COUNTY OF MODOC
1998 GENERAL PLAN

UPDATE 2018

Adopted on March 13, 2018

Resolution No. 18-8

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I. INTRODUCTION

What is a General Plan?

A general plan is a legal document, required by state law, which serves as a community's "constitution" for the development and use of its land. It must be a comprehensive, long-term document, detailing proposals for the physical development of the county and of any land outside its boundaries, which in the planning agency's judgment bears relation to its planning. Time horizons vary, but the typical general plan looks 10-20 years into the future. Like a single frame in a motion picture, the General Plan represents, at a given point in time, the county's aspirations for the future. While the plan sets policies and suggests actions, it must be implemented by local officials through many separate decisions.

The law specifically requires that the General Plan address seven topics or "elements," including land use, circulation (transportation), housing, conservation, open space, noise and safety. This plan also includes an economic development element because this topic is of importance to the community. The plan must analyze issues of importance to the community, set forth policies in text and diagrams for conservation and development and outline specific actions for implementing these policies.

Why prepare a General Plan?

On the most abstract level, preparing the General Plan can be viewed as an activity which sharpens and focuses the many concerns of citizens within the community and provides a structure by which these often-conflicting concerns can be forged into a common vision of the future. By bringing attention to the issues facing the community and placing them in an expanded timeframe, it helps citizens to see their community as a complex system – a living entity that grows and responds to problems and opportunities – and guides it along an agreed-upon course.

On a more concrete level, preparing, adopting and maintaining a general plan serves to:

- Establish within local government the capacity to analyze local and regional conditions and needs in order to respond effectively to the problems and opportunities concerning community development;
- Identify the community's environmental, social and economic goals;
- Record the local government's policies and standards for the maintenance and improvement of existing development and the location and characteristics of future development;
- Provide citizens with information about their community and with opportunities to participate in the local planning and decision-making process;

- Improve the coordination of community development activities among local, regional, state and federal agencies; and

- Establish a basis for subsequent planning efforts, such as preparing specific plans and special studies, to deal with unique problems or areas in the community

How is a General Plan implemented?

While the General Plan sets out policies and suggests ways to put these policies into action, the actual implementation of the plan is a complex and lengthy process in its own right. As with piecing together a puzzle, local officials must take many separate, but interconnected actions according to the directions set out in the General Plan. These various actions rest on two essential powers of local government: corporate and police powers. Using their "corporate power," local governments collect money through bonds, fees, assessments and taxes and spend it to provide services and facilities such as streets, water and sewage disposal facilities, parks, recreation and the like. Using their "police power," local governments regulate citizens' use of their property through zoning, subdivision requirements and building regulations, in order "to promote the health, safety and welfare of the public." The general plan provides the framework for the exercise of these powers by local officials.

From the first step of identifying important community issues to final implementation through a host of interweaving local governmental actions, the General Plan serves to focus the community's attention on itself and its future.

II. ORGANIZATION OF THIS PLAN

Several aspects of this plan should be discussed at this point. First, there are seven required elements and an Economic Development Element, plus a comprehensive Action Program. Each element, while addressing a separate subject, is interrelated with all the other elements. None can really stand alone. State law requires that the General Plan be internally consistent. Common sense also dictates consistency. Therefore, the General Plan must be read as a unified document, with, for example, the Economic Development Element being integrally linked with the Land Use Element.

This plan consists of three separate documents; a Background Report, this Policy Plan (referred to as the General Plan) and an Environmental Impact Report (EIR). There are also several technical reports, which are referenced at the end of this report. The Background Report, finalized in January 1986, serves as a foundation document for both the Policy Plan and EIR. In addition, when the Housing Element of this General Plan was updated in 2017, several other elements of the General Plan had to be amended to comply with other related General Plan State Laws, including Assembly Bill 162 (new flood hazards and flood management criteria), Senate Bill 1087 (analysis and polices regarding water and sewer service providers), Senate Bill 1241 (new fire hazard criteria) and Senate Bill 379 regarding risks that climate changes poses.

The Background Report contains a substantial amount of detailed information and statistics which provide the basis for the policy directions for the original 1998 Plan as well as the environmental analysis. The background information contained in this document (the Policy Plan) is but a brief summary of the information in the Background Report. The reader should refer to the Background Report for more detailed information.

The EIR also relies heavily upon the Background Report for base information. The EIR then includes a thorough analysis of the options considered during the plan formulation process as well as the probable impacts of the Policy Plan as proposed.

Substantively, this plan is intended to serve as a guide for growth and change in Modoc County for the next 15 years. However, each year the Board of Supervisors should review the plan to determine whether it continues to represent the needs and expectations of the County. Within five to seven years, a major reevaluation and update should take place. That means that while the planning period for projections and change is 15 years, within five to seven years, a new look should be taken. Furthermore, the County may make amendments, as necessary, to the plan up to four times a year. Amendments may be made following the formal public hearings.

This plan was formulated following much public discussion and detailed research, as described in the following section. It is important to note here, however, that this plan reflects a general consensus on major growth and development issues as interpreted by the Board of Supervisors.

The primary focus of this (and any) General Plan is on the Land Use Map which is found folded in the back of this report. The Land Use Map indicates at a general level permissible uses of every parcel in the County. This map serves as a guide for zoning regulations which must be consistent with the plan policies. There is also a Land Use Map for the Alturas area which is

found in the Land Use Element. The Land Use Element of this Policy Plan describes each land use category. The Land Use Maps and text must be read together in order to gain a complete understanding of County land use policy. It should be noted here that the Land Use Maps are general in nature. They provide an overall policy direction for growth, development and zoning. They are not, however, intended to be absolute in the regulation of land uses. There will be variations in specific parcel-by-parcel uses based on historic use and changing community needs. Furthermore, in the case of certain uses, such as agricultural products processing, or lumber mills, the location cannot be identified, except in the most general manner, on the Land Use Map. The County cannot predict the precise needs of the private sector in development decisions. This plan simply provides guidelines and standards for development which protect the public interests and welfare.

III. SUMMARY OF PROCESS

This Policy Plan is the culmination of a multifaceted process designed to establish policies for Modoc County growth and change which reflect a consensus of community opinion. Because the nature of many of the issues covered by the plan is controversial, it is not possible to achieve absolute consensus. However, the Policy Plan does reflect the general community views about how Modoc County should grow and change.

A major effort has been made throughout the plan preparation process, which occurred from 1985-1988, in order to understand and be responsive to community opinion. Understanding the values, expectations and concerns of the county residents is essential to the preparation of a useful General Plan. The effort to gauge public opinion has taken several forms. First, the Board of Supervisors, County Planning Commissioners and County staff were interviewed. Second, meetings were held with many federal, state and local agencies, as well as private interest groups. These first two activities provided a basic direction to the early stages of the General Plan project.

Several other major efforts to solicit public opinion are summarized in this report. They took the form of town hall meetings, a community opinion survey, discussions with special interest groups and presentations to organizations. During the period of May 17 to May 20, 1985, approximately 200 people were directly contacted. Sixty-five organizations were provided an opportunity to voice their concerns. The results of the meetings, survey and discussions are found in the Summary of Town hall Meetings, June 1985.

Broad policy options were presented to and discussed by the Planning Commission and Board of Supervisors. The initial draft plan was then prepared and presented for informal public review and discussion in 1986. During 1987, an effort was undertaken to resolve wildlife protection issues, involving County, agency and public consultation. Modifications were made as a result of the public review process to form this present plan, which is accompanied by a supplemental Environmental Impact Report.

This draft Policy Plan, along with the accompanying Background Report and Environmental Impact Report contain the recommended growth and development policies for Modoc County. The review of these documents is the subject of public hearings which, when completed, will result in the adoption of a final General Plan**:**

1. The Economic Development Element, Chapter XI and the Energy Element, Chapter XII, both optional elements of the General Plan were omitted on March 13, 2018, during the 2014-2019 Housing Element Update.

2. This General Plan was further amended on March 13, 2018, during the 2014-2019 Housing Element Update, to create internal consistency and comply with several State general plan laws, including in Land Use, Circulation, Safety and Conservation and Open Space Elements:

a. AB-162, incorporating new policies and programs concerning flood hazards and flood management.

b. SB-1087 incorporating an analysis of water and sewer service providers and their capacities and policies and procedures for reserving water and sewer capacity for lower income housing.

c. SB-1241 incorporating policies and programs related to areas located in high fire hazard severity zones.

d. SB 379 incorporating an analysis of risks that climate changes poses to the County and policies and programs to address these problems.

3. The current Modoc County Local Hazard Mitigation Plan (LHMP) is incorporated into this General Plan by reference. Certain policies, programs and mitigation measures from the LHMP are cited throughout this General Plan.

IV. ASSETS AND PROBLEMS

Town hall meetings conducted in May 1985 resulted in the identification of several major assets and problems in the County. The major assets and problems are summarized below. A more detailed discussion can be found in the Summary of Town Hall Meetings, June 12, 1985.

Highly valued by many Modoc citizens is the casual, family atmosphere in rural surroundings and the friendly, caring people. At the same time, the friendliness and openness take into account individuality and privacy. Residents like the quality of life offered by a small community (and small population in general). Intrinsic to this quality of life is a feeling of safety, at least in part, due to the result of low crime experienced in the County and a lack of intrusion of urban problems.

Qualities of the physical environment were the most frequently mentioned assets. Natural beauty, abundant wildlife, open space, clean air and plentiful water were the physical assets most mentioned. Also noted were the Modoc National Forest, agricultural lands, wilderness areas and outdoor activities, such as fishing and hunting. Central in importance to Modoc citizens is their immediate access to their environment; in many ways, their greatest assets are at their doorsteps. Historic sites were listed by several residents as a highly-regarded feature in Modoc County. Surprise Valley and the Warner Mountains were mentioned as outstanding physical features.

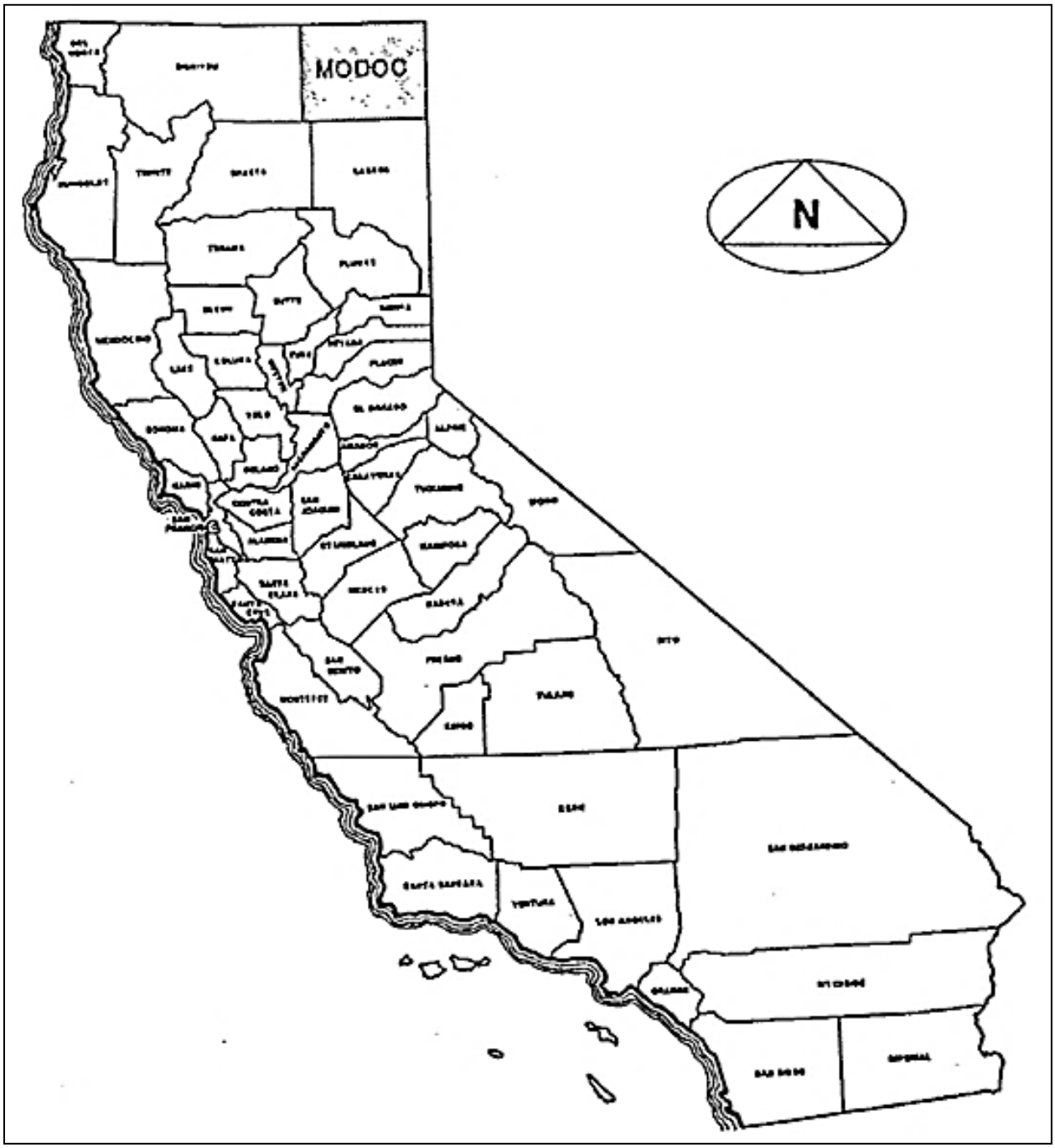
In the area of services and the economy, residents shared satisfaction with their uncrowded roadways, good schools and quality of existing medical care. Viewed as an asset is the potential Modoc County has for developing its energy resources. Also important is the perception that residents experience a lack of governmental regulation and pay relatively low taxes. There is a sense of personal freedom from the City and County regulation.

The most frequently mentioned problem is the lack of employment opportunities in the County. Lack of jobs is held primarily accountable for the exodus of youth from Modoc to other places. The job market is identified closely with the lack of industry and new business and the need to further develop them both.

There is fear among the residents that the economy is stagnant. It was often suggested that the declining agricultural base has not been replaced by a new direction of growth. Problems identified that are agriculturally related involve agricultural finances, foreign competition, limited crop diversification opportunities, high fertilizer and livestock shipping costs, outside cattle bringing in disease and a short growing season. There is seen a need to strengthen the economic base with new forms of small industry and business.

A primary issue is the question of balance. How will growth be achieved and a balance maintained with respect to the concerns of a clean and safe environment? Given a premise of growth and development, protection of the natural resources emerges as a potential problem to be evaluated on a continuing basis.

Figure 1. County of Modoc, Locator Map



V. LAND USE

The Land Use Element is perhaps the most important element of the General Plan. It contains the most basic and comprehensive information regarding growth and development in the County. The Land Use Element sets the tone and direction for the rest of the plan.

Land use is divided into basically five categories: residential, commercial, industrial, agricultural and public/quasi-public. Each of those subjects contains at least one land use category found on one of the two Land Use Maps. A discussion of those categories is found under each section.

The county-wide Land Use Map contains categories of land use including exclusive agriculture, general agriculture, timber protection, rural residential, urban areas and public lands. The second map of the Alturas area contains a slightly different set of land use categories. In addition to the agriculture and rural residential categories, it includes urban residential, commercial, light industry, heavy industry and public lands. It does not include the timber protection category. This second map, because of its different scale, provides more detail about urban land uses than the county-wide map. The Alturas area Land Use Map is also consistent with a similar map found in the City of Alturas General Plan because this area is within the "planning area" of the City.

This General Plan, including the Land Use Element and maps, when adopted, will replace the previous plan and map. However, there are three adopted specific plans; the Day Area Specific Plan, and two specific plans for portions of the California Pines development. Those two plans, which provide a greater level of detail than the General Plan for those limited areas, will remain in force as the applicable guide for development. The plans are considered consistent with this General Plan. If, however, conflicts arise, they will be addressed on a case-by-case basis. As other specific plans are adopted by the County, they will implement this General Plan and provide greater detail for the development of the specific plan areas.

RESIDENTIAL LAND USE

BACKGROUND

In 1980 about 8,610 persons lived in Modoc County's 3,738 housing units. By 1985, according to the State Department of Finance, there were about 9,500 people living in the County. There are about 18,000 vacant, subdivided residential lots available for development, primarily in "recreational" subdivisions. Projected population growth for the County is about 2% annually. That projection, if accurate, would result in the need for about 90 new residences developed annually or about 1,250 through the end of the century.

There are existing rural residential parcels throughout the County. In the Newell area, a number of small parcels of one to 5 acres have been created primarily to separate an existing farmhouse from the farm. There are few undeveloped small parcels in the area.

In the Day Area, the Specific Plan adopted in 1980 has identified some parcels as suitable for subdivision at 5-, 10-, 20-, 40- and 80-acre densities. The Adin-Lookout area primarily consists of large ranches. The Big Valley Ranchettes and Rush Creek subdivisions include approximately one-acre parcels. These subdivisions are largely undeveloped parcels which were not tested on an individual lot basis for septic system suitability when subdivided.

In the north central Alturas area, the Goose Lake Basin also consists primarily of large land holdings. There are no large subdivisions in this immediate area. The Likely and Canby areas also fall into this category. The area southwest of Alturas includes the California Pines Lake Units and Hill Units subdivisions with parcels ranging from 6,000 square feet to one acre in size. This subdivision particularly is often referred to as a recreational subdivision, especially the approximately 11,000 Hill Units lots. Some lots in the Lake Units are served by a public water and/or sewer system. Most lots are undeveloped.

In the Alturas area, the Modoc Recreational Estates subdivision consisting of approximately 1,800 1- to 2-acre lots is located just north of Alturas. Most lots are to be served by septic systems. This subdivision is also referred to as a "recreational" subdivision. Other subdivisions include Thomas Creek Estates, Rim rock Ranches and Wildlife Estates (originally 20-acre parcels), Pit River Recreational Estates, Cedar Pass Properties, Cedar Pass Summerland and Modoc Farms Too.

Surprise Valley continues to have large land holdings throughout the valley with scattered smaller parcels primarily south of Lake City. No large subdivisions have been developed.

ISSUES

The primary issue associated with residential land use is that of "recreational" subdivisions. There are also other minor issues related to type and extent of residential development in the unincorporated communities throughout the County and the location for development of rural residential parcels which are expected to build out over a relatively short time period. However, the major residential issue is "recreational" subdivisions.

The County recognizes that a variety of parcel sizes should exist throughout the County to allow choices for home sites for a variety of purposes. Most geographical areas, with the exception of the Alturas area, are lacking a wide variety of rural residential parcel sizes. County policies and regulations are intended to balance individual freedom of choice with the public need for a healthy and safe environment. Part of the General Plan process, then, is to identify the need and location for rural residential sites.

Throughout the discussions relative to approval of subdivisions, a distinction has been made between rural residential subdivisions and rural "recreational" subdivisions based on the sales program and low build-out rates for recreational subdivisions. An issue is whether the County should attempt to apply the same improvement standards to these subdivisions under the premise that their primary purpose over the foreseeable future is not for permanent residential use. The County must assure its requirements are equitable to recreational subdivision developers and rural residential subdivision developers alike and that future service needs can be met.

Mechanisms such as phased subdivision approvals or building permit issuance limitations can assure that services are not demanded at a faster rate than anticipated. Given the desire to balance individual freedoms with the protection of public health and safety, the County generally finds that the approval of subdivisions which do not conflict with other stated general plan goals and policies may provide a favorable economic asset to the community in terms of property tax revenues and increased tourism.

A very strong motivation for the County to support the continued subdivision and sale of rural residential lots is economic. Currently, property tax revenue from California Pines subdivision alone accounts for 18.6% of the total collected in the County. These developments also generate some tourism and employment. Given the serious fiscal circumstances of the County, such potential revenue sources cannot be ignored.

Contrasting the short-term economic benefit of recreational subdivisions in Modoc County are the potential long-term effects of which there are several notable ones. If a substantial population influx does occur, there may be serious side effects on a small county such as Modoc. Major demands may be placed on an already overburdened county service system, including public assistance, roads and general county government. If existing public service providers are not adequately capitalized, the County may have to ultimately provide basic public sewer or water services.

The County of Modoc, in adopting this General Plan and subsequently approving any land development, is ultimately responsible for protecting the public health, safety and welfare. That means that the potential effects of any development touching on those issue areas must be considered and evaluated. The County has a responsibility to protect existing and future residents from potential health and safety problems which could arise from land subdivision and development. For example, the County must be sure that any project will have adequate fire protection, sewage collection and disposal and water supply. It is for those and other similar elements of a rural/recreational subdivision that the County has an absolute responsibility to ensure minimum standards for public protection are met.

Another issue relates to the permanence of any subdivision approval. Once the property lines are established and roads built, it is virtually impossible to change that decision. Along with public parks, property lines and roads will almost never be changed. They become a permanent part of our definition of land ownership and use. It is, therefore, critical that the County carefully balance today's subdivision proposals against tomorrow's changing needs and demands. Where adequate supplies of certain types of land and subdivisions are available, it may be in the best interest of both the public and private property owner to defer some land subdivision decisions until it is clear that such permanent changes are appropriate and functional. Such delay may preserve land use options which would otherwise be closed by premature subdivision.

Provision is made for the expansion of existing unincorporated communities. In many cases, the communities are surrounded by productive agricultural lands. However, the limited amount of land to be taken out of production must be balanced with the need for the continuing health and growth of the communities. Such new growth areas should be buffered from productive agricultural lands with larger lot rural residential uses as detailed in the agricultural land use section. In any case, such expansion should be contingent on the availability of public sewer and

water services. The designation of such areas should initially be general in nature, with detailed follow-up studies aimed at determining precise areas suitable for development.

Residential expansion areas in the vicinity of Alturas are shown on the Alturas area Land Use Map which appears later in this element.

Disadvantaged Unincorporated Communities

Senate Bill 244, 2011, requires that the General Plan identify and address needs of disadvantaged communities located within the County. A disadvantaged community is defined to mean inhabited territory (12 or more registered voters), or as determined by Modoc County Local Agency Formation Commission, that constitutes all or a portion of a "disadvantaged community," which is consists of a community with an annual median household income (MHI) that is less than 80% of the statewide annual median household income." The purpose of SB 244 is to begin to address the complex legal, financial and political barriers that contribute to regional inequity and infrastructure deficits within disadvantaged unincorporated communities. Including these communities in the long-range planning of a city or county, as required by SB 244, will result in a more efficient delivery system of services and infrastructure including but not limited to sewer, water and structural fire protection. In turn, investment in these services and infrastructure will result in the enhancement and protection of public health and safety for these communities. Based on this methodology, as of 2017, Modoc County has ten (10) of these communities as follows:

Adin
Canby
Cedarville
Eagleville
Fort Bidwell
Lake City
Likely
Lookout
Newell
New Pine Creek

SB 244 requires that the Land Use Element be amended to address these communities in Modoc County when the Housing Element is updated. As part of the 2014-2019 Housing Element Update, this Land Use Element has been updated to address SB 244. Appendix F of the Housing Element includes a more detailed analysis of these communities, where they are located, descriptions of services and their associated deficiencies. In compliance with SB 244, as the Housing Elements are updated in the future, this analysis will also be updated accordingly. In addition, several policies and programs have been introduced in the Land Use Element to address service deficiencies within these communities, in addition to related policies and programs added to the Housing Element.

GOAL LUE 1: TO PROVIDE FOR A FULL RANGE OF RESIDENTIAL LAND USES AND HOUSING OPPORTUNITIES WHILE PROTECTING THE VALUABLE ENVIRONMENT AND COMMUNITY ASSETS OF THE COUNTY.

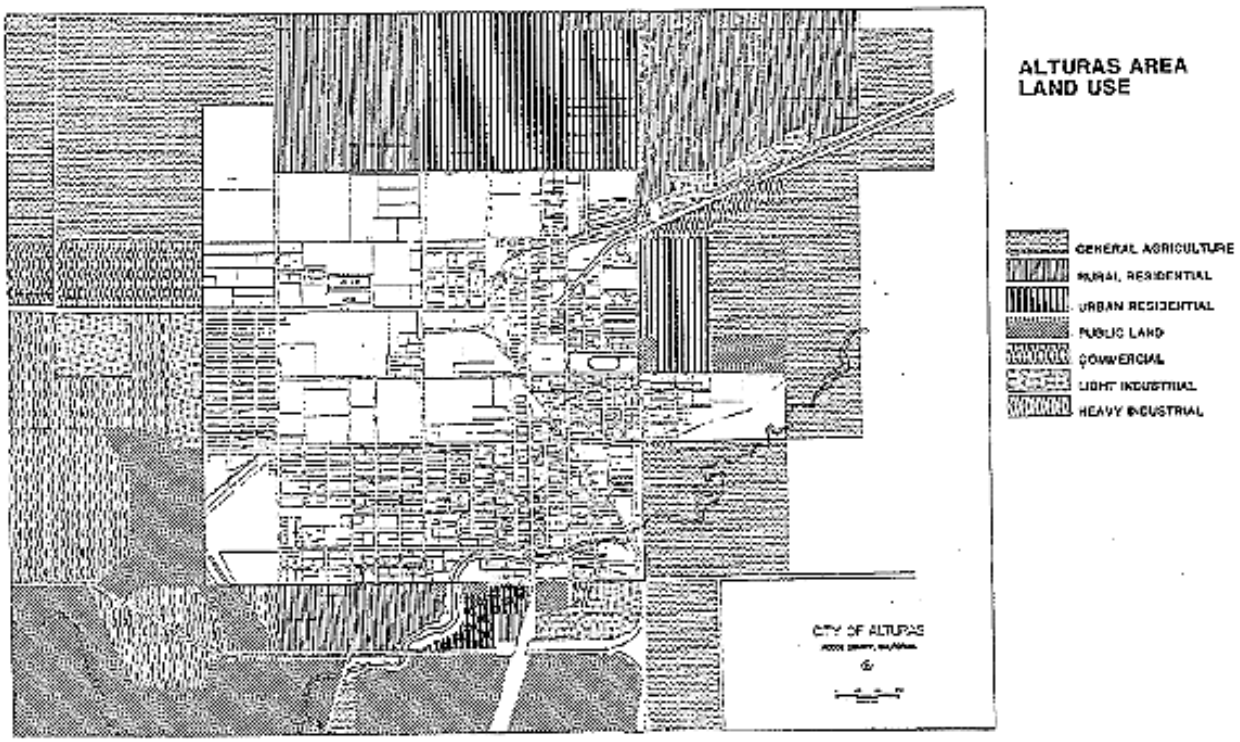
LAND USE MAPS

The Land Use Maps contain three residential land use categories: urban areas, urban residential and rural residential.

Urban Areas

This land use category is intended to be applied in the unincorporated communities (including the California Pines Subdivision Lake Units) on the county wide land use map. Densities can range 1 to 13 units per acre depending on site constraints. Over 10 units per acre can be achieved (if sewer and water are available, or about 30 persons per acre. For multiple family housing that exceeds three dwelling units, the Zoning Code provides for specific site performance standards that must be complied with. Lot coverage can be as great as 100% provided parking and other requirements are met, while building height will be limited to 75 feet. Most higher density development will continue to be located within the City of Alturas. Compatible land uses in this category include all residential uses, public or quasi-public uses, business and professional, commercial and industrial uses. Many other uses are considered compatible subject to the issuance of a use permit. Consistent zoning includes the Residential High Density (RH), Residential Low Density (RH), Commercial (C), Industrial (I) and Industrial Light (IL) zoned districts. On land within one-quarter mile of the unincorporated communities, it is permissible to allow land uses similar to those in the urban areas, as an expansion area (refer to agricultural land use section).

Figure 2. Alturas Area Land Use Map



Urban Residential

This land use category is applied to the Alturas area land use map. The densities can range up to seven single family dwellings per acre if sewer and water are available, or about 20 persons per acre. Lot coverage will not exceed 60%, while building height will not exceed 50 feet. Higher densities will be permitted, up to 40 persons per acre, for duplexes and apartments and other multi-family dwellings. Most of the higher densities will, however, continue to be located within the city limits. However, certain locations in the County where public sewer are provided, such as Newell and California Pines, are encouraged to achieve densities that exceed ten (10) dwellings per acre. Compatible land uses in this category include all residential uses, public and quasi-public uses and home occupations. Consistent zoning includes both the RH residential high density and the RL residential low density zone districts.

Rural Residential

This land use category applies to any rural residential development or recreational subdivision outside the established community areas of Alturas, Canby, Adin, Lookout, Newell, New Pine Creek, Davis Creek, Likely, Cedarville, Eagleville, Lake City, Fort Bidwell or the California Pines Lake Units. Within the one-quarter mile community expansion areas, small lot rural residential uses and zoning may be found. In other areas will typically be located larger lot projects intended for either recreational or permanent residential use. Population density can range up to ten persons per acre. Lot coverage will not exceed 20%, while building height will not exceed 50 feet. Compatible zoning categories include the RL residential low density, RR residential rural (1 to 15 acres) and the LI low intensity zones. Commercial or light industrial

uses may be compatible as defined in those sections. All development within the rural residential land use category must conform to the development standards developed in accordance with Action #1 in the Action Program. Consult with appropriate agencies and persons in the preparation of such standards and criteria.

POLICIES

LUE 1. Urban and rural residential development should be discouraged in hill open space areas lacking an adequate water supply or nearby available fire protection facilities (refer to Safety Element) (SB-1241).

LUE 2. Development should generally be discouraged in areas of high wildland fire hazard where vegetation management programs, including the creation and maintenance of fuel breaks to separate urban uses would result in unacceptable impacts on open space, scenic and ecological conditions (refer to Safety Element) (SB-1241).

LUE 3. All urban and rural development, existing and proposed, should be provided with adequate water supply and fire protection facilities and services. Facilities serving hill area development should be adequate to provide both structural and wildland fire protection. The primary responsibility falls upon the owner and the developer (refer to Safety Element) (SB-1241).

LUE 4. The County shall limit residential development to very low densities in high fire hazard zones (refer to Safety Element) (SB-1241).

LUE 5. The County shall require all new homes in rural residential areas that are located in "high" and "very high" fire hazard areas to be sited and designed to minimize risks to life and property (refer to Safety Element) (SB-1241).

Guidelines for Amendment to Land Use Map from General Agriculture to Rural Residential or Urban Areas

Because the general agriculture land use designation allows parcel sizes as low as 3 areas, while the rural residential allows parcel sizes from 1 to 20 acres, it is appropriate to define types of projects which are consistent with each designation. In order to assure consistency from project to project, this direction is provided in the General Plan. The Action Program defines specific situations in which the Land Use Map should be amended from general agriculture to rural residential before development, particularly subdivisions, can proceed. There may be other circumstances, such as a large planned unit development, in which a general plan amendment from general agriculture to rural residential (or urban area) should also be required.

Defining the characteristics of subdivisions which require a general plan amendment from general agriculture to rural residential is not easy. It requires determining specific criteria which characterize an area as residential as opposed to agricultural. It is easy to recognize, after the fact, that an area has become residential. It is more difficult to recognize that a particular project is causing this change or contributing to the progression from agricultural to residential uses resulting from a number of small projects. The point at which the continued development of an

area under agricultural policies will be inappropriate requires that policies and implementing actions be instituted to support the residential character of the area.

The additional scrutiny required by a general plan amendment provides a means of assessing the effect of a subdivision on the agricultural viability of agricultural areas before a change has occurred. Through the amendment process, the County can actively assess whether a change from agricultural to residential should occur.

The policies and information in this General Plan provide a framework within which to develop specific criteria. First, the level of detail or scale of land uses on the Land Use Map allows for differentiation at the 40-acre parcel size as a minimum. Development of parcels smaller than 40 acres would generally not require a general plan amendment. A comparison of the Assessor's Parcel Maps and the Land Use Map indicates that, with few exceptions, all areas over 60 acres which are subdivided into parcels ranging from 3 to 20 acres are designated rural residential on the Land Use Map.

Second, although the General Plan policies provide that parcels from 15 to 20 acres in size are compatible enough with agricultural uses to buffer exclusive agriculture areas, a clustering of 15- or 20-acre parcels leads to an emphasis on residential uses. People who purchase these parcels may tend to think in terms of a rural residential subdivision. This is borne out by the experiences of the Rimrock Ranches and Wildlife Estates subdivisions, which are each approximately 400 acres in size (consisting of 20-acre parcels) and designated rural residential on the Land Use Map.

The Action Program outlines a guide for determining whether an amendment should be undertaken for subdivision of agricultural land.

POLICIES

LUE 6. Designate sufficient amounts of residential land in a variety of parcel sizes to accommodate future growth projections.

LUE 7. Except in "high" and "very high" fire and other hazard areas, future small lot and higher density residential land use should be located within existing town or unincorporated areas (SB-1241).

LUE 8. Public sewer and/or water systems should be installed for small lot or high density residential land use.

LUE 9. Mitigation measures such as clustering of residential development and larger parcel sizes will be encouraged as a means of preserving and protecting sensitive or critical wildlife habitats and open space. Specific measures available for consideration is discussed in the Conservation and Open Space Elements and Appendices A and B of this Policy Plan.

LUE 10. Rural recreational and rural subdivision approval should include a clear, firm link between lot development and the provision of necessary public services and facilities.

LUE 11. Residential uses, including group homes, community care facilities, second dwelling units, mobilehome parks, condominiums and apartments should be permitted within the urban areas subject to the availability of public services and facilities and to any necessary permit requirements.

LUE 12. Except in "high" and "very high" fire and other hazard areas identified in the Safety Element, the County will allow urban or intense rural residential development adjacent to the existing community areas in relation to the need to accommodate future urban development. (Refer also to agricultural land use section) (SB-1241)

LUE 13. Designation of urban areas will consider availability of public services and compatibility with adjacent land uses.

LUE 14. Development in the Alturas vicinity shall be compatible with designations on the Alturas area Land Use Map.

ACTION PROGRAM

LUE A. Prepare comprehensive development standards for rural residential development which will ensure that all new development is compatible with adjacent land uses and is environmentally and fiscally sound. Consult with appropriate agencies and persons in the preparation of such standards and criteria. Such standards will include:

1. Minimum lot size.
2. Slope development grading.
3. Soil stability and suitability.
4. Ingress and egress.
5. Wastewater collection and disposal.
6. Domestic water supply.
7. Drainage.
8. Electrical and phone service.
9. Long-term financing of maintenance activities.
10. Fire, flood and other hazard protection.
11. Include fuel breaks in the layout/siting of subdivisions (SB-1241).

12. Fencing requirements/protection of irrigation systems and other standards to assure compatibility with adjacent agricultural uses.

13. Standards/procedures to implement wildlife protection.

LUE B. Prepare regulations to be used at the option of the applicant, in the review and approval of "recreational" subdivisions which limit the issuance of building permits in the subdivision to the annual projected buildout rate. Such a program will permit an applicant for a recreational subdivision to phase certain facility improvements based on projected need or demand. This program will still require basic minimum infrastructure and public safety standards be met. Further, if a building permit limitation program is initiated and is subsequently requested to be modified, the revisions will include adequate provisions for public infrastructure and services commensurate with the revised growth projection.

LUE C. If a limitation on building permits is not chosen as a method of linking buildout rates with public services, an alternative method should be instituted. In any case, where a subdivision proposal does not include the installation of all required public facilities prior to the sale of lots and a limitation on the issuance of building permits is not agreed upon, the project shall be required to include improvement phasing linked to buildout. Identified phased improvements or services which are linked to development (buildout) must be provided or constructed prior to further issuance of building permits for development which will depend on those services or improvements. Through the subdivision and environmental process, such improvements or services will be identified and their relationship to development established. Implementation will require that an agreement be executed among the County, developer and responsible service provider. The agreement will specify, at a minimum, improvements or services and their relationship to building permit issuance, that the improvement or service must be established as set forth or the County reserves the right to prohibit building permit issuance until required services or improvements have been provided and a procedure for review of the agreement.

LUE D. Amend the County zoning maps to achieve consistency with the General Plan Land Use Map and Alturas area Land Use Map and residential land use classifications.

LUE E. Adopt development standards and criteria to complement innovative mitigation measures for development in sensitive or critical wildlife habitat areas. Any mitigation measures proposed for wildlife habitat protection will be considered on a case-by-case basis with consideration given to wildlife needs as well as landowner needs.

LUE F. The Land Use Map will designate urban areas adjacent to each existing community area. The boundaries are not meant to be precise on the Land Use Map, but they will be designated in accordance with Actions 7 and 8.

LUE G. A detailed analysis of land uses, zoning, land vacancy and historical and projected community growth patterns will be undertaken in order to determine the extent of each urban area.

LUE H. Analysis of public water and sewer services (existing or anticipated), adjacent land uses, LAFCO sphere of influence reports and other factors in Action #7 will form the basis for zoning recommendations. The Zoning Plan will allow for more intense development in areas where water and/or sewer services could be extended and for larger parcels adjacent to agricultural or other resources areas when development cannot be directed away from those areas.

LUE I. When land designated for agricultural land uses is subdivided, the following screening process should be used to determine when an amendment to the Land Use Map should be undertaken, prior to a determination on the proposed project.

LUE J. The County shall encourage water and sewer providers (Newell and Cedarville Special Districts) to reserve capacity for lower income housing in accordance with the County's Regional Housing Need Allocation in compliance with Senate Bill 1087.

The below-criteria relates to parcel size, total project area, number of parcels and cumulative development which has already occurred. Under these guidelines, relatively small areas of intensive development and large areas of extensive (non-intensive) development require a general plan amendment, within specified limits. When an area to be subdivided is contiguous to other rural residential or urban areas, the guidelines take into account the cumulative subdivision of the area.

There are two general situations in which a project applicant would be required to apply for a general plan amendment. In Situation 1, the subdivision of 20 or more parcels into parcels ranging in size from 3 to 20 acres requires a general plan amendment. An example of this Situation is shown in Figure 1. Situation 2 occurs when an area to be subdivided into 15 or more parcels ranging between 3 and 20 acres in size is contiguous to five or more parcels which are less than 20 acres in size. Similarly, when the area to be subdivided is within one-quarter mile of an area designated as rural residential or urban area on the Land Use Map, then the criteria in Situation 2 applies. An example of Situation 2 is shown in Figure 2. The following steps provide an easy way to make these determinations.

Step 1: Initial Screening Center

Are all of the following True or False?

A. Project area designated "general agricultural" on Land Use Map; and

B. Project propose 15 or more parcels to be less than 21 acres in size; and

C. Project area proposed for development is more than 40 acres in size?

If items A, B and C are all True, then go to Step 2. If items A, B and C are not all True, an Amendment is not required.

Step 2: Determination of Amendment Center

Select all of the following that are True:

A. Project is within 0.25 miles of urban area or rural residential designation on Land Use Map (or community expansion area zoning).

B. Project contiguous to 5 or more parcels, which are less than 21 acres in size each.

C. Project proposed 20 or more parcels, which are less than 21 acres in size each.

Table 1. General Plan Amendment Requirements

Step 2 Selection	General Plan Amendment Required
None of the above is True	Amendment NOT required.
Only A is True	Amendment NOT required.
Only B is True	Amendment IS required for project site and contiguous area.
Only C is True	Amendment IS required for project site.
A and B are True	Amendment IS required for project site, contiguous area and area within 0.25 miles.
B and C are True	Amendment IS required for project site and contiguous area.
A and C are True	Amendment IS required for project site and area within 0.25 miles.
A, B and C are True	Amendment IS required for project site, contiguous area and area within 0.25 miles.

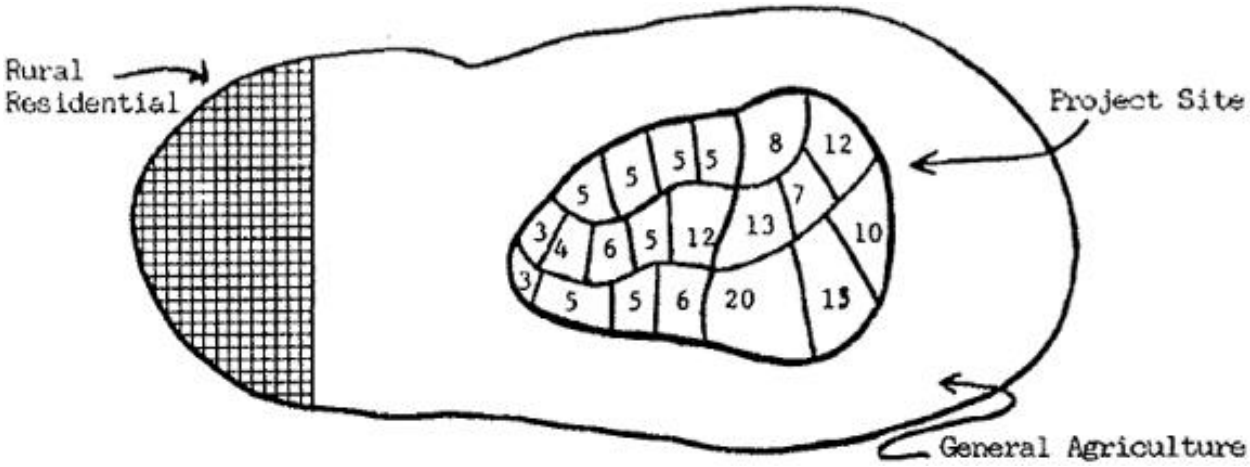
Example of Projects Requiring Amendment

When an area to be subdivided is shown as general agriculture and is not within 0.25 miles of a rural residential area or contiguous to a number of other small subdivided parcels (as described in Situation 2 below, then the following minimum criteria will trigger a general plan amendment:

Table 2. Minimum Acres per Parcel Size			
# of Acres per Dwelling	**Minimum # of Parcels**	**Minimum # of Acres per Parcel**	**Minimum # of Acres in Project**
3	20	3	60
5	20	5	100
10	20	10	200
15	20	15	300
20	20	20	400

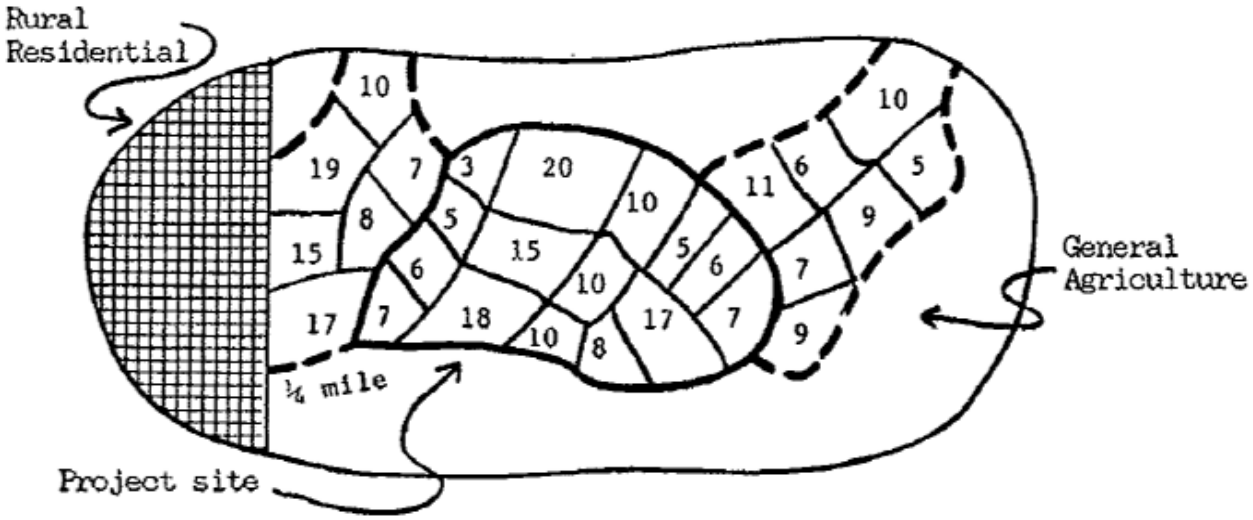
Guidelines for General Plan Amendment to Residential Center

Situation 1 – General Plan Amendment Required for Project Site Only



Proposed division of 150 acres into 20 parcels, ranging in size from 3 to 20 acres. Proposed area to be divided is general agriculture and not contiguous to 5 or more parcels of less than 20 acres in size. The site is also not within 0.25 miles of an area which is designated rural residential or urban area.

Situation 2 – General Plan Amendment Required for Project Site and Other Areas



Proposed division of 146 acres into 15 parcels, ranging in size from 3 to 20 acres. Proposed area to be divided is General Agriculture and contiguous to 5 or more parcels that are less than 20 acres in size, ***or*** the area is within 0.25 miles of an area that is designated Rural Residential. General Plan amendment required for project site and areas outlined by dashed line.

INDUSTRIAL LAND USE

BACKGROUND

Ensuring an adequate supply of affordable, developable industrial land in Modoc County is a major goal of this General Plan. Today there are approximately 100 acres of developed industrial land in Modoc County. (There are an additional 31 acres of industrially zoned land in the City of Alturas.) Major concerns have been expressed about the existing industrial land, including that it is: too expensive; not in the proper parcel sizes; lacks some essential services; and is not well located. Recent experiences indicate that some prospective industries attempt to locate in Modoc County but go elsewhere because of the inadequacies of the existing industrial areas.

Much of the existing industrial development in the County is local resource based. That is to say that agricultural products-processing, timber harvesting and milling and mineral resource extraction are the primary sources for traditional industrial jobs.

The resource-based industries often must locate near the source of raw product production. This reduces transportation and labor costs. That means, then, that a concept of industrial parks in urban communities will not necessarily serve the needs of the existing base industry in Modoc County. Accommodations must be made to permit the location of those processing industries near the raw products.

However, suitable land for industries other than resource-based industries should be located in or near urban communities is limited in supply and suitability. Additional suitable industrial lands

must be identified and appropriately zoned. Further, any obstacles to easy development of those lands must also be identified and eliminated where possible.

ISSUES

There are five issues associated with industrial land use that are critical to the General Plan. Those issues are amount of suitable industrial land, location, zoning, obstacles to development and siting standards.

Amount of Land Needed

Determining a precise amount of industrial land needed in Modoc County to accommodate projected growth is difficult and probably not very useful. Instead, a more important measure is to simply ensure that sufficient amounts of a full range of industrial land is available to accommodate industry interested in locating in the County.

Zoning

The County Zoning Ordinance has two industrial zoning categories. The (I) industrial zone permits virtually any industrial use, either by right or with a use permit. Generally, the (I) zone has functioned well to serve the needs of the County. However, there have been instances where such a broad range of uses is not appropriate at a particular location. In response to instances when a potential industrial site may be appropriate for light industry, but not appropriate for manufacturing or other heavy industries, the County has adopted the industrial-light (IL) zone. This zoning district permits industrial uses that are compatible with potentially more sensitive adjacent land uses, such as commercial, high density residential and agriculture. Standards are described in the Action Program for application of the (IL) zone to specific parcels.

One issue to be evaluated is whether sensitive public and quasi-public uses should be allowed by right in the industrial zone, since conflicts could occur with other more abrasive industrial uses.

Obstacles to Development

Once a prospective industry makes a decision to locate in Modoc County, there should be as few obstacles as possible to that industry for development. The County has a responsibility to protect the public health, safety and welfare when any development does occur, but once that concern is satisfied, a potential industry should not be faced with any problems that could be avoided. In Modoc County, several obstacles to development may limit industrial growth. Those obstacles include land availability and price, building space and adequate public services.

If the amount and variety of available industrial land is too limited, not only will it be difficult for prospective industries to find appropriate sites, it is likely that the price may be too high. It is also not appropriate to designate an overabundance of industrial land because widely scattered development will result in inefficient use of public infrastructure. However, a land supply of two to three times the likely demand is usually reasonable. Furthermore, the land designated for industrial uses should include a wide range of parcel sizes.

Another issue associated with obstacles to industrial development is adequacy of public infrastructure. Simply designating areas for industrial land use is not sufficient. There must be minimum public services and facilities available for most industries. That means public sewer, water, drainage, streets and electricity.

Siting Standards

Because of the scale of the Modoc County General Plan Land Use Map, it is not practical in every case to designate specific parcels of land for industrial land uses. Further, there will be instances in the future where it may be appropriate for industry to locate in an area not anticipated in this plan, especially resource-based industry. In those circumstances, it is important to have established criteria and standards to evaluate the acceptability of potential new industrial areas. Subject areas to be covered include land use compatibility, availability of services, transportation access and proximity to necessary resources.

GOAL LUE 2: TO PROVIDE FOR A FULL RANGE OF INDUSTRIAL LAND USE OPTIONS TO ENABLE THE EXPANSION OR ESTABLISHMENT OF INDUSTRY IN MODOC COUNTY, WHILE PRESERVING THE COUNTY'S VALUABLE NATURAL BEAUTY AND ENVIRONMENT AND ASSURING COMPATIBILITY WITH EXISTING AND PROJECTED LAND USES.

LAND USE MAPS

Industrial land uses are treated in two fashions on the Land Use Map. Due to the scale of the map, industrial land uses are assumed to be included within the urban area designations. Site-specific locations will be guided by the siting criteria described in the Action Program. Secondly, industrial areas in the vicinity of Alturas are specifically designated on the Alturas area Land Use Map. The two categories are light industry and heavy industry.

Light Industry

The light industry land use category is intended to accommodate low-intensity industrial uses in close proximity to commercial and residential areas with a minimum of environmental conflicts. Permitted uses shall include warehouses, storage buildings and yards, wholesale businesses, assembly within a building and similar uses. Population density could range up to 40 persons per acre if a use permit is obtained for residential development. Lot coverage will not exceed 75% while building height will not exceed 75 feet. Without a use permit, population density is zero. Light industry land uses are located adjacent to major street access and generally within or adjacent to existing community areas. Public sewer and water supply is strongly preferred, but not absolutely necessary if the use requires limited water and sewage volumes (e.g., mini-warehouses).

Heavy Industry

The heavy industrial land use category is intended to accommodate a full range of industrial uses. Areas designated as heavy industry will be suitable for heavy manufacturing and processing uses which have the greatest potential for producing undesirable or adverse impacts,

including traffic, noise, dust, odors and vibrations. Population density could range up to 40 persons per acre if a use permit is obtained for residential development. Lot coverage may be as high as 100%, while building height will not exceed 100 feet. Without a use permit, population density is zero. Heavy industrial land uses should be located in places substantially removed from sensitive land uses, including residential areas, hospitals and schools.

POLICIES

LUE K. Identify ample amounts of suitable industrial land.

LUE L. Industrial land except for resource-based industries should be located adjacent to major transportation facilities (highways, railroads, airports) and have major public services such as sewer, water, drainage and power available.

LUE M. Industrial land use designations should be compatible with surrounding land uses.

LUE N. Industrial development should be compatible with existing community character and environmental quality.

LUE O. Desirable or compatible industries should be identified and actively recruited to locate in the City of Alturas, or unincorporated communities, or adjacent areas.

LUE P. Strong support for resource-based industries located near the resources should be established.

LUE Q. Industrial development should generally be discouraged in areas of high wildland fire or other hazard areas (refer to safety element) (SB-1241).

ACTION PROGRAM

LUE K. Identify appropriate land areas in the county for both light and heavy industry on the Alturas area land map. The designated industrial land should conform to and be consistent with industrial siting set forth under Action #3. Consult with appropriate agencies and persons in the preparation of such standards and criteria.

LUE L. Evaluate the industrial (I) zone to determine whether sensitive public and quasi-public use should be allowed by right.

LUE M. Establish detailed siting and development criteria for any industrial land use, whether designated on the land use plan or undesignated. Consult with appropriate agencies and persons in the preparation of such standards and criteria. It should, nonetheless, be consistent with other development policies (e.g., agricultural products processing). Such criteria should include:

1. The provision of adequate access, ingress and egress facilities and the mitigation of traffic impacts;

2. The provision of adequate water, sewer and other public services to be used;

3. The provision of adequate on-site, non-public water supply and sewage disposal if no public systems are available or used;

4. Compatibility with adjacent uses (scale, noise, emissions, or other nuisances, etc.) and methods for buffering; including compatibility of public industrial uses which are difficult to site;

5. Design, layout and visual appearance with an overall industrial setting;

6. Landscaping, setbacks, signing, off-street parking and loading provisions and other site improvements;

7. Overall consistency with the General Plan; and

8. Identification of mitigation measures as project conditions which will allow preparation of negative declarations rather than Environmental Impact Reports.

LUE N. Initiate a study to identify obstacles to development for designated industrial land in the County. Such a study should address essential public facility capacity and availability, public services, circulation, transportation facilities and any other relevant infrastructure and service needs. The results of the study should be integrated into the economic development implementation activities described in Chapter XI.

LUE O. Coordinate any industrial land use and zoning in the vicinity of Alturas with the City.

COMMERCIAL LAND USE

BACKGROUND

The need for new commercial areas in the County will increase proportionately with the general growth of the County. Commercial services are, for the most part, established in response to basic job growth and population increases. The exception to that rule is tourism. Should there be substantial increases in tourism, the need for new commercial areas will increase at a rate disproportional to the population growth.

Today, the bulk of the commercial land is within the City of Alturas. There are approximately 110 acres of commercial land in the County, 40% of which (44 acres) is in the City of Alturas. The remainder is scattered throughout the communities in the County.

ISSUES

The primary issue associated with commercial land use in Modoc County is to ensure that there are adequate amounts of suitable commercial land available to satisfy increased future demands,

particularly should the effort to increase tourism be successful. The needs for commercial land are similar to that of industrial land. It is necessary to have adequate public infrastructure (sewer, water, streets) and access. It is also important for most commercial activities to have visibility.

Another facet of commercial land use concerns small cottage industries and home occupations, which contribute on a limited basis to the economy and livelihood of the owners.

GOAL LUE 3: TO ENSURE THAT AN ADEQUATE SUPPLY OF COMMERCIAL LAND IS AVAILABLE THROUGHOUT THE COUNTY TO MEET THE SERVICE NEEDS OF THE RESIDENTS AS WELL AS THE TRAVELING PUBLIC WHILE ENSURING COMPATIBILITY WITH NEIGHBORING USES.

LAND USE MAPS

As with industrial land uses, commercial land uses are treated in two separate ways. First, commercial land uses are included in the broad designation of urban areas on the countywide Land Use Map. Specific locations will be based on the use of the siting criteria identified in the Action Program. Commercial land uses may be appropriately permitted in rural areas of the County, given consistency with the established siting criteria.

Second, a single category for commercial land use is included on the Alturas area Land Use Map. The commercial designation identifies appropriate commercial areas in the vicinity of Alturas. Population density could range up to 40 persons per acre with a use permit in either case. Lot coverage may be as high as 100%, while building height will not exceed 50 feet. Land uses consistent with this designation include all commercial activities, high residential uses and public or quasi-public uses such as schools and churches. An issue is whether abrasive public and quasi-public uses should be allowed by right. The compatible zoning designation in the commercial land use category is the (C) commercial zone.

POLICIES

LUE R. Commercial land uses should be located in or adjacent to areas historically used for commercial purposes.

LUE S. New commercial land uses should be compatible with adjacent existing land uses.

LUE T. Commercial areas should generally be located where there are available sewer and water services as well as good public street access.

LUE U. Commercial uses located in rural areas without public services should demonstrate the availability of adequate sanitation and water services.

LUE V. Commercial development should generally be discouraged in areas of high wildland fire or other hazard areas (refer to Safety Element) (SB-1241).

ACTION PROGRAM

LUE P. Identify appropriate areas in the County for commercial development on the Alturas area Land Use Map. The designated commercial land should conform to and be consistent with commercial siting set forth under Action #2. Consult with appropriate agencies and persons in the preparation of such standards and criteria.

LUE Q. Establish detailed siting and development criteria for commercial land use, whether designated on the land use plan or undesignated but consistent with other development policies (e.g., agricultural products processing). Consult with appropriate agencies and persons in the preparation of such standards and criteria. Such criteria should include:

1. The provision of adequate access, ingress and egress facilities and the mitigation of traffic impacts;

2. The provision of adequate water, sewer and other public services to be used;

3. The provision of adequate on-site, non-public water supply and sewage disposal if no public systems are available or used;

4. Compatibility with adjacent uses (scale, noise, emissions, or other nuisances, etc.) and methods for buffering; and determination of compatibility of public and quasi-public uses, which are abrasive;

5. Design, layout and visual appearance with an overall commercial setting;

6. Landscaping, setbacks, signing, off-street parking and loading provisions and other site improvements;

7. Overall consistency with the General Plan; and

8. Identification of mitigation measures as project conditions, which will allow preparation of negative declarations rather than Environmental Impact Reports.

LUE R. Initiate a study to identify obstacles to development for designated commercial land in the County. Such a study should address essential public facility capacity and availability, public services, circulation, transportation facilities and any other relevant infrastructure and service needs. The results of the study should be integrated into the economic development Action Program described in Chapter XI

LUE S. Coordinate any commercial land use and zoning in the vicinity of Alturas with the City.

LUE T. Prepare an inventory of undeveloped commercial land in each community.

AGRICULTURAL LAND USE

BACKGROUND

Agricultural land is the cornerstone of the economic base of Modoc County. The gross value of agricultural products produced in 1984 by Modoc County farmers and ranchers was $74,153,600, an increase of 1.35% over 1983. According to the California Department of Food and Agriculture, in 1982, net farm income was slightly greater than 20% of total cash receipts. If Modoc County reflected this average and assuming that cash receipts remained at 20% of gross receipts in 1984, farm income in the County would have been on the order of $14,800,000. Nearly 80% of the privately-held land in the County is in agricultural use: 19% (176,000 acres) is in cropland and 60% (544,400 acres) is used for grazing. This acreage represents approximately 27.5% of all land in the County. Major cash crops include hay, small grains (malting barley, feed barley and Durham wheat), potatoes and onions. The livestock industry consists of cattle, sheep and hogs, with cattle contributing nearly 95% of the livestock income in the County. In 1982, Modoc County ranked 35th among the 58 California counties in terms of total agricultural production, excluding timber harvest.

The use of agricultural land in Modoc County is subject to both direct and indirect factors. The principal factor with a direct and immediate effect is the conversion to urban land uses. Factors with indirect effects are less immediate and not as obvious. The imbalance between agricultural land values and farm income; water use conflicts; limited water supply; the fragmentation of agricultural acreage into uneconomically small parcels; zoning and regulatory practices; and the proximity of urban uses can all have indirect effects on agricultural production.

ISSUES

The protection of agricultural land is a significant issue in Modoc County. The national economic decline in agriculture, coupled with high interest rates, heavy indebtedness and declining land values have led to a very serious economic condition for Modoc County agriculture. Some agricultural operations have disposed of lands as a means of relieving increasing economic pressure and the threat of foreclosures.

Land division of agricultural lands, particularly those with the highest productivity, in turn creates a related issue with respect to protecting agricultural land. As the size of the unit of land ownership decreases, so does the capacity of the divided smaller unit to remain at an economically viable size. Thus, the continuing, long-term land division of agricultural land can lead to a significant decline in the agricultural productivity of a region. This issue is greatly complicated by the fact that the economics of each farm are unique and personal and the role and capacity of local government to engage the issue are limited.

While it is essential that the County's agricultural policies focus on the overall economic health and future of the area, it is equally important to consider the individual needs of the farmer and rancher. Each person, family, or business has a differing set of needs and expectations as far as the agricultural economy is concerned. While it is the County's responsibility to establish policies, which represent the general public interests, part of that public interest is, in fact,

the agricultural community. Several individual issues have been identified which will be addressed as a part of the County's overall agricultural policy.

The individual famer must retain substantial control over the determination of the use of his or her land. As long as the general public interest is protected, the individual should continue to exercise substantial control over the disposition of his land.

The County has for several years, permitted, under certain conditions, existing farmhouses to be divided from original farming homesteads and sold separately. This policy recognizes the economic realities of individual needs while preserving productive agricultural lands. Another issue is the introduction of non-agricultural uses into productive agricultural areas as a secondary source of income for the farmer. Such uses include dude ranches, private hunting clubs, related commercial services and tourist-related retail sales. Agricultural processing industrial uses are discussed under Industrial Land Use. All of those activities, while potentially removing some agricultural land from production, are generally compatible with agricultural activities, assuming the amount of removed agricultural land is relatively limited. Incompatible uses, particularly residential subdivisions, fall into a significantly different category, not only because of the substantial removal of land from production, but also because the new residents are less likely to be tolerant of agricultural activities impacts such as spraying, dust and odors. It should be incumbent upon developers or residential subdivisions to provide proof that the development will not adversely impact agricultural operations. In addition to assessing impacts such as noise, dust and odors from agricultural practices, issues can develop over irrigation ditches and structures, fencing and indirect effects such as vandalism.

The major concern of both the County and the individual farmer is the maintenance of profitability so the farmer can stay in business. That means a balance between agricultural land preservation efforts and alternative, but limited, non-agricultural uses of the land. The major concern is to prevent haphazard, patchwork subdivision of productive agricultural land into non-farmable, unproductive units.

Another issue in Modoc County is the potential conflict between agriculture and the expanding unincorporated communities. Room for expansion is necessary, but it should not be at the expense of economically-productive agricultural activities. The balance should be achieved by permitting urban land uses with one-quarter mile of the existing communities regardless of agricultural values. Beyond that one-quarter mile, no subdivision below a 3-acre minimum lot size would be allowed in exclusive agriculture areas except under specific circumstances. When exclusive agriculture lands are adjacent to urban areas, a buffer area should be provided.

Given the centrality of agriculture to the welfare of Modoc County, the current depressed condition of national and local agriculture and the express interest of the citizens and public officials of the County to protect agricultural lands, this General Plan addresses the many facets of resource conservation as related to agriculture. Precisely defining an economically-sound agricultural unit is quite difficult. There is little agreement in the agricultural community on minimum parcel sizes. The General Plan for smaller lot subdivisions adjacent to exclusive agricultural lands state the buffering concept should be instituted, as well as right-to-farm protections for farmers and ranchers. Property owners should have the right to subdivide non-productive agricultural land, but not at the expense of nearby productive land. Lot sizes in the

buffering areas would range from 15 to 20 acres. Furthermore, a right-to-farm ordinance should be developed in conjunction with the implementation of a buffering policy.

In recognizing the importance of agriculture to the County, the General Plan also includes programs and procedures, which include the appropriate agricultural agencies and officials within the County and are designed to avoid (1) development projects, which conflict with agricultural land uses and (2) land divisions which could lead to the creation of uneconomical land units. Such a review procedure will enhance the County's capacity to protect its agricultural resources.

Since the general agriculture land use designation allows minimum parcel sizes as low as 3 acres, while the rural residential category allows parcel sizes from 1 to 20 acres, the residential land use section of this plan specifies situations in which a general plan amendment from an agricultural to a residential designation should be undertaken prior to development. These guidelines relate to the point at which, due to subdivision, an area becomes residential in character and should be governed by residential rather than agricultural land use policies. Through the amendment process, the County can discern whether such development will impair surrounding agricultural land uses.

GOAL LUE 4: PROTECT AND SUPPORT THE AGRICULTURAL ECONOMY OF MODOC COUNTY.

LAND USE MAPS

Agricultural crop and grazing lands are divided into two land use categories: exclusive agriculture and general agriculture. The differences focus primarily on minimum lot size and expectations for long-term use. The resource conservation zones such as resource conservation (RC) and low-intensity conservation (LIC) are also compatible with the agricultural land use categories. When clusters of residential lots that do not meet the criteria triggering a general plan amendment are proposed and approved, primarily in the general agriculture category, the residential-rural (RR) zone may be applied without requiring an amendment to the General Plan Land Use Map. Lands used for timber production are designated timber protection.

Exclusive Agriculture

The exclusive agriculture land use category includes lands with a combination of factors that make it suitable for protection and conservation for intensive and economically-protective agricultural uses. Two sets of criteria that define exclusive agriculture, "highest value land" and "lower value land," are set forth below. The areas mapped as exclusive agriculture on the Land Use Map are broad-brush and not every parcel necessarily meets the criteria for exclusive agriculture. However, by designating exclusive agricultural areas it is intended that these areas will substantially remain in exclusive agriculture and the introduction of residential uses and smaller parcels will be minimized as provided in this policy plan.

Parcels within the exclusive agriculture designation on the Land Use Map that substantially meet the criteria of the "highest value land" category should remain designated exclusive agriculture and compatible zoning applied.

Parcels within the exclusive agriculture designation on the Land Use Map that do not substantially meet the criteria of the "highest value land," but at minimum meet all the criteria of the "lower value land," may be considered on a case-by-case basis for either removal from the exclusive agriculture designation, or potential rezoning for other uses.

Parcels within the exclusive agriculture designation on the Land Use Map that do not, at minimum, meet all the criteria of the "lower value land" may be dealt with in two ways: They may remain in the exclusive agriculture category, but rezoned from the agricultural exclusive zone. Or, parcels that are within the exclusive agriculture designation, but that are on the periphery of that area as designated on the Land Use Map may be removed from the exclusive agriculture designation without a general plan amendment in connection with the processing of a land use application. The County may, of course, process amendments to the General Plan to make corrections at other times on its own initiative.

CRITERIA FOR EXCLUSIVE AGRICULTURE

Highest Land Value

The highest value lands within the exclusive agriculture category have all or substantially all of the following characteristics:

1. SCS Capability Classification System soils rating Class II, Class III, or Class IV with a minimum depth of two to 3 feet.

2. The land is in an irrigation district and is served or has adjudicated water rights.

3. The existing parcel, or contiguous parcels under the same ownership is (are) 75 acres or more.

4. The parcel is within an established and recognized agriculture area.

Lower Land Value

Lands that qualify as exclusive agriculture shall at minimum exhibit all the following characteristics:

1. Class IV soils with a minimum depth of two to 3 feet.

2. The parcel is in an irrigation district but not currently served but has a realistic potential to be served; or is currently under irrigation or has been under irrigation for at least seven of the last ten years, most commonly in the form of deep wells or reservoirs.

3. The portion of the parcel, which qualifies, is 40 to 80 acres in size.

4. The parcel is located in an area where not more than 40% of the parcels in the surrounding agricultural area are smaller than 40 acres or used for residential purposes.

Only uses compatible with intensive agricultural activities are compatible with this category. Land subdivision for the purpose of residential development is incompatible. Permitted uses include single-family dwellings associated with agricultural activities, agriculture, farming, ranching and resource-based related uses. Although public uses may be allowed, quasi-public uses may not. The minimum parcel size in the exclusive agriculture category is 80 acres. Population density will be approximately 20 persons per square mile. Lot coverage will be no greater than 10%, but there is no building height restriction. Larger minimum parcel sizes may be required due to physical limitations or wildlife habitat constraints.

Within the areas designated exclusive agriculture may be unproductive or non-productive lands. The individual landowner may, upon clear demonstration that a particular parcel does not meet the criteria described above, request that area be removed from the 80-acre minimum parcel size limitation. Review of such request will be guided by the long-term public interest in retaining such land for agriculture. Isolated smaller parcels of unproductive land (to a minimum of 5 acres) may be permitted if such land division does not adversely affect adjacent productive agricultural lands. Splitting off existing dwellings under provisions in this plan, with a minimum of acreage, is also allowed. When land which does not meet the criteria for exclusive agriculture is on the periphery of the area designated exclusive agriculture, the County may process an amendment to the General Plan Land Use Map with a development application. When such land is not on the periphery and is substantially surrounded by other exclusive agriculture lands, the land shall remain designated exclusive agriculture but may be rezoned as appropriate and consistent with this policy plan.

General Agriculture

This category includes the majority of agricultural lands not included in exclusive agriculture. This category particularly includes grazing and other dry farming operations. The minimum parcel size is 3 acres. Population density can be as high as two persons per acre. Lot coverage may not exceed 10%, but there is no building height limitation. Permitted uses include single-family homes, scattered large-lot rural residential development, farming, grazing and resource-related agricultural activities. Limited commercial or industrial areas may be allowed.

The three-acre minimum parcel size allowed under the general agriculture land use category may be required to be increased in individual cases, based on sewage disposal or water supply constraints, wildlife mitigations, compatibility issues, service constraints or other factors. The value of these lands for present and potential agricultural uses will be considered when development is proposed. Soils, water availability and the agricultural stability and future of the surrounding area are all factors that impact the value of these lands. The precise design and subdivision parcel size will, therefore, depend on the particular circumstances of the project site.

Timber Reserve

This land use category is applied to lands zoned timber protection (TP). These lands are privately-held lands with commercial timber value and qualify for special property tax exemptions. The population density is approximately ten persons per square mile. Lot coverage may not exceed 5%, but there is no building height limitation. Minimum parcel size is 160 acres.

POLICIES

LUE U. Preserve and protect valuable agricultural lands in the County.

LUE V. Protect important timber lands in the County through the use of timber protection zoning (TPZ).

LUE W. Support compatible, mixed, or alternative uses of agricultural land, including hunting and fishing clubs and recreational ranches.

LUE X. Permit limited expansion of unincorporated communities in agricultural areas.

LUE Y. Require buffering of exclusive agricultural lands as designated in the Land Use Map from intense residential development. Individual zone changes to the AE zone outside the exclusive agricultural land use areas will not require that neighboring property provide buffers.

LUE Z. Require minimum parcel sizes in exclusive agricultural areas which will preserve agricultural land in farmable units and prevent residential subdivisions.

LUE AA. Coordinate the review of any development proposals on production of agricultural land with all concerned public agencies.

LUE BB. Rural residential and urban development should be confined to areas with low or no productive agricultural value. Intensive residential development should be separated from intensive agricultural zones by transitional large-lot development. When subdivision of land which will result in the changeover of an area to a residential character is proposed, the additional scrutiny of a general plan amendment should be required prior to such development.

LUE CC. Permit the division of farmhouse from farms which have existed for ten or more years as established by building occupancy permits or other records. Parcels will not be subdivided in exclusive agriculture areas merely for the purpose of financing a home.

LUE DD. Established farming and ranching activities have a right to continue agricultural pursuits without interference from developing residential acres. When parcels whose primary use will be residential are created or developed, development standards may include criteria protecting agricultural use in adjacent areas such as fencing, protection of irrigation systems and other measures.

LUE EE. Consider initiating the Williams Agricultural Land Conservation Act program in Modoc County.

LUE FF. Power transmission line corridors should not be located in any productive agricultural area, including exclusive and general agricultural lands or near airports.

LUE GG. Land classified as exclusive agriculture may be reclassified as general agriculture under standards set by the County.

LUE HH. Mitigation measures such as clustering of residential development and larger parcel sizes will be encouraged as a means of preserving and protecting sensitive or critical wildlife habitats and open space. Some specific measures are discussed in the conservation and Open Space Element of this Policy Plan.

ACTION PROGRAM

LUE U. Identify intensively used agricultural lands. The most productive agricultural land within the County should be maintained as permanent agriculture for the period of the General Plan as 80-acre minimum lot sizes. These lands are identified on the General Plan Land Use Map as exclusive agricultural lands. Existing parcels below the 80-acre minimum will be grandfathered into the appropriate zoning category. They are comprised of lands within the categories of "Highest Value Land" and "Lower Value Land" discussed under the exclusive agriculture land use designation.

LUE V. For all other agricultural lands, a minimum parcel size of 3 acres should be established under the designation general agriculture, except as otherwise permitted. When development is proposed on lands in the General Agriculture category, the value of those lands for present and potential agricultural uses, such as irrigated pasture or cropland, dryland farming, or other agricultural uses, will be considered. Soils, water availability and the agricultural stability and future of the surrounding area are all factors that impact the value of these lands.

LUE W. Exceptions to the minimum parcel size requirement will be allowed to permit the one-time separation of a residence from the agricultural land in accordance with Policy 11. Further, minimum parcel sizes may be raised in circumstances where the protection of wildlife habitats is necessary.

LUE X. Adopt development standards and criteria to complement innovative mitigation measures for residential or other development on land that are sensitive or critical wildlife habitat areas. Any mitigation measures proposed for wildlife habitat protection will be considered in accordance with the General Plan and on a case-by-case basis with consideration given to wildlife protection as well as landowner needs. Land adjacent to exclusive agriculture lands should establish buffer zones of 15- to 20-acre minimum lot sizes to ensure that agricultural activities are protected from sensitive residential uses.

LUE Y. The existing minimum lot size (M) overlay zone or other zoning will be applied to land adjacent to exclusive agriculture lands to establish buffer zones of 15- to 20-acre minimum lot sizes to ensure that agricultural activities are protected from sensitive residential uses.

LUE Z. The County will assist the agricultural community in identifying and promoting compatible economic ventures such as hunting clubs and dude ranches which

supplement farm income and do not take valuable agricultural land out of production. Local economic development groups should explore the feasibility of such activities as private hunting clubs, "dude" ranches and geothermal-based recreation activities. The County should support such efforts through zoning and development permit approvals.

LUE AA. Revise the two existing agricultural zones to be consistent with the General Plan policies: exclusive agriculture and general agriculture zoning districts. Such revised zoning districts will include minimum parcel sizes of 80 and 3 acres respectively as well as limitations on agricultural-based land use and development. Other resource-oriented zones, such as resource conservation (RC) and low-intensity conservation (LIC) are also consistent with the agricultural land use categories.

LUE BB. Develop a detailed set of criteria and standards for residential uses in exclusive agricultural areas, including such issues as:

1. Division of farmhouses from farms when the house has been in existence for ten or more years.

2. Ranch or farm employee housing;

3. Second dwelling without parcel division for persons employed in the operation of a ranch or farm;

4. Density transfers;

5. Division of land which is not classified according to criteria defined under the exclusive agriculture category, or portions of agricultural parcels which are not productive; and

6. Protection of irrigation systems from encroachment and to assure continued access for maintenance.

LUE CC. Prepare and consider a right-to-farm ordinance which would establish as priority agricultural activities in areas where potential conflict with non-farm residential uses exist. Dust, noise, spraying, irrigation systems, fencing, odors and other issues should be addressed.

LUE DD. Initiate a study to determine whether the Williamson Agricultural Land Conservation Act program should be instituted in Modoc County.

LUE EE. Initiate a study to establish criteria and standards for the reclassification of exclusive agricultural land to general agriculture. The standards would include such factors as length of time land is out of production, unavailability of water supply and agricultural economics and protecting the integrity of the surrounding agricultural area.

LUE FF. Initiate a study to determine appropriate standards and criteria for buffering exclusive agricultural land from residential development. Specific issues to be considered include current entitlements based on existing approved subdivisions or specific plans, size and area of buffering and minimum parcel sizes.

LUE GG. Apply the criteria under the residential land use section to determine whether a general plan amendment is required from an agricultural designation to urban areas or rural residential connection with subdivision proposals.

PUBLIC AND QUASI-PUBLIC LANDS AND USES

BACKGROUND

Over two-thirds of the lands in Modoc County are administered by public agencies, the largest ownerships of which are federal, primarily under the management of the Modoc National Forest and the Bureau of Land Management. There are several other federal, state and local agencies with ownership and management responsibilities in the County. It is assumed that for the planning period, this ownership pattern will remain largely unchanged.

Furthermore, provision for public and quasi-public facilities and uses is essential to the provision of necessary and desired services to the citizens of the County. Such facilities and uses include: circulation components such as transmission and distribution lines, pipelines, utility offices, generating plants and substations and other energy development facilities; general government offices, shops, repair yards, material stockpiles; mining operations carried out by government agencies for construction materials; airports, parks, solid waste or wastewater treatment facilities; cemeteries, hospitals or other public care facilities, schools, or other facilities undertaken by a governmental agency or provider of public services; churches; and facilities of nonprofit organizations.

ISSUES

An issue concerning public lands is the potential conflict with urbanizing uses on private land adjoining the public lands. This does not include agricultural uses or in general resource-based uses adjacent to public lands. In large part, the conflicts of this type have been rather limited to date. There is generally good communication and cooperation between Modoc County and the federal and state land management agencies. The area with the greatest potential conflict is the increased development in the vicinity of the Modoc National Wildlife Refuge. If urbanization moves from Alturas towards the Dorris Reservoir, increased conflicts with the wildlife management program could occur.

The encroachment on existing public uses, such as airports, solid waste sites or wastewater treatment facilities, due to development of subdivisions or sensitive land uses, can also cause conflicts which hamper the continued operation or future expansion of these facilities. Many of these public land uses are difficult to site and are designated in the General Plan Background Report; solid waste sites are designated in Appendix C of this Policy Plan.

The enactment of Assembly Bill 2948 (Tanner, 1986) requires the County to adopt a hazardous waste management plan (HWMP) consistent with the General Plan. The statutes require that the General Plan include siting criteria and general areas suitable for hazardous waste facilities, either directly or by reference. The land use approval process must also support the implementation measures for siting facilities and managing hazardous wastes. The existing industrial and commercial zones allow public uses by right, including such facilities. All other zones allow public uses as a conditional use. The amount of hazardous waste generated in the County is small, consisting primarily of small quantity generators and household waste. Nonetheless, the County, in partnership with private industry and public cooperation should strive to manage its hazardous wastes, which may eventually include a facility for the collection and transfer of hazardous wastes to another location for further processing or storage. Once the HWMP is adopted, it should be incorporated in the General Plan as required.

Construction of new public and quasi-public land uses represents occasional issues. For example, the location of power transmission lines can raise concerns regarding compatibility with surrounding land uses. Many public and quasi-public uses have the potential to conflict with sensitive uses. In these cases, project design changes should be analyzed toward reducing impacts if alternative locations are not feasible.

Another issue centers on existing regulations under the industrial (I) zoning category which allows public and quasi-public uses by right. Such uses could include schools, hospitals and other sensitive land uses which may be incompatible with abrasive industrial uses allowed in that zone. Due to difficulty in siting industrial zones, the industrial zone classification should be modified to restrict sensitive issues when incompatibility may occur. As a reverse situation, public and quasi-public uses are also allowed by right in the commercial (C) zone. The more abrasive public or quasi-public uses when located with proximity to commercial uses could also cause conflicts and should be assessed.

GOAL LUE 5: ENSURE COMPATIBILITY OF PUBLIC AND QUASI-PUBLIC LAND USES WITH OTHER LAND USES AND DEVELOPMENT

LAND USE MAP

The major publicly-owned lands are designated as public lands on the Land Use Map. The County has limited or no jurisdiction within those areas regarding use and development. However, should any designated public lands be converted to private ownership, prior to any zoning of those lands, compatible uses would simply be as interim open space. Population density will be determined by the public agency responsible for land management. Lot coverage and building height will also be determined by the responsible agency.

Other public and quasi-public lands and uses, due to the scale of the Land Use Map, are not specifically designated on the map (solid waste sites are designated in Appendix C). Rather, the following policies indicate the manner in which these uses will be regulated on a case-by-case basis. Population density in those areas will not exceed 40 persons per acre. When clusters of residential lots that do not meet the criteria triggering a General Plan Amendment are proposed and approved, primarily in the General Agriculture category, the Residential Rural Zone may be

applied without requiring an amendment to the General Plan Land Use Map. Lot coverage will not exceed 75% and building height will be limited to 50 feet.

POLICIES

LUE II. Cooperate with federal and state land management agencies in their efforts to preserve and protect public lands.

LUE JJ. Provide opportunities to interested public agencies and utilities to review and comment on development applications.

LUE KK. Major publicly-owned lands should be designated as such on the land use plan and remain zoned as open space under the County zoning ordinance. When public lands are transferred into private ownership, the uses should be as set forth in the open space zone until rezoning to another zone is approved by the County.

LUE LL. Allow for public facilities and services throughout the County as necessary and desirable to serve the needs of the residents. Minimize potential conflicts through design if a more desirable location is not feasible.

LUE MM. Continue to allow public and quasi-public facilities and uses in most zones subject to obtaining a use permit if the type of use is not permitted by right.

LUE NN. New development adjacent to existing difficult-to-site public and quasi-public uses such as airports, solid waste and wastewater treatment facilities should not hamper the operation, expansion or improvement of these necessary uses.

LUE OO. Intense recreational uses and residential development should be discouraged in hill open space areas lacking an adequate water supply or nearby available fire protection facilities (refer to Safety Element) (SB-1241).

ACTION PROGRAM

LUE HH. Maintain close coordination between federal and state agencies with land management responsibilities in Modoc County, particularly with regard to land development applications adjacent to public lands.

LUE II. Continue to submit relevant development applications to appropriate federal and state agencies and utility and service providers for review and comment as a part of the normal development application review procedures.

LUE JJ. Reevaluate zoning district categories to permit placement of public and quasi-public facilities and uses by right where appropriate. Evaluate the industrial zone to determine whether sensitive public and quasi-public land use should be allowed by right due to potential conflicts. Evaluate the commercial zone to determine whether abrasive public and quasi-public uses should be allowed by right.

LUE KK. Develop zoning and subdivision standards for public facilities, such as:

1. Parking requirements;

2. Reduced minimum lot size as necessary for facility or use;

3. Buffering or improvement requirements to assure compatibility with adjacent land uses such as increased lot size to allow undeveloped land buffer, fencing, or screening, etc.; and

4. Height restrictions.

LUE LL. In order to assure compatibility, in conjunction with Action #4, evaluate zoning and development standards for lands and development in close proximity to public and quasi-public uses which are typically difficult to site.

LUE MM. Provide Planning Commission review of transmission lines or other facilities which are undertaken by agencies exempt from County regulation in order to provide focus for County and public input.

VI. HOUSING

BACKGROUND

Housing Element

The Housing Element serves as a planning guide addressing the long-term, comprehensive housing needs for residents of various income levels. The process of creating or updating a Housing Element includes the identification and analysis of current and projected housing needs, followed by the development of goals, policies and programs that aim to preserve, improve and increase supply of housing in the community for all income levels.

Compliance with State Law

The Housing Element is one of the seven required elements in the General Plan and is mandated through Article 10.6 of the State of California Government Code Section 65580 through 65590 (California Department of Housing and Community Development [HCD], 1969a). The Housing Element must remain consistent and compatible with other General Plan elements and State Law.

According to the California Statewide Housing Plan Update, it is the goal of the State to "ensure to all Californians the opportunity to obtain safe, adequate housing in a suitable living environment." In addition, the State Department of Housing and Community Development (HCD) has established the following four primary goals that are addressed in the Housing Element:

- Provision of new housing
- Preservation of existing housing and neighborhoods
- Reduction of housing costs
- Improvement of housing conditions for special needs groups

Purpose of Element

The purpose of the Housing Element is to provide the County with a long-range housing program that addresses, not only the County's housing needs, but also includes mandated statewide housing needs.

Applicable Housing Element

Modoc County continues to periodically update Housing Element and related sections of the General Plan, periodically to comply with State Housing Laws and also to assure that the General Plan maintains consistency with the State's and County's housing goals, objectives and other criteria. The Housing Element as most recently updated in hereby incorporated into this General Plan by reference.

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VII. CIRCULATION

BACKGROUND

Transportation is the most essential part of the public facilities infrastructure. In Modoc County, however, the transportation and circulation issues are limited primarily to maintenance and upgrading. The transportation components of the plan will be relatively straightforward. The existing Action Programs are incorporated into the General Plan implementation program. Rural subdivision road standards are evaluated, particularly in light of the potential for the County to take some of these roads into its system. The fiscal and safety implications are substantial.

ISSUES

Planned housing developments with a high volume of traffic require maintenance and improvements of the private roads. Often developers and private citizens, seeking relief from maintenance costs, dust and other problems would like the County to maintain the roads, but due to high costs of maintenance and reduced County revenues, the County refrains from adding the private roads to the County Road inventory.

Modoc County has a high percentage of road miles as compared to population; therefore, cost of road miles is more per person than in more populated areas. Budgets frequently do not allow road maintenance to standards often desired by citizens.

The issue of substandard private roads becoming part of the County road system raises several concerns, including funding and public safety. Many rural residential developments have been approved with private roads which do not meet County standards. In some cases, those roads are inadequate in terms of service and marking for emergency services. In other cases, low maintenance and surfacing creates dust problems and poor design contributes to drainage problems and safety. Furthermore, the County is sometimes requested to take over private road maintenance because of the inadequacies. However, to do so would create an additional financial burden on the County at a time when it is in the midst of its most serious financial crisis ever.

Other issues are associated with railroads and aviation. In 1983 Burlington Northern proposed to abandon the east-west line from Hambone (Siskiyou County) to Lookout (Modoc County). McCloud River Railroad (MCRR) opposed the abandonment because it would deny them access to the national railroad system. The proposed abandonment was denied. Southern Pacific Railroad had proposed to discontinue service on the Lakeview Branch in Modoc County, but the service has been continued by Lake County, Oregon. That line extends from Lakeview, Oregon, to Alturas and is used to transport timber and agricultural commodities.

If it were not for monetary constraints, a repaving project for Runway 3 21 at Alturas Municipal Airport would be planned, as well as replacement of base and pavement at Eagleville Airport. Also, the antiquated lighting system at Tulelake would be considered for replacement. Some of these issues are addressed in the Modoc County Transportation Plan.

SCENIC HIGHWAYS

A final circulation issue relates to scenic highways. State Routes 139 and 299 between Tulelake and Adin are included in the Master Plan of State Highways Eligible for Official Scenic Highway Designation. Most highways within the County are, however, located in highly scenic areas. As the 1972 General Plan stated, every highway in Modoc County is a scenic highway. The question facing Modoc County today is whether to seek or create an official "scenic" designation for any other County highways or roads.

Designation of scenic highways should result in increased travel and interest in the County. In particular, scenic highway designation in conjunction with increased identification of historic places may result in increased tourism in the County. Official designation should also result in the preservation of existing scenic resources from incompatible use (e.g., billboards).

Scenic highways can be a notable part of both the circulation and land use policies in the General Plan. Scenic designations may also be a basis for rehabilitation, redevelopment and economic growth in the County.

GOAL C1: TO MAINTAIN AN EFFICIENT, SAFE, AND ENVIRONMENTALLY-SOUND COMPREHENSIVE CIRCULATION AND TRANSPORTATION SYSTEM.

POLICIES

C A. All roads should be constructed and improved to minimum County design standards.

C B. Private roads not constructed to minimum County standards will not be accepted for dedication.

C C. All roads constructed must meet minimum fire and other emergency standards, including construction, maintenance program, street signs and turn-around space.

C D. All developments in excess of 50 parcels should have at least two separate access points, when practically and economically feasible.

C E. Major public transportation system improvement undertaken should be consistent with the Modoc County Transportation Plan.

C F. All costs of new on and off-site improvements to County roads should be borne by project developers. Construction or upgrading of bridges in connection with new residential developments should also be borne by project developers.

C G. Support the continuation and expansion of transportation programs provided by social service agencies, particularly those serving the elderly and handicapped

C H. Maintain and improve the public airport system as funding permits.

C I. The location, distribution and size of transmission lines and pipelines should be consistent with the land uses and development to minimize adverse social or

environmental impacts. Such lines should avoid interference with adjacent land uses and assure that aesthetic values will not be degraded.

C J. The County strongly discourages and opposes the closure of any rail facilities in the County.

C K. Protect the scenic qualities of important state and County roads through a scenic highway program.

C L. The County shall identify primary emergency vehicle routes and links between the medical facilities, fire and police facilities (refer to Safety Element) (SB-1241).

C M. Provide adequate access to high hazard wildland/open space areas (refer to Safety Element) (SB-1241).

C N. The County shall work with fire safety agencies to reduce fire hazards along roadways (refer to Safety Element) (SB-1241).

ACTION PROGRAM

C A. Continue to seek implementation of and funding under the Modoc County Regional Transportation Plan.

C B. Initiate a study to evaluate and revise subdivision road improvement standards which ensure long-term protection of the public health, safety and welfare. Such a study should cover the subjects of:

1. Public street standards;
2. Private streets;
3. Dedication policies
4. Emergency services;
5. Secondary access; and
6. Maintenance districts or private associations.

C C. Initiate a study to evaluate and revise subdivision road standards for small subdivisions.

C D. Transportation facilities particular to industrial development should be analyzed for accessibility for truck traffic and emergency services.

C E. Communicate with utility companies in the development of commercial, industrial, or residential projects.

C F. Study feasibility of County Service Area, Homeowners Association, or other agencies to maintain roads rather than general public maintenance when projects are approved and when problems result in connection with existing private roads.

C G. Initiate a countywide scenic highway designation program. Such a program would be developed in conjunction with other tourism activities. The program would include criteria for designation, zoning, subdivision and sign controls and development standards.

C H. Coordinate zoning and land use approvals adjacent to public transportation facilities, such as airports, to assure conflicts do not arise which would hamper operation and potential future expansion of these facilities.

C I. Coordinate determination of ultimate right-of-way and access spacing on state and County roads and highways in areas of development to assure for expansion and maintenance of facilities.

C J. To the extent economically feasible, the County shall support partner agency programs for fuel reduction maintenance program along roadways (SB-1241).

C K. The County shall collaborate with partner agencies to develop standards for evacuation of residential areas in high fire hazard areas. This shall include adequate access to new development provided in accordance with related standards of the CalFire Fire Safe Regulations (SB-1241).

VIII. CONSERVATION AND OPEN SPACE

BACKGROUND

Several subject areas are included in the Open Space and Conservation Elements: agricultural land, forests, natural resources, wildlife, lakes, rivers, streams, recreation areas and historic preservation. Many of these subjects have already been addressed as part of the Land Use Element. This section recognizes that some open space and conservation subjects are addressed in the Land Use Element and focuses on those remaining issues which have yet to be discussed: wildlife; water; timber, mineral and energy, including geothermal energy; parks and recreation; historic and cultural; and archeological.

Modoc County's natural resources – its soil, water, agricultural and forest lands, fish and wildlife (and their habitats), mineral and energy sources are essential for its economic vitality and central to the quality of life for the residents. In addition to providing support for valuable timber, agricultural and mineral production, these resources provide for a wide range of recreational opportunities, including hunting, fishing and hiking. As California's population continues to expand, particularly the population centers of Northern California such as the Bay Area, Sacramento, Chico and Redding, Modoc County's fish and wildlife resources will continue to grow as an important component of the County's economic base. The high scenic values of these resources are important to both residents and visitors. Sustainable economic use of natural resources requires wise and thoughtful conservation and management. Only through informed and deliberate planning and decision making will the County be assured that these resources will not be degraded or lost to the public and to future generations of residents and visitors.

In developing a General Plan, it is important to identify both direct and indirect natural resource values. That is, in addition to identifying the direct economic commodity value of agricultural and timber production, it is important to understand and respond to non-economic values such as clean air and water, high scenic value and spectator sport and scientific wildlife values. It is likewise important to determine and be responsible to the use capacity of these resources and minimize adverse resource-use effects such as erosion, loss of soil fertility, habitat degradation and loss, groundwater mining, soil alkalization, etc. Thus, it is through the General Plan that the County can encourage and direct its development in a manner that is responsive to the needs of its citizens and at the same time sustain the quality of its natural resource base.

WILDLIFE

A chief attraction of Modoc County is the wide variety and abundance of wildlife. Wildlife habitats and associated plan communities contribute significantly to aesthetic enjoyment, County-based recreation and economic gain for local communities and individual landowners. Suitable habitat is the key to maintaining theses important resources. Deer, antelope, black bear and mountain lions are also found in the County. Furbearing and mammalian predators in the County include badger, beaver, bobcat, coyote, gray fox, mink, muskrat, raccoon, spotted skunk, striped skunk and weasel. Upland game species are also numerous. Ring-necked pheasant, quail, sierra grouse, sage grouse, Indian chukar and mourning doves constitute the avifaunal upland game species. Rabbits and squirrels are the principal upland game mammals.

Modoc County also supports a significant waterfowl population due to its complex of lakes, reservoirs, marshes and grassland agricultural lands. The County has the second highest breeding population of waterfowl in California. Goose Lake, the Pit River Valley, Surprise Valley and Big Valley, along with the Tulelake, Clear Lake and Modoc National Wildlife Refuge, provide waterfowl breeding and nesting areas. Furthermore, Modoc County lies on the Pacific Flyway and thus provides an important stopover for spring and fall migrations. Approximately 80% of the five to six million waterfowl using the flyway pass through the Tulelake-Lower Klamath area on their fall and spring migrations.

The County is also rich in species not classified as game species, including raptors, wading and shore birds, small mammals and land-associated non-game birds. Raptors include hawks, owls, eagles, ospreys and vultures. Included within the large variety of shore birds, wading birds and non-game birds is the greater sandhill crane, whose California nesting range is limited to the northeastern corner of the state.

The rivers, streams, lakes and reservoirs of the County also provide substantial fisheries resources. Rainbow trout, cutthroat trout, eastern brook trout and brown trout are the principal cold-water sport species. Warm-water sport fishing consists of channel catfish, brown bullhead, large-mouthed bass, bluegill and crappie. Forage and "rough" fish found in the County include tuichub, speckled dace, bluegill, green sunfish, suckers and squawfish.

There are one endangered and four threatened animal species known to inhabit Modoc County at the present time. The term endangered is used to describe species whose existence is jeopardized by one or more causes including loss of habitat, predation, competition or disease. Although not presently faced with extinction, threatened species have populations so small or occur in such isolated areas that they may become endangered should their existing environmental conditions, particularly habit, deteriorate much further. Presently, the only endangered species in Modoc County is the bald eagle. Threatened species include Swainson's hawk, sandhill crane, Modoc sucker and Lost River sucker.

Critical or sensitive wildlife habitats in Modoc County, as identified by the California Department of Fish and wildlife (CDFG), include deer winter range; antelope winter range, kidding grounds, key antelope migration routes and migration corridors and areas with three or more resources in one location; nesting areas for the endangered bald eagle, threatened Swainson's hawk and sandhill crane; and stream habitats used by the threatened Modoc sucker and Lost River sucker. All of these critical or sensitive wildlife habitats have been identified on 15-minute and 7.5-minute U.S.G.S. quadrangle maps prepared by the CDFG and have been provided to Modoc County. The manner in which this information will be used and updated during the project review process is described in the policies and Action Program section.

WATER RESOURCES

The quantity, quality and availability of water resources is vital to the natural and human activities within the County. Water is essential to the viability of agriculture; to the development of housing, commerce and industry; and to the maintenance of high-quality fish and wildlife habitats. Wise and product planning and management of surface and groundwater resources is fundamental to providing a sustainable economic base for County residents.

The County contains portions of three major drainage basins: North Coastal Basin, Pit River Basin and North Lahontan Basin. The Pit River, the major river in northeastern California, traverses the County. It is fed by a substantial number of streams, as are the many lakes and reservoirs.

Modoc County also has many lakes and reservoirs. The 248 square miles of water area in the County are second highest of all California counties. This water area accounts for nearly 6% of the County's area. There are six major lakes in the County: Goose Lake, Upper Alkali Lake, Middle Alkali Lake, Lower Alkali Lake, Cowhead Lake and Clear Lake (a natural lake converted into an irrigation storage reservoir for the Klamath Reclamation Project) and 31 reservoirs with greater than 1,000-acre feet capacity.

The agricultural economy of Modoc County is in serious condition. There is a high rate of foreclosures, agricultural land prices are depressed and a substantial number of operations are experiencing financial difficulties. Since the ability, adequacy and cost of water resources are important factors in all agricultural operations in the County, issues related to water resource development are central to the County's economic base and hence have important implications for the General Plan

Declining groundwater levels in Surprise Valley are a potential issue related to agricultural land use and hence to the General Plan. The General Plan will, therefore, contain policies related to management of groundwater resources and specifically, with respect to potential, suspected, or actual overdraft of groundwater supplies.

The long-term water resource demands generated by rural/recreational subdivision development likewise have importance for the General Plan. Recent Environmental Impact Reports for major recreational subdivisions tend to rely on water supply data that is partial and optimistic, but inconclusive. The future public costs related to water resource development could be substantial if water resource development by private landowners and/or project proponent/developers proves inadequate for levels of demand.

Water quality problems resulting from septic systems are common in areas with rural/recreational subdivisions as well as in towns with small lots. These problems tend to develop slowly and incrementally and frequently become hazards to public health before the problems are addressed.

TIMBER RESOURCES/VEGETATION

Forest vegetation covers nearly one-half of Modoc County. According to the U.S. Forest Service, 530,947 acres, or 24% of this area, are considered to be commercial forest land. The Modoc National Forest encompasses 1,979,407 acres, of which 1,654,392 acres are national forest lands and 325,015 acres are private lands. The Forest lies within three counties: Siskiyou (7%), Lassen (10%) and Modoc (83%). That means 1.37 million acres are in Modoc County. The latest inventory for the Forest shows there is a total of 469,548 acres of commercial forest. Of this total, 75% or 352,947 acres are in Modoc County. An additional 144,000 acres (27%) are in forest industry ownership, with the remaining 34,000 acres (6%) in miscellaneous private ownerships (U.S.F.S 1985).

Both the timberland resource and the grazing land resource will require a substantial conservation effort to enhance these economically important resources. In formulating the General Plan, the County will be prepared to explore fully the range of conservation actions which could lead to enhancement of these resources.

There are four plant species which are candidates for official rare or endangered status as identified by the federal government and five species listed by the Native Plant Society in Modoc County. Several other plants are classified as "special plants" by the Natural Diversity Data Base.

Two other plan implications warrant mention. First, the importance of vegetation to wildlife needs should be incorporated into land use decisions. If the County chooses to enhance its wildlife resource, it will do so primarily through vegetation and habitat protection through the designation of compatible land uses. Thus, there is an excellent opportunity to consider and incorporate this non-commodity value of the vegetation resource in formulating the General Plan. The primary vehicle for timber land use regulations will be the continuation of the timberland preserve zone (TP).

Second, the vegetation resource has an additional value in terms of its contribution to scenic quality. This intangible but important value will be explicitly explored and addressed in the Plan.

MINERAL RESOURCES

There are numerous mineral resources in Modoc County, but production of most has, for many years, been of a limited nature, due in part to high extraction and transportation costs. The principal mineral commodities of the County – volcanic cinders, pumice and pumicite and crushed stone – are all directly related to the volcanic terrain. Metallic commodities are not extensive, although two minor gold districts and minor showings of quicksilver are known. Lakebed deposits include peat, diatomia and salt. There are also stream and floodplain deposits of sand and gravel. In 1980, the value of mineral production in Modoc County was $1,017,000. In terms of mineral extraction, the County ranked 43rd out of the 46 California counties who disclosed data regarding non-fuel mineral productions.

The development of mineral resources is a function of several factors including: extent of exploration; market conditions; new technologies or uses; and, in the case of Modoc County, distance from markets.

Other factors influencing resource development include the various laws, policies and regulations which govern the exploration and development of the resources. For example, regulations governing noise, air quality, water quality and other environmental impacts can have a significant effect on mineral and energy resource development. Similarly, regulation governing the reclamation of mined area can preclude the development of economically-marginal operations.

GEOTHERMAL

Modoc County also contains five geothermal energy resource areas. Two major areas, Surprise Valley and Kelly Hot Springs, are under consideration for production. The geothermal energy potential of Modoc County has been known since the earliest days of its settlement. Hot springs, warm wells and the volcanic geology of the County provide clear evidence of the heat energy lying beneath the earth's surface. A number of small scale, isolated direct heating applications have been undertaken over the last several decades.

In recent years, energy resources have become a major issue at the national and international levels as a result of the 1974 oil embargo. As a means of gaining "energy independence," a flurry of activity in the United States related to the development of alternative energy sources followed the embargo. Solar energy received the most attention due to its extensive availability. Activity related to geothermal resource development was less widespread due to the limited and localized distribution of the resource. The availability and development of Modoc County's geothermal resources can, however, serve as an economic advantage for development.

PARKS AND RECREATION RESOURCES

Modoc County's natural resources, including scenic wildland areas, wildlife, forests, lakes, streams and reservoirs, offer a wide range of recreational opportunities such as fishing, hunting, bird and wildlife watching, hiking, picnicking, bicycling, camping, backpacking and skiing. The Modoc National Forest, the federal and state game refuges and the nearby Lava Beds National Monument make the County an outstanding area for outdoor recreation.

The County has 12 parks and recreation areas, as well as the County fairgrounds located in Cedarville, available for residents and tourists. There are also a limited number of private facilities and services in the County offering recreational opportunities to visitors.

Approximately 30 camping and picnicking facilities in the County offer access to and enjoyment of the backcountry. An extensive trail system gives hikers and backpackers easy access to the wilderness, as well.

The climate is relatively dry, with precipitation averaging 12 to 15 inches annually. Average temperatures in May, July and September are 56, 68 and 58, respectively, making the County particularly attractive for outdoor recreation.

Recreation is becoming an increasingly important part of the economic base for many rural California counties. Modoc County's favorable climate, relatively unspoiled wilderness and existing recreational activities are clearly assets and constitute an economic resource of considerable potential.

Exploration of tourist-oriented recreation has several implications for the General Plan, including economic and employment considerations, effects on local lifestyles and impacts on public services and facilities. In formulating the General Plan, areas with high potential for tourist-serving recreation should be identified and evaluated in terms of the positive and adverse effects

of their development. Those areas deemed appropriate for such development should be placed in land use classification which will protect this development potential.

Local-serving recreation is assessed during the planning process to ensure that local facilities will continue to be planned for and provided on a timely basis.

HISTORICAL AND CULTURAL RESOURCES

Prehistoric and historic archaeological sites of the Native American Modoc and Achumawi are central to the understanding and interpretation of the Native American cultural heritage of Modoc County. Early settler-Indian battle sites, many of which are registered as State Historical landmarks, give testimony to the historical interactions and conflicts between Native American culture and Euro-American culture.

There are over 50 recorded Historical Sites in Modoc County which document the settlement patterns of early pioneers and gold-rush enthusiasts. The preservation and restoration of historic sites is essential to the interpretation and understanding of the cultural heritage of an area.

Modoc County has a rich and interesting history. The Modoc County Museum, located in Alturas, houses a growing collection of exhibits representing the entire County. Also, the Historical Society is quite active in preserving the County's history. In the future, Modoc County may include the preservation of historic buildings and homes as part of its commitment toward historical and cultural preservation. Presently, there are many examples of historical, cultural and archaeological resources throughout the County for both residents and visitors to enjoy and learn from.

ARCHEOLOGICAL RESOURCES

Modoc County has many archaeological resources. The greatest diversity and density of archaeological sites occur on the Devils' Garden and represent seasonal activities of both the Modoc and Achumawi and their ancestors. Sites are most frequently found near water sources and on the edges of meadows and marshes. Winter villages and outlying specialized activity sites occur along and above the Pit River Valley and along the shores of Tule Lake.

Cultural resources found in Modoc County include historic as well as prehistoric archaeological sites. Prehistoric archaeological sites and materials (petroglyphs, for example) of the Native American Modoc, Achumawi and Paiute of the area are essential to the research and interpretation of the Native American cultural heritage of the area. Archaeological areas, such as historic cabin sites and dumps, are also essential to research, leading to an interpretation of the cultural heritage of the area.

Various portions of State Law are relevant to the protection of archaeological resources. In terms of General Plan preparation, the California Environmental Quality Act guidelines for minimizing archaeological impacts are the most useful. These guidelines state that public agencies should seek to avoid damaging effects on archaeological resources where feasible. Avoiding such damage may be accomplished by many approaches, including: planning construction to avoid archaeological sites; planning parks and open space areas to incorporate

archaeological sites with a layer of soil before building tennis courts, parking lots or similar facilities; and/or deeding archaeological easements. If avoidance of important archaeological resources is not feasible, the California Environmental Quality Act guidelines contain detailed provisions for developing excavation plans to mitigate significant effects. In developing the General Plan, these and other code-related guidelines are carefully considered.

ISSUES

WILDLIFE

The conflict between fish and wildlife resource protection and a number of competing land uses is one of the major issues to be resolved through the General Plan process. Lands designated as timberland preserve zone and exclusive agriculture have few conflicts with fish and wildlife resource protection goals because minimum parcel sizes to be imposed for maintaining timber and exclusive agricultural production are generally adequate for fish and wildlife resource protection as well. It is widely recognized that in Modoc County normal agricultural practices have generally created new and improved habitats leading to increased wildlife populations. The policies in this General Plan will assure this effect continues.

It is important to view the General Plan as the vehicle to understand fish, wildlife and open space resources and their economic potential. Appropriate measures should be incorporated into the plan to protect, enhance and provide for the future economic growth of these unique resources. However, it is recognized that the widespread distribution of wildlife species and difficulties in determining tangible economic values for wildlife resources present special problems and challenges in reaching agreement on the level of wildlife protection measures which should be considered for each individual project.

The 1980 Specific Plan for the Day Area in southwestern Modoc County incorporates protection measures for critical deer habitat as the controversial issue engaged in the preparation of the Day Area Specific Plan. The Day Specific Plan along with its protective measures for fish and wildlife will be incorporated into this General Plan by reference. Policies and Action Programs in this plan pertaining to protection of threatened and endangered species will also apply to the area encompassed by the Day Area Specific Plan due to the site-specific nature.

The General Plan process has attempted to achieve a balance between wildlife and other natural resource protection and the County's need for continued economic growth, development and personal property rights. Conflicts pertaining to fish, wildlife and other natural resource protection goals can arise when land is subdivided for residential uses, or when other development results in the reduction or elimination of productive wildlife habit. In defining "development," agricultural practices are generally excluded. At the same time, changes in land use and new human activity should not be unduly restricted because of impacts on fish and wildlife; a reasonable balance should be achieved.

While the County has an obligation to consider the effects of development proposals on fish and wildlife resources, the County can approve projects which may significantly adversely affect these resources, if an Environmental Impact Report is prepared and a statement of overriding considerations is made, supported by evidence. However, in most cases, impacts on fish and

wildlife resources should be reduced to acceptable levels based on the approach outlined in this Policy Plan. In that case, a mitigated negative declaration could be prepared. Decisions made by the County Environmental Review Committee should be supported by onsite and documented physical evidence.

The goal of balancing development needs with fish and wildlife resource protection goals is to be achieved through a coordinated program of fish and wildlife protection which combines countywide consistency in protection measures with site-specific flexibility on a project-by-project basis. The policies and Action Programs within this Policy Plan support this approach.

WATER

Shifts in agricultural land uses and practices constitute yet another factor affecting water resources. Changes in irrigation practices, technologies and related conservation practices can have a similarly pronounced effect on water demand, as can shifts in crop type. The most important water resource issue in Modoc County appears to be increased surface storage capacity to provide adequate carryover storage for irrigation. Most future development is expected to be by individuals and by irrigation districts. The Soil Conservation Service (SCS), in conjunction with the North Cal-Neva Resources Conservator and Development Project, has outlined a number of economically-feasible small surface water developments throughout the County. The potential for the water resources of the County and Northern California to be shipped to Southern California raises serious concerns to Modoc County.

Water quality is a second, considerably small concern. The surface water supplies in Modoc County vary in quality. Water of good to excellent mineral quality occurs commonly throughout the groundwater basins of the County, although some wells in Surprise and Goose Lake Valleys have high boron concentrations. There are also some wells in Surprise and Big Valleys with arsenic concentrations above Public Health Standards.

A third issue is the decline in groundwater levels in the Surprise Valley Basin. The greatest decline has been recorded near Cedarville with an average decline of 30 feet between 1972 and 1982. (Department of Water Resources report, Northeastern Counties Ground Water Update 1982.) In addition to increased agricultural pumping in the valley floor, high-capacity irrigation wells drilled along the tops of the alluvial fans with up-slope agricultural expansion has caused water to be pumped from the area of natural recharge. Channelization of streams has also decreased recharge. Recent reports indicate there may be a leveling off of water decline due to several wet years and decreased pumping. As of 1985, about 44% of the water demand in the valley was supplied by groundwater, up from 30% in 1974, according to the Department of Water Resources. Because much of the surface water in Surprise Valley has been adjudicated through court decrees, continued high levels of irrigation pumping without mining of groundwater resources may, in the long term, depend on wise conjunctive use of surface and groundwater. Much of the spring runoff flows to the Alkali Lakes, rather than percolating into the groundwater aquifers. The Northeastern Counties Ground Water Update, 1982, provides this information about recharge in Surprise Valley: Alluvial fans in Surprise Valley may be as much as 310 M (1,000 feet) thick and contain the principal aquifers in the valley. These aquifers are capable of yielding large quantities of confined and semi-confined groundwater to wells.

On the west side of the valley, groundwater is recharged by infiltration of surface water into the apexes of the alluvial fans at the mouths of the Warner Mountain canyons. At the north end of the valley floor, surface water from the north percolates into the coarse stream deposits and recharges the underlying groundwater bodies. These recharge areas are all within the valley floor area. Along the southwestern margin of Surprise Valley, outcrops of highly joined Plio-Pleistocene basalt probably afford some recharge to nearby groundwater bodies.

Efforts by individuals to promote recharge projects have not been successful and thus a public policy appears necessary. At the very least, the option to pursue recharge projects in the future should not be compromised through land use decisions, such as subdivision or other projects affecting the most productive recharge areas. In addition to committing land with recharge potential to other uses, the subdivision of such areas can draw water at the point of recharge and cause increased difficulty in implementing recharge projects due to multiple ownerships and increased land use intensity. The use of septic systems adds the potential for water quality degradation. The General Plan process provides the opportunity to identify the most valuable recharge areas and assures protection through the County's land use policies. An added benefit is the protection of riparian vegetation and wildlife habitats in the vicinity of the recharge areas. Prior conflicts in implementing recharge projects due to potential decrease in stream flows in the Alkali Lakes and potential effects on lake habitat should be studied in order to reach a compromise acceptable to all parties. Although the Background Report identifies recharge areas on a broad scale (Figure I-4), the map contained in this element, titled "Surprise Valley Groundwater Recharge Protection Areas," identifies the most valuable areas, based on consultation with the Department of Water Resources and other sources. Policies and actions relative to the protection of those areas, in conjunction with the resource map are the first steps in assuring protection.

The adequacy of domestic water supplies for rural subdivision is a fourth water resource issue. Given the considerable groundwater potential in the County, this issue may turn more on questions of resource development costs and the distribution of such costs. The General Plan provides excellent opportunity and is an appropriate policy vehicle for engaging this issue

TIMBER/VEGETATION

The primary issue related to the management of timber resources in Modoc County is that the commercial timber industry is currently depressed, with recent commercial harvest at only 30% of the 1978 harvest, 42% of the 1979 harvest and 50% of the 1980 harvest. This dramatic decline in production has led to decreased revenues, lower wages and unemployment. It also reduces both the capital and the economic incentive for forest management. Since timber growth in Modoc County is limited by both climate and biotic factors, it is particularly important to manage the resource to its highest potential. Although this is more difficult during depressed times, it is important to the long-term stability of the timber industry.

The opportunity, then, is to carefully explore all practicable measures to enhance the timber resource through a countywide conservation program of selective reforestation, controlled burning to revitalize soil resources, encouraging removal of slash for firewood and other measures to promote the highest realization of the resource potential. Public and private parties

with interests in the timber resource should be encouraged to undertake such a comprehensive program on a collaborative basis.

There are presently four plant species in Modoc County listed as candidates for rare or endangered status by the federal government. The Native Plant Society lists five others. As part of the project reviews these should be identified and impacts mitigated.

MINERALS

The California Surface Mining and Reclamation Act requires that local governments adopt policies and take appropriate measures to protect significant mineral sites from incompatible development. Specifically, the State Board of Mining and Geology has established goals to protect mineral lands classified MR-2, or otherwise designated as areas of statewide or regional significance, so that these mineral resources are available when needed. However, no such classified lands have been identified in Modoc County. If such lands are subsequently identified, mining within these areas should be carefully controlled to assure that adverse environmental effects are minimized and that mined lands are reclaimed to a usable condition readily available for alternative uses. Further, values relating to recreation, wildlife, aesthetic enjoyment and other environmental factors should be given consideration in the development of these mineral resources.

In meeting these goals, the General Plan will allow for timely mineral extraction yet provide for buffer lands adjacent to mining sites, particularly if an extensive mining operation is located adjacent to a major regional recreation area. Thus, the County will consider designating open space uses for both mineral resource areas and areas adjacent to existing extraction sites.

GEOTHERMAL

A significant opportunity relates to geothermal development. The economic development potential of geothermal energy is significant. The General Plan will enhance efforts to capitalize on geothermal energy development through the protection of known geothermal resources and the support, through land use policies, of locating geothermal-using industries adjacent to the energy resource.

PARKS AND RECREATION

There is no significant issue related to recreation opportunities for in-county residents. The most important recreation issue is the relationship between recreation and tourism and the potential for increasing the economic base through promoting and developing tourist-oriented recreation.

The local economy needs stimulation. The County has a great variety of natural resources with high recreation potential and the demand for outdoor recreation in wilderness, natural and rural settings continues to remain high. As the Sierra Nevada foothill counties continue to suburbanize and as the corresponding supply of recreational opportunities in these areas diminish, demand will shift to other locations. If Modoc County actively pursues the development of a substantial increment of tourist-based recreation, it is reasonable to assume that the Country could attract a significant volume of recreational tourists.

ARCHEOLOGICAL

The destruction of archeological resources has been an issue of increasing concern in recent years. In order to minimize the further loss of these important historic and cultural resources, the County has the opportunity to utilize the services of the California Archeological inventory to assist in the review of all plans and project proposals to ensure that archaeological resources are fully protected as per the requirements set forth in the State Codes.

GOAL CO-1: TO PRESERVE PROTECT, AND ENHANCE THE VALUABLE NATURAL, CULTURAL, AND HISTORICAL RESOURCES OF THE COUNTY.

POLICIES

WILDLIFE

CO A. Support the efforts of public land management agencies to protect wildlife habitat on public lands.

CO B. Maintain countywide consistency in the types of fish and wildlife protection measures for mitigating adverse impacts on critical or sensitive wildlife habitats on a case-by-case basis. Similar consistency is desirable for protection measures for threatened or endangered species.

CO C. Specific requirements to be considered for mitigating adverse impacts on critical or sensitive wildlife habitats, including habitat important to threatened or endangered species, shall be on a case-by-case basis with adequate consideration given to landowner needs.

CO D. Continue to implement the Day Area Specific Plan

WATER

CO E. Encourage the increased development and use of surface water.

CO F. Cooperate with responsible agencies and organizations to solve water quality problems particularly septic system related problems.

CO G. Work with the agricultural community to resolve any groundwater overdraft problems.

CO H. Adopt as part of the General Plan, the Surprise Valley Groundwater Recharge Protection Areas map, to assure the continued protection of the identified areas through the development permit process. The criteria for review is contained in the Action Program.

CO I. Require adequate domestic water supply for all rural subdivisions.

TIMBER/VEGETATION

CO J. Enhance the timber resources through a countywide conservation program.

CO K. Ensure compatibility of rural development with valuable timberland resources.

CO L. Protect timber resources through vegetation program.

CO M. Protect timber resources for its wildlife habitat and scenic resources.

CO N. Protect officially listed rare and endangered plants in Modoc County which contribute to the natural diversity of plant life.

CO O. Integrate open space into fire safety planning and effectiveness (SB-1241).

CO P. Mitigate unique pest, disease and other forest health issues that can lead to hazardous situations (SB-1241).

MINERALS

CO Q. Preserve, wherever practical, the mineral resources of the County through limitations on incompatible development on or adjacent to identified resource areas.

CO R. Minimize unattractive views through reclamation of mined sites.

GEOTHERMAL

CO S. Encourage the wise use of geothermal resources in the County.

CO T. Continue efforts to use geothermal energy for public building space heating and warm water use.

CO U. Designate industrial land uses adjacent to appropriately-located geothermal resources.

PARKS AND RECREATION

CO V. Support enhancement of existing park and recreation resources for both tourist and resident use.

CO W. Encourage the development of private recreation facilities.

CO X. Intense recreational uses and residential development should be discouraged in hill open space areas lacking an adequate water supply or nearby available fire protection facilities (refer to Safety Element) (SB-1241).

HISTORIC DEVELOPMENT

CO Y. Develop a program to preserve and enhance historic and cultural building and places of significance.

CO Z. Minimize impacts on cultural and historic sites for any proposed development, including the protection of sites on federal and state historic lists.

ARCHEOLOGICAL

CO AA. Minimize the loss of archeological resources through the development review and approval process.

ACTION PROGRAM

CO A. Initiate a cooperative effort among state and local agencies and special districts to explore appropriate actions necessary to resolve the long-term water supply and quality problems in the County.

CO B. When any development is proposed within or adjacent to the areas identified on the Surprise Valley Ground Water Recharge Protection Areas map, the following criteria and actions shall apply, as necessary to assure protection of the identified recharge areas.

1. Subdivision of property in the recharge areas, with attendant use of wells and septic systems for home sites and other development should be minimized and designed to prevent potential water quality degradation and reduction in recharge rates and amounts. All septic systems approvals in these areas should include assurance that degradation will not occur. Strict adherence to public health standards for sewage disposal systems should be maintained. Wells for domestic consideration should be given to development within floodways and within 200 feet of year-round and ephemeral stream channels.

2. The County may require, as part of development projects in recharge areas, that the applicant submit a report prepared by a professional geologist or hydrologist assessing the potential effect on recharge areas and appropriate mitigation.

3. In reviewing development proposals in the recharge areas, flood protection factors shall be taken into consideration. Appropriate mitigation to protect life and property should include structural engineering to assure development facilities are protected, such as raising the base floor of structures, or relocation outside floodways, rather than channelization and grading, fill, or other topographic or hydrologic modifications which will channelize surface flows or decrease existing or potential recharge.

4. Recreational use of recharge areas which require minimum physical development and do not put public health and safety at risk should be allowed, if such development is consistent with the intent to protect and develop existing and potential recharge facilities, structures and uses.

5. Agricultural uses such as grazing and pasture which do not require structural or other physical development may be allowed as long as recharge potential is not impaired.

6. The development of recharge facilities, resource management and open space uses shall be considered principal uses of the recharge areas.

7. Public and private organizations and individuals shall be encouraged to seek suitable means of protecting and enhancing areas of riparian habitat, to develop recharge projects and in resolving environmental conflicts. Funding sources for the acquisition, cooperative management and/or development recharge projects in the recharge areas should be sought.

8. Consider the feasibility of adopting an ordinance implementing Section 66484.5 et seq. of the State Subdivision Map Act relative to groundwater recharge facilities in support of actions taken by valley residents or agencies.

9. Larger parcel sizes shall be considered as one method to protect recharge areas from multiple ownerships and increased land use intensities which may affect recharge areas.

CO C. Require as a part of the review of any subdivision approval a demonstration to the satisfaction of the County that the following conditions exist for every lot in the proposed development:

1. An adequate domestic water supply.

2. Suitable soil depth, slope and surface acreage capable of supporting an approved sewage disposal system.

3. Suitable surface acreage less than 30% slope for constructing residences and appurtenant buildings.

CO D. Continue the timberland preserve zoning (TP) program. Review proposals for compatibility with maintenance of timber resources and impacts on officially listed rare or endangered plants.

CO E. Include as part of any development review the consideration of impacts on mineral resource preservation. Evaluate methods of reducing unattractive views resulting from mining.

CO F. Initiate appropriate follow-up efforts as recommended in the report. Assessment of Geothermal Resources in Modoc County, California, January 1986.

CO G. Include consideration of archaeological history and cultural resources impacts in the review of any development proposal.

CO H. Measures for protecting critical fish and wildlife habitats should be considered through the County's existing subdivision and land development review and approval process which emphasizes the Environmental Review Committee. Specific measures described in Appendices A and B should be considered on a case-by-case basis. In some cases, other alternative protection measures to those in Appendices A and B may be incorporated, if the level of protection is adequate.

CO I. Proposed protection measures for threatened or endangered species and their habitats shall be developed and considered through the County's existing subdivision and land development review and approval process. Informal consultation procedures required by the California Endangered Species Act and environmental documentation procedures required by the California Environmental Quality Act will provide additional assistance and guidance to the County in dealing with proposed projects that may adversely impact threatened or endangered species. Specific measures for protecting habitat that are critical to threatened or endangered species are described in Appendix A. Habitats critical to threatened or endangered species are included in the Critical Wildlife Habitat Maps prepared by the California Department of Fish and wildlife and provided to the Planning Department. Any necessary changes to these maps pertaining to threatened or endangered species will not require a General Plan amendment.

CO J. The purpose, use and modification of the Critical Wildlife Habitat Maps are as follows:

1. The California Department of Fish and wildlife (CDFG) has prepared Critical Wildlife Habitat maps. These maps identify critical wildlife habitats and habitats important to threatened and endangered species on 15-minute and 7.5-minute U.S.G.S. quadrangle maps. The maps have been provided to the County and are housed in the Planning Department. They are not detailed enough to be relied on exclusively. Field inspections may be required. Identification of critical wildlife habitats and threatened and endangered species along with documentation shall be provided to individual project applicants early in the application process.

2. Although the Critical Wildlife Habitat Maps are not intended to be an actual component of the adopted General Plan, they nevertheless may be used as one of the several tools for implementing the policies and Action Programs of the various elements of the General Plan. Any changes in these maps shall not require a General Plan amendment.

3. The Critical Wildlife Habitat Maps represent the first point of reference for identification of critical wildlife resources. Documented evidence which contradicts or supplements the maps provided by the CDFG may be presented by the project applicant or other source either during the review of an individual project or an ongoing basis. The Critical Wildlife Habitat Maps are only advisory for the County's use during the project review process.

4. The CDFG, other agencies and landowners shall be encouraged to provide updated information regarding critical wildlife habitat and threatened and endangered species on a regular basis.

5. When information is presented to the County which contradicts the Critical Wildlife Habitat Maps, the County will resolve conflicts through consultation and discussion with the CDFG, appropriate federal agencies, project applicants, knowledgeable experts and the general public. All input will be given due consideration. The County will develop and adopt a procedure for resolving resource mapping conflicts that is mutually actable to the County, CDFG and local interests. This procedure shall include site-specific field inspections involving CDFG, the County Planning Department and project applicants or landowners. An appeal process using the Environmental Review Committee and decision-making bodies will be used following project review procedures established in the California Environmental Quality Act Guidelines.

CO K. Implementation of critical wildlife habitat protection measures shall be primarily through the zoning ordinance. The ordinance shall be amended to include a variety of appropriate overlay zones. The various overlay zones shall also be supplemented by the minimum lot size (M) Zone as appropriate.

CO L. The County shall require that open space within developed areas be designed and maintained to minimize fire hazards and ensure compatibility between development and any significant biological resources (refer to Safety Element) (SB-1241).

CO M. Include resource management activities to enhance protection of open space and natural resource values (refer to Safety Element) (SB-1241).

CO N. Integrate open space into fire safety planning and effectiveness (refer to Safety Element) (SB-1241).

Figure 3. Surprise Valley Groundwater Recharge Protection Areas – Southern Surprise Valley

Figure 4. Surprise Valley Groundwater Recharge Protection Areas – Central Surprise Valley

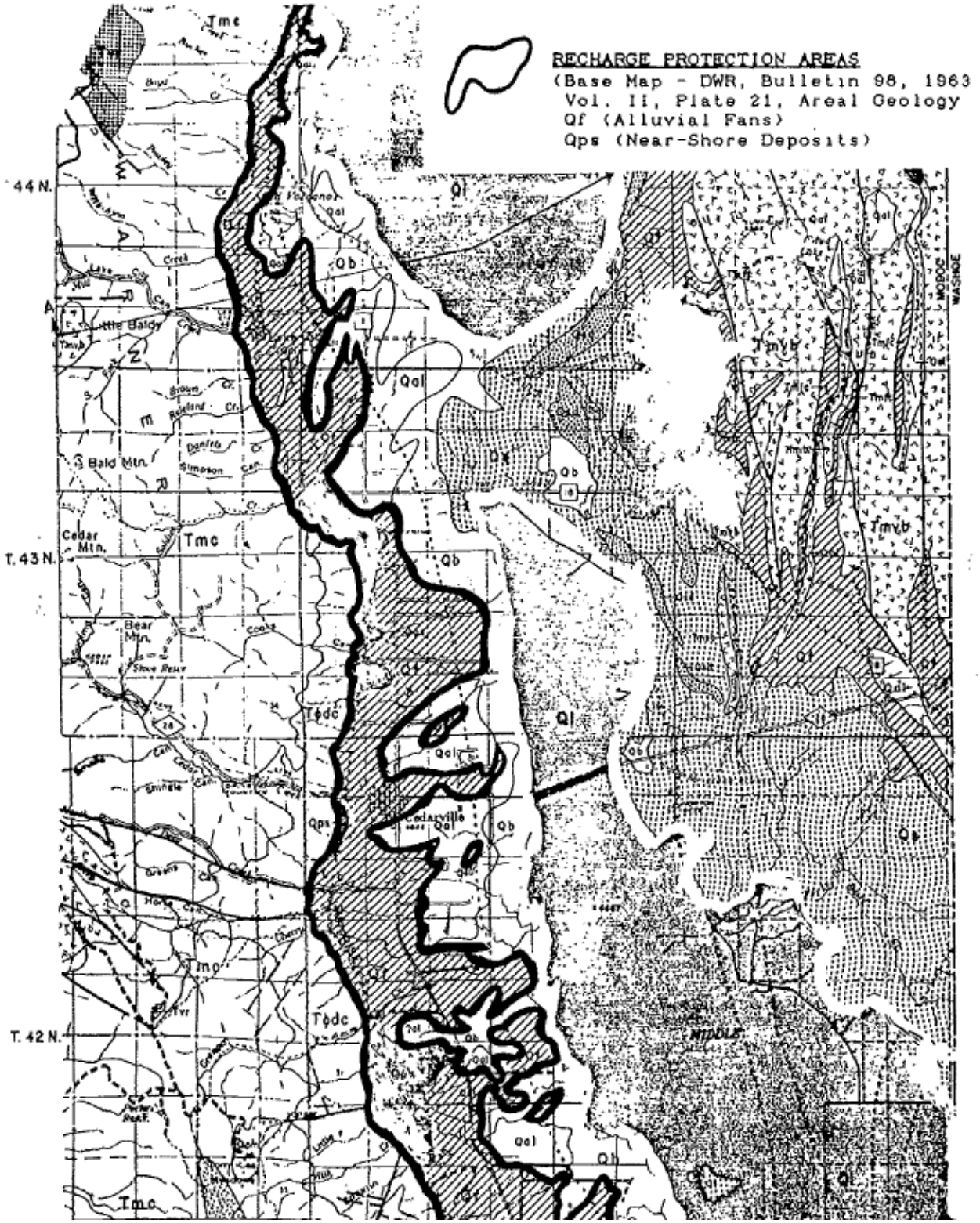
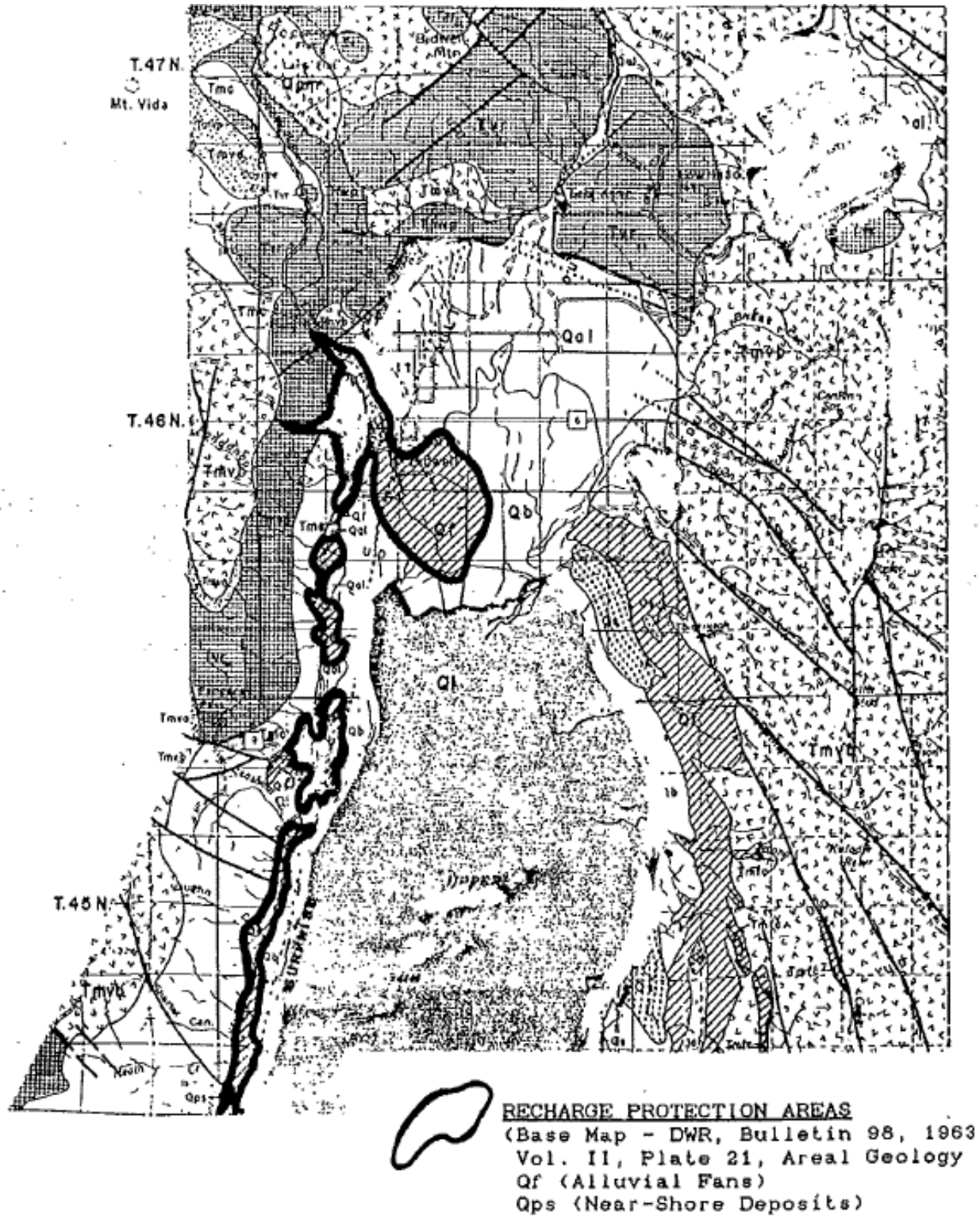


Figure 5. Surprise Valley Groundwater Recharge Protection Areas – Northern Surprise Valley



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IX. NOISE

BACKGROUND

It is the intent of this Noise Element to mitigate noise conflicts where they presently exist and to minimize future noise conflicts by the adoption of policies and implementation measures designed to achieve land use compatibility for proposed development.

The contents of a Noise Element and the methods used in its preparation have been determined by the requirements of Section 65302(f) of the California Government Code and by the Guidelines for the Preparation and Content of Noise Elements of the General Plan, adopted and published by the California Office of Noise Control (ONC) in 1976. The ONC Guidelines require that certain major noise sources and areas containing noise sensitive land uses be identified and quantified by preparing generalized noise exposure contours for current and projected conditions within the community. Contours may be prepared in terms of either the Community Noise Equivalent Level (CNEL) or the Day-Night Average Level (Ldn), which are descriptors of total noise exposure at a given location for an annual average day. It is intended that the noise exposure information developed for the Noise Element be incorporated into the General Plan to serve as a basis for achieving land use compatibility within the community. It is also intended that noise exposure information be used to provide baseline levels and noise source identification, for use in the development and enforcement of a local noise control ordinance.

ISSUES

Because Modoc County is presently considered a very quiet environment, the expectations of its citizens for maintaining this condition are greater than those of persons living in more densely developed areas. An offsetting factor in Modoc County, however, is the general perception that individuals have property rights which allow them to undertake activities which may be noisy provided that the noise does not interfere with other's use and enjoyment of their property. This apparent tolerance for relatively noisy activities (especially those perceived as beneficial to the community) is exemplified by the proximity of seasonal industrial operations such as sawmills and agricultural facilities to residential areas. With these concepts in mind, the major objectives related to noise in the Modoc County Noise Element are:

- Provide sufficient noise exposure information in the General Plan so that existing and potential noise impacts may be effectively addressed in the land use planning and project review processes.

- Develop and implement effective strategies to abate and avoid excessive noise exposures in the County by requiring that effective noise mitigation measures be incorporated into the design of new noise-generating and new noise-sensitive land uses.

- Protect areas within the County where the present noise environment is deemed acceptable.

GOAL N-1: TO PROTECT THE CITIZENS OF MODOC COUNTY FROM THE HARMFUL EFFECTS OF EXPOSURE TO EXCESSIVE NOISE.

POLICIES

N A. Areas within Modoc County exposed to existing or projected future exterior noise levels exceeding 60 dB Ldn should be designated as noise-impacted areas.

N B. New development of residential or other noise sensitive land uses should not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels in outdoor activity areas to 60 dB Ldn or less and interior noise levels to 45 dB Ldn or less. In areas where it is not possible to reduce exterior noise levels to 60 dB Ldn or less, using a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 dB Ldn will be allowed. Under no circumstances should interior noise levels be permitted to exceed 45 dB Ldn with the windows and doors closed.

N C. Where the development of residential or other noise-sensitive land uses is proposed for a noise-impacted area, an acoustical analysis should be required.

N D. Modoc County should enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code concerning the construction of new multifamily dwellings such as hotels, apartments and condominiums.

N E. Noise level criteria applied to land uses other than residential or other noise-sensitive uses should be consistent with recommendations of the California Office of Noise Control.

N F. New equipment and vehicles purchased by Modoc County should comply with noise level performance standards consistent with the best available noise reduction technology.

N G. Noise exposure information developed during the community noise survey described in the Noise Element should be used as a guideline for the development of an effective noise control ordinance if needed to assist Modoc County in controlling future increases in community noise levels, in addressing noise complaints and to provide local industry with noise level criteria for future development and equipment modifications.

N H. The findings and specific policies of the Noise Element should be incorporated into the Zoning Plan and coordinated with the Land Use and Circulation Elements of the General Plan.

N I. All building permits should be reviewed by the Planning Department for consistency with the Noise Element and other elements.

N J. Noise generated above normally-accepted levels by agricultural-related activities, including aerial spraying, farm implement operation and irrigation pumping, will be accepted as a matter of policy for a healthy agriculture economy.

ACTION PROGRAM

N A. Review development of residential and other noise-sensitive land uses for consistency with the policies in this plan.

N B. Enforce noise-related codes and General Plan noise policies through the issuance of building and land use permits.

N C. Incorporate the findings and policies of the Noise Element into the County Zoning Plan.

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X. SAFETY

BACKGROUND

There are several components of this Safety Element: geological hazards, seismic hazards, wildland fire hazards, flood hazards and other hazards. The Modoc County Local Hazard Mitigation Plan (LHMP), adopted by Modoc County in 2017 (as amended from time to time, has been incorporated by reference into the General Plan and is used as the major source of information in this Safety Element. As noted in Table 3, the LHMP addresses a wide range of hazards that go beyond the focused sections of the Safety Element. However, for the purpose of complying with State Planning Laws, the Safety Element focusses on Geologic, Seismic, Flooding and Wildfire hazards. Table 4 summarizes the list of hazard mitigation measures from the LHMP which was previously adopted by the Modoc County Board of Supervisors. These Measures are also incorporated into the General Plan.

GEOLOGICAL HAZARDS

Geologic hazards result from subsidence, expansive soils, volcanism and slope failure. Subsidence is a localized downward movement of ground surface with little horizontal movement. It is usually caused by the collapse of underground voids such as mines or caverns, by excessive groundwater withdrawal, or by extraction of oil. Subsidence can damage all types of construction, including buildings, sewage disposal works, water pipes, sewer lines, gas lines and roads.

Volcanic eruptions are among the most violent and destructive manifestations of the earth's internal forces. They can destroy structures, pollute water systems, ruin farmlands and devastate the natural landscape. Several extinct volcanos exist in the western area of the County.

There is a direct relation between the degree of slope and associated hazards. As slope increases, so does the potential for conditions hazardous to human life and structures situated in the area. Land having an average slope of 30% or greater is generally considered less suitable for intensive development, because it is difficult and more-costly to develop. Also, level or gently-sloping lands completely surrounded by broad ranges of steep slopes would be expensive to develop and serve because of access problems.

The following is a summary of geologic hazards in Modoc County referenced in the LHMP:

Table 3. Modoc County Hazard Identification Summary

Hazard	Geographic Extent	Likelihood of Future Occurrences	Magnitude/ Severity	Significance
Agriculture Hazards	Extensive	Highly Likely	Catastrophic	High
Avalanche	Limited	Unlikely	Negligible	Low
Dam Failure	Significant	Occasional	Critical	Medium

Table 3. Modoc County Hazard Identification Summary

Hazard	Geographic Extent	Likelihood of Future Occurrences	Magnitude/ Severity	Significance
Drought and Water Shortage	Extensive	Likely	Catastrophic	High
Earthquake	Extensive	Occasional	Catastrophic	Medium
Erosion	Extensive	Highly Likely	Limited	Medium
Flood: 100/500 year	Significant	Occasional	Limited	Medium
Flood: Localized Storm Water Flooding	Extensive	Highly Likely	Limited	Medium
Landslide, Mudslides and Debris Flows	Significant	Highly Likely	Critical	Medium
Levee Failure	Extensive	Likely	Limited	Medium
Severe Weather: Extreme Cold, Freeze, Winter Weather	Extensive	Highly Likely	Critical	High
Severe Weather: Extreme Heat	Extensive	Highly Likely	Limited	Low
Severe Weather: Heavy Rains and Storms (Thunderstorms, hail, lightning)	Extensive	Highly Likely	Critical	High
Severe Weather: High Winds/ Tornadoes	Extensive	Highly Likely	Limited	High
Volcano	Extensive	Unlikely	Critical	Medium
Wildfire	Extensive	Highly Likely	Catastrophic	High
Hazardous Materials Transport	Limited	Occasional	Limited	Medium

Geographic Extent

Limited: Less than 10% of planning area

Significant: 10%-50% of planning area

Extensive: 5%-100% of planning area

Probability of Future Occurrences

Highly Likely: Near 100% chance of occurrence in next year, or happens every year.

Likely: Between 10% and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less.

Occasional: Between 1% and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.

Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.

Magnitude/Severity

Catastrophic: More than 50% of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths

Critical: 25%-50% of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability

Limited: 10%-25% of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability

Negligible: Less than 10%of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid

Significance

Low: minimal potential impact

Medium: moderate potential impact

High: widespread potential impact

Table 4. Hazard Mitigation Plan Mitigation Measures				
Mitigation Action Title	**Lead Jurisdiction**	**Addresses Current Development**	**Addresses Future Development**	**Continued Compliance with NFIP**
Multi-Hazard Mitigation Actions				
Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	Modoc County/Planning Departments			
Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	Modoc County/ Planning Departments			X
Alternate Dispatch (MU-12 Protect Structures)	Modoc County Sherriff's Office	X	X	
Fireproof Radio Tower Sites (11)(MU-13 Protect Infrastructure and Critical Facilities)	Modoc County Office of Emergency Services	X	X	
Communications Redundancy: Intranet Link of 11 Radio Towers (MU-13 Protect Infrastructure and Critical Facilities)	Modoc County Office of Emergency Services and Public Health	X	X	
GIS Coordinator (MU-2 Map Community Risk)	Modoc County	X	X	
Improve the outreach and enrollment in the Support and Aid For Everyone program. (MU – 14 Increase Hazard Education and Risk Awareness; MU – 15 Improve Household Disaster Preparedness)	Modoc County Public Health	X	X	
Flood Mitigation Actions				
Construct a new Hospital and Clinic outside the floodplain (including access roads) (F-12 Remove Existing Structures from Flood Hazard Areas)	Modoc County in coordination with Last Frontier Healthcare District	X	X	X
Relocate Jail (MU-12 Protect Structures)	Modoc County Sherriff's Office	X	X	X
Complete Levee Flood Assessment Response Plan and Exercise it (F-2 Form Partnerships to Support Floodplain Management)	Modoc County Planning Department	X	X	X

Table 4. Hazard Mitigation Plan Mitigation Measures				
Mitigation Action Title	**Lead Jurisdiction**	**Addresses Current Development**	**Addresses Future Development**	**Continued Compliance with NFIP**
Pit River Levee Bypass Channel and Restricted Orifice (F-13 Improve Storm Water Drainage System Capacity)	Modoc County Public Works, Alturas*	X	X	X
Pit River Levee Dredging and Silt Removal (F-14 Conduct Regular Maintenance for Drainage systems and Flood Control Structures)	Modoc County Public Works / City of Alturas*	X	X	X
City of Alturas Storm Drainage (F-13 Improve Storm Water Drainage System Capacity)	Modoc County Public Works / City of Alturas*	X	X	X
Construct a new skilled nursing facility outside the floodplain (including access roads) (F-12 Remove Existing Structures from Flood Hazard Areas)	Modoc County in coordination with Last Frontier Healthcare District	X	X	X
Bridge Abutment Repair on Co Rd 75 (Pitt River); Co Rd 58 (Parker Creek); culvert replacement for Co Rd 2 and Rd 118 in Davis Creek (F-1 Incorporate Flood Mitigation in Local Planning)	Modoc County Roads Department	X	X	X
Outlet Allotment Riparian Juniper Cutting (F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures)	Modoc County Office of Emergency Services	X	X	
Landslide Actions				
Rock scaling on Co Rd 64 (Pitt River Canyon/Jess Valley Road) and 91 (Lookout) to prevent road damage and traffic disruptions from landslides (LS-3 Prevent Impacts to Roadways)	Modoc County Roads Department	X	X	
Severe Weather Actions				
Tree Removal on Co Rd 1 (Surprise Valley) (SW-4 Protect Power Lines and Infrastructure; WW-4 Reduce Impacts to Roadways)	Modoc County Office of Emergency Services	X	X	

Table 4. Hazard Mitigation Plan Mitigation Measures				
Mitigation Action Title	**Lead Jurisdiction**	**Addresses Current Development**	**Addresses Future Development**	**Continued Compliance with NFIP**
Wildfire Actions				
East Warner Mountains Fuel Break (WF-7 Create Defensible Space Around Structures and Infrastructure)	Modoc County Fire Safe Council	X	X	
Dredge Sons of Pioneer Lake and Install Dry Hydrant (W-8 Conduct Maintenance to Reduce Risk/Water Quality/Quantity)	Modoc County Fire Safe Council	X	X	X
Table in General Plan is automatically amended when the Local Hazard Mitigation Plan is amended. **Joint programs between the City of Alturas and Modoc County are dependent upon the City of Alturas participation.*				

Avalanche

Avalanches occur when loading of new snow increases stress at a rate faster than strength develops and the slope fails. Critical stresses develop more quickly on steeper slopes and where deposition of wind-transported snow is common. The vast majority of avalanches occur during or shortly after storms. This hazard generally affects a small number of people, such as snowboarders, skiers and hikers, who venture into backcountry areas during or after winter storms. Roads and highway closures, damaged structures and destruction of forests are also a direct result of avalanches. The combination of steep slopes, abundant snow, weather, snowpack and an impetus to cause movement creates avalanches. Areas prone to avalanche hazards include hard to access areas deep in the backcountry. Avalanche hazards exist in eastern Modoc County where combinations of the above criteria occur. Primary area of concern is Cedar Pass area where an avalanche could impact a state route. There are possible impacts on Adin Pass area from avalanche, but it is unlikely.

Injuries and loss of life from an avalanche are usually due to people recreating in remote areas at the wrong time. Given the population, topography and amount of snow falling in populated areas, avalanches and resulting damages, including injuries and loss of life, are unlikely to occur. Impacts to roads and transportation in the County may occur.

Landslide, Mudslides and Debris Flows

A landslide is a general term for a variety of mass-movement processes that generate a down-slope movement of mud, soil, rock and/or vegetation. For the purposes of this plan, the term landslide includes mudslides, debris flows and rockfalls that tend to occur suddenly, whereas erosion is a similar process that tends to occur on smaller scales and more gradually.

Natural conditions that contribute to landslide include the following:

- Degree of slope
- Water (heavy rain, river flows, or wave action)
- Unconsolidated soil or soft rock and sediments
- Lack of vegetation (no stabilizing root structure)
- Previous wildfires and other forest disturbances
- Road building, excavation and grading
- Earthquake

In addition, many human activities tend to make the earth materials less stable and, thus, increase the chance of ground movement. Human activities contribute to soil instability through grading of steep slopes or overloading them with artificial fill, by extensive irrigation, construction of impermeable surfaces, excessive groundwater withdrawal and removal of stabilizing vegetation.

Another hazard related to landslide and erosion is the fall of a detached mass of rock from a cliff or down a very steep slope (rockfall). Weathering and decomposition of geological materials produce conditions favorable to rockfalls. Other causes include ice wedging, root growth, or ground shaking (earthquake). Destructive landslides and rockfalls usually occur very suddenly with little or no warning time and are short in duration.

The Surprise Valley is at the base of the Warner Mountains – where historically, much of this mountain came down. The EOP noted the greatest impact from landslide will be the isolation of communities due to damage to the transportation and utility infrastructures, including communications, road closures and subsequent damage.

As slope increases, so does the potential for conditions hazardous to human life and structures situated in the area. Land having an average slope of 30% or greater is generally considered less suitable for intensive development, because it is difficult and more-costly to develop. Also, level or gently sloping lands completely surrounded by broad ranges of steep slopes would be expensive to develop and serve because of access problems.

Historically, debris flows occurred during winter storms or in burn scar areas. Certain areas of the County see some debris flows yearly (i.e., County Road 1), necessitating the highly likely rating. Rockfalls and landslides occur more frequently in spring months, when high levels of precipitation and runoff combine with saturated soils and/or repeated freezing and thawing, which leads to general slope instability. Landslides often can occur as a result of other hazard events, such as floods, wildfires, or earthquakes.

SEISMIC HAZARDS

An earthquake is a vibration or sudden undulation of a portion of the earth's crust caused by the splitting or faulting of a mass of rock or by volcanic or other disturbances. Earthquakes pose

hazards to developed areas as a result of ground displacement (surface rupture), ground shaking and ground failure.

Ground displacement or surface rupture occurs along faults. Displacements of the earth's crust may be vertical, horizontal, or both and may offset the ground by as much as 30 feet. No faults within Modoc County are known to have ruptured the ground surface within the past 200 years.

Liquefaction occurs when very loosely packed soils rapidly convert to a virtually fluid condition. Liquefaction usually occurs when two conditions are met: the soil is fully saturated (that is, all voids are filled with water) and is exposed to a sudden shock, vibration, or shearing strain. This results in a loss of foundation support or the failure of slopes.

The following is a summary of seismic hazards in Modoc County referenced in the LHMP:

Volcano

A volcano is a mountain or hill, typically conical, having a crater or vent through which lava, rock fragments, hot vapor and gas are being or have been erupted from the earth's crust. Volcanoes is considered a potential seismic hazard. There have been few losses in California from volcanic eruptions. Of the approximately 20 volcanoes in the State, only a few are active and pose a threat. Of these, Medicine Lake, Mount Shasta and Lassen Peak are the closest to Modoc County.

Volcanic eruptions are certain to occur in California in the future and can be neither prevented nor stopped; however, these eruptions are expected to be spaced in large intervals of time. Actions can be taken to limit damage from them. Reduction of risk to life and property can be affected by avoiding threatened areas and by taking protective measures to reduce the effects when and where vulnerable areas cannot be avoided. Monitoring of volcanic precursors generally can identify the locality of impending volcanic activity, even though it often does not pinpoint the nature or timing of an eruption, or even its certainty. From this decisions regarding evacuation and other response activities can help avoid risk to life and property. Thus, effective monitoring of volcanoes in the State, combined with preparation of contingency plans to deal with future eruptions, can help reduce risk to lives and property.

Known volcanic activity that could impact Modoc County, based on past occurrences for each location is presented below.

Mount Shasta: Mount Shasta has erupted on the average at least once per 800 years during the past 10,000 years, about once per 300 years during the past 3,500 years and about once per 250 years during the past 750 years. The last known eruption occurred about 200 radiocarbon years ago and may have occurred in 1786 A.D. Evidence for this eruption, recorded from sea by the explorer La Perouse, is somewhat ambiguous, but his description could only have referred to Mount Shasta.

Medicine Lake: At least 17 eruptions have occurred since the end of glaciation at Medicine Lake, or between 1 and 2 eruptions per century on average, although activity appears to be strongly episodic. A significant amount of the area and volume of this stage was generated in the

Giant Crater event that occurred just after the end of glaciation. This pulse of mafic volcanism in immediate postglacial time might have been related to pressure release accompanying melting of the volcano's ice burden. Nearly 8,000 years of quiescence followed this early mafic episode before three subsequent closely spaced eruptive episodes occurred. Between 3,000 and 900 years ago, eruptions produced approximately 2.5 km3 (1 mi2) of lava ranging in composition from basalt to rhyolite. Late Holocene lava compositions include basalt and andesite, but silicic lavas dominate.

Lassen: The Lassen Volcanic Center is still active and three eruptions of Holocene age have occurred: Chaos Crags, Cinder Cone and the 1914–1917 eruption at the summit of Lassen Peak. No other eruptions documented to be Holocene have occurred in the Lassen region. The 1914 to 1917 eruptions of Lassen Peak produced a yearlong series of minor steam blasts before a major explosion sent an "eruption column" 30,000 feet high and unleashed devastating pyroclastic flows and lahars. Windborne ash drifted 275 miles eastward and fell as far away as Elko, Nevada. The climactic phase of the eruption was over in a matter of days, but recurring steam blasts and lahars created hazardous conditions for several years afterwards.

Volcanic eruptions are certain to occur in California in the future and can be neither prevented nor stopped; however, these eruptions are expected to be spaced in large intervals of time. Actions can be taken to limit damage from them. Reduction of risk to life and property can be affected by avoiding threatened areas and by taking protective measures to reduce the effects when and where vulnerable areas cannot be avoided. Monitoring of volcanic precursors generally can identify the locality of impending volcanic activity, even though it often does not pinpoint the nature or timing of an eruption, or even its certainty. Thus, effective monitoring of volcanoes in the State, combined with preparation of contingency plans to deal with future eruptions, can help reduce risk to lives and property.

Earthquake Potential

Earthquakes can cause structural damage, injury and loss of life, as well as damage to infrastructure networks, such as water, power, gas, communication and transportation. Earthquakes may also cause collateral emergencies including dam and levee failures, seiches, hazmat incidents, fires, avalanches and landslides. The degree of damage depends on many interrelated factors. Among these are: the magnitude, focal depth, distance from the causative fault, source mechanism, duration of shaking, high rock accelerations, type of surface deposits or bedrock, degree of consolidation of surface deposits, presence of high groundwater, topography and the design, type and quality of building construction.

Ground Shaking: Ground shaking is motion that occurs as a result of energy released during faulting. The damage or collapse of buildings and other structures caused by ground shaking is among the most serious seismic hazards. Damage to structures from this vibration, or ground shaking, is caused by the transmission of earthquake vibrations from the ground to the structure. The intensity of shaking and its potential impact on buildings is determined by the physical characteristics of the underlying soil and rock, building materials and workmanship, earthquake magnitude and location of epicenter and the character and duration of ground motion. Much of the County is located on alluvium which increases the amplitude of the earthquake wave. This is

especially true in the Surprise Valley. Ground motion lasts longer and waves are amplified on loose, water-saturated materials than on solid rock. As a result, structures located on alluvium typically suffer greater damage than those located on solid rock.

Seismic Structural Safety: Older buildings constructed before building codes were established and even newer buildings constructed before earthquake-resistance provisions were included in the codes, are the most likely to be damaged during an earthquake. Buildings one or two stories high of wood-frame construction are considered to be the most structurally resistant to earthquake damage. Older masonry buildings without seismic reinforcement (unreinforced masonry) are the most susceptible to the type of structural failure that causes injury or death.

The susceptibility of a structure to damage from ground shaking is also related to the underlying foundation material. A foundation of rock or very firm material can intensify short-period motions which affect low-rise buildings more than tall, flexible ones. A deep layer of water-logged soft alluvium can cushion low-rise buildings, but it can also accentuate the motion in tall buildings. The amplified motion resulting from softer alluvial soils can also severely damage older masonry buildings.

Other potentially dangerous conditions include, but are not limited to, the following: building architectural features that are not firmly anchored, such as parapets and cornices; roadways, including column and pile bents and abutments for bridges and overcrossings; and aboveground storage tanks and their mounting devices. Such features could be damaged or destroyed during strong or sustained ground shaking.

Liquefaction Potential: Liquefaction is a process whereby soil is temporarily transformed to a fluid form during intense and prolonged ground shaking. Areas most prone to liquefaction are those that are water saturated (e.g., where the water table is less than 30 feet below the surface) and consist of relatively uniform sands that are loose to medium density. In addition to necessary soil conditions, the ground acceleration and duration of the earthquake must be of sufficient energy to induce liquefaction.

Liquefaction during major earthquakes has caused severe damage to structures on level ground as a result of settling, titling, or floating. Such damage occurred in San Francisco on bay-filled areas during the 1989 Loma Prieta earthquake, even though the epicenter was several miles away. If liquefaction occurs in or under a sloping soil mass, the entire mass may flow toward a lower elevation. Also, of particular concern, in terms of developed and newly developing areas, are fill areas that have been poorly compacted.

Settlement: Settlement can occur in poorly consolidated soils during ground shaking. During settlement, the soil materials are physically rearranged by the shaking to result in a less stable alignment of the individual minerals. Settlement of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial soils or improperly founded or poorly compacted fill. These areas are known to undergo extensive settling with the addition of irrigation water, but evidence due to ground shaking is not available.

Other Affected Hazards from Seismic Events: Earthquakes can also cause landslides and dam failures. Earthquakes may cause landslides, particularly during the wet season, in areas of high water or saturated soils. Finally, earthquakes can cause dams to fail.

Faults: A fault is defined by the CGS as "a fracture or fracture zone in the earth's crust along which there has been displacement of the sides relative to one another." For the purpose of planning there are two types of faults, active and inactive. Active faults have experienced displacement in historic time, suggesting that future displacement may be expected. Inactive faults show no evidence of movement in recent geologic time, suggesting that these faults are dormant. This does not mean, however, that faults having no evidence of surface displacement within the last 11,000 years are necessarily inactive. For example, the 1975 Oroville earthquake, the 1983 Coalinga earthquake and the 1987 Whittier Narrows earthquake occurred on faults not previously recognized as active. Potentially active faults are those that have shown displacement within the last 1.6 million years (Quaternary). An inactive fault shows no evidence of movement in historic (last 200 years) or geologic time, suggesting that these faults are dormant.

Two types of fault movement represent possible hazards to structures in the immediate vicinity of the fault: fault creep and sudden fault displacement. Fault creep, a slow movement of one side of a fault relative to the other, can cause cracking and buckling of sidewalks and foundations even without perceptible ground shaking. Sudden fault displacement occurs during an earthquake event and may result in the collapse of buildings or other structures that are found along the fault zone when fault displacement exceeds an inch or two. The only protection against damage caused directly by fault displacement is to prohibit construction in the fault zone.

There are three faults that traverse Modoc County. These are shown in Table 5.

Table 5. Modoc County Faults

Name	Length	Most Recent Deformation	Slip-rate category
Gillem-Big Crack fault system (Class A)	36 km	Late Quaternary (<130 ka)	Between 0.2 and 1.0 mm/yr
Likely fault zone (Class A)	92 km	Late Quaternary (<130 ka)	Between 0.2 and 1.0 mm/yr
Pittville fault (Class A)	36 km	Latest Quaternary (<15 ka)	Between 0.2 and 1.0 mm/yr

Source(s): National Earthquake Information Center

Figure 6 is a map of faults in the County with the potential for earthquake shaking sufficiently strong to trigger landslide and liquefaction.

There has been one disaster declaration in the County for the 1993 Klamath earthquake. There was minimal damage in the County. Areas with greatest impacts were the Tule Lake and

Newell area. These areas saw ground shaking with damage to grain silos and other miscellaneous structures. This is shown in Figure 6 shows major historical earthquakes in California from 1769 to 2010.

No major earthquakes have been recorded within the County; although the County has felt ground shaking from earthquakes with epicenters located elsewhere. Based on historical data and the location of the Modoc County Planning Area relative to active and potentially active faults, the Planning Area may experience a significantly damaging earthquake occasionally. The Surprise Valley area is a statistically active area, but there is little population in that area.

Figure 6. Active Faults in Modoc County

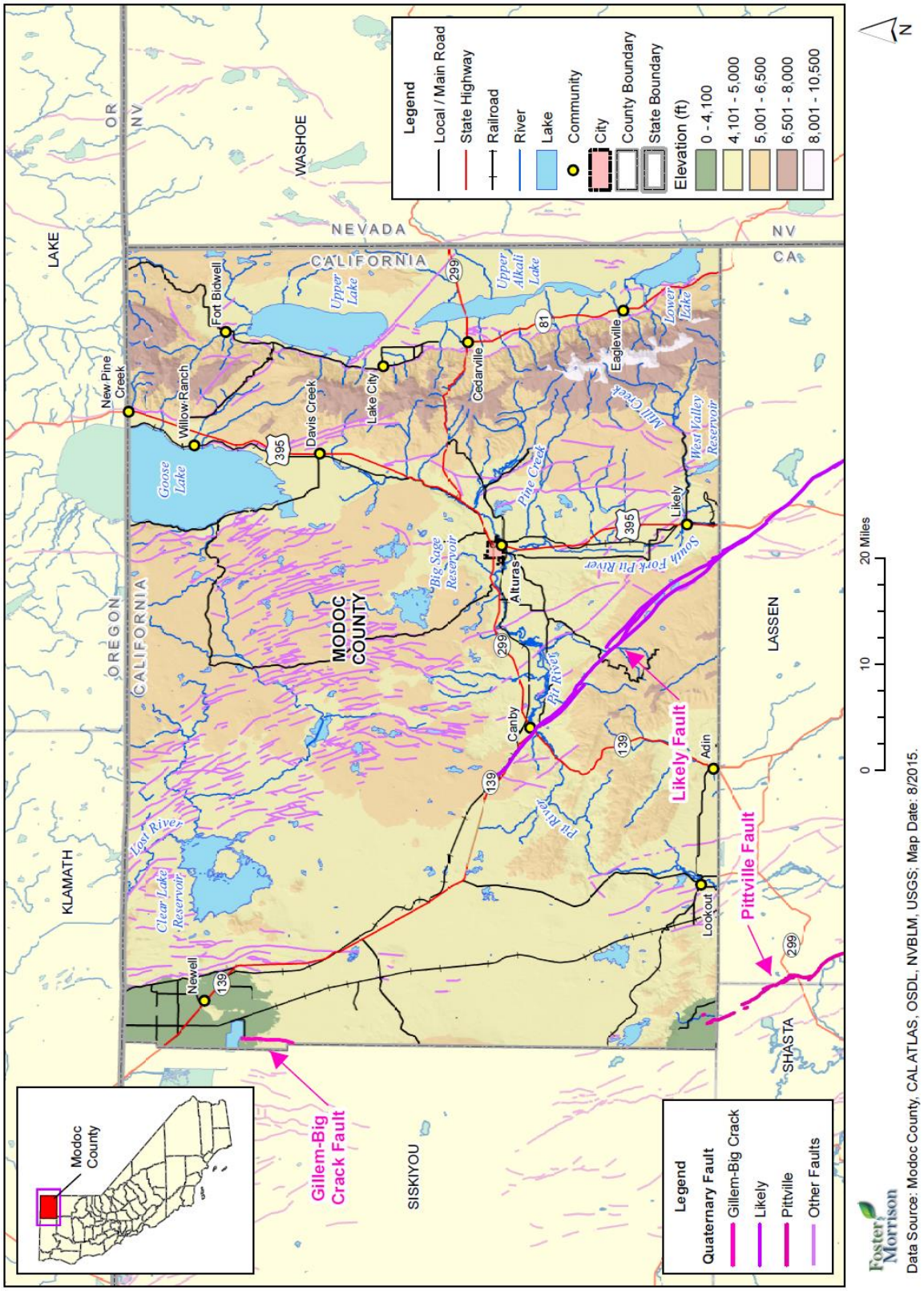


Figure 7. State Declared Earthquake Disasters

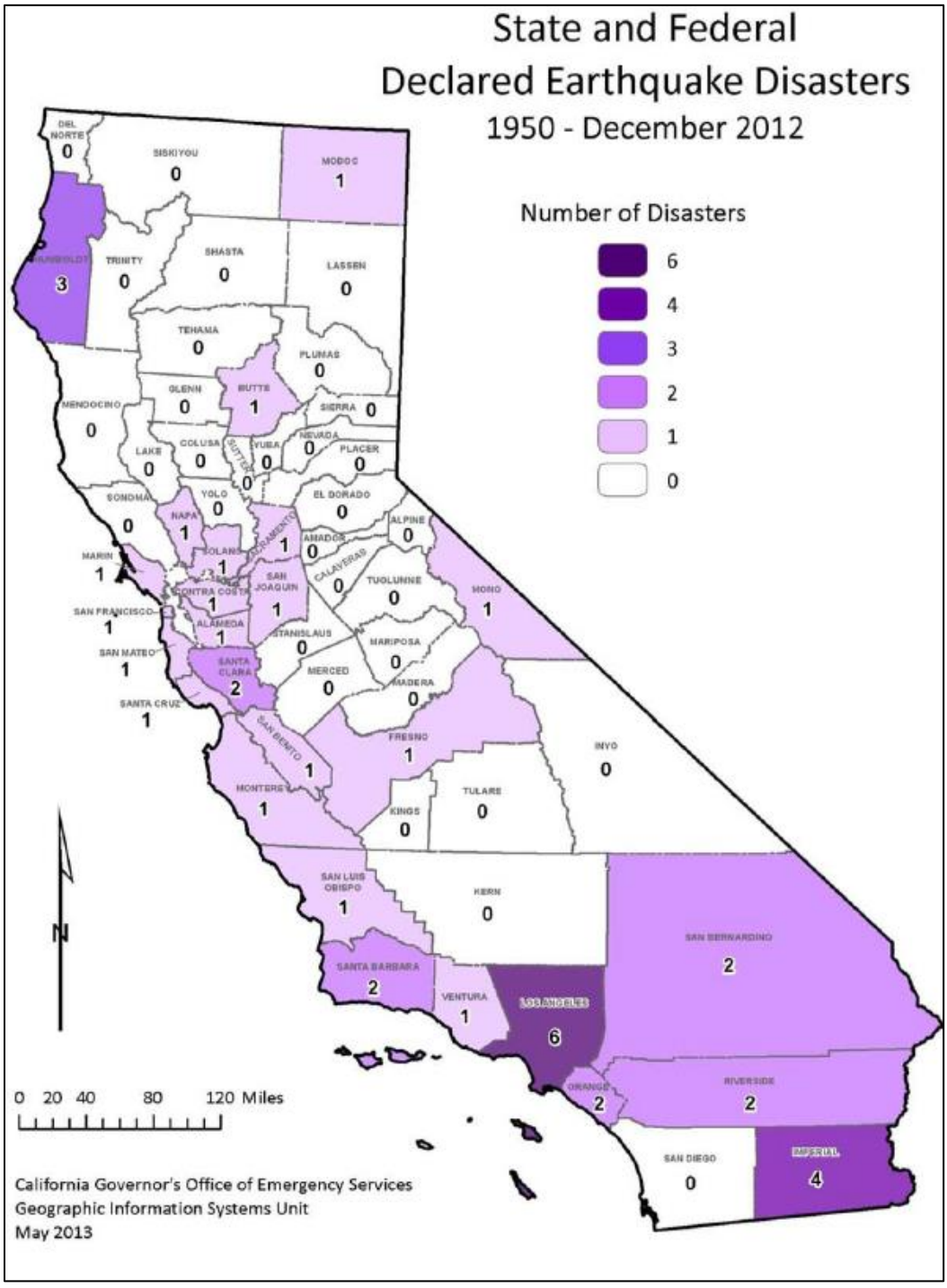
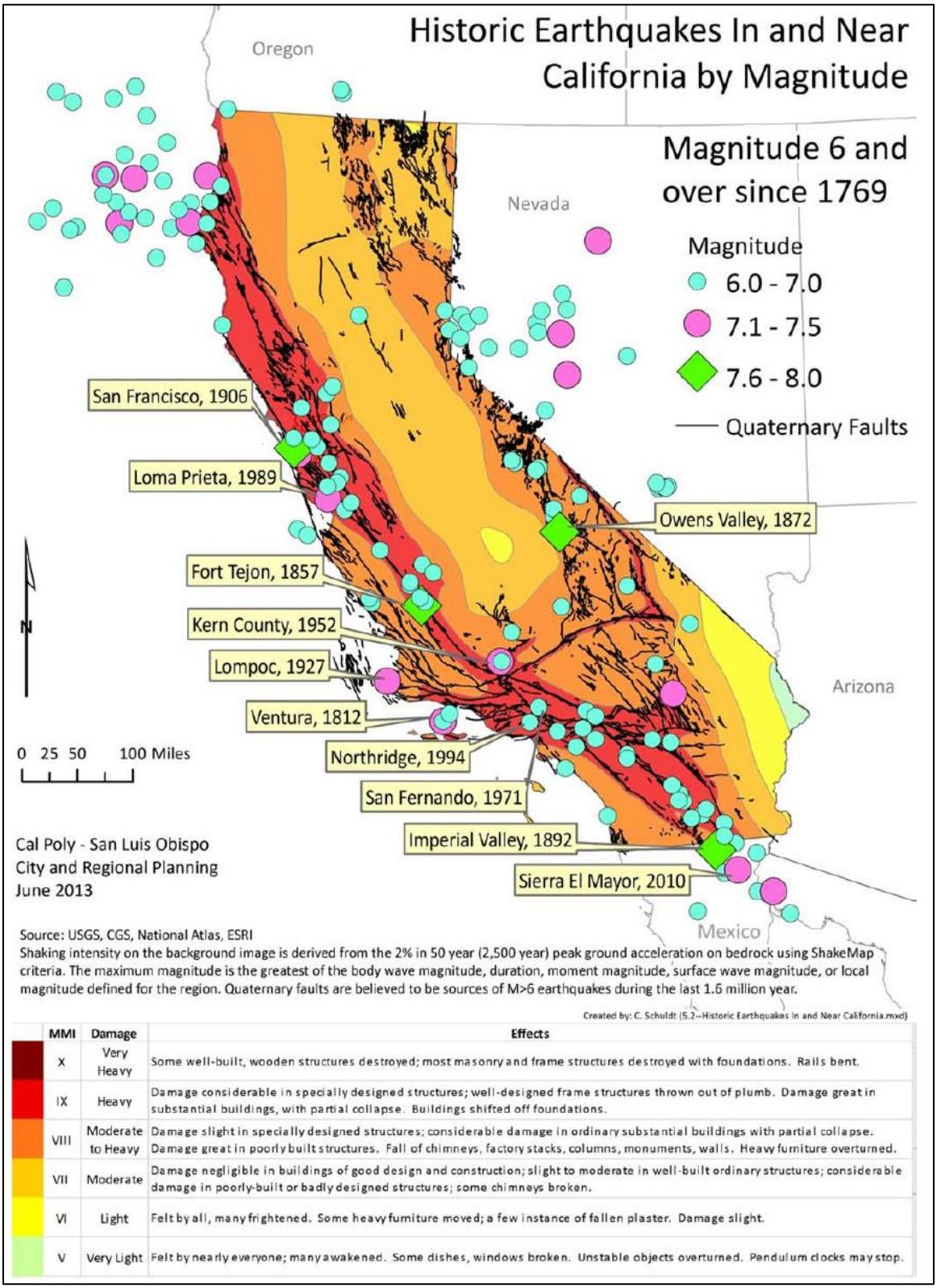


Figure 8. Historic Earthquakes in California and Near Modoc County



MMI	Damage	Effects
X	Very Heavy	Some well-built, wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
IX	Heavy	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
VIII	Moderate to Heavy	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
VII	Moderate	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly-built or badly designed structures; some chimneys broken.
VI	Light	Felt by all, many frightened. Some heavy furniture moved; a few instance of fallen plaster. Damage slight.
V	Very Light	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.

WILDLAND FIRE HAZARDS

This section of the Safety Element was updated in 2017 to comply with Senate Bill 1241 (Government Code Section 65302) regarding fire hazards. In accordance with this law, the safety element must be revised upon an update of the housing element on or after January 1, 2014.

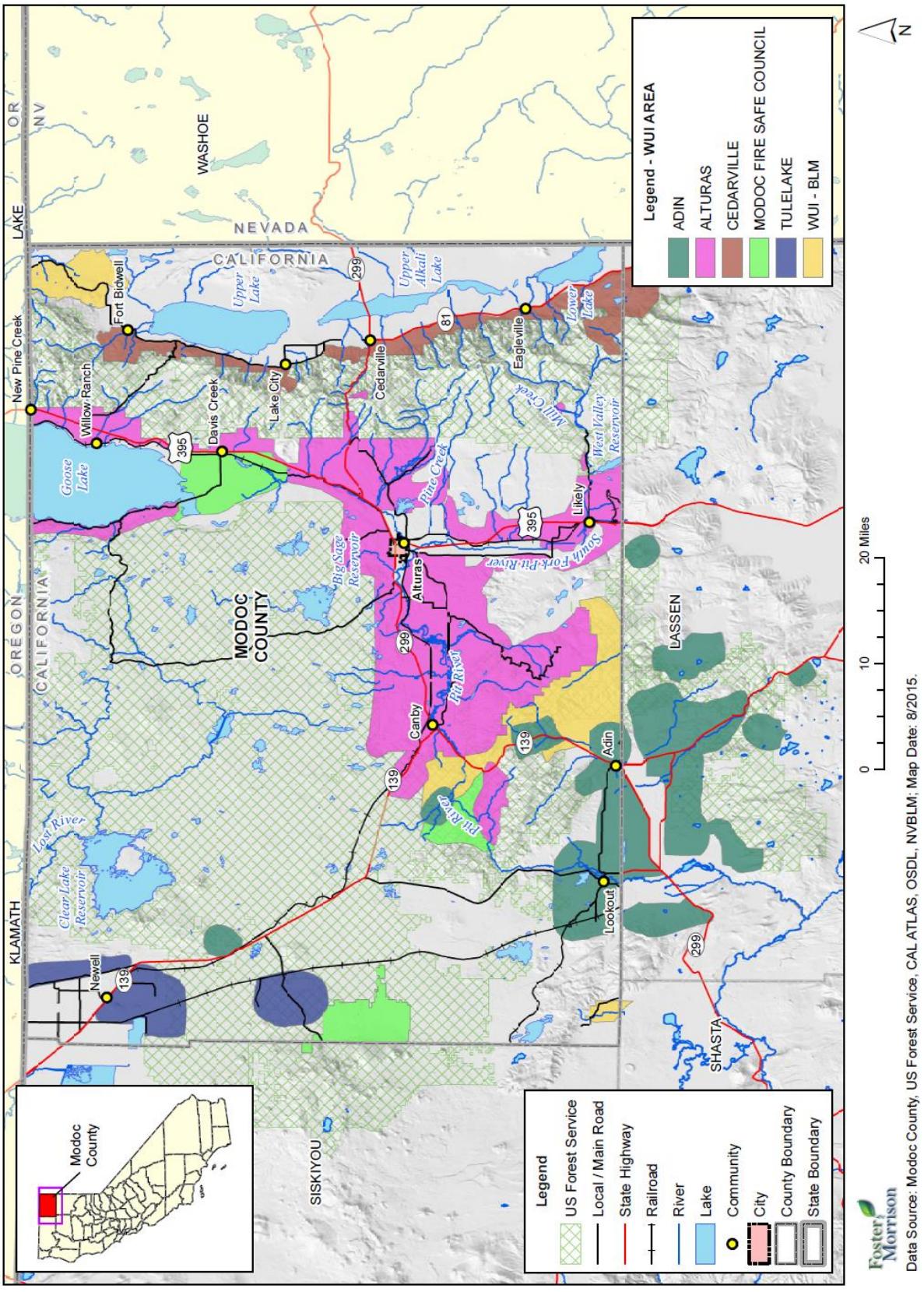
Wildland fire is an ongoing concern for Modoc County. Generally, the fire season extends from early spring through late fall of each year during the hotter, dryer months. Drought may extend the fire season in Modoc County. Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel, accumulation of vegetation and high winds.

Wildland Urban Interface (WUI)

Throughout California, communities are increasingly concerned about wildfire safety as increased development in the foothills and mountain areas and subsequent fire suppression practices have affected the natural cycle of the ecosystem. While wildfire risk is predominantly associated with wildland urban interface (WUI) areas, significant wildfires can also occur in heavily populated areas. The wildland urban interface is a general term that applies to development adjacent to landscapes that support wildland fire. Wildland fires affect grass, forest and brushlands, as well as any structures located within them.

WUI fires are the most damaging. WUI fires occur where the natural forested landscape and urban- built environment meet or intermix. Even relatively small acreage fires may result in disastrous damages. The damages can be widely varying, but are primarily reported as damage to infrastructure, built environment, loss of socio- economic values and injuries to people. WUI locations in the County are shown in Figure 9.

Figure 9. Modoc County Wildland Urban Interface



Potential losses from wildfire include human life, structures and other improvements, natural and cultural resources, quality and quantity of water supplies, cropland, timber and recreational opportunities. Economic losses could also result. Smoke and air pollution from wildfires can be a severe health hazard. Also, of significant concern to the Planning Area are the secondary impacts associated with a large burn area. Problems occur with landslides, debris flows, erosion and other issues that lead to a significant loss of watershed. These problems can be compounded by climate conditions.

Warning times are usually adequate to ensure public safety, provided that evacuation recommendations and orders are heeded in a timely manner. While in most cases wildfires are contained within a week or two of outbreak, in certain cases, they have been known to burn for months, or until they are completely extinguished by fall rains.

Wildfire in Modoc County: Fire conditions arise from a combination of hot weather, an accumulation of vegetation and low moisture content in the air. These conditions when combined with high winds and years of drought increase the potential for a wildfire to occur. Urban wildfires often occur in those areas where development has expanded into the rural areas. A fire along this urban/rural interface can result in major losses of property and structures. Generally, there are three major factors that sustain wildfires and allow for predictions of a given area's potential to burn. These factors include fuel, topography and weather (refer to the Modoc County Local Hazard Mitigation Plan). Due to its location, Modoc County features examples of a wide range of challenging topography, fuels and weather. These naturally occurring elements have a great deal of influence on the nature of wildland fires within its boundaries. The Lassen-Modoc-Plumas Unit is broken into battalions, including Battalion 3 (Bieber Battalion), located in the southwest comer of Modoc County and Battalion 4 (Alturas Battalion) located in the northeastern portion of Modoc County. Information specific these battalions is presented in more detail in the Modoc County Hazard Mitigation Plan.

Fire Protection Services

CalFire has is responsible for providing fire protection on all State Responsible Area (SRA) lands, which are defined based on land ownership, population density and land use. This consists of about 70% of the area within the County. Locations of each responsibility area are shown in Figure 12. The FRA contains 3,722 parcels, none of which are improved. The SRA contains 23,263 parcels, with over $548 million in total value. The LRA has 5,438 parcels with $560 million in total value. It should be noted that fire does not just affect structural values, fire can also affect contents and land values. Contents values were derived from the improved structure values, using the same methodology as described in the flood analysis (see Section XI, Flooding). The Assessor's land values and all parcels were accounted for in this analysis to represent total County assets at risk. However, it is highly unlikely the whole County will ever be on fire at once. Analysis results by fire responsibility areas for the entire Modoc County Planning Area are provided in which summarizes total parcel counts, improved parcel counts and their land values, structure values, contents value and total values by property use.

There are also 12 local fire protection districts that serve various community areas throughout Modoc County are as follows (refer to Figure 14 which consists of a map that identifies locations within the County):

Adin
Alturas
Canby
Cedarville
Eagleville
Fort Bidwell
Lake City
Likely
Lookout
Newell
New Pine Creek
Tulelake
Willow Ranch

Each of the fire protection districts is a member of a Mutual Aid Agreement with CALFIRE that provides for assistance for wildland fires in State Responsibility Areas (SRA's). Each of the fire protection districts is a member of a Master Agreement that provides for assistance for fire and other emergency events that exceed the capacity of any individual district. Mutual Aid Agreements are standardized throughout the state to ensure assistance can be obtained from outside fire districts across the State.

Based on the 2017 Modoc County Municipal Services Review for fire service districts, all these districts have a current capacity to service fire protection needs of each of the County's communities. However, some of the smaller districts may not have sufficient resources to sustain the long term needs of future growth in the County. These smaller districts include Lake City, Likely, Lookout and Willow Ranch.

The Strategic Fire Plan, the 2008 Modoc County Community Wildfire Protection Plan contains information regarding vegetation in the County and its interrelation with wildfires (refer to: http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf517.pdf).

Past Occurrences: Wildfires of varying scales occur on an annual basis in Modoc County. Modoc County had received a state disaster declaration for wildfires in 1977. This is shown in Figure 11. In addition, the Day Fire in 2014 was declared a federal disaster (FM-5070) on 8/3/2014, after the creation of this map.

Wildfire History: Wildfires are a highly likely occurrence in Modoc County. Cal Fire, USDA Forest Service Region 5, Bureau of Land Management (BLM), the National Park Service (NPS), Contract Counties and other agencies jointly maintain a comprehensive fire perimeter GIS layer for public and private lands throughout the state (refer to Figure 12). The data covers fires back to 1878 (though the first recorded incident for the County was in 1917). For the National Park Service, Bureau of Land Management and US Forest Service, fires of 10 acres and greater are reported. For Cal Fire, timber fires greater than 10 acres, brush fires greater than 50 acres,

grass fires greater than 300 acres and fires that destroy three or more residential dwellings or commercial structures are reported. Cal Fire recognizes the various federal, state and local agencies that have contributed to this dataset, including USDA Forest Service Region 5, BLM, National Park Service and numerous local agencies.

The Cove Fire, in 2017, near Adin involved over 30,000 acres; the Scarface Fire in 1977 was almost 80,000 acres; the Blue Fire burned approximately 34,000 acres in 2001; the Fletcher Fire in 2007 burned over 8,000 acres near the community of Davis Creek and in 2012, the Barry Fire burned over 80,000 acres for a period of over two weeks. In addition, the EOP noted that subdivisions have grown up in several areas of the county where wildfires are a significant risk. Big Valley Ranchettes, California Pines Hill Units and Modoc Recreational Estates are only three. All have felt the risk at some point but have been spared so far. Communities can form Fire Safe Councils and work cooperatively with the U.S. Forest Service, Bureau of Land Management and Cal Fire to create firebreaks and promote fire prevention activities.

Wildfire Zones: The Lassen Modoc Fire Management Plan includes reference to various areas within Modoc County that are considered Severe Fire Hazard zones (see Figure 10). This map identifies State Responsibility Area lands and other Very High Fire Hazard Severity areas for Local Responsibility. Through several policies and programs within the Safety Element, the County has formally adopted these zones as very high fire hazard severity zones and will follow up with developing and adopting new regulations for these areas.

Figure 10. Modoc County Fire Hazard Severity Zones

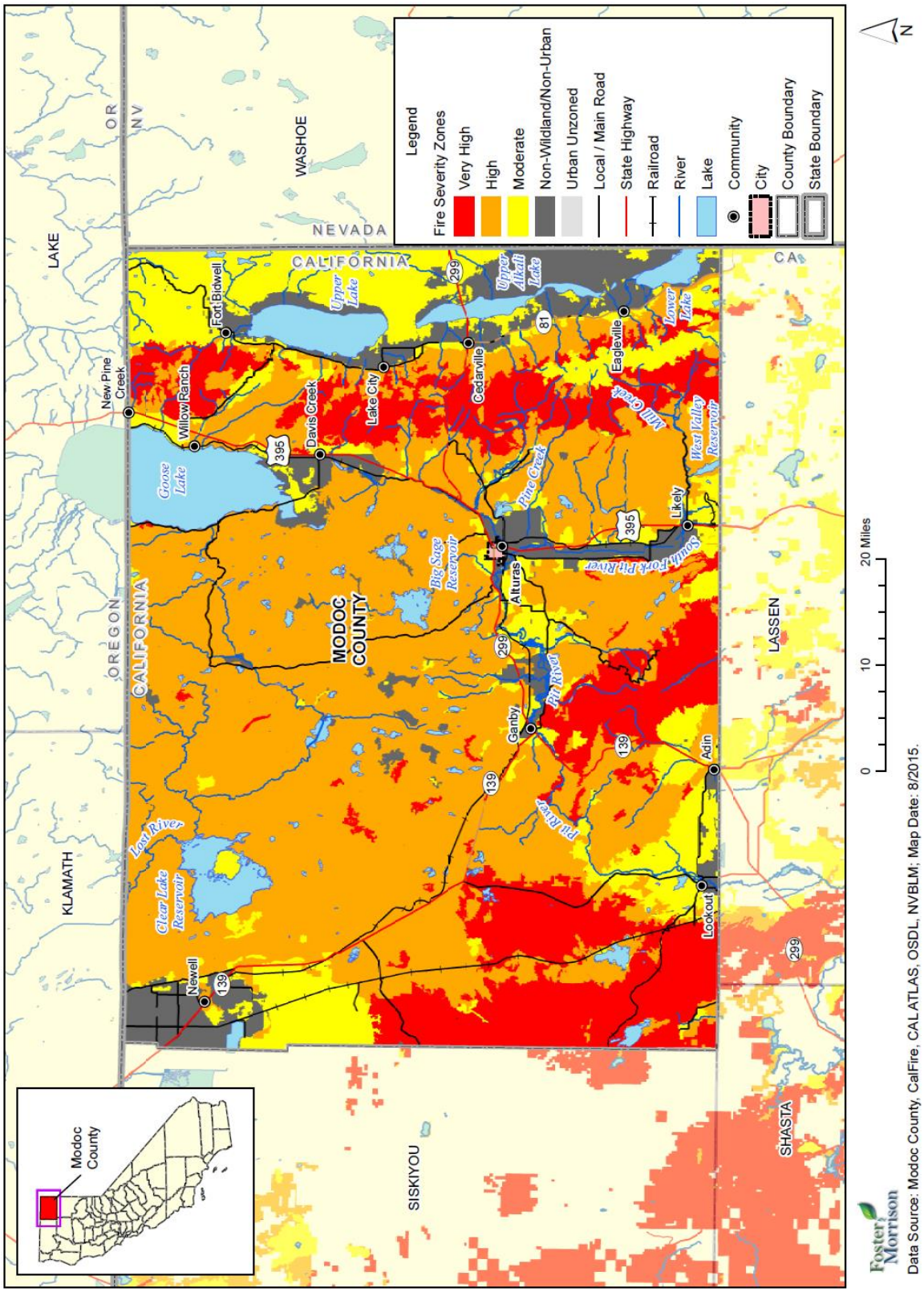


Figure 11. Modoc County Wildfire Declarations

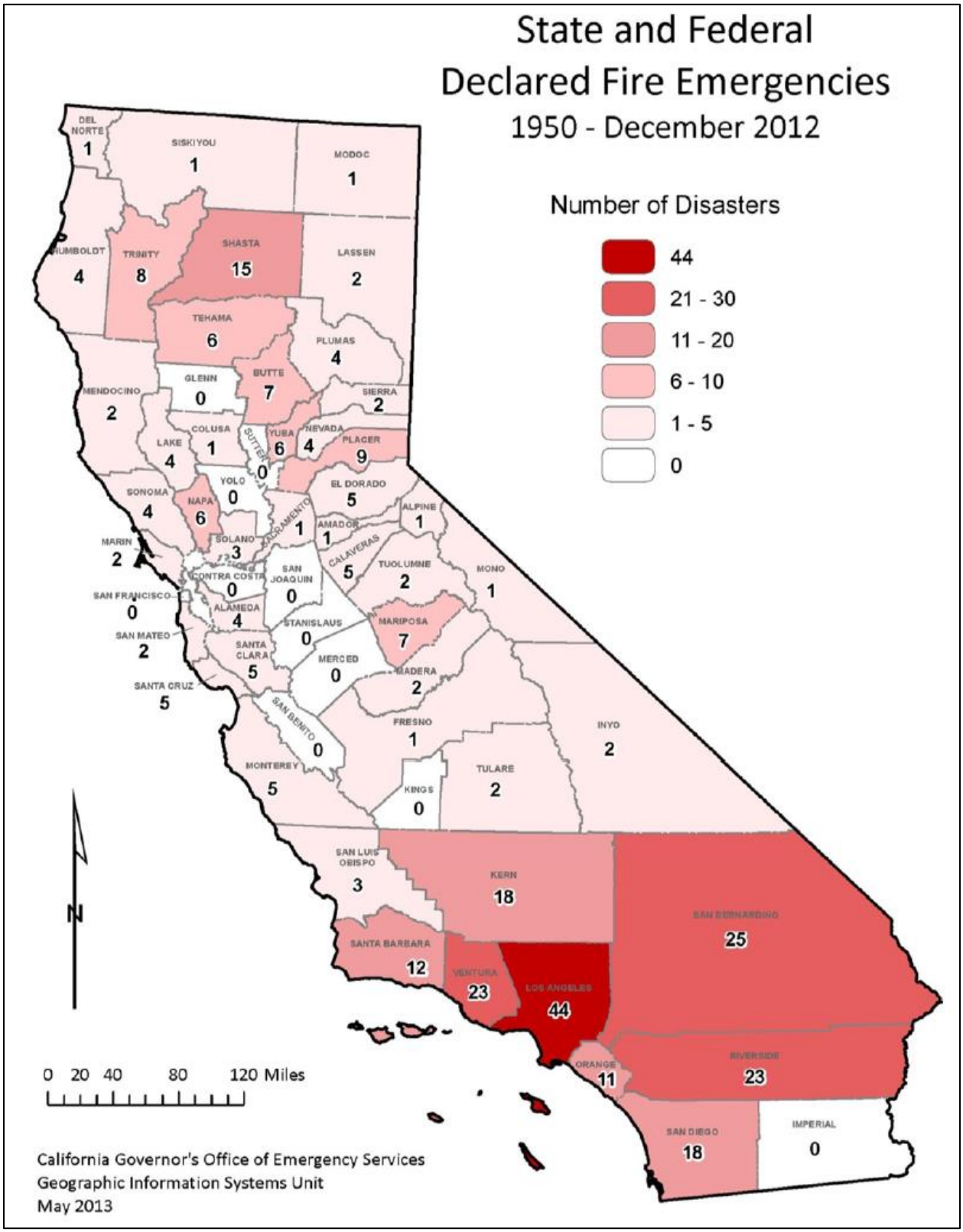


Figure 12. Modoc County Wildfire History

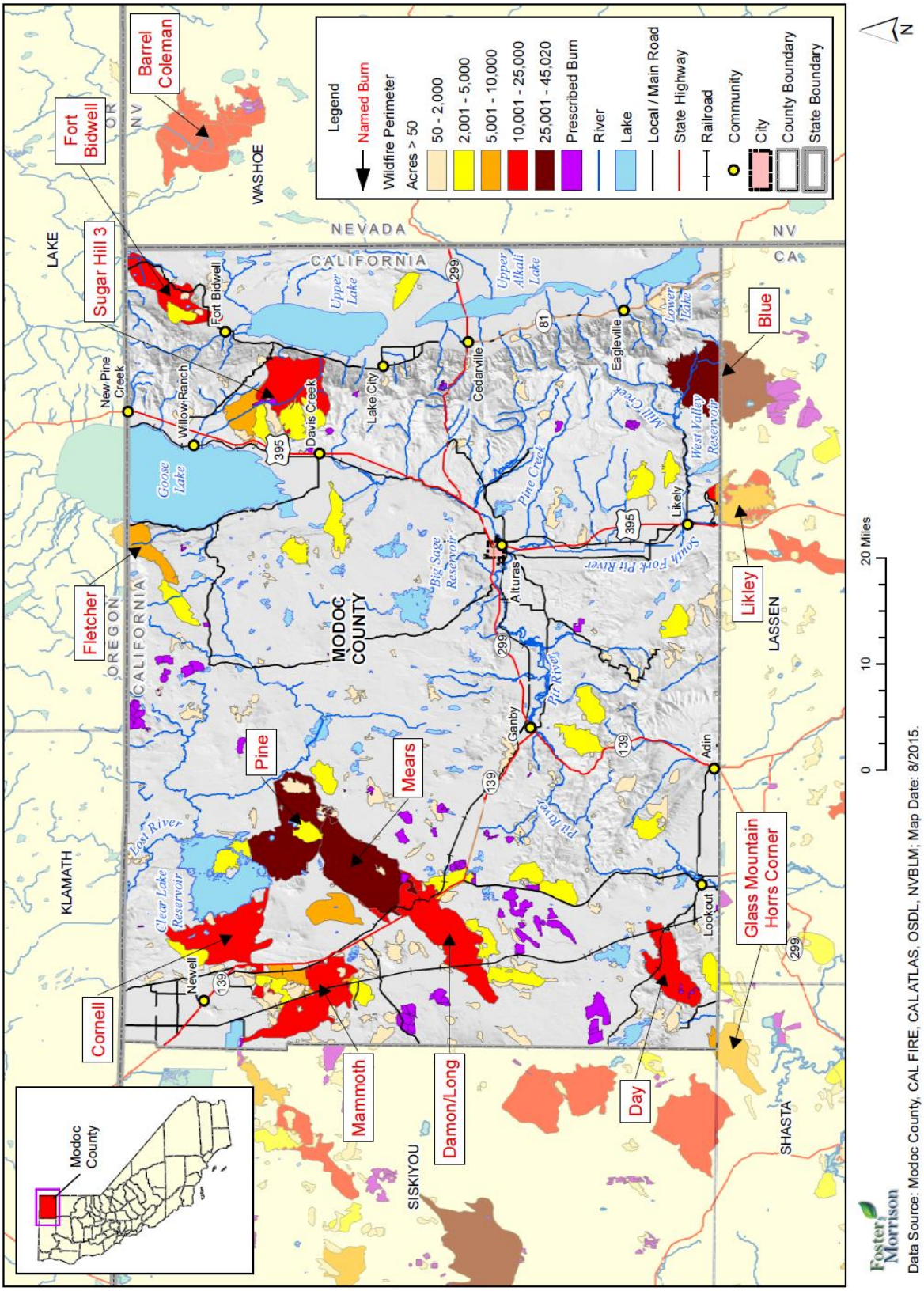


Figure 13. State Responsible Fire Areas

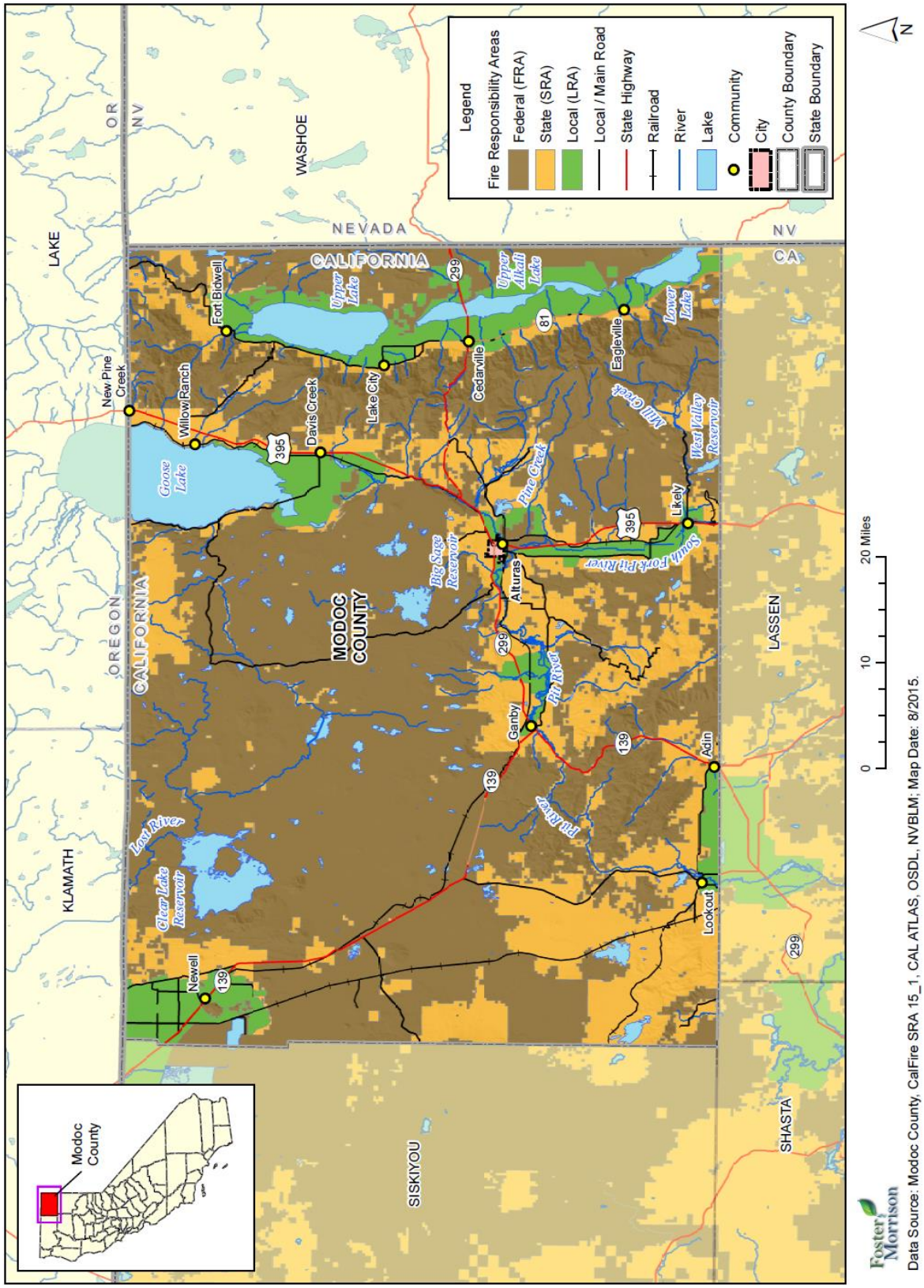
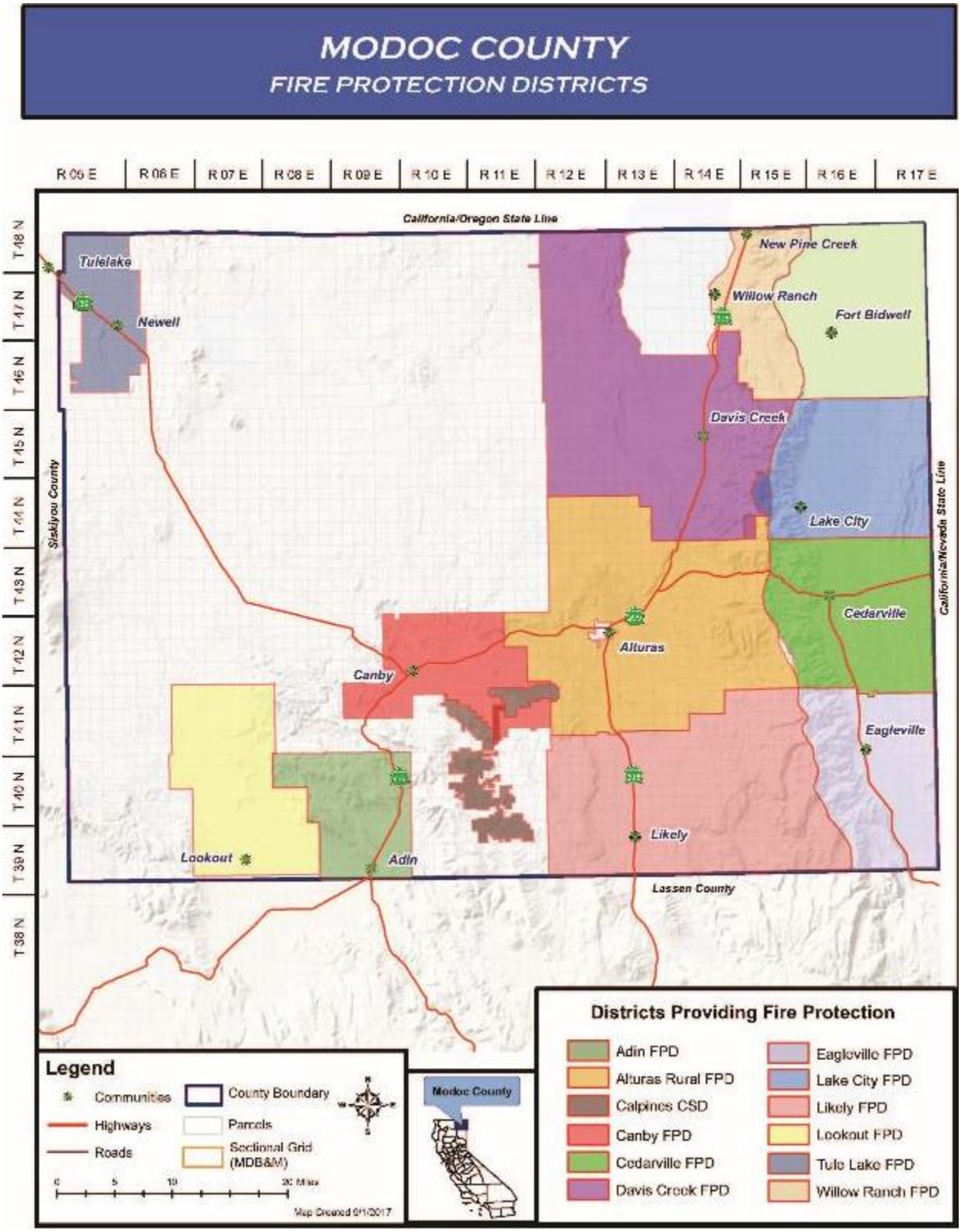


Figure 14. Fire Protection Districts in Modoc County



XI. FLOODING

This section of the Safety Element was updated in 2017 to comply with Assembly Bill 162 (Government Code Section 65302) regarding flood hazards. In accordance with this law, the safety element must be revised upon an update of the housing element on or after January 1, 2009.

Flooding consists of the rising and overflowing of a body of water onto normally dry land. Floods are among the most-costly natural disasters in terms of human hardship and economic loss nationwide. Floods can cause substantial damage to structures, landscapes and utilities as well as life safety issues.

HEALTH HAZARDS FROM FLOODING

According to the Federal Emergency Management Agency (FEMA), certain health hazards are common to flood events. While such problems are often not reported, three general types of health hazards accompany floods. The first comes from the water itself. Floodwaters carry anything that was on the ground that the upstream runoff picked up, including dirt, oil, animal waste and lawn, farm and industrial chemicals. Pastures and areas where cattle and hogs are kept or their wastes are stored can contribute polluted waters to the receiving streams.

Floodwaters also saturate the ground, which leads to infiltration into sanitary sewer lines. When wastewater treatment plants are flooded, there is nowhere for the sewage to flow. Infiltration and lack of treatment can lead to overloaded sewer lines that can back up into low-lying areas and homes. Even when it is diluted by flood waters, raw sewage can be a breeding ground for bacteria such as e. coli and other disease-causing agents.

The second type of health problem arises after most of the water has gone. Stagnant pools can become breeding grounds for mosquitoes and wet areas of a building that have not been properly cleaned breed mold and mildew. A building that is not thoroughly cleaned becomes a health hazard, especially for small children and the elderly.

Another health hazard occurs when heating ducts in a forced air system are not properly cleaned after inundation. When the furnace or air conditioner is turned on, the sediments left in the ducts are circulated throughout the building and breathed in by the occupants. If a water system loses pressure, a boil order may be issued to protect people and animals from contaminated water.

The third problem is the long-term psychological impact of having been through a flood and seeing one's home damaged and irreplaceable keepsakes destroyed. The cost and labor needed to repair a flood-damaged home puts a severe strain on people, especially the unprepared and uninsured. There is also a long-term problem for those who know that their homes can be flooded again. The resulting stress on floodplain residents takes its toll in the form of aggravated physical and mental health problems.

100-/500-year Flood: The area adjacent to a river channel is the floodplain. Floodplains are illustrated on inundation maps, which show areas of potential flooding and water depths. In its

common usage, the floodplain most often refers to that area that is inundated by the 100-year flood, the flood that has a 1% chance in any given year of being equaled or exceeded. The 100-year flood is the national minimum standard to which communities regulate their floodplains through the National Flood Insurance Program (NFIP).

There are three types of flood events in the Modoc County area: riverine, flash and urban storm water. Regardless of the type of flood, the cause is often the result of severe weather and excessive rainfall, either in the flood area or upstream reaches.

- ***Riverine flooding*** is the most common type of flood event and occurs when a watercourse exceeds its "bank-full" capacity. Riverine flooding generally occurs as a result of prolonged rainfall, or rainfall that is combined with already saturated soils from previous rain events. The duration of riverine floods may vary from a few hours to many days. Factors that directly affect the amount of flood runoff include precipitation amount, intensity and distribution, the amount of soil moisture, seasonal variation in vegetation, snow depth and water-resistance of the surface due to urbanization. The warning time associated with slow rise floods assists in life and property protection.

- The term ***flash flood*** describes localized floods of great volume and short duration. In contrast to riverine flooding, this type of flood usually results from a heavy rainfall on a relatively small drainage area. Precipitation of this sort usually occurs in the winter and spring. Flash floods often require immediate evacuation within the hour.

- ***Storm Water/Urban Flood*** events have increased as land has been converted from fields or woodlands to roads and parking lots and lost its ability to absorb rainfall. Urbanization increases runoff by two to six times that of natural terrain.

Other variations of floods include general rain floods, thunderstorm floods, snowmelt and rain on snow floods, dam failure floods and local drainage floods. This last type of flooding is discussed in greater detail in the discussion of localized storm water flooding below. Dam failure floods are also discussed. Volume, onset and duration characteristics for different types of floods are described below:

- ***Snowmelt:*** Flooding is characterized by moderate peak flows, large volume of runoff, moderate speed of onset, long duration and marked daily fluctuation of flow.

- ***Rain in a general storm system:*** Flooding is characterized by high peak flows and moderate speed of onset and duration of flood flows.

- ***Rain in a localized intense thunderstorm:*** Flooding is characterized by high peak flows, relatively sudden onset, short duration of flow and smaller volumes of runoff.

The potential for flooding can change and increase through various land use changes and changes to land surface, resulting in a change to the floodplain. Environmental changes can create localized flooding problems in and outside of natural floodplains by altering or confining natural drainage channels. These changes are most often created by human activity.

Major Sources of Flooding: According to Cal DWR, California is divided into 10 hydrologic regions and Modoc County is traversed by three separate hydrologic regions:

- North Coast
- Sacramento River
- North Lahontan

A map of the California's hydrological regions is provided in Figure 15.

Modoc County encompasses multiple rivers, streams, creeks and associated watersheds. Damaging floods in Modoc County, while rare, occur primarily in the developed areas of the County. Flood flows generally follow defined stream channels, drainages and watersheds.

Figure 15. California Hydrologic Regions

Modoc County Streams and Watersheds: According to mapping done by the California Department of Conservation, Modoc County intersects many watersheds. There are numerous small creeks that are tributaries to the major waterways. Waterways and watersheds in the County are shown in Figure. The six primary watersheds in the County are:

- Goose Lake
- Lost
- Lower Pit
- Surprise Valley
- Upper Pit
- Warner Lakes

There are four major flood areas; the City of Alturas, as well as the communities of Admin, Fort Bidwell and Lake City. While many areas of the county are subject to flooding fairly often, few residences and businesses suffer long-term damage as a consequence. The frequency has, no doubt, discouraged development in flood-prone areas. Most flooding in Modoc County occurs along streams and rivers when the channels cannot contain the amount of water. This is most common during spring run-off or thunderstorm activity. Refer to Figure 16, Waterways and Watersheds in Modoc County.

The Flood Insurance Study (FIS) reports that flooding in Modoc County can occur any time from fall to spring as a result of the occurrence of general rainstorms. General rain floods result from prolonged, heavy rainfall over tributary areas and are characterized by high peak flows and moderate duration and a large volume of runoff. Flooding is more severe when antecedent rainfall has resulted in saturated ground conditions, when the ground is frozen and infiltration is minimal, or when rain on snow in the higher elevations adds snowmelt to rain flood runoff. Summer thunderstorms can also lead to flooding. Flooding sources that could affect the County.

In Modoc County, the Flood Insurance Study (FIS) reports that flooding in the area can occur any time from fall to spring as a result of the occurrence of general rainstorms. General rain floods result from prolonged, heavy rainfall over tributary areas and are characterized by high peak flows and moderate duration and a large volume of runoff. Flooding is more severe when antecedent rainfall has resulted in saturated ground conditions, when the ground is frozen and infiltration is minimal, or when rain on snow in the higher elevations adds snowmelt to rain flood runoff. Summer thunderstorms can also lead to flooding.

The Federal Emergency Management Agency (FEMA) establishes standards for floodplain mapping studies as part of the National Flood Insurance Program (NFIP). The NFIP makes flood insurance available to property owners in participating communities adopting FEMA-approved local floodplain studies, maps and regulations. Floodplain studies that may be approved by FEMA include federally funded studies; studies developed by state, city and regional public agencies; and technical studies generated by private interests as part of property annexation and land development efforts. Such studies may include entire stream reaches or limited stream

sections depending on the nature and scope of a study. Figure 17 consists of the most recent FEMA map available at the time of preparation of this updated Safety Element (2017).

Figure 16. Waterways and Watersheds in Modoc County

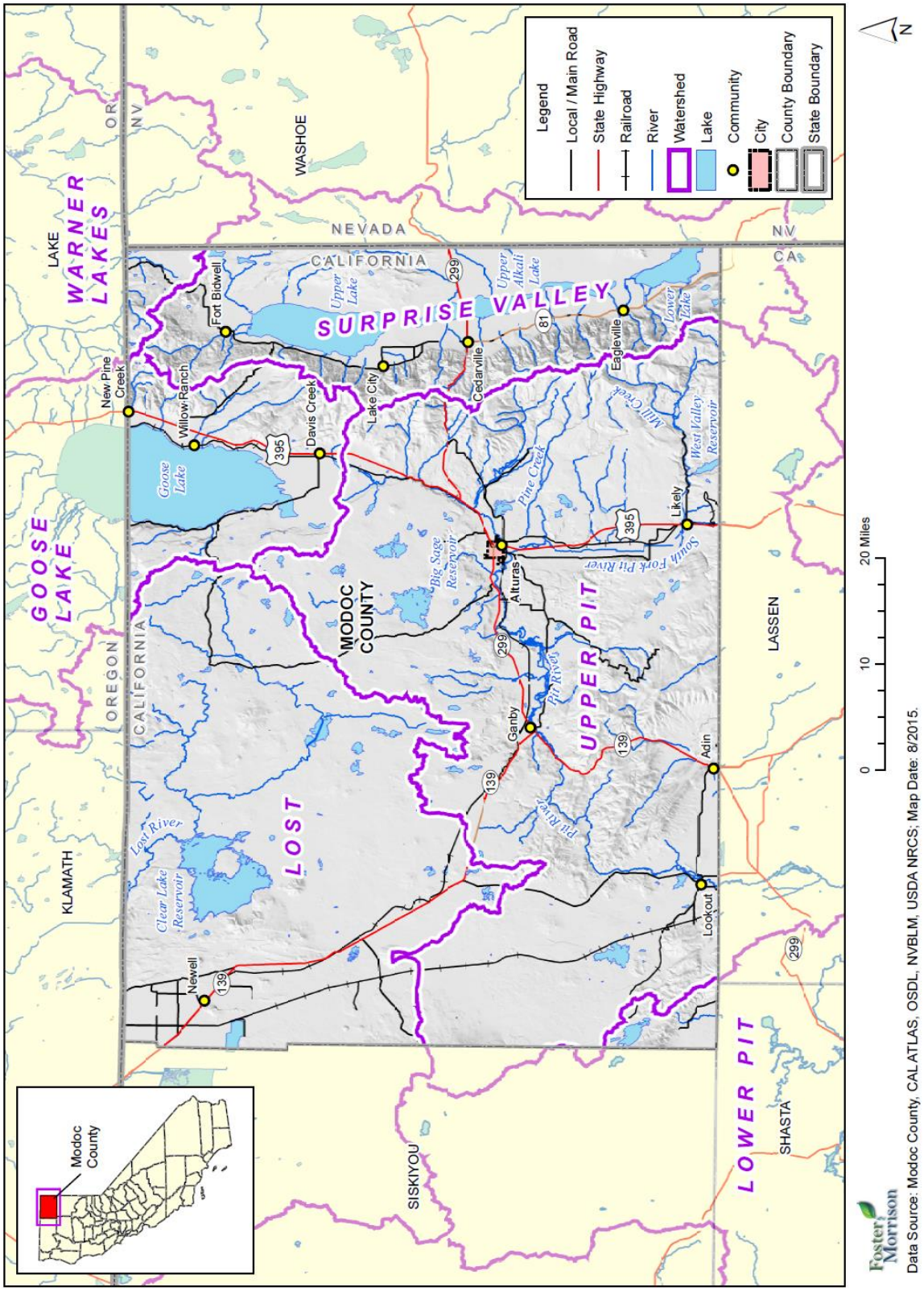
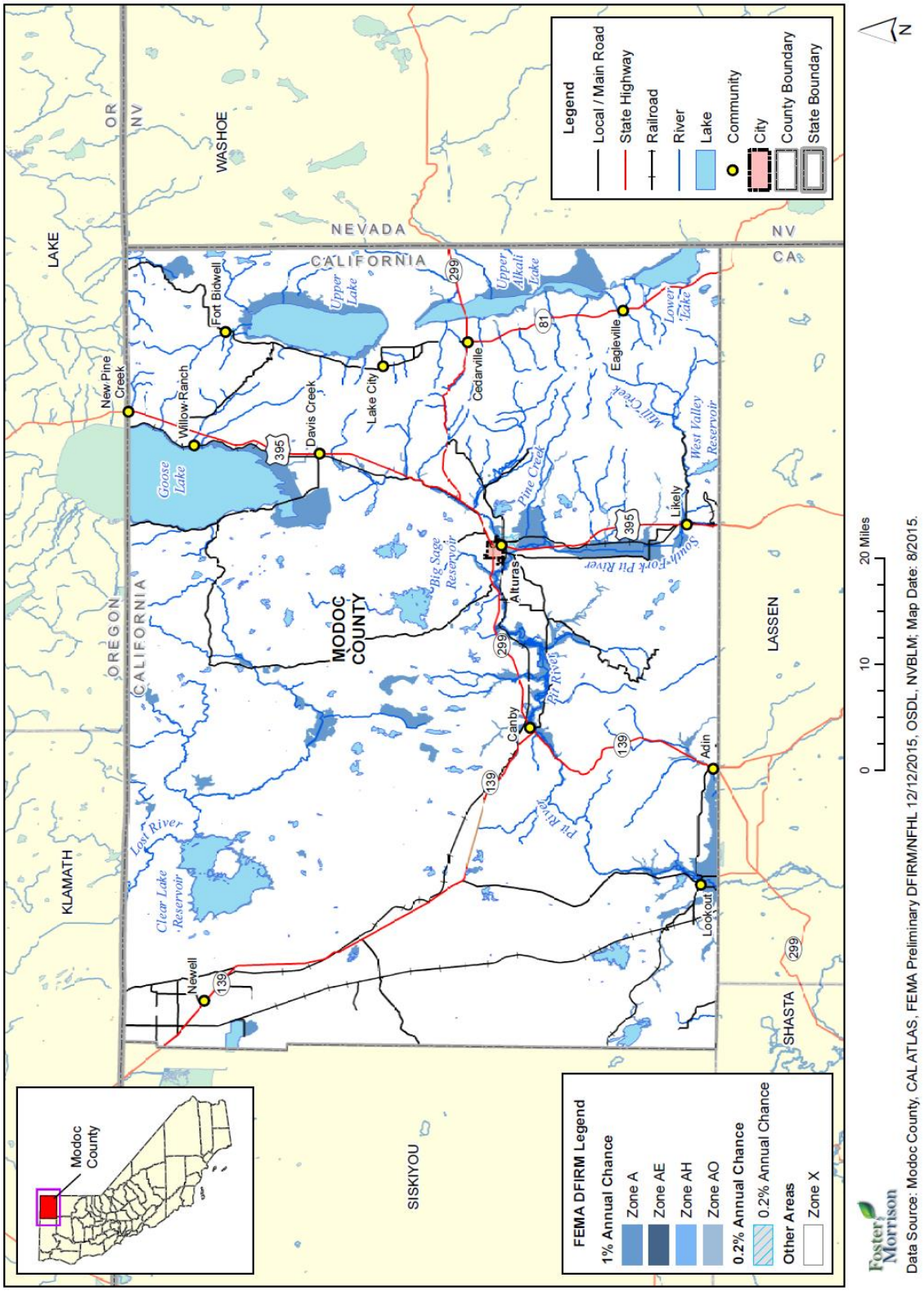


Figure 17. FEMA Map (as of 2017)



Map may be amended upon update by FEMA.

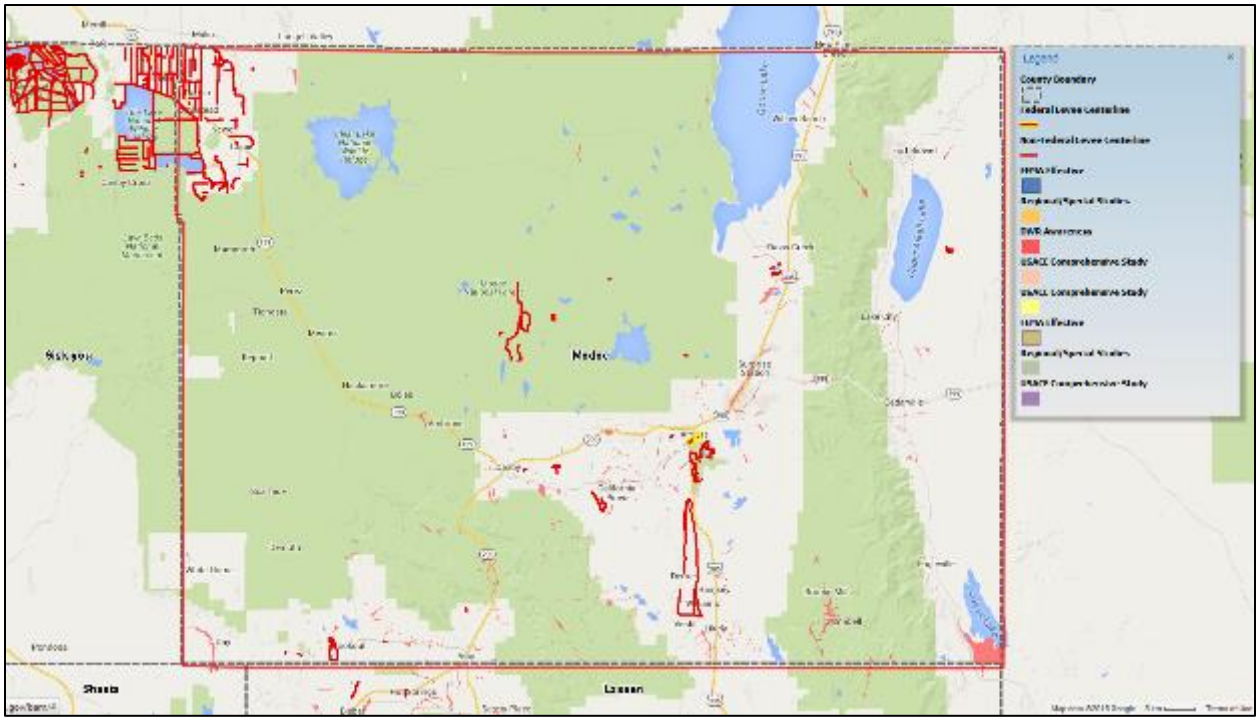
100-YEAR FLOOD AND FLOOD POSSIBILITIES

The term "100-year flood" is misleading. It is not the flood that will occur once every 100 years. Rather, the 100-year flood is the flood that has a 1% chance in any given year of being equaled or exceeded. Thus, the 100-year flood could occur more than once in a relatively short period of time. The LHMP identifies a number of flooding occurrences throughout the County and indicates that future localized flooding is highly likely. Mitigation measured incorporated into the LHMP and this General Plan should help reduce these impacts.

FLOOD AWARENESS AREAS

Also to be considered, when evaluating the flood risks in Modoc County, are various floodplain maps developed by DWR for various areas throughout California, including Modoc County. Best available Maps were developed pursuant to Senate Bill 5 and Assembly Bill 162 for the 100- and 200-year floodplains located within the Sacramento-San Joaquin Valley watershed. These maps were developed by DWR to better reflect the most accurate information about the flooding potential in a community and were designed to provide a better understanding of the true risk of flooding to public safety and property. SB 5 and AB 162 requires that these preliminary maps be provided as best available information on flood protection to cities and counties in the watershed for: 1) areas protected by State-Federal project levees and 2) areas outside the protection of project levees. These advisory maps will help communities begin early planning activities to meet SB 5 requirements calling for a minimum of 200-year protection for new development in urban and urbanizing areas. Refer to Figure 18.

Figure 18. Flood Awareness Map of Modoc County



Dam Failure: Dams, are manmade structures built for a variety of uses including flood protection, power generation, agriculture, water supply and recreation. When dams are constructed for flood protection, they are usually engineered to withstand a flood with a computed risk of occurrence. For example, a dam may be designed to contain a flood at a location on a stream that has a certain probability of occurring in any one year. If prolonged periods of rainfall and flooding occur that exceed the design requirements, that structure may be overtopped and fail. Overtopping is the primary cause of earthen dam failure in the United States.

Dam failures can also result from any one or a combination of the following causes:

- Earthquake;
- Inadequate spillway capacity resulting in excess overtopping flows;
- Internal erosion caused by embankment or foundation leakage, or piping or rodent activity;
- Improper design;
- Improper maintenance;
- Negligent operation; and/or
- Failure of upstream dams on the same waterway.

Water released by a failed dam generates tremendous energy and can cause a flood that is catastrophic to life and property. A catastrophic dam failure could challenge local response capabilities and require evacuations to save lives. Impacts to life safety will depend on the warning time and the resources available to notify and evacuate the public. Major loss of life could result as well as potentially catastrophic effects to roads, bridges and homes. Electric generating facilities and transmission lines could also be damaged and affect life support systems in communities outside the immediate hazard area. Associated water supply, water quality and health concerns could also be an issue. Factors that influence the potential severity of a full or partial dam failure are the amount of water impounded; the density, type and value of development and infrastructure located downstream; and the speed of failure.

In general, there are three types of dams: concrete arch or hydraulic fill; earth and rockfill; and concrete gravity. Each type of dam has different failure characteristics. A concrete arch or hydraulic fill dam can fail suddenly; the flood wave builds up rapidly to a peak then gradually declines. An earthfill or rockfill dam gradually fails due to erosion of the breach; a flood wave will build gradually to a peak and then decline until the reservoir is empty. A concrete gravity dam can fail suddenly or gradually with a corresponding buildup and decline of the flood wave.

DWR, Division of Safety of Dams, assigns hazard ratings to large dams within the State. They follow the guidelines set forth by FEMA for dam hazard potential. The following two factors are considered when assigning hazard ratings: existing land use and land use controls (zoning)

downstream of the dam. Dams are classified in three categories that identify the potential hazard to life and property:

- High hazard indicates that a failure would most probably result in the loss of life
- Significant hazard indicates that a failure could result in appreciable property damage
- Low hazard indicates that failure would result in only minimal property damage and loss of life is unlikely

There are 83 dams in Modoc County constructed for flood control, storage, electrical generation and recreational purposes. Of the 84 dams, 6 are rated as High Hazard, 11 as Significant Hazard and 30 as Low Hazard. 37 dams in the County are not rated by the Division of Safety of Dams. In addition to the dams in the County, the Drews Reservoir, located north of the County in Oregon, that, should it fail, has the ability to impact Modoc County. Refer to Figure 1.

The LHMP identifies a history, since 1932, where several dams have failed. However, the last dam failure occurred over 30 years ago. Strengthened regulation of dams has cut failure rates in California and in Modoc County so it is unlikely a dam failure will occur in the future.

Levee Failure: *A* levee as a raised area that runs along the banks of a river or canal. Levees reinforce the banks and help prevent flooding. By confining the flow, levees can also increase the speed of the water. Levees can be natural or man-made. A natural levee is formed when sediment settles on the river bank, raising the level of the land around the river. To construct a man-made levee, workers pile dirt or concrete along the river banks, creating an embankment. This embankment is flat at the top and slopes at an angle down to the water. For added strength, sandbags are sometimes placed over dirt embankments.

Levees provide strong flood protection, but they are not failsafe. Levees are designed to protect against a specific flood level and could be overtopped during severe weather events. Levees reduce, not eliminate, the risk to individuals and structure behind them. Overtopping failure occurs when the flood water level rises above the crest of a levee.

The 2013 FIS noted that no significant flood problems have been experienced in the City of Alturas since the completion of the USACE channel modification and levee improvement project in 1972. Flood protection measures for the area have been constructed by the USACE. The last major project, which was completed in 1972, included the following (USACE, April 1972):

- Channel excavation from approximately 4,400 feet downstream of the east-west SPRR spur track to approximately 500 feet upstream of the SPRR north-south main track. The total project was approximately 1.9 stream miles.
- New levee constructed and levee improvements at several locations throughout the project area, including the construction of a wing levee upstream of the SPRR north-south main track. The total project was approximately 1.9 stream miles.

- Channel erosion prevention facilities included riprap and sacked concrete slope protection at numerous locations throughout the project.

This flood control project is maintained by Modoc County under an agreement with the USACE. The maintenance is performed in accordance with an Operation and Maintenance Manual prepared by the USACE (USACE, February 1973). These activities include channel debris and vegetation removal and maintenance and repair of slope protection and levees. The USACE periodically inspects the project facilities and provides the County with direction regarding maintenance and repair. These inspections are to ensure that the project continues to comply with the USACE standard.

Figure 19. Dams of Concern in Modoc County

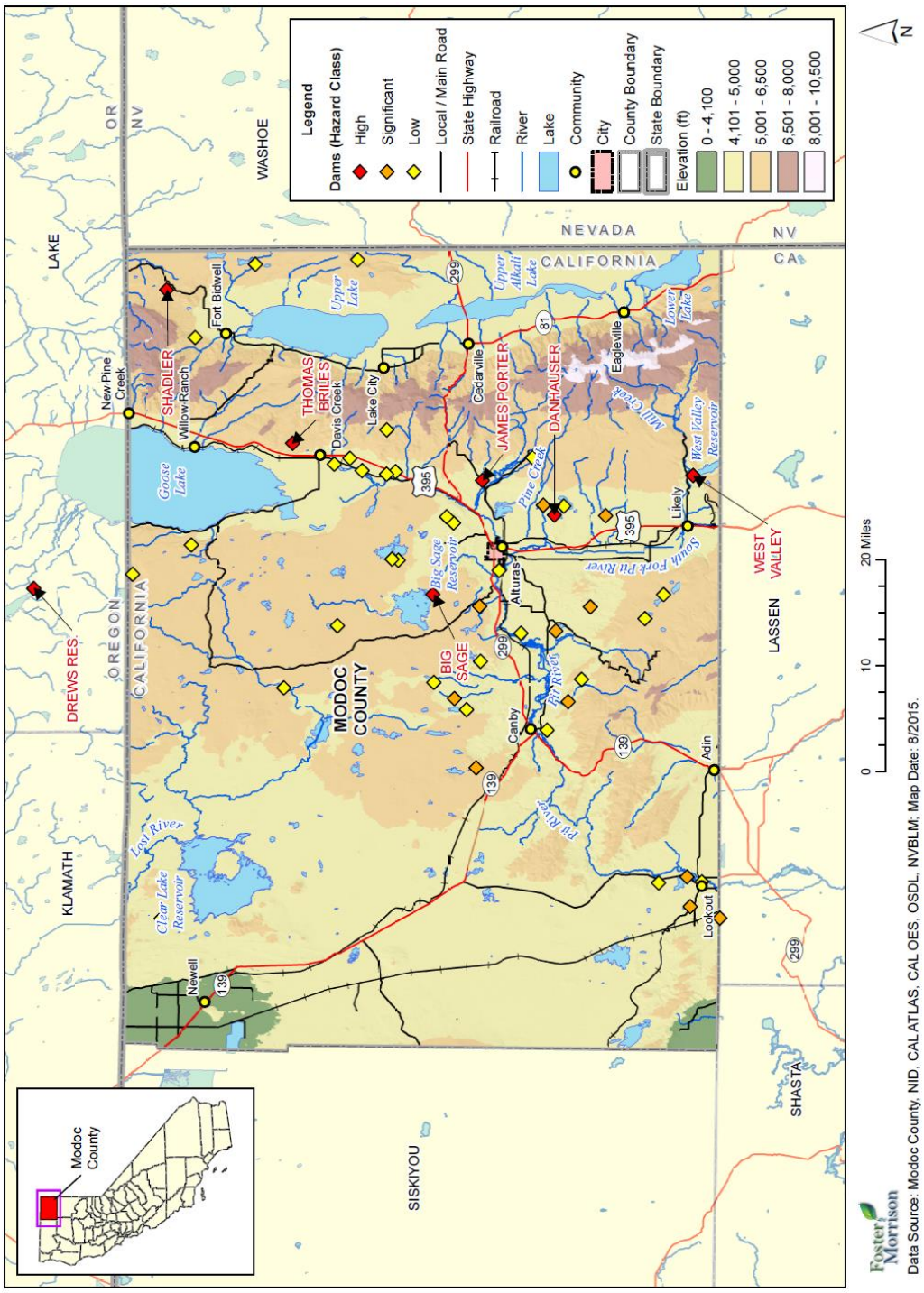
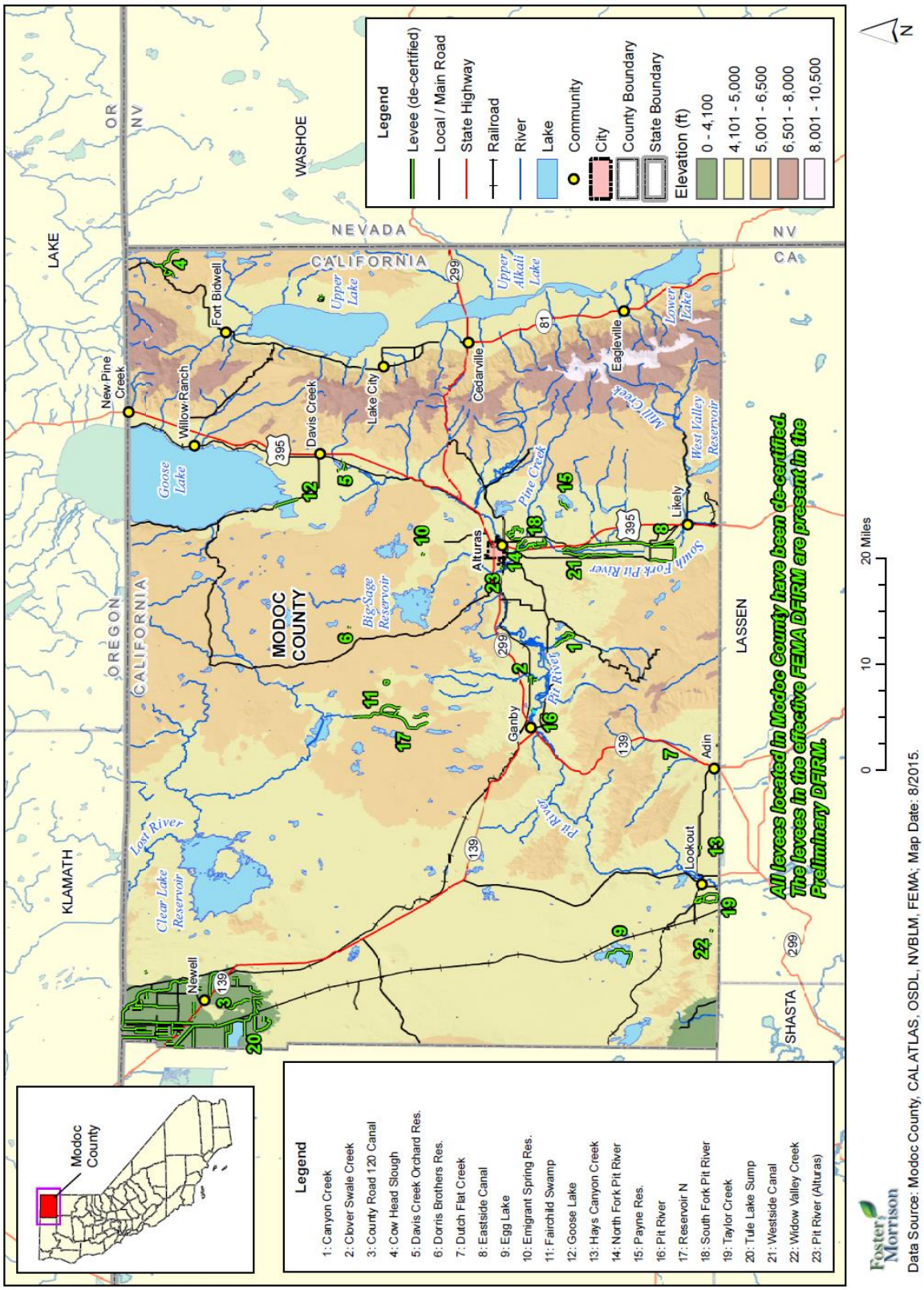


Figure 20. Leveed Areas in Modoc County



The levees associated with this flood control project are no longer accredited by FEMA as providing protection against the 1%-annual-chance flood. The National Levee Database also noted that there are no protecting levees existing within the County. In the 2013 FIS, it was also noted that no protecting levees exist within Modoc County.

> *There are numerous levee systems in Modoc County; however, none of them are accredited by FEMA as providing protection against the 1%-annual-chance flood.*

This means that while some levees are in place in the County and do provide some level of protection, they are not certified to protect against a 100-year flood. Leveed areas are shown on Figure 20. The LHMP indicates that existing levees have recently been decertified because they were built to pre-1982 standards as not providing protection from the 1%-Annual-Chance Flood. Based on the LHMP, there are no documented past occurrences of levee failure. There are additional problems with debris removal and rodent damage.

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XII. CLIMATE CHANGE

This section of the Safety Element was updated in 2018 to comply with Senate Bill 379 (Government Code Section 65302) regarding risks that climate changes poses to the County. In accordance with this law, the safety element must be revised upon an update of the housing element on or after January 1, 2017. The Housing Element was updated for the 2014-2019 Planning Cycle concurrently with other amendments made to the General Plan, including this Climate Change section of the Safety Element.

Climate change refers to any distinct change in measures of climate lasting for a long period of time, more specifically major changes in temperature, rainfall, snow, or wind patterns. Climate change may be limited to a specific region or may occur across the whole Earth. Climate change may result from:

- Natural factors (e.g., changes in the Sun's energy or slow changes in the Earth's orbit around the Sun);
- Natural processes within the climate system (e.g., changes in ocean circulation); and
- Human activities that change the atmosphere's make-up (e.g., burning fossil fuels) and the land surface (e.g., cutting down forests, planting trees, building developments in cities and suburbs, etc.).

Climate change is a natural occurrence in which the earth has warmed and cooled periodically over geologic-time. The recent and rapid warming of the earth over the past century has been cause for concern, as this warming has been associated with the accumulation of human-caused greenhouse gases such as CO2, in the atmosphere. This warming has taken place almost everywhere over the continents which strongly suggest that there is a global cause, rather than a mere coincidence of weather patterns that would result in patches of warming and cooling. The effects of climate change are varied: warmer and more varied weather patterns, melting ice caps and poor air quality, for example.

The 2013 State of California Multi-Hazard Mitigation Plan stated that climate change is already affecting California. The State has seen increased average temperatures, more extreme hot days, fewer cold nights, a lengthening of the growing season, shifts in the water cycle with less winter precipitation falling as snow and both snowmelt and rainwater running off sooner in the year. In addition to changes in average temperatures, sea level and precipitation patterns, the intensity of extreme weather events is also changing.

Climate change can have direct implications on almost every hazard addressed in the plan, with earthquake and hazardous materials being possible exceptions. Climate Change has the potential to alter the nature and frequency of most hazards. The Modoc County Local Hazard Mitigation Plan discusses the projected potential impacts to Modoc County from Climate Change ranging from increased hot temperatures and increased wind events to increased precipitation.

Senate Bill 379 requires that the Safety Element include climate adaptation and resiliency strategies. Such climate change components must include:

- A vulnerability assessment that identifies the risks climate change poses to the local jurisdiction and the geographic areas at risk from climate change.
- Set of adaptation and resilience goals, policies and objectives based on the information specified in the vulnerability assessment.
- Set of feasible implementation measures designed to carry out the goals, policies and objectives identified in the adaptation objectives.

VULNERABILITY ASSESSMENT

Based on the California Adaption Planning Guide (CAPG), Modoc County, is located in the North Climate Impact Region that includes all of Modoc, Lassen Shasta, Siskiyou and Trinity Counties (see Figure 21). Regions were designated based on county boundaries in combination with projected climate impacts, existing environmental setting, socioeconomic factors and regional designations. Significant climate change factors for the North Region included:

- Increased wildfire;
- Biological impacts on natural habitat;
- Reduced snowpack;
- Flooding; and
- Air Pollution.

Several aspects of the local economy in this region can be affected from climate change, including timber harvest, tourism, grazing and water supply, rely on the local ecosystem. Climate changes projected for this region may detrimentally affect these systems as well as threaten public safety and public health.

Grazing in Modoc County over the years has altered the vegetative pallet of the region by reducing native vegetation. This change has affected native vegetation and created conditions that provide invasive species a competitive advantage. Riparian areas are also detrimentally affected by livestock grazing. Climate change can also increase forest productivity in the short term, due to increased carbon dioxide and increased temperature. Ultimately, however, reduced water availability, drier conditions, altered pest and invasive species ranges and increased fire severity and frequency can harm forests. Large increases in wildfire are projected in all parts of the region (Klamath Mountains, Siskiyou Mountains, Southern Cascade Mountains, Modoc Plateau).

Wildfire affects not only the local ecosystem and timber industry, but also public health and safety. Respiratory illnesses can occur or be detrimental to the elderly and children under the age of five from air pollution resulting from wildfires. Fires not only jeopardize safety and property, but also can destroy resources for the timber industry and affect the local economy.

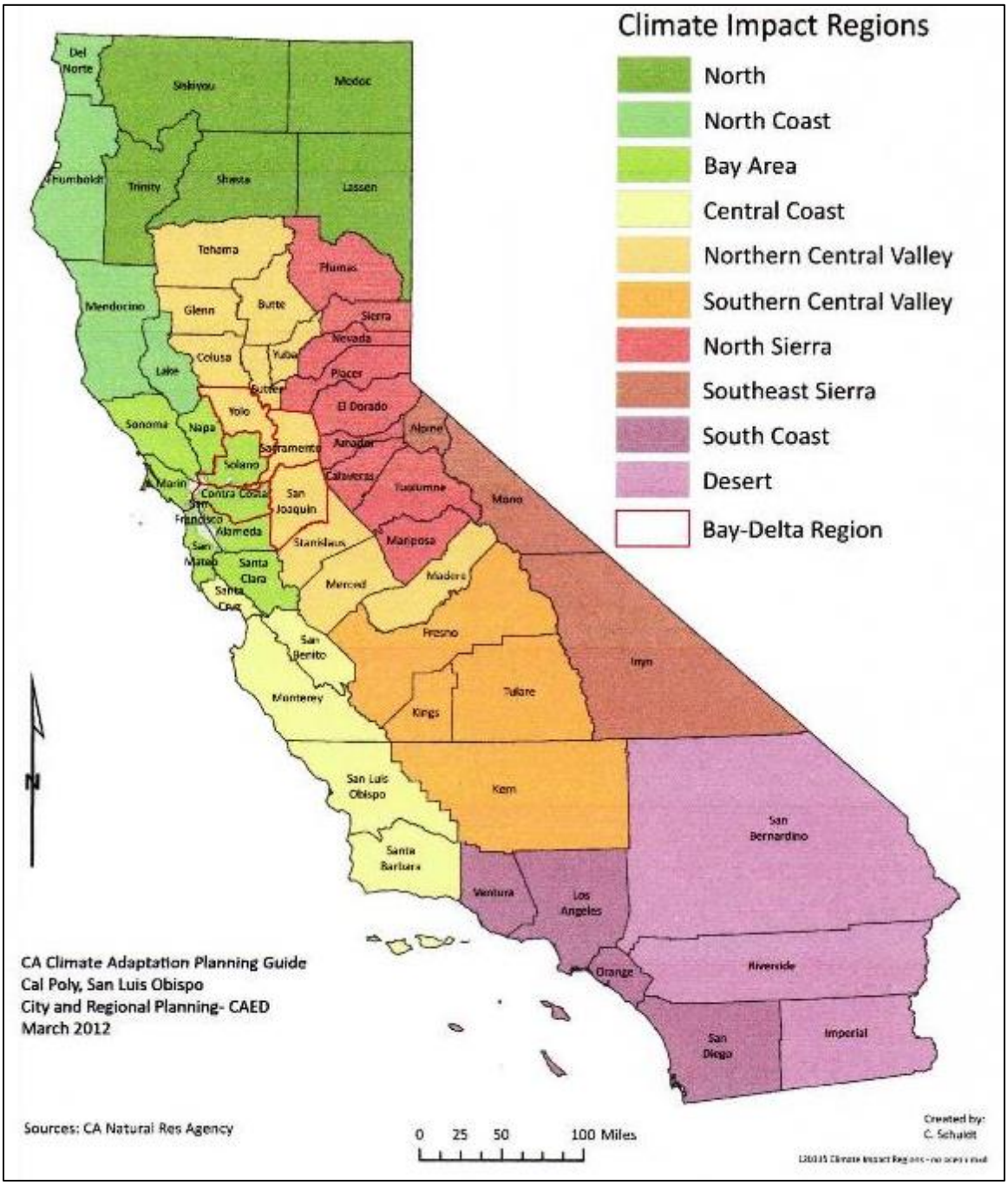
Modoc County has one of the highest proportion of elderly living alone. Populations that are isolated in some of the rural areas of the County may not have the means necessary to recognize impacts and/or evacuate. Therefore, wildfire can increase risk for injuries and death from burns and smoke inhalation and create heat-related illnesses.

Climate change can also result in shorter rainfall events and create rapid snowmelt that can reduce the region's water supply. Recreation and tourism in the region may suffer due to lower water levels in waterways and reservoirs and declining snowpack. Unstable working conditions in the tourism industry may increase the economic vulnerability of employees in this industry.

Rapid snowmelt events and intense rainfall can result in flooding. Flood events may overwhelm water treatment and wastewater management facilities and risk exposing communities to contaminated water resources. Higher temperatures and early snowmelt may also lengthen the life and impact of vector-borne diseases.

The following summarizes more significant hazards as they relate to climate change from the Modoc County Local Hazard Mitigation Plan.

Figure 21. California Climate Regions



WILDFIRE

This Safety Element previously discusses wildfires and the hazards they present to Modoc County. Relative to SB 379 and wildfire impacts, there is a strong probability that with climate change, wildfires and the hazards they create will become more prominent in the County. Wildfire hazard is the highest priority hazard in the County and is the hazard with the greatest potential for catastrophic loss. Implementation of a number of policies and programs in the

General Plan, including this Safety Element and implementation of a number of programs in the Modoc County Local Hazard Mitigation Plan are intended to help mitigate wildfire hazards.

SEVERE WEATHER

EXTREME HEAT

Extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks. Heat kills by taxing the human body beyond its abilities. Elderly persons, small children, chronic invalids, those on certain medications or drugs and persons with weight and alcohol problems are particularly susceptible to heat reactions, especially during heat waves in areas where moderate climate usually prevails.

Heat emergencies are often slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly take the lives of vulnerable populations. Heat waves do not cause damage or elicit the immediate response of floods, fires, earthquakes, or other more "typical" disaster scenarios. While heat waves are obviously less dramatic, they have the potential to cause more deaths than heat emergencies.

Table 6. Record High Temperatures – Alturas Ranger Station

Month	Temp	Date	Month	Temp	Date
January	69°	01/20/1907	July	108°	07/02/1956
February	75°	02/05/1910	August	106°	08/30/1912
March	82°	03/02/1971	September	106°	09/15/1911
April	87°	04/28/1934	October	93°	10/17/1905
May	98°	05/07/1916	November	83°	11/14/1916
June	102°	06/28/1934	December	72°	12/10/1932

Source(s): Western Regional Climate Center

As temperatures increase, California and Modoc County, residents will face increased risk of death from dehydration, heat stroke, heat exhaustion, heart attack, stroke and respiratory distress caused by extreme heat. According to the 2010 State of California Hazard Mitigation Plan, by 2100, hotter temperatures are expected throughout the state, with projected increases of 3-5.5°F (under a lower emissions scenario) to 8-10.5°F (under a higher emissions scenario).

In Modoc County, the monthly average high temperatures in the warmest months (July through September) range from the mid to upper 80s. One of the highest recorded daily extreme was 108°F on July 2, 1956. In a typical year, maximum temperatures exceed 90°F on 36.2 days. Details of monthly high temps are shown in Table 6. Extreme heat can also impact the County's

agricultural industry. Higher temperatures are expected to continue to occur in Modoc County due to climate change; thus, the likelihood of future high temperature occurrences is highly likely.

HEAVY RAINS AND STORMS (THUNDERSTORMS, HAIL, LIGHTING)

Storms in the Modoc County are generally characterized by heavy rain often accompanied by strong winds and sometimes lightning and hail. Approximately 10% of the thunderstorms that occur each year in the United States are classified as severe. A thunderstorm is classified as severe when it contains one or more of the following phenomena: hail that is three-quarters of an inch or greater, winds in excess of 50 knots (57.5 mph), or a tornado. Heavy precipitation in the Modoc County area falls mainly in the fall, winter and spring months.

Average annual precipitation at the Alturas Ranger Station is 12.32 inches per year. While this number is on the lower side, it doesn't include the 30.2 inches of average snowfall. The highest recorded annual precipitation is 20.9 inches in 1998; the highest for a 24-hour period is 3.51 inches on December 11, 1937. The lowest recorded annual precipitation was 6.54 inches in 1976. The highest amount of precipitation to fall in one day was on December 11, 1937 when 3.51 inches of rain fell. Average monthly precipitation totals for the Alturas Ranger Station are shown in Figure 21. Precipitation extremes for this station are shown in Figure 22.

Hail is sometimes associated with severe storms within the Modoc County Planning Area. Hailstones are usually less than two inches in diameter and can fall at speeds of 120 miles per hour (mph). Severe hailstorms can be quite destructive, causing damage to roofs, buildings, automobiles, vegetation and crops.

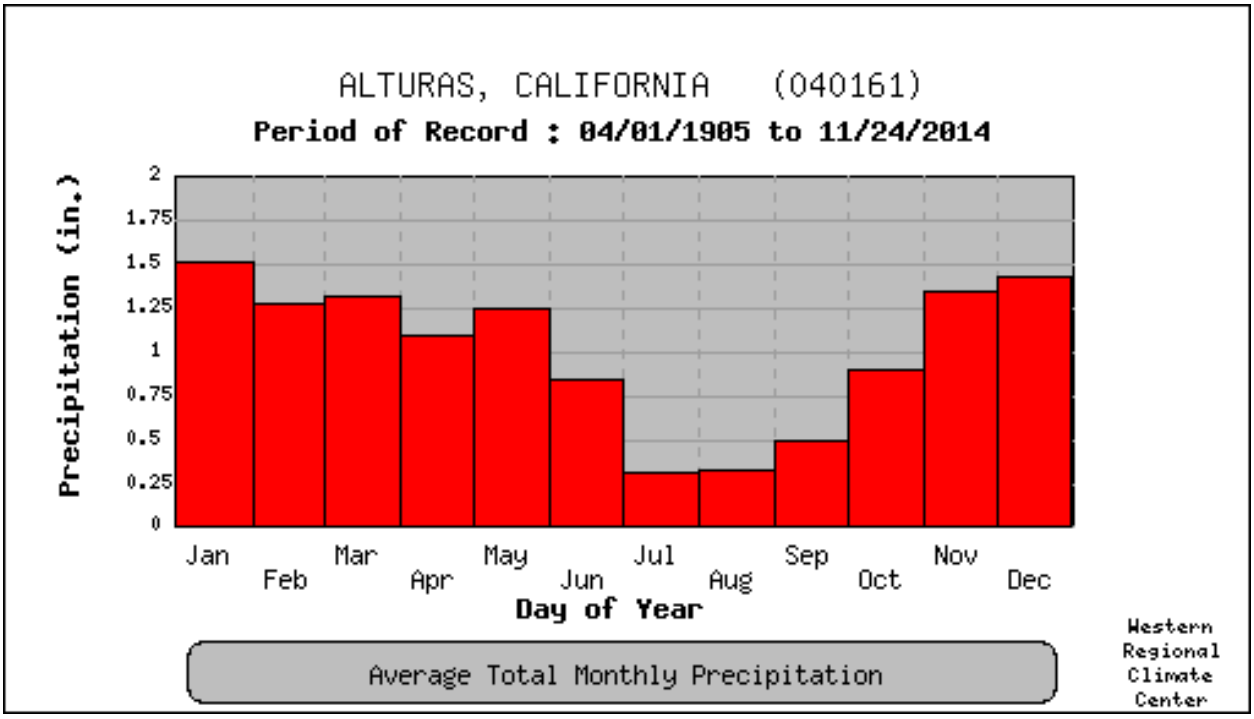
Thunderstorms and lightning are usually (but not always) accompanied by rain. Cloud-to-ground lightning can kill or injure people by direct or indirect means. Objects can be struck directly, which may result in an explosion, burn, or total destruction. Or, damage may be indirect, when the current passes through or near an object, which generally results in less damage.

Heavy rains and severe storms occur in Modoc County primarily during the late fall, winter and spring (i.e., November through April). Damaging winds often accompany winter storm systems moving through the area. Short-term, heavy storms can cause both widespread flooding as well as extensive localized drainage issues. In addition to the flooding that often occurs during these storms, strong winds, when combined with saturated ground conditions, can down very mature trees.

The National Climate Data Center (NCDC) recorded 5 hail, heavy rain and lightning incidents for Modoc County since 1958 (see Table 7).

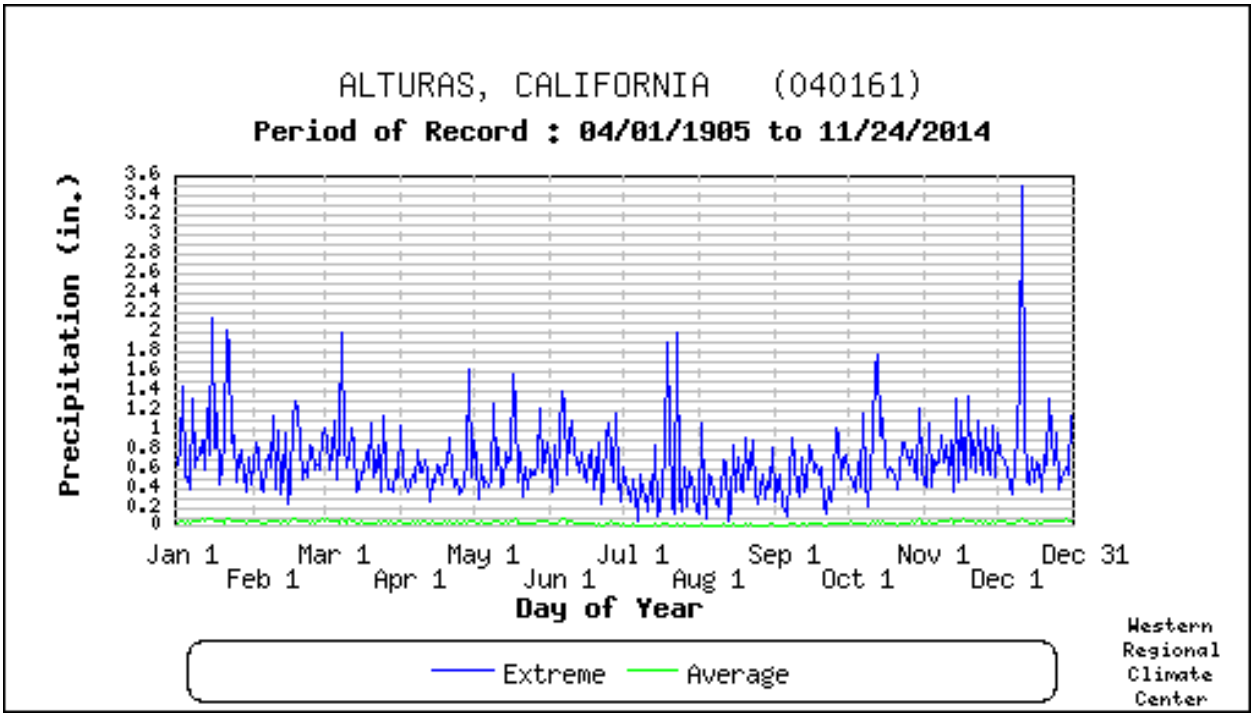
According to the California Climate Adaptation Strategy CCAS, while average annual rainfall may increase or decrease slightly in Modoc County, the intensity of individual rainfall events is likely to increase during the 21st century. It is unlikely that hail will become more common in the County. The amount of lightning is not projected to change.

Figure 22. Average Total Precipitation at Alturas Ranger Station



Source(s): Western Regional Climate Center

Figure 23. Daily Precipitation Compared to Extremes



Source(s): Western Regional Climate Center

Table 7. Severe Weather Events in Modoc County					
Date	**Event**	**Deaths**	**Injuries**	**Property Damage**	**Crop Damage**
07/23/1958	Hail	0	0	$0	$0
06/11/1997	Hail	0	0	$0	$60,000
07/23/2003	Hail	0	0	$0	$0
08/04/2003	Hail	0	0	$0	$0
09/03/2003	Lightning	0	0	$0	$0
Total		**0**	**0**	**$0**	**$60,000**
Source(s): NCDC					

HIGH WINDS

High winds are considered sustained wind speeds of 40 mph or greater lasting for 1 hour or longer, or winds of 58 mph or greater for any duration. These winds may occur as part of a seasonal climate pattern or in relation to other severe weather events such as thunderstorms. Modoc County is primarily subject to significant, non-tornadic (straight-line), winds. Straight-line winds may also exacerbate existing weather conditions by increasing the effect on temperature and decreasing visibility due to the movement of particulate matters through the air, as in dust and snow storms. The winds may also exacerbate fire conditions by drying out the ground cover, propelling fuel around the region and increasing the ferocity of exiting fires. These winds may damage crops, push automobiles off roads, damage roofs and structures and cause secondary damage due to flying debris.

The highest speed straight line winds in Modoc County come from microbursts. A microburst is a downdraft (sinking air) in a thunderstorm that is less than 2.5 miles in scale. Some microbursts can pose a threat to life and property, but all microbursts pose a significant threat to aviation. Although microbursts are not as widely recognized as tornadoes, they can cause comparable and, in some cases, worse damage than some tornadoes produce. In fact, wind speeds as high as 150 mph are possible in extreme microburst cases.

The NCDC data recorded 38 high wind incidents for Modoc County since 1993. No tornado incidents were recorded for Modoc County in the NCDC database. A summary of these wind events is shown in Table 7. Specific events in the NCDC database showing damages, deaths, or injuries are detailed below the table. The Modoc County Local Hazard Mitigation Plan provides more details of these events.

Table 8. Wind Events in Modoc County Between 1993 and 2014					
Event Type	**# of Events**	**Deaths**	**Injuries**	**Property Damage**	**Crop Damage**
High Wind	33	0	0	$30,000	$0
Strong Wind	2	0	0	$0	$0
Thunderstorm Wind	3	0	0	$36,000	$0
Total	**38**	**0**	**0**	**$66,000**	**$0**
Source(s): NCDC					

The 38 wind incidents over a 22-year period (1993-2014) equates to a severe storm event every year and a 100% chance of a severe storm in any given year. This database doesn't report all and wind and tornado events. Severe weather, is a well-documented seasonal occurrence that will continue to occur annually in the County. The intensity of wind events is likely to increase during the 21st century. This may bring stronger thunderstorm winds.

CLIMATE CHANGE, DROUGHT AND WATER SHORTAGE

Historical drought data for Modoc County indicate there have been 3 significant droughts in the last 65 years. This equates to a drought occurring every 21.7 years, on average, or a 4.6% chance of a drought in any given year. Based on this data, droughts will occasionally affect Modoc County. To off-set surface water shortages during droughts, ground water is available. Based on the Modoc County Local Hazard Mitigation Plan some shallow wells went dry during the 2014-15 drought. However, based on an assessment in the Modoc County Local Hazard Mitigation Plan, the County has sufficient ground and surface water supply for the near future.

CLIMATE CHANGE ADAPTION, AND RESILIENCY POLICIES AND PROGRAMS

A number of policies and programs have been incorporated into this Safety Element to address climate change, including a program to develop a climate action plan (if funding becomes available). In addition, there are a number of overlapping programs developed, both in the General Plan, Safety Element and Local Hazard Mitigation Plan that address hazard reductions that will improve climate change adaption, such as developing new fire and building regulations that restrict buildings and relocates critical public safety facilities, such as hospitals away from high fire hazard areas (SB 1241).

OTHER HAZARDS

The Modoc County Local Hazard Mitigation Plan (LHMP), which has been incorporated into the General Plan, includes a more complete evaluation of other hazards beyond those of more focus, such as geologic, seismic, flooding, climate change and wildland fires. These hazards include hazardous materials transport, freezing and erosion.

SAFETY ELEMENT GOALS, POLICIES AND PROGRAMS

GOALS

SE 1: TO PROTECT THE PUBLIC HEALTH AND SAFETY THROUGH LIMITATION OF DEVELOPMENT IN HAZARDOUS AREAS.

SE 2: PROTECT THE COMMUNITY FROM RISKS POSED BY CLIMATE CHANGE (SB-379).

SE 3: PROTECT THE COMMUNITY FROM RISKS POSED BY FLOODING (AB-162).

SE 4: PROTECT THE COMMUNITY FROM THE RISKS POSED BY WILDFIRE (SB-1241).

POLICIES

SE A. The County should not permit new development on land which has been identified as environmentally unsound to support such development.

SE B. Any development on hillsides should minimize topographic alteration. In any case, development should be restricted to slopes of 30% or less.

SE C. New development should demonstrate the availability of adequate fire protection and suppression facilities (SB-1241 and SB-379).

SE D. Recommendations within the state Fire Safe Guide should be implemented wherever practical in Modoc County (SB-1241 and SB-379).

SE E. Urban and rural residential development should be discouraged in hillside areas lacking an adequate water supply or nearby available fire protection facilities (SB-1241 AND SB-379).

SE F. Development should generally be discouraged in areas of high wildland fire hazard where vegetation management programs, including the creation and maintenance of fuel breaks to separate urban uses would result in unacceptable impacts on open space, scenic and ecological conditions (SB-1241 and SB-379).

SE G. All urban and rural development, existing and proposed, should be provided with adequate water supply and fire protection facilities and services. Facilities serving hill area development should be adequate to provide both structural and wildland fire protection. The primary responsibility falls upon the owner and the developer (SB-1241 and SB-379).

SE H. The County shall limit residential development to very low densities in high fire hazard zones (SB-1241 and SB-379).

SE I. The County shall require all new homes in rural residential areas that are located in "high" and "very high" fire hazard areas to be sited and designed to minimize risks to life and property (SB-1241 and SB-379).

SE J. Industrial and commercial development should generally be discouraged in areas of high wildland fire or other hazard areas (SB-1241 and SB-379).

SE K. The County shall identify primary emergency vehicle routes and links between the medical facilities, fire and police facilities (SB-1241).

SE L. Provide adequate access to high hazard wildland/open space areas (SB-1241).

SE M. The County shall work with fire safety agencies to reduce fire hazards along roadways (SB-1241 and SB-379).

SE N. Integrate open space into fire safety planning and effectiveness (SB-1241 and SB-379).

SE O. Mitigate unique pest, disease and other forest health issues that can lead to hazardous situations (SB-1241).

SE P. Intense recreational uses and residential development should be discouraged in hill open space areas lacking an adequate water supply or nearby available fire protection facilities (SB-1241 and SB-379).

SE Q. The County shall require that open space within developed areas be designed and maintained to minimize fire hazards and ensure compatibility between development and any significant biological resources (SB-1241 and SB-379).

SE R. Include resource management activities to enhance protection of open space and natural resource values (SB-1241).

SE S. Integrate open space into fire safety planning and effectiveness (SB-1241).

SE T. Hill area development and particularly that adjoining heavily vegetated open space area, should incorporate careful site design, use of fire retardant building materials and landscaping, development and maintenance of fuel breaks and vegetation management programs and provisions to limit public access to open space areas in order to minimize wildland fire hazards (SB-1241 and SB-379).

SE U. Structures, features of structures, or uses which present an unacceptable risk of fire should be brought into conformance with applicable fire safety standards (SB-1241 and SB-379).

SE V. The current Modoc County Local Hazard Mitigation Plan (LHMP) is incorporated into this General Plan by reference (SB-1241, AB 162 and SB-379).

SE W. Continue to update the Local Hazard Mitigation Plan to address climate change (SB-1241, AB-162 and SB-379).

SE X. The County shall decline to approve development in the one hundred-year flood zone unless mitigation measures meeting Federal Flood Insurance Administration criteria are provided (AB 162 and SB-379).

SE Y. The County shall assure that any new development in the County located within a flood zone shall include adequate flood control mitigation measures (AB 162 and SB-379).

SE Z. The County shall work with the Lassen-Modoc County Flood Control and Water Conservation District in the project review process to ensure that adequate measures are implemented to prevent flooding (AB 162).

SE AA. The County shall adhere to the provisions of the current Modoc County Local Hazard Mitigation Plan.

SE BB. Locate, when feasible, new essential public facilities outside of flood and fire hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers and emergency communications facilities. When such location is necessary, identify construction methods or other methods to minimize damage to such facilities (SB 1241 and AB 162).

SE CC. New development shall provide and continually maintain adequate water supplies, access for adequate fire safety, street addressing and signage, vegetative clearance, evacuation, fuel modification and defensible space in accordance with Cal Fire, Fire Safe Regulations.

ACTION PROGRAM

SE A. Zone or otherwise designate all areas within potential hazard areas so as to ensure safe development or appropriate mitigation measures.

SE B. Prepare a hillside development ordinance and implement same in the review and approval of development in slope areas.

SE C. Review the existing flood zoning to ensure that all potential flood hazard areas are adequately zoned.

SE D. Implement all appropriate recommendations for the Fire Safe Guide.

SE E. The County shall collaborate with CalFire and other fire agencies to develop a County Fire Code. This shall include fire protection plan requirements for development in very high fire hazard areas (SB-1241).

SE F. The County shall periodically update the County's Building Code to include new flood resistant construction techniques (SB-1241).

SE G. The County shall decline to approve development in the one hundred-year flood zone unless mitigation measures meeting Federal Flood Insurance Administration criteria are provided (SB-1241).

SE H. The County shall assure that any new development in the County (except Alturas) located within a flood zone shall include adequate flood control mitigation measures (AB-162).

SE I. The County should collaborate with the California Department of Forestry and Fire Protection and local fire protection districts to inspect development projects to assure fire risks are minimized (SB-1241).

SE J. The County shall work with the local fire districts and the California Department of Forestry and Fire Protection to develop and implement an effective and environmentally sound weed abatement program and utilize the CDF defensible space standards and recommendations (SB-1241).

SE K. The County shall work with local fire districts and the California Department of Forestry and Fire Protection to use the Lassen-Modoc CalFire Unit Fire Plan as the standard to develop fire hazard evaluations, assessments of assets at risk, prioritization of hazard mitigation actions and implementation and monitoring components. This effort will include development and establishing regulations that comply with Title 14, CCR, Division 1.5, Chapter 7, Subchapter 2, Articles 1-5 (commencing with Section 1270) (SRA Fire Safe Regulations) and title 14, CCR, Division 1-5, Chapter 7, Subchapter 3, Article 3 (commencing with Section 1299.01 (Fire Hazard Reduction Around Buildings and Structures Regulations) for SRAs and/or VHFHZs (SB-1241).

SE L. The County shall collaborate with the California Department of Forestry and Fire Protection and the appropriate interest groups, such as the Modoc County Fire Safe Council, to develop and maintain a Community Wildfire Prevention Plan. This will include programs that create wildfire defense zones, such as fuel breaks and staging areas for emergency services (SB-1241).

SE M. The County shall implement policies and programs throughout the General Plan, such as the Circulation Element, to improve emergency access to high hazard/open space areas (SB-1241).

SE N. The County recognizes that portions of the county are located in a Very High Fire Hazard Severity Zone and, therefore, will comply with relevant State regulations per Government Code Section 51175 (SB-1241).

SE O. The County shall work with the local fire districts and the California Department of Forestry and Fire Protection to identify and map substandard structures that pose a fire safety threat and coordinate and provide for appropriate fire hazard mitigation, such as rehabilitation or demolition (SB-1241).

SE P. In collaboration with the local fire districts and the California Department of Forestry and Fire Protection, the County shall monitor and review existing critical, high priority buildings and remove or have them retrofitted to ensure structural compliance with seismic safety standards (SB-1241).

SE Q. The County shall annually review changes to the National Flood Insurance program and inform residents within the one hundred-year flood zone of significant changes (AB 162).

SE R. The County shall implement all mitigation measures listed in the Modoc County Local Hazard Migration Plan adopted on February 14, 2017 and as updated from time to time (SB-1241 and AB 162).

SE S. The County shall collaborate with local fire districts and the California Department of Forestry and Fire Protection to develop an overall evacuation plan for catastrophic emergencies.

SE T. The County shall collaborate with local fire districts and the California Department of Forestry and Fire Protection to conduct periodic public outreach programs to implement the Modoc County Mitigation Plan. This program shall include assessment of and projection of current and future needs for service.

SE U. The County shall collaborate with local fire districts and the California Department of Forestry and Fire Protection to develop a water supply fire protection plan that:

1 Prioritizes areas in need of water supply infrastructure.

2 Maintenance and long-term integrity of planned and existing water supply infrastructure.

3 Includes information on emergency service trainings and inter-agency preparedness coordination or mutual aid agreements.

SE A. When conducting regular maintenance of paved surfaces, evaluate the potential life cycle costs of changing the pavement binder to be able to withstand higher temperatures or using of cool pavements.

SE B. To the extent the County has funding availability, the County should prepare and adopt a Climate Action Plan that provides goals, objectives, policies and programs for adaption to climate change.

XIII. ACTION PROGRAM

This Plan contains a number of actions necessary to implement its goals and policies. A separate Action Program for this will be developed and incorporated into the General Plan by the Planning Department once this General Plan Update for 2017 has been completed.

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APPENDICES

The following Appendices A, B, C, D, E and F are scanned in copies of the Appendices contained in the original "County of Modoc, 1998 General Plan, Goals, Policies and Action Program" document. Appendix G is the Modoc County Local Hazards Mitigation Plan (as updated from time to time). Appendix H is a map of all the fire protection districts located within Modoc County.

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APPENDIX A

APPENDIX A

DEVELOPMENT CRITERIA
FOR DEVELOPMENT WITHIN CRITICAL WILDLIFE HABITATS

INTRODUCTION

One way the General Plan protects critical wildlife habitats is through the consideration of development criteria to be applied on a project by project basis. Types of mitigation measures (development criteria) that should be considered in connection with specific wildlife habitats identified on the Critical Wildlife Habitat Maps are set forth in Appendices A and B. Appendix A describes various development criteria to be considered as mitigation measures and project conditions.

Appendix B presents a "menu" linking the development criteria with specific critical wildlife habitats. The "menu" approach allows alternative mitigation features to be considered whenever possible, in order to take in account varying landowner development plans. Depending on the value of the habitats , alternative mitigation measures may be considered. It is also noted that other types of mitigation measures (such as fencing or cover detention) may be considered on a case-by-case basis. In addition there may be other wildlife values in connection with individual projects which are not addressed by this Plan; these will be considered on a case-by-case basis as required under the California Environmental Quality Act.

DESCRIPTION OF DEVELOPMENT CRITERIA

Various types of development criteria which should be considered as mitigation measures and project conditions are described in the following sections.

Minimum Parcel Sizes

The requirement that property proposed for subdivision be reviewed for consideration of minimum parcel size limitations is a well understood concept. Since areas under the three acre minimum general agriculture designation encompass a variety of critical wildlife habitats, several minimum parcel size categories are recommended. Minimum parcel sizes are primarily used to protect critical deer winter range, antelope winter range, and in cases where a variety of resources exist in one area. Implementation will be through rezoning to a zone with a comparable minimum parcel size, or use of the minimum lot size overlay zone. Several minimum parcel sizes are recommended in Appendix B.

Clustering Parcels

Clustering a number of small parcels in one location and restriction of further subdivision on the remainder of the parcel can concentrate development, and thus impacts, away from critical habitats. The remaining undeveloped land could be retained in one parcel by the original landowner, or could be placed in common ownership of the purchasers of the clustered parcels. This common area or remaining unsubdivided parcel would be rezoned

to prohibit future division of the property or the minimum lot size zone adopted. Continued use of the remaining undeveloped parcel would include those uses permitted under the zone in which the property is located. Clustering criteria includes:

1. A series of clustering options to be applied as a substitute for various minimum parcel sizes as shown on the illustration following.

2. Clustering of parcels in a concentrated area requires that the remaining acres be prohibited from further subdivision, and either placed in joint ownership and rezoned to prevent further division, or retained by the subdivider and rezoned to prevent further division.

3. In cooperation with the landowner and the Planning Department, the CDFG biologist should be given an opportunity to recommend sites for cluster development, corresponding to areas of lower habitat value.

4. No proposed development site should eliminate or significantly reduce a critical habitat for critical wildlife species, including wildlife watering sites, mineral springs, key thermal cover areas, roost sites, nesting concentration areas, etc. These types of habitats are not generally designated on the Critical Wildlife Habitat Maps. This mitigation would normally only apply when the habitat in question is known to be crucial to the wildlife in the area and its destruction would be limiting to population levels.

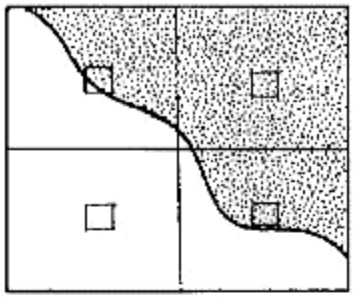
5. No cluster development site should have a significant adverse impact on any species of fish, plant, bird, amphibian, reptile or insect officially designated as endangered, threatened or rare by the California Fish and Game Commission.

6. Where feasible, the location for the clustering of parcels, particularly parcels which would not have habitat value due to their small size, should be near access roads or other natural or manmade impediments or disturbed areas.

Clustering Dwellings on Several Parcels

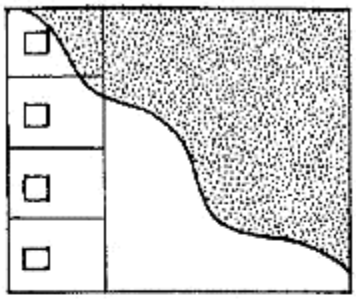
When one parcel is subdivided into several parcels, a coordinated scheme to cluster the dwelling on each parcel in one general area or along access roads can reduce impacts to critical habitats. Clustering allows an alternative method of mitigation which should be considered in order to enhance landowner choice. Impact reduction results by either clustering dwellings away from critical habitats, or because the areas of disruption are concentrated in one area and affect less habitat. Thus, for example, a landowner may be allowed to have a choice of either subdividing 20 acre parcels without providing for clustering dwellings, or alternatively 10 acre parcels if dwellings are to be clustered. Clustering dwellings may be implemented through a zoning overlay, deed restrictions or other restrictions such as covenants, codes and restrictions imposed at the time of subdivision. Criteria to be applied when clustering dwelling includes:

EXAMPLES OF CLUSTERING



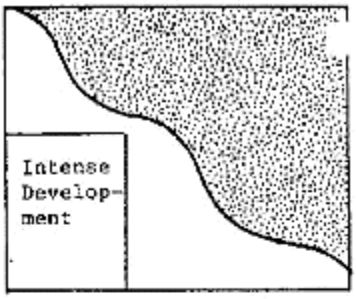
WITHOUT CLUSTERING

- o 160 acres
- o (4) 40 acre parcels
- o Structures randomly placed
- o Maximum negative impact



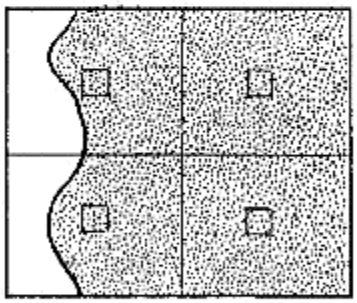
WITH CLUSTERING

- o 160 acres
- o (4) 15 - 20 acre parcels
- o Structures adjacent to roads away from habitat
- o Minimize impacts



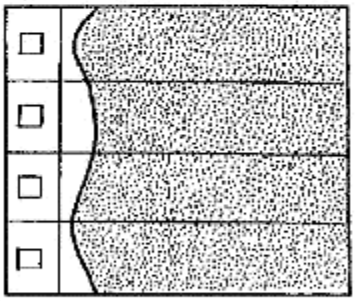
WITH CLUSTERING

- o 160 acres
- o Portion intensively developed
- o Remainder undeveloped- 80 - 100 acres
- o Minimize impact



WITHOUT CLUSTERING

- o 20 acres
- o (4) 5 acre parcels
- o Structures randomly placed
- o Maximum negative impact



WITH CLUSTERING

- o 20 acres
- o (4) 5 acre parcels
- o Length 1320' x width 162'
- o Structures adjacent to roads away from habitat
- o Potential for cover retention on rear half of lot
- o Minimize impact

WITH CLUSTERING

- o 160 acres
- o (4) 40 acre parcels
- o Structures clustered
- o Minimize impact

1. In cooperation with the landowner and the Planning Department, the CDFG biologist should be given an opportunity to recommend locations for cluster development, which would allow identification of areas of lower habitat value.

2. No proposed dwelling clustering site should eliminate or significantly reduce a critical habitat for critical wildlife species, including wildlife watering sites, mineral springs, key thermal cover areas, roost sites, nesting concentration areas, etc. These types of habitats are not generally designated on the Critical Wildlife Habitat Maps. This mitigation would normally only apply when the habitat in question is known to be crucial to the wildlife in the area and its destruction would be limiting to population levels.

3. No dwelling cluster site should have a significant adverse impact on any species of fish, plant, bird, amphibian, reptile or insect officially designated as endangered, threatened or rare by the California Fish and Game Commission.

4. When feasible, development sites should be located along parcel boundaries, access roads, or other existing selected development or physical impediments.

Clustering Parcel Activity

When a proposal requiring discretionary County approval to develop a commercial, industrial, or agricultural-industrial use on a parcel is located in an area with critical wildlife habitats, clustering buildings and human activity in one location on the subject parcel, rather than scattering activity over the entire parcel can reduce impacts. Examples of this type of clustering would be in conjunction with the issuance of a use permit for a agricultural processing plant, or a zone change to an industrial zone. In the case of a use permit, the siting of the improvements can be specified upon issuance of the permit. In the case of a zone change, such as to industrial, a mitigating condition of approval may include imposition of an overlay zone, restricting the zone to a portion of the property, or other project conditions. Criteria to be included in the clustering of buildings and human activity on one parcel includes:

1. In cooperation with the landowner and the Planning Department, the CDFG biologists should be given an opportunity to recommend locations for clustering activity which would allow identification of areas of lower habitat value.

2. No proposed building or activity on a clustering site should eliminate or significantly reduce a critical habitat for critical wildlife species, including wildlife watering sites, mineral springs, key thermal cover areas, roost sites, nesting concentration areas, etc. These types of habitats are not generally designated on the Critical Wildlife Habitat Maps. This

mitigation would normally only apply when the habitat in question is known to be crucial to the wildlife in the area and its destruction would be limiting to population levels.

3. No building or activity cluster site should have a significant adverse impact on any species of fish, plant, bird, amphibian, reptile or inspect officially designated as endangered, threatened or rare by the California Fish and Game Commission.

4. When feasible, development sites should be located along parcel boundaries, access roads, or other existing development or physical impediments.

Building Setback Requirements

In some cases wildlife resources are most effectively protected when buildings are placed away from the resource. Building setbacks can often be used to allow development to go forward, while protecting wildlife resources. Such setbacks can be implemented through an overlay zone, convenants, codes and restrictions, or site design if a use permit is involved,

1. Key antelope migration routes/antelope migration corridors/deer migration corridors can be protected by a minimum building setback up to 1,320'.

2. In other cases, a resource may be effectively protected by a building setback which would be determined based on the type of wildlife resource. Protection of rare, threatened and endangered species could include a building setback restriction.

Threatened and Endangered Species Development Prohibition or Modification Areas

Mitigation for protection of threatened and endangered species as officially designated by the California Fish and Game Commission is primarily through a redesign, modification or restriction of development within specified distances of nesting territories or critical habitats. Implementation of this measure could include conservation easements, avoidance of specific site development when a use permit is required, overlay zone, clustering of subdivision away from sites, or other development standards.

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APPENDIX B

APPENDIX B

MITIGATION "MENU" FOR LINKING DEVELOPMENT CRITERIA
WITH SPECIFIC CRITICAL WILDLIFE HABITATS

INTRODUCTION

Appendix B specifies the types of development criteria that should be considered to mitigate impacts to wildlife resources identified in the General Plan. Appendix B presents a menu approach to identifying development criteria in order to promote flexibility to the landowner while protecting specific wildlife resources for the future. The alternative mitigation measures presented as a menu are more or less restrictive based on the value of the habitat. Since the areas on the Critical Wildlife Habitat Maps, on file in the Planning Department are all critical but are of a broad-brush nature, there are areas within the delineated boundaries that have higher values than others. This is generally a function of habitat type and the relative quality of various habitat components such as forage, thermal cover, escape cover, water and breeding areas. Using deer winter range as an example, areas where bittertbrush is dense and in good condition coupled with good thermal and escape cover is extremely important to deer. Areas where there is bare ground or sparse vegetation of poor quality coupled with little or no thermal or escape cover are not as important. The determination of appropriate mitigation measures will occur through field evaluations of projects on a case-by-case basis. The vehicle for this analysis is the County Environmental Review Committee along with the landowner or project sponsor, CDFG and the Planning Director. This general approach is outlined in the General Plan with specifics to be developed through measures established by the Planning Commission and Board of Supervisors as part of the action programs.

RESOURCE/MITIGATION MENU

Deer Winter Range

1. 80 acre minimum parcel size or larger:
   - no additional requirements necessary

2. 40 acre minimum parcel size:
   - no additional requirements in less critical habitat areas
   - clustering of parcels and dwellings recommended in more critical habitat areas

3. 20 acre minimum parcel size:
   - applies only to less critical habitat areas
   - clustering of parcels and dwellings recommended
   - building setbacks close to existing or proposed roads recommended
   - cover retention on the remaining undeveloped portion of each parcel recommended

4. 10 acre minimum parcel size:
   - applies only to less critical habitat areas
   - clustering of parcels and dwellings recommended
   - building setbacks close to existing or proposed roads

recommended
- cover retention on the remaining undeveloped portion of each parcel recommended

5. 5 acre minimum parcel size:
   - applies only to lower value habitat areas
   - specific configuration and location of lots recommended with dimensions of 165' x 1,320'. The 165' width should front the access road or easement, such that parcels are arranged side by side
   - building setbacks near existing or proposed roads recommended
   - cover retention on the remaining undeveloped rear portions of lots recommended

Antelope Winter Range

1. 80 acre minimum parcel size or larger:
   - no additional requirements necessary

2. 40 acre minimum parcel size:
   - clustering of parcels and dwellings recommended

3. 20 acre minimum parcel size:
   - applies only to less critical habitat areas
   - clustering of parcels and dwellings recommended
   - building setbacks near existing or proposed roads recommended

Antelope Kidding Grounds

1. 80 acre minimum parcel size or larger:
   - no additional requirements necessary

2. 40 acre minimum parcel size:
   - clustering of parcels and dwellings recommended

3. 20 acre minimum parcel size:
   - would apply only to less critical habitat areas
   - clustering of parcels and dwellings recommended
   - building setbacks near existing or proposed roads recommended

Key Antelope Migration Routes/Antelope Migration Corridors/Deer Migration Corridors

- Building setbacks of up to 1,320 feet recommended
- Antelope fencing standards are recommended for fences crossing antelope migration corridors or routes

Three or More Critical Resources in One Location

1. 80 acre minimum parcel size or larger:

   - no additional requirements necessary

2. 40 acre minimum parcel size:
   - clustering of parcels and dwellings recommended

3. Migration Routes/Corridors:
   - building setbacks of up to 1,320 feet recommended
   - antelope fencing standards are recommended for fences crossing antelope migration routes or corridors

Threatened or Endangered Species

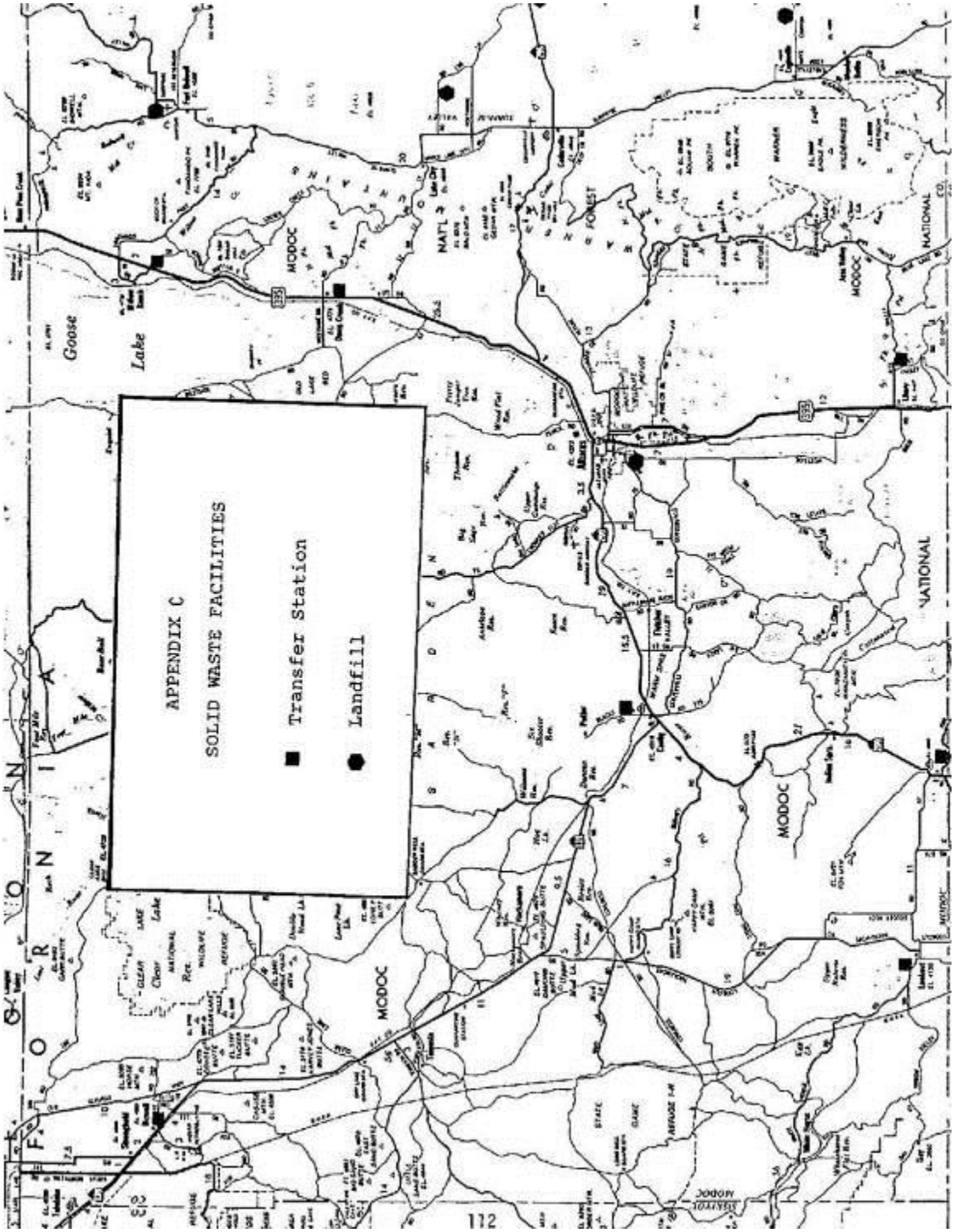
1. Bald Eagle Nesting Territories
   - Redesign, modification or restriction of development within the primary and secondary protection zone. Consider entering into a Conservation Easement with the Department of Fish and Game for these lands. Normal agricultural practices are not inconsistent with protection of this resource.

2. Swainson's Hawk Nesting Areas
   - Redesign, modification or restriction of development within a 40-acre having the nest located in the center of the area. Normal agricultural practices are not incompatible with protection of this resource.

3. Sandhill Crane Nesting Area
   - Most sandhill cranes nest in wetlands, irrigated pasture, meadow or agricultural lands already protected under the exclusive agricultural designation. However, if land is converted then mitigation may be required.

4. Modoc and Lost River Sucker
   - Redesign, modification or restriction of development within the inner gorge of the streams supporting these species. Adopt development standards minimizing sedimentation of streams and protection of riparian habitat. Normal agricultural practices that do not result in over-grazing which adversely impacts riparian habitats are generally compatible with protection of this resource.

APPENDIX C


APPENDIX C
SOLID WASTE FACILITIES
Transfer Station
Landfill
Goose Lake
MODOC
NATIONAL FOREST
OREGON
CALIFORNIA
112

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APPENDIX D

APPENDIX D

GLOSSARY

Air Pollutant Emission - Discharges into the atmosphere, usually specified in terms of weight per unit of time for a given pollutant from a given source

Ambient Air Quality - The quality of the air at a particular time and place

Ambient Noise Level - The composite of noise from all sources. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location

cfs - Cubic feet per second

CNEL - Community Noise Equivalent Level - The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 a.m. and after addition of ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

CO - Carbon monoxide

Contract Rent - The monthly rent agreed to, or contracted for, regardless of any furnishings, utilities, or services that may be included

Critical Facility - Includes facilities housing or serving many people or otherwise posing unusual hazards in case of damage from or malfunction during an earthquake, such as hospitals, fire, police, and emergency service facilities, utility "lifeline" facilities, such as water, electricity, and gas supply, sewage disposal, and communications and transportation facilities

Decibel, dB - A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals 20 micronewtons per square meter)

Development - Any activity over which the County has jurisdiction through the General Plan, Planning, Zoning and Development Law, and Subdivision Map Act or other laws pertaining to land use. Examples of development include subdivision of land, zoning regulation of uses of land and other activities regulated through the implementation of the general plan. Development does not include normal agricultural management practices

Equivalent Energy Level, L_{eq} - The sound level corresponding to a steady state sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computer over 1, 8, and 24-hour sample periods

Family - Two or more persons, including the householder, who are related by birth, marriage, or adoption, and who live together as one household

Fault - A fracture in the earth's crust forming a boundary between rock masses that have shifted

Active Fault - A fault that has moved recently and which is likely to move again. For planning purposes, "active Fault" is usually defined as one that shows movement within the last 11,000 years and can be expected to move within the next 100 years.

Potentially Active Fault - (1) A fault that moved within the Quaternary Period before the Holocene Epoch (the last 2,000,000 to 11,000 years); (2) A fault which, because it is judged to be capable of ground rupture or shaking, poses an unacceptable risk for a proposed structure.

Inactive Fault - A fault which shows no evidence of movement in recent geologic time and no potential for movement in the relatively near future.

General Plan - A comprehensive, long-term policy document adopted by a city or county to guide land use and development. The general plan must include seven elements, including land use, circulation, housing, conservation, open space, noise, and safety

Gross Rent - Contract rent plus the estimated average monthly cost of utilities (water, electricity, gas) and fuels (oil, coal, kerosene, wood, etc.) to the extent that these are paid for by the renter (or paid for by a relative, welfare agency, or friend) in addition to the rent

Ground Failure - Mudslide, landslide, liquefaction, or the seismic compaction of soils

Habitat - The natural environment of a plant or animal

Hazardous Building - A building that may be hazardous to the life in the event of an earthquake because it:

(1) Was constructed prior to the adoption and enforcement of local codes requiring earthquake resistant design of buildings;

(2) Is constructed of non-reinforced masonry; or

(3) Exhibits any one of the following characteristics:

- Exterior parapets and ornamentation that may fall on passersby;
- Exterior walls that are not anchored to the floors, roof, or foundation;
- Sheeting on roofs or floors incapable of withstanding lateral loads;
- Large openings in walls that may cause damage from torsional forces; or
- Lack of an effective system to resist lateral forces

Hazardous Material - An injurious substance, including pesticides, herbicides, toxic metals and chemicals, liquefied natural gas, explosives, volatile chemicals, and nuclear fuels

Household - The person or persons occupying a housing unit

Housing Unit - A house, apartment, mobilehome or trailer, group of rooms, or single room occupied as a separate living quarter or, if vacant, intended for occupancy as a separate living quarter. Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from the outside of the building or through a common hall.

Income Levels - Income categories are defined with respect to the area or county median income and are adjusted for household size, as follows:

Very Low Income - Less than 50% of the area or county median income

Other Lower Income - Between 51% and 80% of the county median income

Lower Income - Less than or equal to 80% of the county median income (i.e., combination of very low income and other lower income)

Moderate Income - Between 81% and 120% of the county median income

Above Moderate Income - Above 120% of the county median income

Key Antelope Migration Routes - Those areas where large numbers of antelope, due to topographic constraints and continuing historic migration patterns, must pass through very narrow corridors usually less than 1/4 mile wide, during periods of winter stress.

LAFCO - Local Agency Formation Commission

Land Capability Classification (U.S. Soil Conservation Service) - A grouping of soils into classes (I-VIII), subclasses, and units according to their suitability for agricultural use, based on soil characteristics and climatic conditions

Ldn - Day/Night Average Level - The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of 10 decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

Level of Service (Circulation Element) - An indication of the peak hour traffic conditions which are experienced on a given street with the particular traffic-carrying capacity of the street and a given amount of traffic using the street; this is typically defined by a range of volume to capacity ratios, designated by the alphabetic characters A, B, C, D, E, and F

Liquefaction - A process by which water-saturated granular soils transform from a solid to a liquid state because of a sudden shock or strain

Mean - The average of a range of numbers

Median - The mid-point in a range of numbers

Minerals - "Any naturally occurring chemical element or compound, or group of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum" (Title 14, California Administrative Code Section 3502)

Noise Exposure Contours - Lines drawn about a noise source indicating constant energy levels of noise exposure

NOx - Nitrogen oxides

Overcrowding - Households or occupied housing units with 1.01 or more persons per room

Ox - Oxidant (ozone)

Reclamation - "The combined process of land treatment that minimizes water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, erosion, and other adverse effects from surface mining operations including adverse surface effects incidental to underground mines, so that mined lands are reclaimed to a usable condition which is readily adaptable for alternate land uses and create no danger to public health or safety. The process may extend to affected lands surrounding mined lands, and may require backfilling, grading, resoiling, revegetation, soil compaction, stabilization, and other measure" (Public Resources Code Section 2733)

Riparian Habitat - The land and plants bordering a watercourse or lake

Sanitary Landfill - "A disposal site employing an engineered method of disposing of solid wastes in a manner that minimizes environmental hazards by spreading, compacting to the smallest practical volume and applying cover material over all exposed wastes at the end of each operating day" (Title 14, California Administrative Code Section 17225.62)

SO2 - Sulfur dioxide

Sphere of Influence - "A plan for the probable ultimate physical boundaries and service area of a local agency" (California Government Code Section 56076)

Subsidence - The gradual, local settling or sinking of the earth's surface with little or no horizontal motion. (Subsidence is usually the result of gas, oil, or water extraction, hydrocompaction, or peak oxidation, and not the result of a landslide or slope failure.)

Surface Rupture - A break in the ground's surface and association deformation resulting from the movement of a fault

Transfer/Processing Station - "Includes those facilities utilized to receive solid wastes, temporarily store, separate, convert, or otherwise process the materials in the solid wastes, or to transfer the solid wastes directly from smaller to larger vehicles for transport. Transfer processing station--does not include any facility the principal function of which is to receive, store, separate, convert, or otherwise process, in accordance with state minimum standards, manure; nor does it include any facility, the principal function

of which is to receive, store, convert, or otherwise process wastes which have already been separated for reuse and are not intended for disposal" (Government Code Section 66723)

Trip - A one-way vehicle movement that either begins or ends at the location being considered, thus, a vehicle which leaves a home and later returns to it would account for two trips under this definition

Wildland - A non-urban, natural area which contains uncultivated land, timber, range, watershed, brush, or grasslands

Year-round Housing Units - All occupied units plus vacant units intended for year-round use, but excluding vacant units held for seasonal use or migratory labor

Zoning - A local ordinance that divides a community into districts and specifies allowable uses and development standards for each, consistent with the adopted general plan

APPENDIX E

APPENDIX E

PERSONS CONTACTED

United States Department of Agriculture

Karen Shimamoto, Forest Planner, Modoc National Forest
Glenn Bradley, Forest Supervisor, Modoc National Forest
Chuck Coughnour, U.S. Forest Service
John Lowrie, Soil Conservation Service
Gene Kelley, S.C.S., Tulelake
Ernest Eaton, S.C.S., Cedarville

United States Department of Interior

Fish and Wildlife Service

Clark Bloom, Modoc National Wildlife Refuge
Tom Melanson, Assistant Manager, Modoc National Wildlife Refuge
Bob Fields, Tulelake Wildlife Refuge

Bureau of Land Management

Richard Drehobl, Area Manager, Alturas Resource Area
Linda Roush, Planner, Alturas Resource Area
Joe McFarlan, Geologist, Surprise Resource Area
Richard Westman, Surprise Resource Area
Carl Singleton

Bureau of Reclamation

Bob Davis, Tulelake

California Department of Fish and Game

A.E. Naylor, Manager, Region 1, Redding
Tom Stone, Associate Wildlife Biologist, Region 1, Redding
Doug Thayer, Wildlife Biologist, Alturas

California Department of Forestry

Lloyd Keefer, District Manager, Susanville
Larry Birge, Ranger, Alturas
Earl Lovenguth, Alturas

California Department of Transportation

Don Wion, Alturas

California Farm Bureau

Gene Erquiaga, Surprise Valley
Howard Klassen, Tulelake
Sean Curtis, Davis Creek
Brian Tillott, Lookout
Ray Ackley

California Department of Conservation, Division of Mines and Geology

Dale Stickney, Sacramento
William Bryant, Sacramento

California Employment Development Department

Carolyn LeVan, Manager, Alturas

California Department of Economic and Business Development

Paula Alger, Sacramento

Modoc County

Jerry Grove, Planning Director, Director of Public Works (retired 1986)
Gordon Ash, Senior Planner (retired, 1985)
Pamela Townsend, Planning Director (1988); previously Planner
Julie B. Reese, Planning Commission Secretary
Loretta Lee Ownbey, Clerical
Daniel Steinhagen, Modoc County T.E.A.C.H. (Training Employment and Community Help) Director
John Dederick, County Assessor
Bob Savage, County Farm Advisor, Alturas
Don Lancaster, County Farm Advisor
Rick Delmas, County Farm Advisor
Bud Greenbank, County Farm Commissioner
Ruth Sorenson, County Counsel District Attorney
Edward Richert, M.D., Health Officer, County Health Department
Herb Jasper, Sanitarian, County Health Department (retired 1986)
Larry Brown, Sanitarian, County Health Department
Ann Odgers, Curator, Modoc County Museum
Stanley Townsend, Department of Public Works

Board of Supervisors

John Coulson
John B. Laxague (retired 1986)
John H. Schreiber
Melvin N. (Andy) Anderson
Mrs. Lesley Chace
M.W. (Mick) Jones

Planning Commission

Gilbert (Buck) Purcell (resigned 1986)
Gary Odgers
Robert L. Schluter
Sandra B. Hoxsey (resigned 1982)
E.K. (Kim) Brown (resigned, 1984)
Milton Sharpe (resigned 1987)
Joseph A. Tolbert
C.W. (John) Cross (resigned 1987)
Marion F. Palmer

City of Alturas

Denise Utter, City Clerk
Mick Doss, Director of Public Works
Ed Loveless, Chief of Police (resigned 1987)
Joe Watters, Fire Marshall

City Council

Roger Dorris, Mayor (resigned)
Joe Phillips, Vice Mayor (resigned)
Kelley Hetherwick (resigned)
Jim Porter
Beth Swift (resigned)
Danny Parker
Charles Johnson (Mayor)
Stanley Townsend
Ron McIntyre

Planning Commission

Dennis Parker, (resigned, 1985)
Bonnie Fordyce (Chairman)
Tony Zick
Shirley Arena (resigned)
Joe Fontana (resigned)
Charlie Johnson (resigned)
Kerry Merwin
Joe Phillips
Frank Hartkopf

Others Contacted

John Sheehan, Director, Great Northern Corporation
Richard Bellon, Tribal Manager, Fort Bidwell Indian Reservation
Peggy Page, Modoc County Private Industry Council (PIC)
Ron Boran, Manager, Modoc County Chamber of Commerce
Bob Sloss, Publisher, Modoc County Record
Rick Holloway, Editor, Modoc County Record
Warren Weber, President, Cattleman's Association
Richard Hamel, Cattleman's Association
Bob Blancett, Superintendent, Modoc Joint Unified School District
Bill Quinn, Superintendent, Surprise Valley Joint Unified School District
Rick Daniels, Citizens Utilities Company
Dave Jeffers, Citizens Utilities Company
Lee B. Brushett, Citizens Utilities Company
Tony Lelli, Pacific Power and Light
N.W. Mathews, Surprise Valley Electrification Corporation (SVEC)
Jim Hays, SVEC
Doug Garrin, FmHA, Redding
E. Dan Bouse, President, Adin Chamber of Commerce
Gary Horton, Research Director, Spectrum Enterprises
Chris Unkle, Fish and Game Commission, Sacramento
Joseph Tolbert, ISOT Incorporated
John McGarva, Modoc Economic Development Corporation
Dean Neer, Alturas Industry Action Council
Lee Campbell, Alturas Tourism Committee

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APPENDIX F

APPENDIX F

RESOLUTION OF ADOPTION

RESOLUTION OF THE BOARD OF SUPERVISORS
OF THE COUNTY OF MODOC NO 88-48

WHEREAS, the County of Modoc has been involved in the long process of revising its general plan, and

WHEREAS, that process has involved public hearings and detailed study by the Planning Commission, consultants, and County staff, culminating in Modoc County Planning Commission Resolution No. 88-07, and

WHEREAS, the Modoc County Board of Supervisors has read and considered the Final and Supplemental Environmental Impact Reports, the draft Modoc County General Plan, and Planning Commission Resolution No. 88-07, and

WHEREAS, the Modoc County Board of Supervisors finds that the Final & Supplemental Environmental Impact Reports have been prepared in accordance with the California Environmental Quality Act and further finds that mitigation measures have been adopted to the extent feasible to reduce impact to rangeland vegetation,

NOW, THEREFORE, BE IT RESOLVED THAT:

(1) The Final & Supplemental Environmental Impact Reports are hereby certified,

(2) The findings and Statement of Overriding Considerations of Modoc Planning Commission Resolution 88-07 are approved and adopted by this Board,

(3) The proposed Modoc County General Plan as modified by Exhibit B of said Planning Commission Resolution is hereby adopted.

(4) The Land Use Plan as modified by Exhibit D is hereby adopted.

1

PASSED AND ADOPTED by the Board of Supervisors of the County of Modoc at a regular meeting of said Board, held on the 19th day of September, 1988, by the following vote:

AYES: Supervisors Anderson, Chace, Jones and Coulson

NOES: Supervisor Schreiber

ABSENT: None

ABSTAIN: None

BOARD OF SUPERVISORS OF THE COUNTY OF MODOC

By: Lesley J Chace
Chairman

ATTEST:

Marian Madison
County Clerk and Ex-Officio Clerk
of the Board of Supervisors

BOARD OF SUPERVISORS
MODOC COUNTY, CALIFORNIA

MODOC COUNTY PLANNING COMMISSION RESOLUTION NO. 88-07

WHEREAS, the Modoc County Planning Commission has reviewed and considered the proposed County General Plan, including land use, circulation, housing safety, open space, conservation, noise and economic development elements, and said proposed General Plan includes the Background Report (January 1986); Goals, Policies and Action Program (May 1988); and the Final Environmental Impact Report (November 1987) and Supplement to the Final EIR (July 1988); incorporated herein by reference, and

WHEREAS, the County of Modoc, its citizens, and interested agencies and organizations, have participated in a long process designed to reach a consensus on major issues of importance to the future of growth and development in the County, particularly agricultural, wildlife, subdivision and economic development issues, and

WHEREAS, the Modoc County Planning Commission finds the following:

1. The Commission held public hearings on the draft Modoc County General Plan and Final EIR, December 9, 1986, January 13, 1987, and July 12, 1988, and said public hearings were noticed in accordance with Section 65090 of the California Government Code as verified by the record.

2. The Commission has received numerous written and oral comments, and has considered all public comment, staff reports and draft documents.

3. The Final EIR has been completed in accordance with the California Environmental Quality Act and State CEQA Guidelines and the Commission has considered the information in the Final EIR and Supplement to the Final EIR, and determines it to be complete and adequate.

4. The Commission finds that recommended modifications to the draft plan herein will not cause a significant effect on the environment;

   (A) Deletion of the critical wildlife resource areas maps from the general plan, replacing them with additions to the menu in Appendix B and maps on file in the Planning Department will allow recognition and mitigation of these resources in the same manner provided by the general plan for the protection of other critical wildlife resources.

   (B) Addition of policies and actions providing for consideration of the existing and potential agricultural uses in areas designated as general agriculture may decrease impacts to rangeland, although potentially not to an insignificant level,

   (C) The change in definition of Exclusive Agricultural land will not negatively affect the environment in that other factors other than water usage will be considered and, as a practical matter, the criteria proposed is similar to the existing criteria

   (D) Designating the portions of the Day Area that are now zoned Residential-Rural as Rural Residential

on the Land Use Map will provide consistency between the general plan and an adopted specific plan, for which an EIR was prepared.

5. Alternative C is the project alternative advanced in the Final EIR and Supplement that would reduce the remaining unmitigated impact, impacts to rangeland vegetation, to an insignificant level. Alternative C is unacceptable for the reasons stated in the Statement of Overriding Considerations set forth in Exhibit A, and in the Final EIR. The mitigation measures advanced in the Supplement to reduce impacts to rangeland vegetation are stated therein as being within the jurisdiction of another agency, or otherwise unacceptable as stated in Exhibit A. It is further noted that the Supplement, Page 13, mitigation 4, is recommended for incorporation into the general plan in a slightly varying form, and other mitigations are unfeasible or unacceptable as stated therein and are outweighed by other benefits.

6. The adoption of the new General Plan as recommended herein is in the public interest because the recommended plan provides a guide for the growth and development of the County, maximizes the opportunities for the landowner to exercise personal and economic freedoms while providing protection to agricultural lands, wildlife and resources which are of economic value and contribute to the quality of life, resolves the major issues of importance to the County and its citizens, will provide greater certainty to land use decisions by the citizens due to the additional detail set forth in the plan over the existing plan, and addresses state issues in conformance with Government Code Sections 65300 through 65362.

NOW, THEREFORE, BE IT RESOLVED THAT the Modoc County Planning Commission hereby recommends to the Modoc County Board of Supervisors:

1. Certification of the Final EIR and Supplement as complete and adequate, and adopt the Statement of Overriding Considerations, attached hereto as Exhibit A, and

2. Adoption of the proposed Modoc County General Plan, as modified by Exhibit B, attached hereto.

On motion of Commissioner Tolbert and second by Commissioner Odgers, the above and foregoing Resolution was adopted by the Modoc County Planning Commission on the 9th day of August, 1988, by the following vote, to wit:

AYES: Commissioners Tolbert, Odgers, Schluter, Palmer, Beeson

NOES: None

ABSENT: None

Robert L. Schluter

Robert L. Schluter, Chairman
Modoc County Planning Commission

Pamela A. Birge

Pamela A. Birge, Secretary
Modoc County Planning Commission

EXHIBIT A

ENVIRONMENTAL FINDINGS OF OVERRIDING SOCIAL AND ECONOMIC CONSIDERATIONS

The Commission finds that potentially significant impacts to rangeland vegetation are acceptable based on the following findings:

1. The draft General Plan Background Report indicates that 66% of the land in Modoc County is publicly owned, 7% is zoned Timberland Preserve, 6% is intensively irrigated cropland, and 1% is urban or subdivided. Thus 80% of the County is committed to ownership and use patterns which restrict land use choices, and which are protective of resources due to limited human activity, parcel size or ownership. Therefore, the remaining 20% must not be committed to overly restrictive land use regulations, and must remain available for a range of uses effected through personal choice and economics.

2. The troubled agricultural economy of the County as reflected by individual farmers and ranchers requires that these individuals retain development options which provide relief and support for operations which are viable.

The Background Report and public oral and written comment states the following. Agriculture is the cornerstone of Modoc County's economy. Decreasing land prices, increasing electric and other costs without a commensurate increase in commodity prices, and other regional and national factors beyond local control, have led to a high foreclosure rate. Throughout the general plan process, difficulty was experienced in defining an economic agricultural unit for dryland farming or grazing, due to the very personal economics of individual farming operations. Farmers and ranchers must retain rights to develop lands which are no longer economically capable of meeting agricultural production costs, and to provide supplemental support for other portions of their operations as need be. Such development might be in the form of subdivision, or involvement in resource management programs especially those offering monetary compensation to landowners. The County has made a commitment to agriculture in the draft General Plan which proposes protection of the most productive agricultural land as Exclusive Agriculture (60 acre minimums).

3. Impacts caused by subdivision are acceptable because subdivisions have historically provided, and can continue to provide, much needed tax dollars to the County.

County government revenues are not keeping up with mandated expenditure increases, a phenomenon experienced by many counties. One method to increase revenues is through increased property taxes generated by the sale of newly subdivided property. It is also noted that the County, in proposing an Economic Development Element to the General Plan which encourages diversification of the economic base, very clearly supports a variety of other economic endeavors aside from subdivision.

4. The Commission finds that impacts may in fact may not occur at the level projected in the EIR, because although land use regulation in the County has been minimal, less than one percent of the County is subdivided or intensively urbanized and projections indicate little change in these trends despite efforts to diversify the economy.

Over the past 15 years, the population of Modoc County increased by 2000 persons to 9500 on 1985, or a 1.5% increase per year. Projections for 1985 through 2000 indicate population will increase to 10,600, or less than 1% per year. Less than 1% of the County is urbanized or intensively subdivided. Throughout the County's history, land use restriction has been minimal and prolific growth simply has not occurred. Despite the efforts of

the County and it's citizens, prospects for permanent growth are limited over the life of this plan. The Economic Development Element cites tourism as the major prospect for increasing the economic base. Even so, the recommended plan does add a layer of increased regulation over the existing plan, including designation of Exclusive Agriculture at 80 acre minimum parcel sizes, buffer areas around these lands, clustered development, protection for threatened and endangered species and additional measures which allow a finding of no significant impact to several resources as cited in the Final EIR and this section.

Therefore, based on the above stated evidence and findings, the Commission finds that although potential significant environmental impacts may occur to rangeland vegetation resources, such potential effects are acceptable and are overridden by the above stated social and economic factors.

EXHIBIT B

RECOMMENDED MODIFICATIONS TO MAY 1988
GOALS, POLICIES AND ACTION PROGRAM

1. Page 3 - Table of Contents - Delete Appendix C Critical Wildlife Resource Areas; renumber Appendices D - F to "C - E".

2. Pages 16, 25 and 29 - Action Programs, #1 (page 16), #3 (page 25) and #2 (page 29) : Add after first sentence: Consult with appropriate agencies and persons in the preparation of such standards and criteria.

3. Page 32, Land Use Maps, Before last sentence, add sentence to read: When clusters of residential lots that do not meet the criteria triggering a general plan amendment are proposed and approved, primarily in the general agriculture category, the residential rural zone may be applied without requiring an amendment to the general plan land use map.

4. Page 32, 35 and related section of Action Program, Exclusive Agriculture, revise to read: The exclusive agriculture land use category includes lands with a combination of factors that make it suitable for protection and conservation for intensive and economically productive agricultural uses. Two sets of criteria that define exclusive agriculture, "highest value land" and "lower value land," are set forth below. The areas mapped as exclusive agriculture on the Land use Map are broad-brush and not every parcel necessarily meets the criteria for exclusive agriculture. However, by designating exclusive agriculture areas it is intended that these areas will substantially remain in exclusive agriculture and the introduction of residential uses and smaller parcels will be minimized as provided in this policy plan.

Parcels within the exclusive agriculture designation on the land use map that substantially meet the criteria of the "highest value land" category should remain designated exclusive agriculture, and compatible zoning applied.

Parcels within the exclusive agriculture designation on the land use map that do not substantially meet the criteria of the "highest value land", but at minimum meet all the criteria of the "lower value land", may be considered on a case by case basis for either removal from the exclusive agriculture designation, or potential rezoning for other uses.

Parcels within the exclusive agriculture designation on the land use map that do not at minimum meet ALL the criteria of the "lower value land" may be dealt with in two ways: They may remain in the exclusive agriculture category, but rezoned from the agricultural exclusive zone. Or, parcels that are within the exclusive agriculture designation, but that are on the periphery of that area as designated on the Land Use Map may be removed from the exclusive agriculture designation without a general plan amendment in connection with the processing of a land use application. The County may, of course, process amendments to the General Plan to make corrections at other times on its own initiative.

CRITERIA FOR EXCLUSIVE AGRICULTURE

HIGEST VALUE LAND:

The highest value lands within the exclusive agriculture category have all or substantially all the following characteristics:

A. SCS Capability Classification System soils rating Class II, Class III, or Class IV with a minimum depth of 2-3 feet.

B. The land is in an irrigation district and is served, or has adjudicated water rights.

C. The existing parcel, or contiguous parcels under the same ownership, is (are) 75 acres or more.

D. The parcel is within an established and recognized agricultural area.

LOWER VALUE LAND

Lands that qualify as exclusive agriculture shall at minimum exhibit ALL the following characteristics.

A. Class IV soils with a minimum depth of 2 - 3 feet.

B. The parcel is in an irrigation district but not currently served but has a realistic potential to be served; or is currently under irrigation or has been under irrigation for at least 7 of the last 10 years, most commonly in the form of deep wells or reservoirs.

C. The portion of the parcel which qualifies is 40 to 80 acres in size.

D. The parcel is located in an area where not more than 40% of the parcels in the surrounding agricultural area are smaller than 40 acres, or used for residential purposes.

5. Page 33, General Agriculture, paragraph 2, following first sentence, add: The value of these lands for present and potential agricultural uses such as irrigated pasture or cropland, dryland farming or other agricultural uses will be considered when development is proposed. Soils, water availability and the agricultural stability and future of the surrounding area are all factors that impact the value of these lands.

6. Page 33, 1st full paragraph, add to end: When land which does not meet the criteria for exclusive agriculture is on the periphery of the area designated exclusive agriculture, the County may process an amendment to the general plan land use map with a development application. When such land is not on the periphery and is substantially surrounded by other exclusive agriculture lands, the land shall remain designated exclusive agriculture but may be rezoned as appropriate and consistent with this policy plan.

7. Page 35, Add to #2: When development is proposed on lands in the general agriculture category, the value of those lands for present and potential agricultural uses, such as irrigated pasture or cropland, dryland farming, or other agricultural uses, will be considered. Soils, water availability, and the agricultural stability and future of the surrounding area are all factors that impact the value of these lands.

8. Page 38, Land Use Map, paragraph 2, change reference to Appendix D to "Appendix C."

9. Page 47, #20, correct to state "action #14" rather than policy #14.

10. Page 52, Scenic Highways: change the second sentence to read: State Routes 139 and 299 between Tulelake and Adin are included in the Master Plan of State Highways Eligible for Official Scenic Highway Designation.

11. Page 54, Action Program, add #8: Coordinate determination of ultimate right of way and access spacing on State and County roads and highways in areas of development to assure for expansion and maintenance of facilities.

12. Page 55, Last paragraph, change "migration routes and " to read: ...key antelope migration routes and migration corridors, and areas with three or more resources in one location; ....

13. Page 66, number 10: Delete #10 and renumber 11 - 12 to "10 - 11."

14. Page 70, Delete first and second paragraphs; change first sentence in third paragraph to read: Modoc County is faced with several possibilities for job creation.

15. Page 78, add to end of third paragraph: The third possibility lies in attracting service based industries.

16. Page 80, from listing after second paragraph, delete the following: dude ranches, special photography "safaris" of wildlife preserves and wilderness areas, and enhancement of developing hunting guide services.

17. Page 81-82, delete list at top of page 82 and delete reference to the list on page 81.

18. Page 82, Policies, delete policy 5.

19. pages 84-85, j, delete reference to and listing of activities. Make similar deletion in action program.

20. XII. Action Program, make changes above within action program for consistency.

21. Page 90, Building Setback Requirements, #1, change to read: Key antelope migration routes/antelope migration corridors/deer migration corridors can be protected by a minimum building setback up to 1,320 feet.

22. Page 92, Appendix B, section "Antelope Migration Corridors"; Change to read: Key Antelope Migration Routes/Antelope Migration Corridors/Deer Migration Corridors: add to end of section ...or routes

23. Page 92, Appendix B, following section in #8, above, add new section to read:

Three or More Critical Resources in One Location

1. 80 acre minimum parcel size or larger:
   - no additional requirements necessary

2. 40 acre minimum parcel size:
   - clustering of parcels and dwellings recommended

3. Migration Routes/Corridors:
   - building setbacks of up to 1,320 feet recommended
   - antelope fencing standards are recommended for fences crossing antelope migration routes or corridors

24. Page 94, Appendix C Critical Wildlife Resource Areas: Delete in full. Place maps on file in Planning Department as part of Critical Wildlife Habitat Maps requiring documentation.

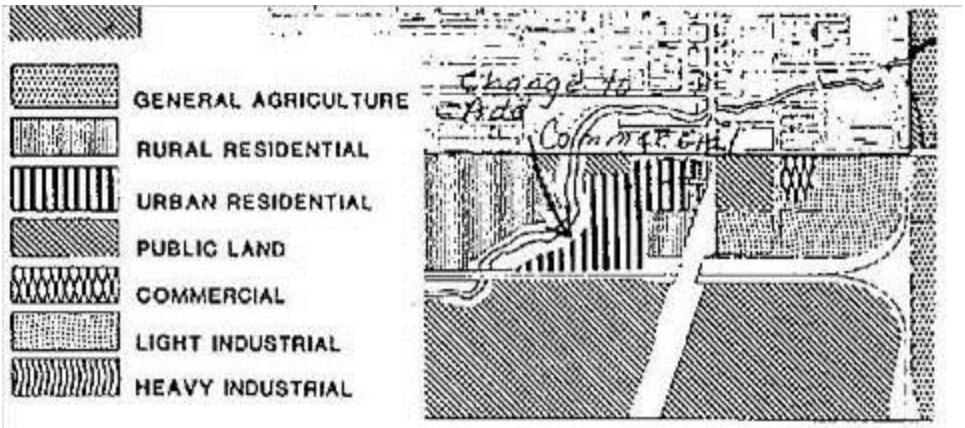
25. Appendices D, E, F: Relabel to "C, D, E."

26. Page 98, Key Antelope Migration Corridors, change to read: Key Antelope Migration Routes - Those areas where large numbers of antelope, due to topographic constraints and continuing historic migration patterns, must pass through very narrow corridors usually less than 1/4 mile wide, during periods of winter stress.

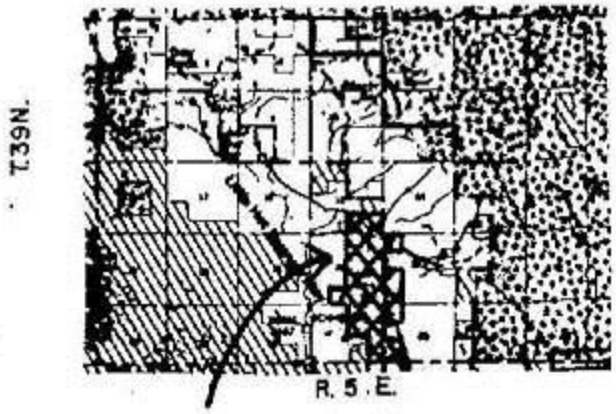
27. Countywide Land Use Map: Amend to designate as rural residential those areas encompassed by the Day Area Specific Plan that are zoned Residential-Rural 5 and 10 acre minimum parcel sizes.

28. Countywide Land Use Map: Amend with action by County to designate as rural residential or general agriculture any areas that are under consideration by the County for a discretionary land use permit and that are incorrectly designated as exclusive agriculture. At this time the area proposed by Kroesen for rural residential development should be amended to General Agriculture.

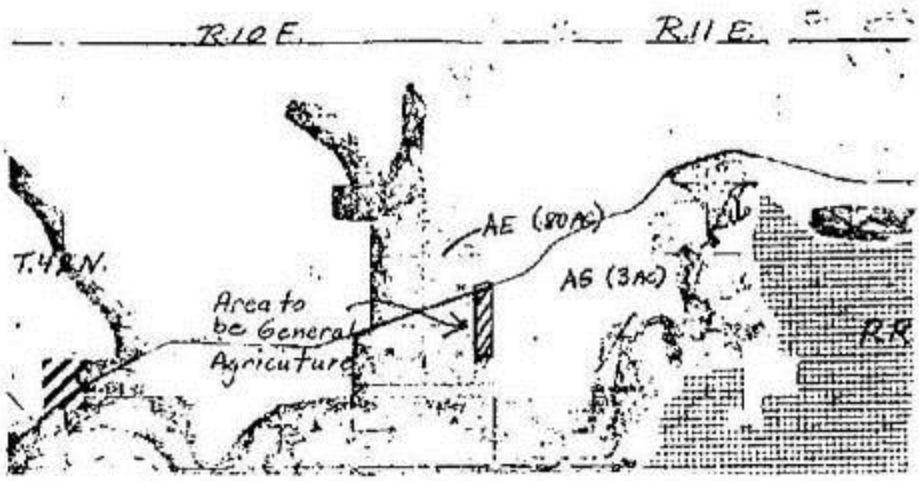
29. Alturas Area Land Use Map: Amend area designated attached as Commercial in addition to Urban Residential.



ALTURAS AREA LAND USE MAP: CHANGE TO ADD COMMERCIAL TO AREA INDICATED.



COUNTY WIDE LAND USE MAP: CHANGE TO RURAL RESIDENTIAL CONSISTENT WITH DAY AREA PLAN



COUNTY WIDE LAND USE MAP: CHANGE AREA INDICATED TO GENERAL AGRICULTURE

EXHIBIT C

PART THREE: COMMENTS AND RESPONSES TO COMMENTS ON SUPPLEMENTAL EIR

The Supplement to the Final EIR was circulated through the State Clearinghouse and the public was given notice of the 45 day review period. Two letters (attached) were received, one from Michelle Gallagher, California Department of Transportation, District 2, indicating that the proposed plan sufficiently addresses transportation and circulation issues, the other from Pete Bontadelli, Director, Department of Fish and Game. Although the comments from Caltrans do not necessarily address the EIR analysis, responses follow. The letter from the Department of Fish and Game does not require any response.

LAND USE - Action Program (page 16): Concern with notification and input concerning development standards, in order to facilitate review by the Department.

Response: During the normal environmental review process Caltrans is consulted on a variety of projects. However, as your comment points out, there are a variety of factors that may affect state highways, some not so obvious. Action: add to Action 1 at end of beginning statement: Consult with agencies in the preparation of such standards; Add to Action Program in Appendix.

FINANCING AND PHASING OF IMPROVEMENTS - (page 17): Comment that responsible agencies be consulted is assumed to include state responsible agencies.

Response: The reference is to any agencies to which the developer may have an obligation to provide an improvement. Such improvements or other obligations will be identified through the review process, in which state agencies participate. No other change proposed.

INDUSTRIAL AND COMMERCIAL LAND USE - (pages 25 and 29): Comment that the Department desires to review siting and development studies.

Response: Such criteria would be incorporated into the zoning or subdivision or other development standards as appropriate. State agencies would have the opportunity for review. Action: Propose same addition to Action Programs as under Land Use comment.

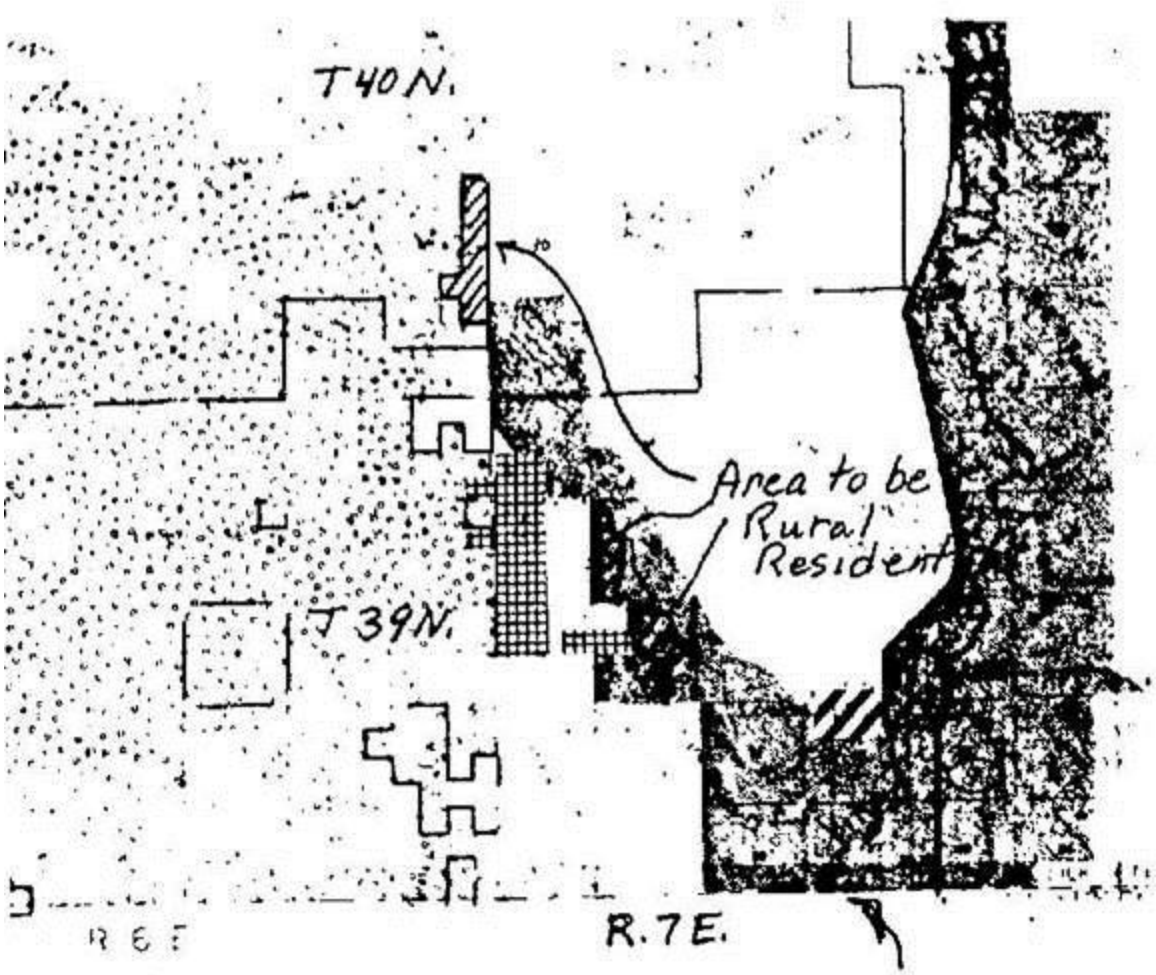
CIRCULATION - Policies and Action Program (pages 52 - 54): Comment that State Routes 139 and 299 have not been officially designated as Scenic Highways.

Response: Correction noted. Action: Propose to correct statement on page 52.

CIRCULATION - Action Program (page 54): Comment asking consideration of adding an action 9 concerning access and rights of way.

Response: Comment included in recommendations; Action: Action 9 proposed to be added and modified to also address County Roads.

EXHIBIT D



AMENDMENT TO MODOC COUNTY LAND USE PLAN

TO RURAL RESIDENTIAL

NOTICE OF DETERMINATION

TO: XX Office of Planning and Research
1400 Tenth St., Room 121
Sacramento, CA 95814
XX County Clerk
County of Modoc

FROM: County of Modoc
Environmental
Review Section
202 W. 4th St.
Alturas, CA 96101
(916) 233-3939

SUBJECT: Filing of Notice of Determination in compliance with Section 21152 of the Public Resources Code.

PROJECT INFORMATION SCH # 86022409

Adoption of revised Modoc County General Plan, including all elements and an economic development element. The housing element has primarily been reformatted. The General Plan addresses local issues such as agricultural land protection, wildlife protection and rural subdivisions. The plan has been under preparation since 1984.

This is to advise that on SEPTEMBER 19, 1988 the County of Modoc approved the above described project and made the following determinations regarding the above described project:

1. The project may have a significant effect on the environment, particularly rangeland vegetation.
2. An Environmental Impact Report and Supplemental EIR were prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were adopted for this project.
4. A statement of Overriding Considerations was adopted for this project.

The EIR and Supplemental EIR and record of project may be examined at the County of Modoc Planning Department, at the address above.

Signature 9/19/88
Date

* *

AFFIDAVIT OF FILING AND POSTING

I declare that on _____ I received and posted this notice as required by California Public Resources Code Section 21152(c). Said notice will remain posted for 30 days from the filing date.

ENDORSED
FILED
County Clerk

Signature Title

5/5/87

SEP 21 1988

MAXINE MADISON, COUNTY CLERK
By _____ Deputy

State of California — The Resources Agency

Memorandum

To : 1. Projects Coordinator
Resources Agency

2. Ms. Pam Townsend, Director
Modoc County Planning Department
202 West Fourth Street
Alturas, CA 96101

Date : July 18, 1988

From : Department of Fish and Game

Subject : SCH 86022409 - Revision of Modoc County General Plan - Modoc County

The Supplemental Environmental Impact Report (EIR) and Draft General Plan revises all the elements of the General Plan except housing and adds an economic development element. The Supplemental EIR addresses modifications to the Draft General Plan which affect wildlife, agriculture, public uses, ground water recharge and other minor uses.

After reviewing the documents, we support the County's proposed changes to provide measures to protect wildlife resource values while still recognizing landowner needs.

We have made some minor editorial corrections in both documents and have already transmitted them directly to the County.

We are currently committed to supporting these documents and have participated in the first of many public hearings on these new documents.

If you have any questions regarding our comments, please contact Mr. A. E. Naylor, Regional Manager of Region 1, 601 Locust Street, Redding, CA 96001. His telephone number is (916) 225-2363.

Pete Bontadelli
Pete Bontadelli
Director

c.4

State of California Business, Transportation and Housing Agency

M E M O R A N D U M

To: State Clearinghouse
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

Attention John Keene

July 15, 1988

IGR/CEQA Review
02-Mod-139, 299, 39
Modoc County
General Plan

From: DEPARTMENT OF TRANSPORTATION - District 2
P. O. Box 2107, Redding, CA 96099

Subject: Review of the Revised Draft Modoc County General Plan

Caltrans, District 2 has completed review of the above-referenced document. It is our determination that this document sufficiently addresses transportation and circulation issues. We do, however, have a few comments and concerns we wish the County to consider regarding the following topics covered in the General Plan:

LAND USE - Action Program (page 16)

"Prepare comprehensive development standards for rural residential development which will ensure all new development is compatible with adjacent land uses and is environmentally and fiscally sound. Such standards will include:

a. Minimum lot size
b. Slope development grading
c. Soil stability and suitability
d. Ingress and egress
e. Waste water collection and disposal
f. Domestic water supply
g. Drainage
h. Electrical and phone service
i. Long-term financing of maintenance activities
j. Fire, flood, and other hazard protection

k. Fencing requirements/protection of irrigation systems and other standards to assure compatibility with adjacent agricultural uses

l. Standards/procedures to implement wildlife protection."

Although counties generally consult Caltrans when access is proposed to a State highway, (ingress and egress), many are not aware that we may have other direct permit involvement or should have the opportunity to consider potential impacts to the State highway facilities.

Caltrans Encroachment Permits may be required not only for access to development, but for utilities as noted in e, f, h. Also, information on b, c, g, i, j, k, and l will be necessary for Caltrans to determine, 1) potential impacts to, for example, drainage facilities or, 2) appropriate mitigations including their implementation and financing.

We are concerned about item l "Standards and Procedures to Implement Wildlife Protection (which is further discussed in Appendix A - "Development Criteria for Development within Critical Wildlife Habitats"), since one of the issues we consider is deer and antelope migration across State highways.

Our concern is that deer and antelope migration routes cross the State Highway System which could constitute a hazard to the traveling public. In cases where the Department of Fish and Game will institute appropriate protective measures (i.e., placement of antelope or deer fences) adjacent to the State highway, we would appreciate the opportunity to coordinate with them to ensure that movements will not be restricted to areas where there is currently a high mortality of these species.

FINANCING AND PHASING OF IMPROVEMENTS (page 17)

It is stated, "through the subdivision and environmental process, such improvements or services will be identified and their relationship to development established. Implementation will require an agreement to be executed among the County, the developer, and responsible service provider. The agreement will specify, at a minimum, improvements or services and their relationship to building permit issuance, that the improvement or the service must be established as set forth or the County reserves the right to prohibit building permit issuance until required services or improvements have been provided, and a procedure for review of the agreement."

We presume that responsible agencies (permitting agencies) are considered a "responsible service providers" and would participate in the above described development agreements. Caltrans supports this procedure for the following reasons: 1) it could allow the

developer to defer some potentially expensive improvements until they are necessitated, 2) it assures that as example, when x number of lots are developed, that required mitigation be constructed before further expansion of the development occurs, and 3) development agreements in addition to subdivision map conditions are the necessary steps which the County and developer must pursue to allow Caltrans the ability to phase traffic improvements as opposed to requiring standard as appropriate to full buildout conditions.

INDUSTRIAL AND COMMERCIAL LAND USE (pages 25 and 29)

The document action plans for these land uses include initiating studies to address "essential public facility capacity and availability, public services, circulative and transportation facilities, and any other relevant infrastructure and service needs."

Caltrans would appreciate the opportunity to participate in the review of these studies.

CIRCULATION - Policies and Action Program (pages 52 - 54)

The document states under the topic of scenic highways "Presently, the only official designated scenic highway corridors in Modoc County are Highway 139 and 299 between Adin and Tulelake. Although these State routes are included in the Master Plan of State Highways Eligible for Official Scenic Highways Designation, they have not been officially designated."

The remainder of this section appears to very adequately address the Circulation Element goal "to maintain an efficient, safe, and environmentally sound comprehensive circulation and transportation system." We would ask, however, that the County consider adding to the Action Program, 9. Coordinate determination of ultimate right of way and access spacing on State highways in areas of development to assure expandibility of existing facility.

Thank you for the opportunity to review and comment on the revised draft Modoc County General Plan. Please do not hesitate to call me if you have any questions regarding these comments. I can be reached at (916) 225-3259. Please also provide us with a copy of the final document, when it is available.

L. MICHELLE GALLAGHER
IGR/CEQA Coordinator,
Environmental Services Branch,
District 2

LMG:rs
bcc:GMDrennan, KPProvine, BFCorford, RCSmith/MNankervis/DDBennett, Environment

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APPENDIX G
Local Hazard Mitigation Plan (2017)

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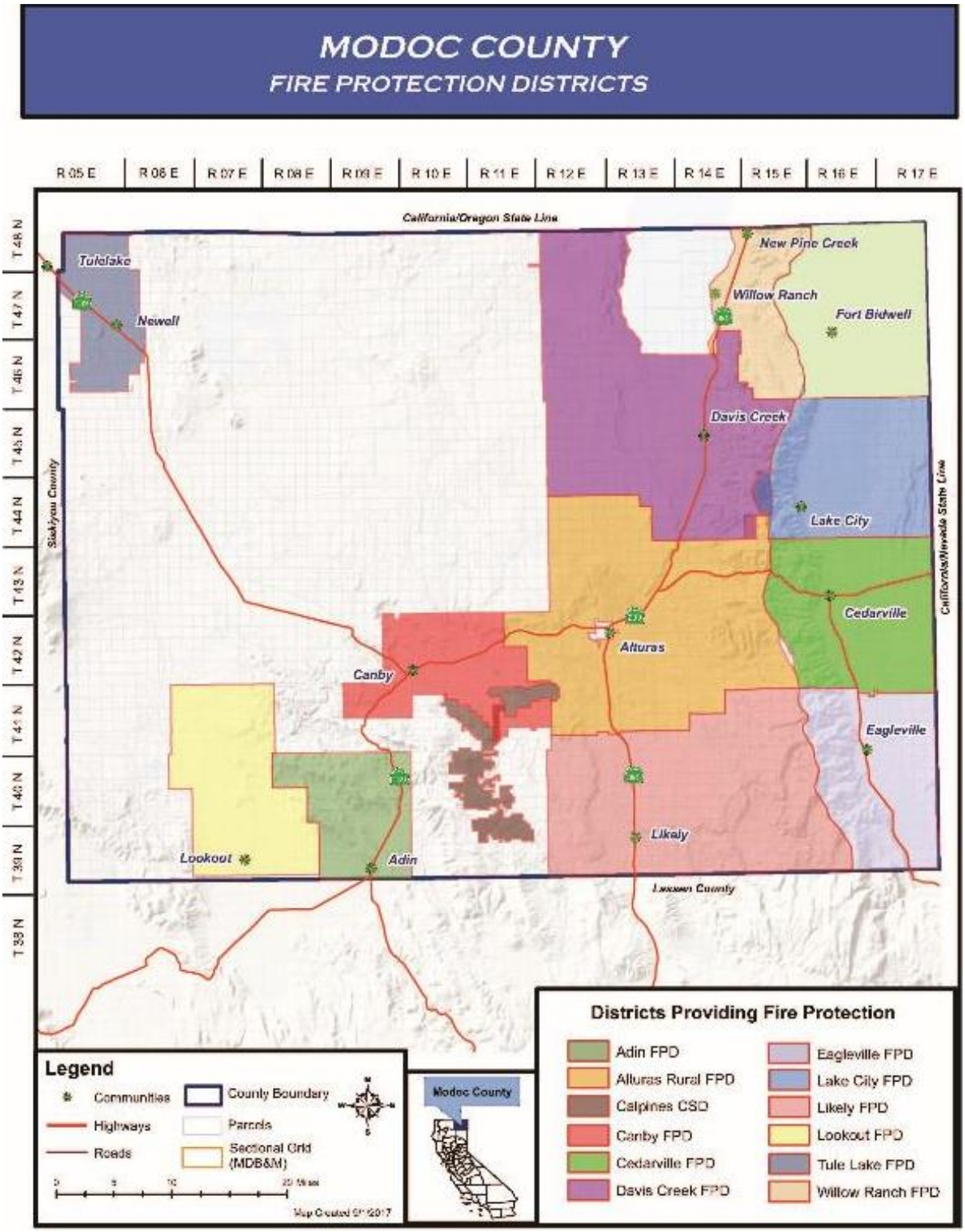
APPENDIX H
Fire Protection District Map



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