San Diego County Planning Efforts to Preserve Oak Woodlands[1]

Thomas A. Oberbauer[2]

Abstract: Development of San Diego County has traditionally taken place on the coastal plain and in coastal valleys. Within the past two decades, it has spread into the foothills resulting in conflicts with oak woodlands. The County of San Diego has proposed a number of measures to protect oak vegetation including a tree protection ordinance, land use designations and zones designed to protect outstanding sensitive vegetation, and a brushing and clearing ordinance. The predominant method for preservation of oaks is through open space easements within subdivisions. This usually results in the protection of small, habitat patches. However, a coordinated effort needs to be made to preserve large blocks of habitat.

San Diego County has one of the fastest growing human populations in the United States. The development in this County has taken place predominantly on the coastal plain where chaparral, coastal sage scrub, grassland and vernal pool vegetation occurs. However, in the past twenty years, agriculture and urban development have moved into the foothills where vegetation consists of oak woodlands and chaparral. Because oak trees are a valuable aesthetic and wildlife resource in this part of Southern California, the County government has grappled with attempts to protect them from the adverse effects of land development.

Distribution of Woodlands in San Diego County

The oak woodlands that grow in San Diego County occur in a variety of forms. Many coast live oak (*Quercus agrifolia*) occur along small arroyos in the coastal region. In the portion of the County inland from the coast, the terrain takes on a foothill/valley aspect where coast live oaks occur on the margins of large valleys, north facing slopes and filling smaller alluvial valleys. In some of the foothill areas, Engelmann oak (*Quercus engelmannii*) occurs on rolling hilltops as well as mixing in with coast live oak. Farther inland, above 3,500 to 4,000 feet, the California black oak (*Quercus kelloggii*) becomes a common species. In some locations, it forms nearly pure stands. In the higher mountains, the canyon live oak (*Quercus chrysolepis*) also grows. At the time of pre-settlement of San Diego by Europeans, it is estimated (Oberbauer 1990) that there were roughly 80,500 acres of oak woodland that form an open configuration on rolling hills and interior mesas, and about 28,900 acres of the dense, and linear form of woodland. However, oaks also constitute a major portion of the species composition within the coniferous forest which covers roughly 79,000 acres of San Diego County.

There have been two trends that have dominated the disposition of oak woodland vegetation in San Diego County in the past. The first evolved from a public view that trees are a valuable visual and aesthetic resource in an area that was generally covered by shrub vegetation. Traditionally, there has been a concern to protect oak trees in coastal areas for their ability to create shade and provide a beneficial environment for human inhabitants. The Native Americans were somewhat dependent upon oak woodlands for food sources and the European inhabitants, while no longer requiring such a food source, still greatly appreciated oak trees. The result has been that many of the oaks that originally occurred along the coast remained without much disturbance other than for limited fire wood gathering which had an unknown effect. The interior regions, however, support more oaks. With the greater numbers, the value of the individuals seems reduced. Consequently, this has resulted in the second trend: woodcutting greater amounts of firewood and heavy levels of cattle grazing. In recent decades, these trends have somewhat changed. With the introduction of imported water into the region, the ability to create artificial woodlands of faster growing trees was enhanced. It also became possible for urbanization to spread and for orchard agriculture to be produced over hillsides and slopes. In fact for some, orchard agriculture may have replaced oaks in fulfilling a psychological desire for trees.

Impacts to Woodlands and Alleviating Actions

Oak woodlands in the coastal regions have typically occurred in drainage areas along streams and arroyos mixed with chaparral while urban development took place on the mesas and in major valleys. Since the trends toward oaks have changed, the impacts to them have also increased. Furthermore, since urban development has invaded the foothills of this county where natural habitats had predominated, the result has been conflicts with woodland preservation.

The perceived loss of oak trees has raised concerns of many of the local citizenry. The San Diego County Board of Supervisors has responded to the concerns of the local citizenry by creating land use controls intended for protecting oak trees and

[1] Presented at the Symposium on Oak Woodland and Hardwood Rangeland Management, October 31-November 2, 1990, Davis, California.

[2] Regional Planner, Department of Planning and Land Use, San Diego County, Calif.

woodlands. These have included policies in the Conservation Element of the General Plan and special zones. Additional state regulations such as the California Environmental Quality Act (CEQA) (1990) require the consideration of impacts on sensitive habitats which in the San Diego region include oak woodlands. However, the overall effect of these regulations has been a piecemeal approach to the preservation and protection of oak trees. Individual subdivisions are frequently approved with small open space or conservation easements that are dedicated to the County. These easements may preserve individual or even a clusters of trees, but they are not likely to preserve the oak woodland habitat as a viable wildlife area or corridor. In addition, a number of the woodland areas "protected" as open space are likely to eventually succumb to stress and damage from road and building construction close to their root systems. The urbanization of the foothills also results in increased levels of road construction. The majority of the roads in the foothills traverse drainages due to the topographic factors which facilitate construction. As the foothills develop, the expansion of the road system results in a significant loss of linear woodland habitat.

At this point in time, roughly 5-6 percent of the major areas of oak woodland are known to have been directly lost due to agricultural clearing and urbanization, but the figure of impacts may be greater due to the lack of complete data for historic periods. Furthermore, a significant percentage of the oak woodlands that occur in San Diego County have been grazed heavily by cattle for the last 200 years. Much of these areas now support little understory of vegetation; this has reduced the viability of the woodlands as habitat. Continued heavy grazing reduces oak reproduction since no young trees survive the grazing. The areas in which this problem is most prevalent are the rolling hills and mesas in the foothill and lower mountain slopes. The woodlands that occur in a linear fashion along narrow stream courses and drainage bottoms and those on steep lands may still support understory habitat and reproduction due to the lack of access by grazing animals.

The major effect of development in oak woodlands in this County is still increasing as it spreads through the foothills, engulfing all lands that are outside of the ownership of the Cleveland National Forest and California State Parks system. Major subdivisions in areas such as Valley Center, Ramona, and Alpine frequently result in the loss of oaks.

COUNTY PLANNING

The following are some case histories of measures attempted by the County of San Diego to regulate the destruction of oak woodlands.

Tree Protection Ordinance

In the mid-1970s, a proposal was created to adopt a tree ordinance into the Code of regulations of the County of San Diego. This ordinance would have designated trees as a protected status. Protected trees were to be defined as "Heritage trees"; this included trees specifically designated by the Board of Supervisors. The tree ordinance would have required the acquisition of a permit to cut more than a small percentage of protected trees per year. The ordinance also had provisions for replacement of the trees allowed to be removed. Trees that were not designated as Heritage Trees would not have had limitations on their removal, though CEQA would have still regulated protection of such trees when development was proposed. Due to concerns raised by backcountry residents and the agricultural community regarding the perceived restrictions of their property rights, the tree ordinance was not adopted in the County. The overall issue and pitfalls of utilizing ordinances to preserve trees have been well discussed by Rossi (1990).

Resource Conservation Areas

In the late 1970s, the Resource Conservation Area proposal was initiated by a task force working to create the Conservation Element to the state required San Diego County General Plan. The Conservation Element identified the need for special designation of particularly outstanding natural resources in the county. In 1979, the Resource Conservation Area was designed as an overlay designation, adopted as part of the Conservation Element.

Implementation of the Resource Conservation Area program was originally designed to be carried out in a phased manner beginning with mapping the outstanding natural areas and including adoption of those areas by the County Board of Supervisors in a formal hearing. Additional phases were to include the application of land use designations and special zoning regulations such as the Impact Sensitive designation and Sensitive Resource Regulator. Other phases involved careful consideration of the sensitive resources during the application of subdivisions and outright purchase. The criteria for creation of biological Resource Conservation Areas included locally important vegetation resources including oak and riparian woodlands in continuous drainage patterns or large patches. The Impact Sensitive land use designation is usually utilized for areas of woodland within floodplains but is also applied to upland areas. It requires parcel sizes based on slope ranging from minimums of four to twenty acres.

In the late 1970s, the County of San Diego also adopted the "Sensitive Resource Area Regulations" that could be applied through the zoning process to Resource Conservation Areas. This process also required a decision by the San Diego County Board of Supervisors during a noticed public hearing. The essence of the Sensitive Resource Area Regulations was that properties so zoned would require an administrative permit from the Director of the Department of Planning and Land Use,

including environmental review under CEQA, before undertaking vegetation disturbances. Therefore, the intent was that before sensitive habitat could be cleared, it would be necessary for the impacts of that clearing to be mitigated. The Sensitive Resource Area Regulations were applied to some vernal pool habitat in the Otay Mesa Area and to an oak woodland filled canyon northwest of Ramona. This canyon also contained a golden eagle nest site and a 50 foot waterfall. Again, concern for property rights made the application of these regulations controversial.

Shortly after the application of these regulations to the canyon area, the political composition of the Board of Supervisors shifted and the Board acted not only to remove the Sensitive Resource Area Regulations from this canyon, but also from the County zoning ordinance. The Director of Planning was later forced to resign and the Sensitive Resource Area Regulations were cited as one of the reasons.

At the present time, Resource Conservation Areas drawn up by planning staff have been applied to the majority of outstanding habitats in the western part of San Diego County through the community planning process (San Diego County General Plan, Part X Conservation Element 1990). They occur over substantial areas of oak woodland habitats in upland areas and on major oak woodlands along stream courses. In 1988, a large Resource Conservation Area was applied to the Palomar Mountain region as well as the Mesa Grande area where expanses of Engelmann, coast live and California black oaks exist. In 1991, Resource Conservation Areas are proposed for application to areas within and surrounding Cuyamaca Rancho State Park.

Though the Sensitive Resource Area Regulator has been removed from the San Diego County zoning ordinance (Zoning Ordinance, San Diego County 1990), Resource Conservation Areas still stand as an indication of areas that are considered outstanding natural resources by the County of San Diego. Discretionary permits which require County approval are evaluated carefully in these areas. In addition, the Parks and Wildlife Bond Act that was approved by the voters of California in 1988 contained specific provisions to provide funding for acquisition of San Diego County Resource Conservation Areas. In 1989, a portion of that funding was used to acquire more than 200 acres of Volcan Mountain near Julian. The property acquired supports pure stands of the California black oak (*Quercus kelloggii*) and open meadows.

Brushing and Clearing Ordinance

During the mid-1980s, several large areas of San Diego County were brushed and cleared under the guise of agriculture and to avoid environmental review when applying for development approval. Due to concerns by the public, the San Diego County Board of Supervisors adopted a brushing and clearing ordinance in 1989. This ordinance establishes a procedure to issue notices of violation if a property has been cleared of its native vegetation including chaparral, coastal sage scrub and oak woodlands. Exemptions are granted for lands that are smaller than ten acres in size, lands for which a brushing and clearing permit has been granted after environmental review and lands on which an agricultural exemption has been granted. Agricultural exemptions may be granted if the owner signs a statement certifying intent to develop the property to agriculture within one year and maintaining that use for five years. The penalties of the brushing and clearing ordinance may include fines of $1,000 per day and may be grounds for denial of all discretionary permits on the property for five years. The violation is also recorded on the property and can be removed only when the Planning Director and Board of Supervisors determine it is no longer in violation. Since the adoption of this ordinance, a number of violations have been issued including one where a major oak and riparian woodland was clearcut and one where oaks were heavily impacted by bulldozing beneath their canopies. However, the penalty phases are still in the process of being tested.

Offsite Mitigation

The County of San Diego is currently investigating a number of procedures for offsite mitigation of woodland or other habitat loss. While there has not yet been a coordinated procedure which San Diego County utilizes for offsite mitigation measures, there have been a few cases in which mitigation measures for development involved the preservation of offsite habitat. In particular, the County itself proposes to purchase offsite woodlands to mitigate the loss of oaks to several proposed landfills. Other options for offsite mitigation include "mitigation land banking" and the use of Land Trusts.

Mitigation land banking has a number of advantages and disadvantages. The advantages are that mitigation can take place in advance of project construction since the mitigation site would already be secured. Another advantage is that negotiating and establishment of mitigation in advance of project proposals provides the opportunity to implement mitigation in a timeframe not controlled by the deadlines of the development. In some cases, the initiation of a land bank planning effort may stimulate the development of local goals for habitat protection, enhancement and creation. They also must involve all of the appropriate local, state and federal agencies and private parties which can force conflict resolution. Another advantage is that a mitigation land bank formal agreement can be used to ensure commitment and establish responsibility for follow-up evaluation and adjustments in the bank management plan if the desired outcome is not achieved. Reduction in Federal permit processing time is another benefit because Federal and State agencies would have already concurred with the appropriateness of a mitigation banking procedure. It also has a benefit of public recognition of the importance of mitigation actions.

The first of the potential disadvantages may be the reduction in quality of project planning. A major risk associated with mitigation land banking is the possibility that bank credits would be used before all other means of avoiding impacts are exhausted. In reality, the only true mitigation is avoidance. A second major

disadvantage of mitigation banking is that it results in a net loss in habitat. Unless mitigation land banks involve habitat creation or restoration, which are still technically unproven concepts in San Diego County, mitigation banks represent a net loss in habitat if they result in the preservation of one habitat to "compensate" for the loss of another. Another potential problem is that there is no guarantee that all of the species lost at a project site will occur at a mitigation bank site. In highly developed areas, land available for offsite mitigation projects may be very limited and high in cost. This can result in mitigation banks that are located a considerable distance from development and a decreased availability of mitigation areas for other developers who are planning projects near land banks. Still, with all of its disadvantages, mitigation banking may assist in the creation of large blocks of sensitive woodland habitat rather than patchy mosaics of preserves.

Analysis of Regulatory Cases

In practice, the predominant method of protecting oaks in the County of San Diego is through the regulatory process of subdividing land or approval of use permits for development. Under CEQA, all discretionary projects, those that are not allowed by right but which require a decision for approval by an agency, must be evaluated for potential environmental impacts. This includes all permits such as subdivision approvals, special and major use permits, and grading permits and variances, but does not include ministerial permits such as building permits.

Under the California Environmental Quality Act, environmental impacts that are considered significant must be mitigated. In addition, in response to citizen ballot measures in 1989 the County of San Diego adopted and in 1990 amended the Resource Protection Ordinance (RPO) to deal with adverse development.

Under RPO and CEQA, oak woodland habitats are considered to be sensitive so that projects proposing to develop land containing them need to include mitigation measures. In most cases, these mitigation measures involve the dedication of the land to the County or a third party group as an open space easement. An attempt is made to connect these easements as linear corridors, in the case of woodlands along drainage bottoms, or in blocks, for woodlands on slopes and mesas. The disadvantages with this process are that open space easements may end up as "postage stamp preserves" rather than biologically viable habitats. Such preserves are inefficient and poorly able to protect woodland resources in perpetuity. They are likely to be affected by impacts from the surrounding developed uses and by an inability to control illegal activities such as clearing of the understories. Postage stamp preserves result from the fact that the creation of open space easements are often the result of political decisions rather than biological tenets. The area of an open space easement is frequently a compromise between the desires of an applicant, the staff recommendation, and the tolerance of the political decision makers. Such compromises may not take into account the need for "buffers" to insure the preservation of individual trees or adjacent, non-woodland habitat necessary to maintain woodlands as viable habitats. Oaks are often preserved as specimen trees because they are commonly considered valuable only for their aesthetic features rather than their habitat value.

An additional disadvantage of utilizing open space easements is that they are frequently dedicated to the agency that approves them, such as the County of San Diego. While their initial dedication may be the result of a need to mitigate the environmental impacts of a development proposal, it only takes a passing motion to vacate them. Once vacated, the mitigation measure that fulfilled the requirements of CEQA to mitigate the impacts of a development is removed. In reality, this should also mean that the project can no longer be approved, but it is not likely that an approved and built subdivision would ever be removed if a mitigative open space easement was vacated.

Another disadvantage of utilizing open space easements or any type of mitigation measure is the need to assure the maintenance of that measure in perpetuity. While CEQA (Sec. 21081.6) requires that mitigation monitoring be included in project approval by public agencies, it has been poorly implemented by most agencies. In addition, when an open space easement is approved, if it is later violated, the mitigation issue would have to be reopened.

Finally, the fire management issue can be a problem. Placement of open space easements within a subdivision or some other type of development creates a potentially hazardous fire condition. Fire protection requirements and areas to be cleared around structures are under the control of fire protection agencies. The use of open space easements may be an inappropriate approach to mitigate impacts to woodland vegetation in a development that should not be approved in the first place. Such developments may eventually degrade the woodland resource due to the need for fire controls at a later time.

STEWARDSHIP OF OWNING OAK WOODLANDS

To a number of landowners, oak woodlands are considered an attribute. Some capitalize on their value, particularly when developing residential development surrounding golf courses. The majority of landowners who propose to subdivide land are also willing to place the woodlands into open space. However, as the foothill regions become more developed and larger areas of woodland are encountered, the value of the oaks to property owners appears to diminish in some cases. There have been identified cases in San Diego County where owners purposely cleared the oaks from their property. While owners are willing to protect portions of oak woodlands on property, if the entire property is covered with trees, the situation becomes more problematic. Property owners may be willing to conform to

many regulations, but property rights are strongly held notions. Any proposal which can be viewed as a reduction in rights of property owners is usually controversial and may be weakened or reduced in effect during the political review process. In the interior regions of the County where oaks are dominants and development is not yet imminent, the ranchers are usually willing to leave their trees intact as an overstory of cattle grazing lands, but with little specific regard for oak protection.

CONCLUSIONS AND SUGGESTIONS

In conclusion, there are a number of different land use controls that can be used to attempt oak habitat protection. However, they all require the cooperation of the governing authority, the property owners and citizen conservation organizations. While the systems described above may be able to protect individual trees or groves of trees, there are few programs currently being well implemented that would protect oak woodlands as viable biological habitats in areas where development is taking place. Furthermore, the relative level of impact to oak woodlands has far from peaked. As the foothills are developed, there will continue to be significant losses of woodlands to land development.

The following are suggestions that would assist in better preserving oak woodlands in an urbanizing area such as San Diego County. While these suggestions are strictly directed toward oak preservation, application of several of them may be controversial.

1. Coordinate open space easements so that they all connect and create viable corridors.

2. Acquire mitigation land bank areas to preserve blocks of habitat while still attempting to save specimen shade trees and clusters within proposed developments. This is critical for shrub communities such as coastal sage scrub but will become more important for woodlands as foothill lands develop.

3. Investigate acquisition of large woodland tracts by public or other groups. In San Diego County, this would include the mountains and foothills of northern and central San Diego County.

4. Evaluate appropriate methods to enhance oak reproduction in foothill grazing lands.

5. Create standards for mitigation/replacement ratios of woodlands in foothill subdivisions and determine if revegetation and vegetation development is in fact feasible. Regeneration attempts should be performed only when all other means to avoid the impact are unavailable and should not be considered a full mitigation measure.

6. Consistently apply land use designations and zoning to foothill and mountain areas that are appropriate for areas with sensitive resources and lack of services and access.

REFERENCES

County of San Diego, Department of Planning and Land Use. 1990. Resource Protection Ordinance. Ordinance Nos. 7739, 7685 and 7631.

County of San Diego, Department of Planning and Land Use. 1990. The Zoning Ordinance, San Diego County.

County of San Diego, Department of Planning and Land Use. 1988. San Diego County General Plan, Part X Conservation Element.

Oberbauer, Thomas A. 1990. Vegetation area changes in San Diego County. Unpublished handout.

Rossi, Randall, S. 1990. Oak ordinances: Do they help or hurt? Fremontia 18(3):96-98.

State of California. Public Resources Code. 1990. California Environmental Quality Act.