

LAND DEVELOPMENT AND FISH AND WILDLIFE PROTECTION

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Abstract. Extensive land development activity has occurred and is continuing in foothill and mountainous areas of California. It is estimated that between 1960 and 1970 over 500,000 acres of wild lands were subdivided.

Adverse environmental impact includes inadequate protection of fish and wildlife habitat and lack of watershed and water quality protection. Since the counties have jurisdiction over most land use planning, county action is the key to preserving fish and wildlife habitat. The more progressive counties have been able to reduce habitat damage by means of open-space and large-parcel zoning; prohibition of development on steep or unstable slopes, floodplains, wetlands and meadows; and stream and lake setbacks. Watershed damage can be reduced if strict grading, lot-split, and subdivision ordinances are enacted and enforced by means of required performance bonds. Erosion control including revegetation is particularly important.

Local government has recently been provided with many new planning tools by the State legislature. It is imperative that fish and wildlife professionals work with local government to insure that fish and wildlife receive more consideration and that existing planning tools are effectively used.

INTRODUCTION

Subdivision activity during the last 10 years has run rampant on wildlands throughout California as increasing numbers of urban dwellers seek vacation or retirement homesites. Land development has been further stimulated by the intensive advertising programs of the larger promoters and promises of quick profits to the speculative buyer. The new demand for land has greatly increased the assessed valuations of adjacent lands and, as a result, rising taxes are forcing many larger agricultural and timberland owners to subdivide their holdings or sell to subdividers, thus accelerating land development in an ever-expanding radius.

TYPES OF DEVELOPMENT

The primary forms of land development prevalent in wildland areas include:

1. The second home subdivision usually consisting of one-fourth to one-acre lots, may cover from 1000 to 20,000 acres. The buildout rate is generally low, though ultimate land impact may be substantial.
2. The lot split subdivision with larger parcels but often poorly planned.
3. The condominium development with high density clusters often associated with ski development or golf courses. High density and high impact, fast buildout but reduced use of space.
4. The membership campground frequently involving 500 to 2000 units. Human impact can be substantial even though the numbers of structures are minimal.
5. The mobile home park characterized by high density and high impact, fast buildout but reduced use of space.

EXTENT OF DEVELOPMENT

During the 1950's California land was subdivided at the rate of about 140,000 acres annually. By 1960 some 2.5-million acres of California land had been urbanized.

The State Division of Soil Conservation estimates that between 1960 and 1970 an additional 1-million acres of land in California had been subdivided, 255,000 acres during the 1969-70 fiscal year alone. During the previous decade most of the subdivision occurred in metropolitan areas. In contrast to this, about half of the acreage subdivided since 1960 was located in wildland regions sometimes far from population centers. No area of California appears to be too remote for the second-home subdivision. The Mojave Desert, the Modoc Plateau, the High Sierra, and the remote north coast are all experiencing development activity. Some examples of subdivided acreages include: El Dorado County - 30,000 acres, Humboldt County - 33,000 acres, Lassen County - 29,000 acres and Siskiyou County - 27,000 acres.

The national forests, particularly the Shasta-Trinity and Tahoe National Forests, are being adversely affected by subdivisions because of the many private inholdings.

Not included in these totals are lands divided by lot splitting. Lot splitting which involves cutting land into four or less pieces is often illegally used to avoid County and State subdivision regulations which apply to projects involving five or more divisions of land. By lot-splitting, a subdivision can be created through a series of real estate transfers among individuals wherein each successive transfer results in quartering parcels until a subdivision is formed but without regard to required standards and improvements. Because of difficulties in proving conspiracy, violations are not often prosecuted.

As county governments tighten restrictions on subdivisions, lot splitting increases as developers attempt to circumvent the new standards. The acreage of mountainous lands subdivided by lot splits may equal or exceed the acreage consumed by legal subdivisions.

ENVIRONMENTAL IMPACT

The impact of land development on the environment in terms of immediate effects from construction activity and the ultimate impact from eventual occupation ranges from substantial to devastating. The following are some examples:

1. Impairment of annual migration routes and loss of wildlife habitat including wetlands, riparian areas, meadows and deer winter-range.

2. Stream siltation and excessive turbidity in lakes and reservoirs from construction and from erosion of roads and building areas.
3. Stream channelization to make room for roads, parking lots and building sites.
4. Water pollution from failing septic tanks, inadequately treated sewage, or residential runoff contaminated by pesticides, fertilizers and petroleum products.
5. Eutrophication of lakes and streams from accelerated nutrient enrichment.
6. Impairment of angler access to lakes, streams and ocean shore.
7. Restrictions on hunting, following fire arm closures.
8. Spring and stream flow depletion to satisfy residential needs.
9. Stimulation of population growth and recreational pressures with resulting increases in traffic, crowds, air pollution, garbage, and increased competition with other recreationists on adjacent public lands for limited facilities and resources.
10. Scaring of steep hillsides, loss of open space, loss of aesthetic amenities and blight.
11. Increased fire hazards.
12. Loss of valuable resource producing lands i.e., timber, grazing, agricultural, mineral, etc.

DISCUSSION

Many of the adverse effects of land development on the environment are preventable. With the exception of the coast, the Tahoe Basin, and the San Francisco Bay tidelands where regional control agencies exist, most of the authority to regulate development is vested in local government particularly the counties. For this reason it is imperative that the fish and wildlife professional work more closely with county government. Many mountain counties do not have the expertise needed to deal with complex environmental problems and hence welcome our input.

Zoning is the key tool for land-use planning and fish and wildlife habitat protection. The type and density of development determine whether fish and wildlife habitat will continue to exist.

In sensitive watershed areas or important wildlife habitats, large parcel (40 acre plus) agricultural or general forest zoning can do much to maintain habitat while keeping property taxes down. Nevada County for example has zoned much of the higher elevations in 40 to 160 acre minimum parcels while Napa County has established extensive areas of 20 to 40 acre zoning. Unfortunately, some mountain counties have allowed the entire county to be zoned in parcels of 1 acre or less while others have not established zoning at all.

State law now requires that counties prepare general plans with conservation and open space elements and that such plans be implemented by zoning. Decisions as to whether fish and wildlife habitat will be protected or written off will be made during 1973 when general plans, the various elements and zoning must be completed. A good general plan will include provisions for green belts, slope and soil-hazard restrictions and identification of flood plains. Recreation and conservation elements should identify specific areas recommended for public acquisition. Important waterways, marshes and critical wildlife habitat such as deer winter range should be delineated by map.

Some counties have gone a step further and have included flood plains, waterway setbacks and slope restrictions in their zoning ordinances. Nevada County, for example, prohibits development on slopes greater than 30 percent. Development within floodplains and within 100 feet of a lake or stream is also prohibited.

The Corps of Engineers, upon request from local government, is authorized to prepare floodplain maps to assist zoning. Soil stability maps, obtained from the Soil Conservation Service, combined with slope maps prepared from topographical surveys, become a very useful planning tool. In many cases, however, local governments need to be informed of the tools available to them.

Another method of preserving important habitat is by providing landowners with tax relief in return for ten year non-development contracts with the counties through the Land Conservation (Williamson) Act. Some nine million acres of California land are now covered by contracts. Unfortunately, some counties either have refused to participate or have made qualification criteria so difficult that few landowners are able to meet them.

Some of the more prosperous counties have been able to protect open space by acquiring development rights. In some instances, development rights have been deeded to the county in return for tax relief.

When faced with a large high density development proposal which threatens to destroy an important fish and wildlife area the resource manager should attempt to persuade the developer, possibly with help from the county and public opinion, to substantially reduce density and redesign the development. Roads should be designed to conform to the terrain so that damaging cuts and fills are minimized. Development sites must be moved out of meadows, wetlands, floodplains and riparian areas and away from lakes and stream banks. Steep or unstable slopes must be avoided and removal of trees minimized. If necessary, development should be clustered in less sensitive areas. By clustering, some of the better developers have been able to maintain 60-80 percent of the property in green belts or open space.

Another similar method of preserving open space and habitat is through the development "density-transfer" process which works best when one, or only a few, owners are involved and the land is already zoned. Under this concept, permissible building densities are transferred from environmentally sensitive areas to less sensitive areas. It is possible to obtain 80-95 percent open space in this manner. Placer County has used "density transfer" to its advantage in many instances.

Soil erosion and watershed damage can be minimized by enactment of strict grading ordinances and road standards, backed by required performance bonds. Unfortunately, few counties have adequate grading ordinances. Contractors should be encouraged to complete road construction prior to the beginning of the rainy season. Slope stabilization, drainage, surface protection, and mulching and seeding should be required practices. Nevada County has an agreement with the Soil Conservation District which provides the county with recommendations for soil protection. These recommendations are then made a part of the use permit as a condition of tentative map approval.

In addition to the above, the enactment of strict subdivision and lot split ordinances can help in reducing watershed damage and stream siltation.

Although local government has jurisdiction over land-use planning, recent legislation has brought State government into the review process. For example, AB 1302 provides for State agency review of land projects if requested by local governments. Comments are coordinated through the State Office of Intergovernmental Management.

Recent legislation AB 2418, 1504, and 493 requires developers to grant reasonable public access to navigable rivers, public lakes and reservoirs and the ocean shore.

The Porter-Cologne Act provides the State with more authority to regulate waste discharges. Standards which would require sewerage of small lots, leach-line setbacks from streams, and prohibition of direct discharge of effluent to streams can be set by the State.

Recent revisions of Fish and Game Code Sections 1601 and 1602 provide the State with more authority to control streambed alterations. This section has been successfully used to discourage harmful stream channelization.

Developers planning to divert water from a stream or spring must have a permit from the State Water Resources Control Board. Permits can be conditioned to provide for fish and wildlife protection.

In 1971 the Legislature gave local government more tools to control land development by enacting AB 1301 which:

1. Requires local government to review parcel splits.
2. Requires that zoning be consistent with general plans.
3. Requires that specific plans include provisions for building restrictions in floodplains or on steep or unstable slopes.
4. Requires that any development approved be consistent with general or specific plans.
5. Requires that local government deny approval of development if density is too great for the site or if a finding is made that substantial damage to the environment on fish and wildlife habitat will occur.

In addition, the 1970 Environmental Quality Act and the revisions incorporated in AB 887 permit local government to require developers to prepare an impact statement which must include a discussion of adverse affects, alternatives, and mitigation measures. This tool can be extremely effective if a thorough report can be obtained and if the mitigation proposals are adopted by local government as mandatory conditions.

If all else fails, recently enacted Section 12607, Chapter 1518 of the Government Code, allows the State Attorney General to sue in order to prevent destruction of fish and wildlife. The effectiveness of this new section has yet to be determined, however.

One must keep in mind, however, that laws are only as good as the men enforcing them. If local government entities are not aware of the new planning laws and tools or are not aggressively enforcing the laws or using the tools, fish and wildlife will gain little protection. On the other hand, an informed public and an involved fish and wildlife profession can help assure the protection of our fish and wildlife.

LITERATURE CITED

California Department of Conservation, Division of Soil Conservation. 1969. Sedimentation and Erosion in the Upper Truckee River and Trout Creek Watershed, Lake Tahoe, Calif. Sacramento, Calif. 43 p.

_____. 1971. Problems of the soil mantle and vegetative cover of the State of California. Sacramento, Calif. 106 p.

_____. 1971. Environmental impact of urbanization on the foothill and mountainous lands of Calif. Sacramento, Calif. 68 p.

Gerstrung, Eric. 1970. A brief survey of the impact of subdivision activity on the fish and wildlife resources of Nevada County. Calif. Dept. Fish & Game, Sacramento, Calif. 10 p.