect.
6. Attempt to maintain oak woodland corridors. Information for this topic can be provided through the Extension Forester, UC Hopland Field Station and the IHRMP.
7. Increase funding opportunities for permanent conservation easements on rural lands. Encourage land trusts to help in preservation of oak woodlands. Land trusts are valuable tools to educate the public and to preserve land in a more or less natural state in

perpetuity.

8. We need to remember that healthy oak woodlands possess dying trees, dead snags and logs on the ground. We must preserve oaks in all stages of life and death and in numbers sufficient to maintain the organisms which use them.
9. Other nations, such as England, regulate their hardwood forests. Trees in that country are largely protected by ordinances and local authorities, which prohibit or regulate cutting, pruning or other procedures. A landowner needs consent or a permit to do these things. However, England also compensates a landowner in the event a landowner files a plan and cutting is not allowed for aesthetic or environmental or other reasons.⁵ In this country, we call it a "taking", and takings are compensable.

There is a movement among some environmental activists to consider that ownership of trees should be identical to that of songbirds, game birds and game mammals. They would like to place oak trees under that kind of public ownership and protection and to say that the individual who owns the land does not own the trees. However, birds and mammals move, and because of this cannot be tied to a single property. Trees don't move and should remain in the ownership of the individual property owner along with the land. If they are not allowed to be cut for value, the owner must be paid.

10. If a policy resolution is passed, add in the following language for its management guidelines.

Woodlands in which the majority of trees are oaks are to be protected to the maximum extent possible through site design and use considerations.

The planting of acorns and care of seedlings until able to fend for themselves takes the highest priority in the management of the oak woodlands.

Any project which cannot significantly mitigate adverse impacts to oak woodlands may be reduced in scale, redesigned, or modified so as to maintain the integrity of the woodlands.

Property owners are encouraged to establish open space easements or deed restrictions for areas containing oak woodlands, and allow access for scientific study.

Land divisions in oak woodlands are allowed only at densities compatible with protection of the resources as determined by environmental evaluation by the Oak Woodland Conservation Commission or its designee.

As a condition of development approval, restoration is required of any oak woodland which is in a degraded condition, with the magnitude of restoration to be commensurate with the scope of the project. This will include planting of native oaks, and may include removal of non-native or invasive species, and/or modification of existing land use. The objective of restoration shall be to enhance the functional capacity and biological productivity of the oak woodland to make it self-sustaining through natural processes.

At all times, the best and most current scientific knowledge shall be the overriding factor in making management decisions.

11. Refer to and use current literature on oak woodlands. Examples include:

- Articles in California Agriculture, and various pamphlets published by UC Cooperative Extension Service, and the California Oak Foundation.
- Bernhardt, Elizabeth A. and Tedmund J. Swiecki, 1991. Guidelines for developing and evaluating tree ordinances. Sacramento, CA: California Department of Forestry and Fire Protection, Urban Forestry Program. 76 pages.
- Bolsinger, Charles L., 1988. The hardwoods of California's timberlands, woodlands, and savannas. Portland, OR: USDA, Forest Service, Pacific Northwest Research Station. Resource Bulletin PNW-RB-148. 148 pages.
- Giusti, Greg A. and Pamela J. Tinnin, 1993. A planner's guide for oak woodlands. A publication of the Integrated Hardwood Range Management Program. Berkeley, CA: University of California, Department of Forestry and Range Management. 104 pages.
- Merenlender, Adina M. and Julia Crawford, 1998. Vineyards in an oak landscape. Oakland, CA: University of California, Division of Agriculture and Natural Resources, Publication 21577. 15 pages.
- Passof, Peter C., W. James Clawson and E. Lee Fitzhugh, 1985. Preliminary guidelines for managing California's hardwood rangelands. Oakland, CA: University of California, Division of Agriculture and Natural Resources, Publication 21413. 92 pages.
- Pavlik, Bruce M., Pamela C. Muick, Sharon Johnson and Marjorie Popper, 1991. Oaks of California. Los Olivos, CA: Cachuma Press and California Oak Foundation. 184 pages.
- Pillsbury, Norman H., Jared Verner and William D. Tietje, tech. coords., 1997. Proceedings of a symposium on oak woodlands: ecology, management, and urban interface issues; 19-22 March 1996; San Luis Obispo, CA. Gen. Tech. Rep. PSW-GTR-160. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 738 pages.
- Plumb, Timothy R. and Norman H. Pillsbury, tech. coords., 1987. Proceedings of the Symposium on multiple-use management of California's hardwood resources; November 12-14, 1986; San Luis Obispo, California. Gen. Tech. Rep. PSW-100. Berkeley, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 463 pages.
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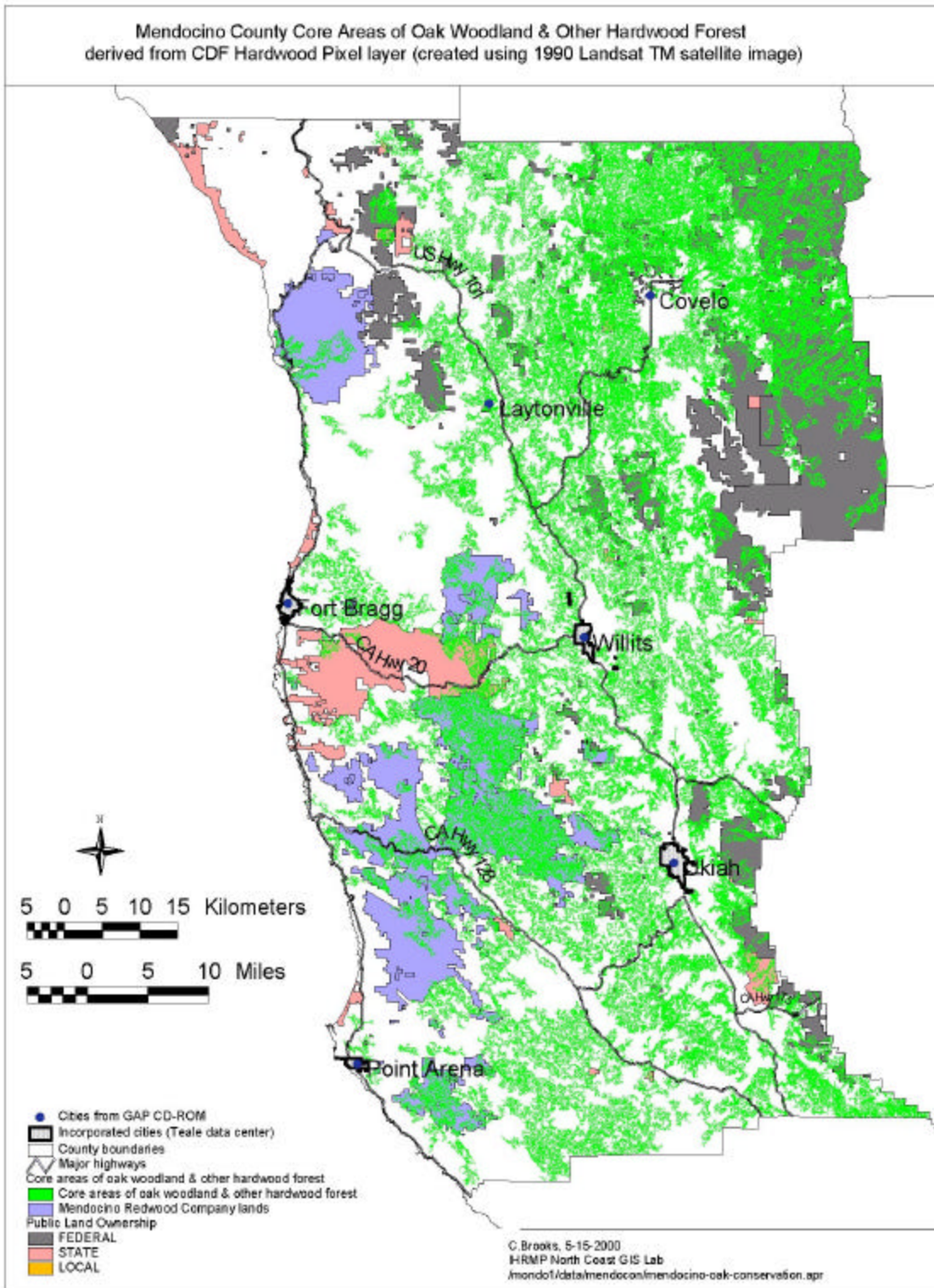
The proceedings from the four symposia on oak woodlands sponsored by the U.S. Forest Service and University of California are invaluable. Conferences were held at Claremont (1979), San Luis Obispo (1986), UC Davis (1990), and San Luis Obispo (1996). A fifth symposium sponsored by the U.S. Forest Service and the University of California is scheduled for October 2001 and will provide the latest and most up-to-date information on oaks and oak woodlands.⁶

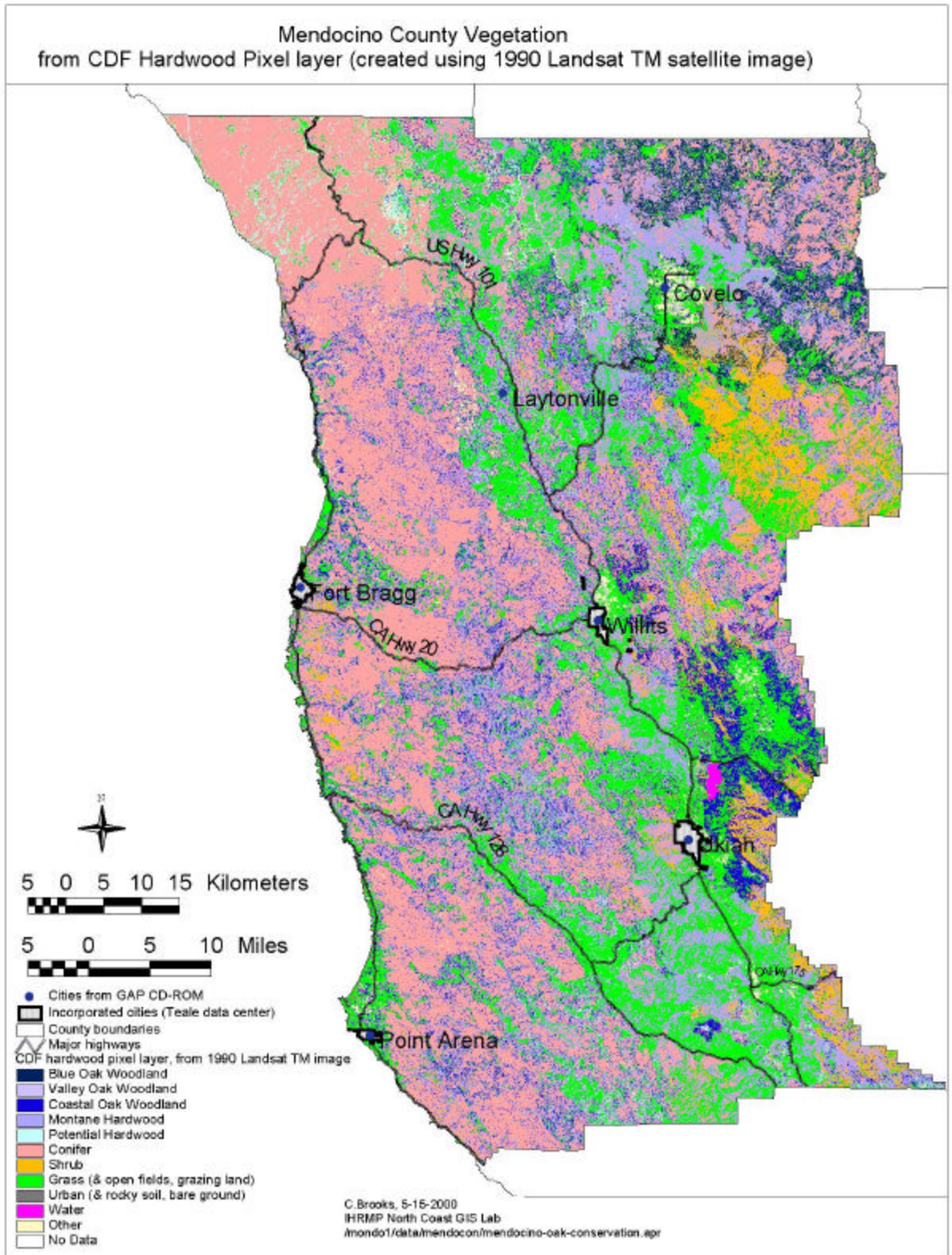
FOOTNOTES

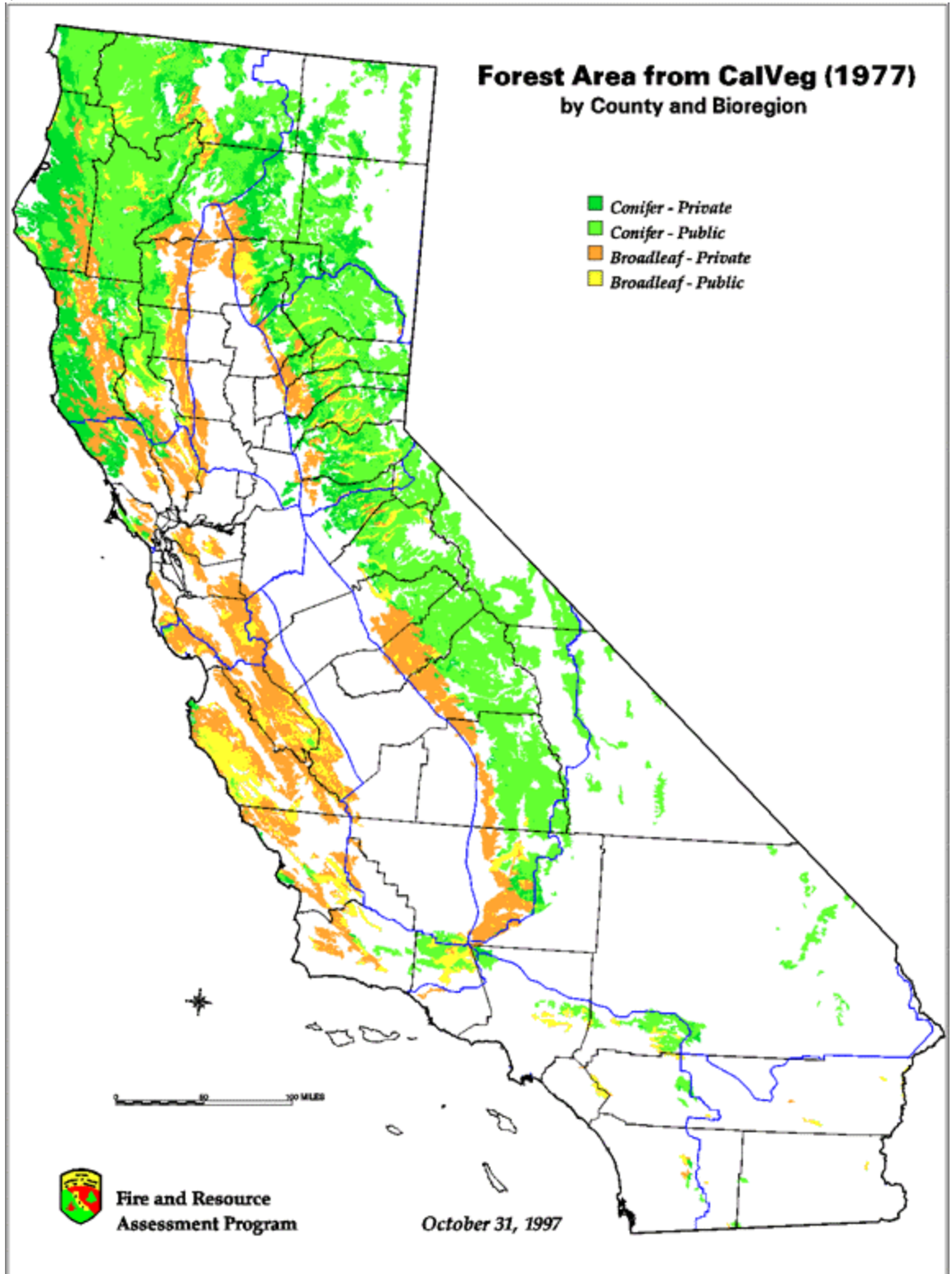
1. Bruce Pavlik et al. Oaks of California.
2. Charles Bolsinger. The hardwoods of California's timberlands, woodlands and savannas.
3. Map kindly provided by Tom Gaman, Registered Professional Forester, of East-West Forestry Associates, Inverness, California.
4. "Losing Deep Roots" by Michael Pera. San Francisco Chronicle, October 19, 2000.
5. Barry Denyer-Green, Esq., Sussex, United Kingdom, personal communication.
6. Doug McCreary, University of California, Browns Valley, California, personal communication.

APPENDIX 5

OAK AND VEGETATION DISTRIBUTION MAPS OF MENDOCINO COUNTY







Appendix 6

**Invited Participants
for Oak Conservation
Committee**

**Landowners/
Managers**

Rudy Light
Redwood Valley

Dick Ruddick
Ukiah

Bill Crawford
Hopland

John Sharffenberger
Philo

Ted Bennett
Philo

Pat Rogers
Hopland

Tom Piper
Hopland

Rich Burns
Bureau of Land
Management
Ukiah

Blaine Baker
US Forest Service
Upper Lake

Charles Thompson
Round Valley Reservation

Covelo

Noel Stoughton
Army Corps of Engineers
Ukiah

Linda Perkins
Albion

Kate Frey
Hopland

John Philips
Willits

Linda Gray
Ukiah

Bob Whitney
Willits

Chuck Williams
Ukiah

Dave Sagehorn
Ukiah

Gary Johnson
Boonville

Peter Bradford
Boonville

Jim Guntley
Potter Valley

Guinness McFadden
Potter Valley

County Agencies

Planning – Ray Hall
Transportation – Allan
Gialdini

Water – Dennis Slota
RCD – Ann Maxwell

Agriculture – Dave
Bengston

City Agencies

**Ukiah Planning
Commission** –
Eric Larson

Ukiah Planning Dept.
Bob Sawyer

Willits Planning- Mike
Mullen

Advisory Inputs

**National Marine
Fisheries Service**
- Charlotte Ambrose
- Mike Devany

**CA Dept. of Fish &
Game**
- Jack Booth
- Bob Coey

**CA Dept. of Forestry &
Fire Protection**
- Bruce Strickler
- Charlie Martin,
- Jeanette Pederson
- Jerri Finn