CALIFORNIA CONDOR

RECOVERY

PLAN

Prepared by the
California Condor Recovery Team
December 1974

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UNITED STATES GOVERNMENT

Memorandum

TO : Regional Director, Portland

DATE: APR 9 1975

FROM : Director

SUBJECT: California Condor Recovery Plan

We are pleased to be able to transmit to you a signed signature page approving the subject plan. This constitutes the first Service-approved recovery plan. We want to compliment the condor recovery team (particularly Mr. Wilbur) and you on the completeness and caliber of the plan. It will serve as a model for many others that will follow. The plan is somewhat lengthy, yet we don't find any items that should have been omitted. The length is undoubtedly due to the great amount of work that has been done on the condor and its conflicts with a variety of complex interests. We trust plans for other endangered species will not necessarily be this long, although it might occur for other complex situations.

Like other reviewers, we have some comments which should be considered by the recovery team in revisions or updates:

1. The tables on pages 19 and 20 constituting Part III need a further cost breakdown relative to agency responsibilities to undertake specific actions. For example Item A.1 is assigned to California Fish and Game and the Service; yet the $2000 cost is not broken down between the agencies. This makes it difficult for the agencies to budget their expected share.

2. We appreciate the need in the case of the condor for a narrative to elaborate upon actions identified in Part II or the step-down outline. The narrative in this case forms Appendix A. This material could actually have been placed in Part II and keyed to the numbering system used for the outline. We found it difficult to relate back and forth between Appendices A and D and Parts II and III using the two different designation systems. We like the check-off idea forming Appendix D, but feel it could be incorporated into Part III.

3. The general tone of the plan is somewhat defensive (second paragraph from the bottom of page 29, for example). We have no

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apologies to make for the fact that the welfare of the condor conflicts with economic interests. We should not feel the need to compromise our position when we have data supporting questions about the value of a piece of ground to condors or potential damage that could occur from some type of disturbance. The burden of proof lies with those who propose these activities. In this regard we want to incorporate comments of cooperating agencies in the Appendix of plans as you did. It was noted that comments in Appendix C from some of the cooperators were prepared prior to passage of the Endangered Species Act of 1973, and would have to be re-phrased today in light of Section 7 of the Act.

4. The plan does not carry through with all proposed actions. For example, page 9 refers to investigations needed in the areas of possible sub-lethal poisoning and limiting factors to condors other than insufficient food, but these items are not in the step-down outline. Similarly 3212 and 3222 represent a number of tasks which are not broken out in Parts II or III, but are represented as tasks in Appendix A.

We feel the above comments are matters which can be corrected or updated in the future. We congratulate all who worked on the plan, and we will distribute it widely as an example for other teams.

Lynn A. Greenwalt

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CALIFORNIA CONDOR RECOVERY PLAN

PART I
INTRODUCTION

The California condor (Gymnogyps californianus) has been the subject of considerable study over the years, and much information is now available concerning its life history, behavior, and habitat requirements. This information has been used to formulate a number of recommendations for preservation and management of the species (Koford, 1953:135-138; Miller, McMillan and McMillan, 1965:49-54; Mallette, 1970; Carrier, 1971), many of which have been implemented. Actions taken to date have slowed the decline of the species, but have not been adequate to reverse the downward trend because only part of the condors' overall problem has been attacked. This plan attempts to identify all condor needs, and proposes orderly and comprehensive action to meet these needs.

Former Status

Within historic times, California condors occurred along the Pacific Coast from British Columbia south to northern Baja California. Fossil evidence places this species (or a closely related one) in various locations across the southern United States east to Florida. Known historic nesting range extends from Monterey and San Benito counties, California, south into Baja California. However, condors were yearlong residents northward into Oregon and Washington, and probably nested there (Wilbur, 1973).

Gymnogyps vultures apparently reached their peak in both numbers and distribution during the Pleistocene Period, then declined, probably in response to changes in climate and food supply. The condor has not been abundant within historic times, but was widespread and regularly seen in the 19th and early 20th centuries. Major nesting areas are known to have existed in Monterey, San Luis Obispo, Santa Barbara and Ventura counties, with other nest sites well distributed in other areas. No estimates of the total condor population are available prior to the 1940's when Koford (1953:17) estimated that there were approximately 60 condors remaining. It is now believed that estimate was too low, but did show that the species had become decidedly rare.

Current Status

The following information is summarized from Wilbur (1972) and Wilbur et al. (1972). Approximately 60 condors now exist, occupying a wishbone-shaped range in the mountains of central California

from Santa Clara and Fresno counties south to Ventura and Los Angeles counties (Figure 1). They occur in two (possibly more) subpopulations that have their own nesting, roosting and feeding areas, and that seldom if ever intermix. Most condors (termed the Sespe-Sierra population) occur in the southern and eastern portions of the range. Approximately ten condors (the Coast Range population) occupy the western arm of the range.

Annual survival is currently very high, perhaps as high as 95 per cent. However, annual productivity since 1968 has averaged two young or less. This is not adequate to balance expected mortality over a period of years, consequently the condors' status must be considered precarious and the population still declining.

Reasons for Decline

Decline of the California condor population within historic times occurred because the delicate natural balance between natality and mortality was upset. Use of condors for ceremonial purposes by the earliest Indian arrivals in North America began the change. The first Europeans to arrive in the early 1800's in the range of the condor report shooting some of them. As settlement of the Pacific Coast continued, more were shot and their eggs collected. Some died from poisons and steel traps set out for predators (Fry, 1925; Koford, 1953:130-131; Miller et al., 1965:36-37), and civilization in many forms crowded them out of portions of their range. Sporadic mortality over a period of years was apparently enough to start a downward trend in the condor population, but major shooting losses and egg collecting near the end of the 19th Century accelerated that decline. A minimum of 204 condors and 54 condor eggs are known to have been collected for scientific and hobby purposes, over half of them between 1881 and 1910 (Wilbur, MS). Apparently many more were shot out of curiosity, maliciousness, or mistaken belief that condors were harmful to people or livestock. Taken together, this mortality in a population unused to any noticeable loss far exceeded the low productivity of the species. Had it not been for protective measures during the years following 1925, the condor might already be extinct. However, in spite of complete legal protection for the birds and their eggs, man-caused losses continued at a high enough rate that the condor population continued to gradually decline. Today, continuing losses of habitat and the species' inherent low reproductive rate interact to keep the condors on the verge of extinction.

Life History and Population Dynamics

Condors acquire adult plumage at approximately six years of age, and have never been known to breed while in subadult plumage. However, it is not known if six year old birds are successful

breeders, or if they require additional years to attain reproductive proficiency. Once reproducing, the average pair of condors nests every other year, laying one egg per clutch. The long interval between nestings is partially a response to the extra-long reproductive cycle. Paired birds are observed courting as early as October in some years, and finally lay their eggs between February and May. Incubation requires in excess of 42 days, after which the fledgling remains in the nest for about five months. For several months after it can fly, the young bird is still completely dependent on the parents for food. This juvenile dependency period may extend well into the following calendar year, precluding a new nesting cycle. (Condors may sometimes nest successfully in consecutive years if young birds are able to achieve independence at an earlier than usual age. An abundant local food supply, and absence of competition at food between the young bird and older, more dominant condors are the apparent requirements.)

Breeding adults and younger subadult condors stay near nesting areas yearlong, foraging for food (carcasses of livestock, deer and other animals) in nearby grassland areas. Subadults and other nonbreeding condors leave the vicinity of the nesting grounds in March and April, and migrate north to traditional summer and fall roosting areas, returning south again in late fall.

In many wildlife species, a large percentage of individuals are capable of reproducing and adding to the size of the population. The reverse is true in the condor population. Because of the long period of sexual immaturity and the low productivity of individual pairs, total annual production was low even when the population was large. Of the estimated 60 condors now in existence, perhaps 40 are of breeding age. Assuming an even sex ratio, no superannuated members in the population, and free interchange between all condors in the population, a maximum of twenty breeding pairs can be formed. Because of probable inequities in sex, age and distribution, a total of approximately 16 pairs seems more likely. With condors nesting regularly every second year, eight pairs would be breeding in an average year. Assuming some nest failure, highest annual production is likely to be somewhat less than eight birds. At this rate, an average annual survival of 90 per cent or more is necessary to maintain a static population. The current survival rate appears to be at or above 90 per cent, but cannot be maintained long because of expected old-age losses. Also, production in recent years has not approached the theoretical level of six or eight fledglings annually, so the present imbalance between natality and mortality is even more severe than might be expected.

Habitat Requirements

The California condor has three basic habitat needs: adequate nesting sites, roosting sites, and feeding habitat with adequate food. These must be equally available to each subpopulation of condors, and geographically and seasonally located to fit traditional condor use patterns.

Nesting Areas - Condors nest in various types of caves, crevices and potholes in isolated areas of the Coast and Transverse Ranges. (At least one nesting is known in the Sierra Nevada in Tulare County, but this was apparently an unusual occurrence.) No nest is build, the single egg being layed on the bare or sand-covered cave floor. Judging from historical records, suitable locations were found scattered throughout the coastal mountains. Many of these sites are now unused because of man-related disturbance or because condors no longer occur in the vicinity. Condors have recently nested in San Luis Obispo County, in the Sespe-Piru area of Ventura and Los Angeles counties, and in Santa Barbara County. While each is important, the Sespe-Piru has the best potential because of abundant nest sites and the largest local condor population. Sibley (1969) states: "The importance of the Sespe-Piru area to condor survival cannot be overstated. This has been the major center for the condor population at least since 1960. It contains most of the nesting sites and winter roosts. It is a unique area not duplicated elsewhere in the condor's present or past range. Adequate reproduction can be assurred only by avoiding adverse modification of this area." However, while other areas have either fewer birds or fewer nest sites, their preservation is important to supplement Sespe-Piru production. Their potential for adding birds to the population may currently be as good as the Sespe-Piru because local food supplies look much more dependable.

Basic requirements for nesting sites are:

1. They must be protected from human encroachment. Human disturbance normally will not cause condors to abandon their nests, in the sense that they will fly from nest sites and not return. In fact, some nests have been repeatedly disturbed and have been successful (Koford, 1953; Sibley, 1969). However, human disturbance discourages condors from nesting in otherwise suitable locations, and may cause nest failure.

Sibley (1969) found a correlation between location of recently used condor nesting sites, and location and magnitude of human activity. Even though apparently suitable sites existed elsewhere (either historically used sites, or ones with similar characterists to recently active nests), he calculated the following minimum distances of nests from various disturbances and improvements:

a. Lightly used dirt roads - 0.8 miles when unshielded from sight and sound of road, occasionally closer when completely shielded.

b. Regularly used dirt road - 1.2 miles when unshielded.

c. Paved road - 2.2 miles.

d. Oil wells (shielded from sight and sound) - 1.2 miles.

e. Oil wells (in view of nest) - 2.3 miles

Both regularity and magnitude of disturbance are involved in discouraging condor nesting, as nests may be located closer to lightly used roads than to regular travel routes or oil well operations. Condors have nested very near intermittently used foot trails. The greater the disturbance, either in frequency or noise level, the less likely condors are to nest nearby.

Nest failure due to human disturbance has occurred. Sibley (1967) cites two examples of egg breakage caused when a condor was frightened by intruders. In a third instance the surprised bird leaped forward, carrying the egg with it some distance but the egg did not break. That similar losses are possible as a result of people approaching nests, dynamite blasts, sonic booms or other disturbances is suggested by other observations. For example, Sibley (1969) saw a sleeping condor flush violently from a pothole following a sonic boom. Ames and Mersereau (1964) record several instances of egg loss from osprey nests when the birds were flushed by passing motorboats, and knocked eggs from the nest during their rapid departure. Discussing peregrine falcon egg loss, Hager (1969) notes "evidence that a missing egg or eggs had been knocked off a poor shelf by an incubating bird flushing directly and hurriedly from the nest." A. H. Morgan (letter, June 22, 1970) has observed egg loss in heron, ibis, and seabird colonies when a spontaneous sound like a gunshot triggered the rapid exodus of adults. The more prevalent such disturbances are in condor nesting habitat, the less likely nests will be successful.

2. There must be an adequate, dependable food supply nearby if breeding condors are to be encouraged to stay in the area, and if nestlings are to survive and mature at the proper rate. In some cases, supplemental food is desirable to augment that available through natural loss of livestock or wild animals.

Roosting Areas - California condors have traditional roosting sites that are used year after year. A typical site has rock cliffs, dead conifer snags or both, and is located in an isolated, or at least semi-secluded area. Condors will apparently tolerate more disturbance

at a roost than near a nest. For example, Sibley (1969) describes one roost within 100 yards of a lightly used road and within one-quarter mile of a summer home tract, and another within one-half mile of radio towers, a fire lookout and summer homes. However, in the first instance the roost is shielded from view of the road by both vegetation and topography, and is difficult to approach on foot. The roost trees in the second case, although situated close to various facilities, are seldom actually visited. That there may be a limit to tolerable disturbance at roosting areas is suggested by the lack of recent condor roosting use of the southwestern portion of Hopper Ridge near Hopper Mountain, Sespe Condor Sanctuary. This area, regularly used by roosting condors between 1939 and 1946 (C. B. Koford, field notes), now has a large cluster of oil wells only one-half mile distant.

To insure that condor roosts continue to be useable, motorized activity, blasting and permanent facilities should be prohibited within at least a one-half mile radius of the site, and all human use should be discouraged. Maintenance of an adequate food supply within daily foraging distance is also necessary. Because condors have occupied the same scattered roost sites for many years seems adequate justification for preserving as many as possible of those remaining. There may be adaptive as well as traditional reasons for condors to continue to occupy a number of widely separated roost sites, such as reducing food competition between breeding and non-breeding birds. Also, with condors dispersed over a large area, the population is not as subject to disastrous losses (from wanton shooting, poisons, or natural accidents) as they might otherwise be.

Food and Feeding Habitat - A detailed discussion of condor food habits and feeding behavior is given by Koford (1953:55-72), while the current food situation is treated in detail by Wilbur (1972).

While the condor is not as ungainly on and near the ground as it is described in popular literature, it does require fairly open grassland habitat for feeding. This assures easy takeoff and approach, and makes food finding easier for this species that apparently depends on sight rather than smell for locating its food. The condor eats only dead animals. Historically, this probably included deer, elk, pronghorn, whales, sea lions, and smaller animals. Because of availability cattle are now the primary food source, but other animals are eaten when available. The actual amount of food required is not known, but estimates have been made that appear reasonable. Brown and Amadon (1968: 76-79) summarized various data on eagles and vultures that indicate this species may need to consume a daily average of approximately five per cent of its body weight. Therefore, a 20-25 pound

condor would require 1-1¼ pounds of food per day, or 7-9 pounds per week. A captive California condor at the Los Angeles Zoo regularly eats 2-3 pounds of meat daily (F. S. Todd, pers. comm.), and Koford (1953:61) cites another record of a zoo bird eating 1½-2 pounds of food per day. He suggests a free-living California condor might require an average of at least two pounds of food per day.

Condors sometimes cannot feed for several days in succession, when inclement weather inhibits flying or impairs visibility of food. This is a natural situation the species has endured for centuries, and it has undoubtedly adapted to "feast or famine" conditions. Hatch (1970) experimentally starved turkey vultures for over ten days with no loss of vigor or reduction in body temperature. His conclusion that "turkey vultures thus can easily endure short periods of unfavorable weather by simply waiting" can undoubtedly be applied equally well to the condor's feeding situation.

Assuming a food requirement of approximately two pounds daily per condor, a population of 60 condors would require 43,800 pounds of food each year, or 834 pounds per week. Condors do not require food every day, and they can forage some distance to find it, so at first glance there would not appear to be a food supply problem for the 60 birds now existing, or for a substantial increase. However, the total range of the species is not available to all condors either seasonally or geographically. Observations made over a number of years show that condor numbers in the two segments of range (the Coast Ranges and Sespe-Sierra area) remain essentially constant throughout the year, and that little if any interchange occurs (Wilbur, 1972). Breeding birds must obtain most of their yearlong food supply within approximately 30 miles of the nesting area. Also, a large share of carcasses are never available to condors because they occur in locations inaccessible to condors, they are burned or removed by landowners, or are eaten by other scavengers. Food in summer throughout the range of the condor is scarce, and it appears food shortages in the vicinity of the Sespe-Piru nesting area may already be inhibiting nesting activity. There has been a marked reduction in both food and feeding habitat there in recent years, and condor reproductive activity has also dropped off considerably (Wilbur, 1972).

Basic food requirements are:

1. A substantial, readily accessible food supply within 25-30 miles of nesting areas all year. Lack of food nearby may inhibit breeding activity and result in few birds nesting, and may impair survival of nestling and early flight-stage condors. A good food supply may result in increased breeding by individual pairs.

2. Food available seasonally in outlying portions of the condor range, especially near known roosting areas. This will permit condors to continue to make long-established seasonal movements which are undoubtedly of adaptive value to the population. For instance, migration of older nonbreeders out of nesting areas in spring reduces food competition with breeding birds and those juvenile condors that do not feed successfully in a large group (i.e., those low on the "peck order"). Also, as mentioned in the discussion of roost site requirements, keeping condors dispersed reduces chances of the condor population being decimated by either natural or man-induced catastrophe.

Condors usually do not feed as close to roads, residences and other areas of regular human use as do turkey vultures, golden eagles and ravens. Food is most likely to be used by condors when located in areas of minimal disturbance.

Mortality Factors

California condors have no regular natural enemies and, judging from zoo records of condors living to be 30 to 45 years of age, normally have a long life. The majority of former causes of mortality - egg and skin collecting, collecting for quills, Indian ceremonial use, capturing for sport - are no longer operable. But condors do occasionally die from other than natural causes, and with such a small population with such a low replacement potential, survival of every bird and success of every nesting is especially important. The potential for loss from any source must be reduced to the lowest level possible.

Poisoning - There appears to be no basis for the hearsay reports of hundreds or thousands of condors dying from strychnine-poisoned baits during the latter part of the 19th Century (Harris, 1941; Koford, 1953). However, strychnine-poisoned carcasses set out for coyote control are implicated in at least two cases of condor sickness. Of the four condors involved in these two instances, one died. There may be hazard involved in other poisons used in animal control, such as sodium monofluoroacetate (Compound 1080) and thallium, but no certain losses can be attributed to them.

Use of animal control toxicants on federal lands within the range of the condor has been restricted for a number of years. Recent methods of ground squirrel control appear to pose less threat to condors and other birds of prey than did earlier techniques because poisoned squirrels usually die in their burrows rather than aboveground. (Wilbur, 1972). However, because every condor is important to the condor population, continuing efforts should be made to decrease the use of all poisons within the condor range, and to devise techniques of control that have even less potential for

harming condors. All animal control should be discouraged in condor congregation areas during those times of year that condors are present. The possibility of sublethal poisoning affecting reproduction should be investigated.

Shooting - Mortality resulting from the actions of malicious and ignorant shooters has been one of the main drains of the condor population since European man reached the West Coast. The magnitude of the problem probably increased following the advent of the high-powered rifle in the 1890's, and continued only slightly abated until recent years.

On January 5, 1972, the U.S. Forest Service implemented a complete firearms closure in the Sespe Condor Sanctuary and in adjacent condor congregation areas. This, along with continuation of a general program of education and law enforcement, will reduce the potential for shooting losses. Further restrictions of firearms use in other condor congregation areas may be desirable, and should be investigated.

Accidents - Koford (1953:131) cites records of two condors with broken wings resulting from flying into objects. In 1966 a condor was killed by hitting a powerline. All three were immature birds, which are not as adept at flying and landing as are adult birds. Death resulting from collisions with manmade objects are unusual, but are at least partly preventable through carefully planned placement of powerlines, towers, and other facilities within the condor range, particularly in areas frequently inhabited by young birds.

Productivity Considerations

Current low productivity seems unrelated to either lack of enough breeding age birds or lack of sufficient habitat. Disturbance of breeding birds may be locally important, but appears unlikely as a primary cause of low productivity. Insufficient food appears to be the most probable limiting factor, but it is possible that other, so far unidentified factors are equally important. Additional research is needed to identify such factors and evaluate their effects.

PART II
RECOVERY PLAN OBJECTIVES AND RATIONALE

The primary objective of all California condor management is to stop the decline of the species and maintain the population at a secure level. To do this, mortality must be reduced to the lowest level possible; productivity must be increased over mortality; and adequate nesting, roosting and feeding habitat must be retained for each condor subpopulation, including habitat to allow for future growth and expansion of each subpopulation.

Management of the condor is even more complicated than that required to preserve many other endangered species. Extremely low productivity even under ideal conditions means very slow response to management. Results are measureable only over long periods of time. Condors range over thousands of square miles of both public and private lands, a habit that introduces a variety of protection and management problems and involves a number of governmental and private organizations and landowners. The species' need for large areas of semi-secluded habitat brings it into conflict with many other potential land users.

Perhaps the greatest problem in condor management is the lack of precise data concerning the needs of the species. Despite considerable research, it is sometimes impossible to concretely justify recommendations or give positive answers to questions regarding the impact of certain actions and developments. For instance, it is not always possible to say whether or not a certain oil development, logging operation, public use facility, or new roadway will definitely impair the condors' changes for survival. Because field biology is at best an inexact science, more precise data may never become available. This is unfortunate in an age when many conflicting demands are made of the land and its resources, and men desire precise answers to precise questions. However, the condor is endangered now and time is critical. If the condor is to be preserved, action must be taken now on the basis of the best information currently available.

Several points may be made in support of, and defense of, the following plans:

1. The likelihood of preserving the condor decreases as the birds are forced into less and less traditional circumstances of feeding, roosting, nesting, and migratory behavior. Implementation of all items in this plan will result in the <u>best chance</u> of condor survival.

2. If future research shows certain measures included in this plan unnecessary to condor survival, some restrictions can be

softened and land use modified with probably no loss other than time during which change was deferred. Most condor management involves holding the land as is, and no changes or degradations of the environment occur that would lessen its value for other uses at some later date.

3. Condor preservation is in harmony with a number of other public benefits, including: preservation of open space, natural scenery, and wilderness; provision of outdoor recreation under proper controls; protection and propagation of wildlife; maintenance of air quality; and protection of watersheds and water quality (Bishop, 1972). Perpetuation of farm and rangeland agriculture, and long range planning or urban and industrial growth are also in the public interest (Snyder, 1966). Many apparent conflicts between condor preservation and alternative land uses can be resolved by adequate planning of land use and development.

The action plan outlined in the following pages may not arrest the decline of the California condor population. Condors might continue to decline if numbers have already fallen below that "minimum population density" (Leopold, 1933) needed to sustain the species, or if some so far unidentified limiting factor continues to operate against it. Continued research into methods of increasing productivity is vitally needed, as is a contingency plan for condor preservation should productivity fail to increase or should mortality increase above current levels. While the condors' inherently low reproductive capacity makes it appear a less likely candidate for captive propagation than some other species, recent successes at the Patuxent Wildlife Research Center and elsewhere propagating South American condors (*Vultur gryphus*) gives some hope for the future of this technique. Patuxent personnel plan a continuing investigation of South American condor propagation and subsequent release to the wild, and this may have application to the California condor should current plans fail to improve its population status.

CALIFORNIA CONDOR RECOVERY PLAN OUTLINE

Prime Objective: To maintain a population of at least 50 California Condors, well distributed throughout their 1974 range, with an average natality of at least 4 young per year, and with the lowest possible annual mortality.

1. To provide adequate nesting conditions for each subpopulation of condors.

    11. To prevent disturbance and human interference at nest sites.

        111. To prohibit all motorized activity and blasting within the vicinity of condor nest sites, except as necessary for wildlife control.

            1111. To legally close the Sespe-Piru condor management area to all surface entry for mining, mineral leasing, water development, and power site location.

            1112. To close to all motorized activity and blasting the area within 1½ mile radius of nest sites outside the Sespe-Piru.

                11121. To close these areas to mining and mineral leasing.

                11122. To relocate or close the ridge road north from Pine Springs Campground, San Luis Obispo Co.

        112. To limit all human use within one-half mile of condor nest sites.

            1121. To maintain public use closures in Sespe and Sisquoc Condor Sanctuaries.

            1122. To refrain from locating future roads, trails, camps, etc., within one-half mile of nest sites.

            1123. To acquire patented lands within the Sespe-Piru area.

                11231. To acquire Green Cabins parcels.

11232. To acquire Squaw Flat parcel.

11233. To acquire Turner Oil parcel.

11234. To acquire Coldwater parcel.

11235. To acquire Potholes parcel.

11236. To acquire Dominguez parcel.

11237. To acquire San Cayetano parcel.

113. To prohibit all aircraft activity in the airspace extending to 3,000 feet elevation over condor nesting terrain.

1131. To provide legal and administrative restriction against aircraft activity.

1132. To maintain liaison with military and civilian aircraft operators, to gain acceptance of and compliance with rules.

114. To patrol to ensure compliance with above protective regulations.

115. To extinguish wildfires in condor nesting areas as rapidly as possible with minimum possible disturbance.

1151. To permit use of mechanical fire fighting equipment near nest sites if deemed the best and quickest control technique.

1152. To restrict aerial drops of fire retardent on canyon walls and cliff faces.

12. To maintain a suitable food supply near nesting areas.

13. To continue research into increasing productivity and otherwise improving population well-being.

2. To provide adequate roosting sites for each subpopulation of condors.

21. To limit human activity near condor roosting sites.

211. To limit activity in the Mt. Pinos-Mt. Abel roost area.

2111. To restrict further development of the area.

2112. To close the Pinos-Abel trail (#21W03) to all motorized use.

212. To close to additional development the roost area at Blue Ridge, Tulare County.

2121. To acquire or otherwise reserve patented lands.

2122. To reserve as a condor management area State of California lands and National Resource lands.

213. To preserve roosting areas in approximately 13,000 acres of El Paso Creek watershed, Tejon Ranch, Kern County.

3. To provide optimum food and feeding habitat.

31. To encourage open space preservation and a continuing livestock economy throughout the condor range.

32. To specifically preserve key feeding areas near roosts and nests.

321. To preserve as summer feeding area rangelands in Tulare County between Lake Kaweah and Springville.

3211. To work with Tulare County agencies on master planning, zoning, etc.

3212. To secure key parcels by fee purchase, acquiring development rights, or other means.

322. To preserve as late summer feeding areas rangeland in Kern County in the Glennville-Woody area.

3221. To work with Kern County agencies on master planning, etc.

3222. To secure key parcels through fee purchase or other means.

323. To preserve key feeding areas on Tejon Ranch, Kern County, for yearlong use of breeding condors and fall-winter use of nonbreeders.

3231. To develop condor management plans for Tejon Ranch.

3232. To secure key parcels within ranch by fee purchase or other means.

324. To acquire and manage the 1,800 acre Hopper Ranch adjacent to the Sespe Condor Sanctuary.

3241. To acquire the property.

3242. To develop and implement a management plan.

33. To encourage land managers to leave dead livestock on range where they are available to condors.

331. To educate land managers to the need for condor food.

332. To help land managers distribute food in accordance with county health regulations.

34. To provide supplemental feed for the condor population as necessary.

341. To develop and implement a supplemental feeding program to improve condor breeding conditions in the Sespe-Piru nesting area.

342. To evaluate need for additional supplemental feeding in other areas.

4. To maintain condor mortality at lowest level possible.

41. To discourage animal control programs that leave poisoned meat baits or toxicant-killed animals in areas frequented by condors.

411. To eliminate unnecessary programs, either by education or legislation.

412. To help plan necessary programs to be of least hazard to condors.

42. To patrol key congregation areas to reduce potential for shooting losses.

43. To determine need for extra patrol or firearms closures at congregation areas.

431. To evaluate need at Blue Ridge, Tulare County.

432. To evaluate need at Mt. Pinos-Mt. Abel roost area.

433. To evaluate need in Pine Mountain-Reyes Peak area.

5. To monitor condor population to determine success of management and well-being of population.

51. To develop periodic surveys of population numbers, distribution, and productivity.

52. To implement surveys.

6. To conduct widespread conservation-education and public information program.

61. To make public aware of condor distribution, identification, and legal protection.

611. To regularly distribute information on the condor to press, conservation clubs, etc.

612. To make regular public contacts to talk about condors, including formal talks and programs, field encounters, etc.

613. To develop a live condor exhibit at the Los Angeles Zoo.

62. To encourage planning and development agencies to seek advice on placement of powerlines, setting of hunting seasons, and other activities that have potential for increasing condor mortality.

PART III
SCHEDULE OF PRIORITIES, RESPONSIBILITIES, AND COSTS

Group Priority	Name of Action	Plan Designation	Responsibility		Target Date	Estimated Costs				
			Lead	Cooperators		FY 75	FY 76	FY 77	Remaining	Thru FY 84
A. LANDS										
1	Tejon Ranch mgt. planning	213, 323	DFG-FWS	NAS	None yet	500	1,500	unknown	unknown	unknown
2	Hopper Ranch acquisition	3241	FWS		FY 75	385,000	-	-	-	385,000
3	Green Cabins acquisition	11231	NAS	FS	FY 74	-	-	-	-	-
4	Squaw Flat acquisition	11232	FS		FY 75	40,000	-	-	-	40,000
5	Blue Ridge mgt. plan	212	BLM	FWS-DFG	None yet	1,000	unknown	unknown	unknown	unknown
6	Turner Oil acquisition	11233	FWS	FS	None yet	-	unknown	unknown	unknown	unknown
7	Tulare Co. land planning	321	FWS-DFG		None yet	500	unknown	unknown	unknown	unknown
8	Kern Co. land planning	322	FWS-DFG		None yet	500	unknown	unknown	unknown	unknown
9	Coldwater acquisition	11234	DFG		FY 75	14,500	-	-	-	14,500
10	Potholes acquisition	11235	FS		FY 76	-	25,000	-	-	25,000
11	Dominguez Cyn. acquis.	11236	FS		FY 76	-	80,000	-	-	80,000
12	San Cayetano acquisition	11237	FS		FY 77	-	-	10,000	-	10,000
B. INVESTIGATIONS										
1	Productivity research	13	FWS	DFG-NAS-FS	FY 76	8,000	3,000	-	-	11,000
2	Survey development	51	DFG-FWS		FY 75	7,500	-	-	-	7,500
3	Pinos firearms invest.	432	FWS	NAS-FS-DFG	FY 76	-	2,000	-	-	2,000
4	Pine Mtn. firearms inves.	433	FWS	NAS-FS-DFG	FY 77	200	500	500	-	1,200
5	Additional feeding	342	FWS		FY 76 initial FY 80 reappraise	-	1,500	-	2,000	3,500
6	Blue Ridge firearms in.	431	FWS		FY 74	-	-	-	-	-

Group Priority	Name of Action	Plan Designation	Responsibility Lead	Responsibility Cooperators	Target Date	Estimated Costs FY 75	FY 76	FY 77	Remaining	Thru FY 84
C. ADMINISTRATIVE										
1	Sespe feeding	12, 341	FWS	NAS-FS-DFG	ongoing	15,000	15,000	17,000	ongoing	175,000
2	Sespe-Piru closure	1111	FWS-FS-BLM	NAS-DFG	FY 76	1,000	unknown	unknown	-	unknown
3	Other nest closures	11121	FWS-FS-BLM	NAS-DFG	FY 76	500	unknown	-	-	unknown
4	Pine Springs road	11122	FS		FY 75	-	-	-	-	-
5	Sanctuary maint.	1121	FS		ongoing	-	-	-	-	-
6	Nesting area patrol	114	FS		ongoing	1,200	1,200	1,500	ongoing	15,000
7	Air closures	1131	FS-DFG-FWS		FY 74	-	-	-	-	-
8	Air closure maint.	1132	FS	NAS-FWS	ongoing	200	200	200	ongoing	3,000
9	Restrict nest dev.	1122	FS		ongoing	-	-	-	-	-
10	I and E program	611, 612	NAS	FS-DFG-FWS	ongoing	7,500	10,000	unknown	ongoing	unknown
11	Hopper Ranch mgt.	3242	FWS	DFG-FS	ongoing	9,000	15,000	18,000	ongoing	unknown
12	Fire mgt.	115	FS		ongoing	200	-	-	-	200
13	Pinos trail closure	2112	FS		FY 74	-	-	-	-	-
14	Patrol of congregation areas	42	DFG		ongoing	500	500	500	ongoing	5,000
15	Survey	52	DFG	FWS-NAS-FS	ongoing	5,000	25,000	unknown	ongoing	unknown
16	Zoo display	613	Zoo-DFG	NAS-FWS	FY 76	60,000	40,000	-	-	100,000
17	Pesticides control	41	DFG-FWS		FY 77	1,000	unknown	unknown	-	unknown
18	Rancher food contact	33	NAS		ongoing	500	2,000	unknown	ongoing	unknown
19	Pinos devel. restr.	2111	FS		ongoing	-	-	-	-	-
20	Planning advice	62	DFG-FWS		ongoing	1,000	2,000	2,000	ongoing	25,000
21	Open space planning	31	DFG-FWS		ongoing	500	1,000	1,000	ongoing	10,000

APPENDIX A
Action Plan Narrative

General Action

Nest sites - All nest sites known active within the past 20 years are on National Forest lands, and a plan for their protection has been prepared by the U.S. Forest Service (Carrier, 1971). Two basic objectives are:

1. To restrict all motorized activity and blasting within 1-1/2 mile radius of condor nest sites.

2. To locate trails and trail camps out of direct line-of-sight of nest sites within a one-half mile minimum distance, and to continue closure of the Condor Sanctuaries to all public use.

The Forest Service, under Title 2600 of the Forest Service Manual, may close or specially manage most uses of forest lands of particular value to endangered species. However, control of mining and mineral resources rests with the U.S. Department of Interior, and restriction of mining and mineral leasing requires action by the Bureau of Land Management. Therefore, complete implementation of Forest Service recommendations requires action by both the Forest Service and Bureau of Land Management. Land purchase, or acquisition of land use and development rights on certain lands within National Forest boundaries is also required before full controls can be implemented.

Aircraft activity in the vicinity of nests may discourage condor use and may indirectly result in nest failure. A 3,000 foot terrain clearance over nesting areas is now recommended for military and civilian aircraft. Airway restrictions should be well publicized, and if possible given legal status.

The value of all restrictions will be increased by an active, well-rounded program of education, patrol and law enforcement. Educational emphasis should center on the plight of the bird, and the justifications for restricted use of nesting areas. Patrol will reduce the potential for violation of regulations, and diligent law enforcement will act as a deterrent to further trespass in closed areas. As the condor reproductive cycle requires the full year, restrictions should be in effect at all times.

Roost sites - Roosts are located on National Forests, National Parks, Tule River Indian Reservation, National Resource lands (public domain), state lands and private lands. The U.S. Forest Service objective for protection of roosts is to eliminate all human activity within at least one-half mile radius (Carrier, 1971). The same basic objective should be pursued for roosts on other lands.

Roosts in areas subject to uses not compatible with condors should be formally designated and protected. However, for many roosts where official closure draws attention to the roost and might actually result in increased use by photographers, birders and other curious people, policy is to discourage public use by keeping the area undeveloped, by rerouting trails, and in other ways making access difficult or undesirable. All roosts should be adequately identified so the appropriate land manager can plan activities in the vicinity, and act to prevent conflicting uses should they arise. Particular attention on both public and private lands should be given to preserving conifer snags for condor roosts.

Many roosts on Los Padres National Forest are near condor nest sites, and will be protected as a result of nest protection measures. Others require special management. The Forest Service has authority to close areas for endangered species protection, and to plan land management so such activities as timber harvest and public recreation will not jeopardize the condor. Action by the Department of the Interior will be necessary to restrict mining activity near roosts. To safeguard other roosts will require acquisition of private lands, or land use agreements to control activities on private lands, and withdrawal and special designation of National Resource Lands and state lands. Increased patrol of roosting areas is needed to enforce official land closures, and to prevent shooting mortality at all condor congregation areas.

Food and feeding areas - Most feeding areas are on private lands. The basic need is to keep adequate food available in a relatively disturbance-free environment at those times of year that condors frequent any given area. A yearlong food supply is needed near nesting areas; elsewhere, requirements are seasonal. Preservation of food supply and feeding terrain near well-established nests and roosts should receive greatest emphasis, but condor needs will probably be best met if as much feeding area as possible is maintained.

Because dead livestock is now the primary condor food, condor preservation agencies should generally encourage and support programs that favor livestock management in an open range situation within the condors foraging range. By working through county planning departments and livestock and landowner organizations, much may be accomplished within the established framework of zoning, cooperative agreements, and land use legislation. Additionally, livestock managers should be encouraged to leave animal carcasses on the range in areas available to the condors. Educating the rancher to the need for condor food may be all that is required. However, should food appear to be especially scarce in certain areas, paying the rancher to provide food may be appropriate.

Supplemental feeding by conservation agencies is desirable at times also. If local ordinances prohibit leaving carcasses on the range, modification of these rules should be sought.

Certain feeding areas are particularly significant because of their proximity to nests and major roosts. Special effort should be made to retain and enhance these areas. Outright purchase of key parcels of land, acquisition of development rights, cooperative agreements or easements restricting certain land uses, and reservation of certain National Resource lands are possible methods of retaining the integrity of these units. Exemption from mining and mineral leasing laws, and purchase of mineral rights, may be desirable to protect certain feeding areas from uses that are incompatible with condors.

Protection from mortality - Shooting, disruption of nesting activity, and possibly poisoning have the greatest potential for causing condor mortality. Mortality at nests will be limited by implementation of nest protection measures. Potential for shooting losses can be reduced by increased education, patrol and law enforcement, and by firearms regulation or restriction in certain condor congregation areas. The condor is legally protected by state and federal law. The threat from toxicants can be reduced through cooperative planning of annimal control programs, limiting extent and timing to have least potential impact on condors.

Specific Action - Sespe-Sierra Condor Population

Fresno County - Fresno County is at the usual northern end of the range of Sespe-Sierra condors, although in some years condors forage on into Madera County, and stragglers are sometimes reported even farther north. No condor nesting is known in the county. Summer roosts may occur in the Sierra Nevada foothills in Sierra and Sequoia National Forests, but none have yet been found. The main use by condors is for feeding in spring and summer (April-August). Approximately 150,000 acres of rangeland is considered condor foraging habitat.

Total importance of Fresno County to condors is unknown. It is suspected to be an overflow area, used most often in years when food is scarce and condors must forage farther north than usual. However, there may be a small group of condor that visit the county each summer, roosting in the National Forests. No major condor program is suggested for Fresno County, but the following will help perpetuate what use now occurs.

I. Roost sites - If roosts are located in the Sierra or Sequoia National Forests, develop management procedures as needed.

II. Food and feeding area

1. Encourage planning and legislation favoring large blocks of open space with a livestock economy.

2. Encourage land managers to leave dead stock on the range where available to condors, from April through August.

III. Protection from mortality

1. Discourage animal control activities that leave poisoned ground squirrel and other carcasses where available to condors, from April through August.

2. Make public contacts locally each year (lectures, news stories, etc.) to keep public aware of condors' presence.

Tulare County - Of the three million acres of land in Tulare County, approximately 750,000 acres in a north-south band through the center of the county are used by condors. About 250,000 acres are grassland and open woodland regularly used for feeding; the remaining area is not continuous condor habitat, but contains scattered roosts, small and irregularly used feeding areas, and condor flight paths between food and roosts. The feeding area is located at the eastern edge of the San Joaquin Valley at elevations between 500 and 2,000 feet above sea level; roosting areas are in the adjacent Sierra Nevada foothills between approximately 2,000 and 8,000 feet elevation. Most of the feeding area is located on private lands, while the majority of roosting terrain in on federal, state and Indian reservation lands.

The county is a historical condor use area, as condors were present and "frequently seen" by earliest white settlers in the Sequoia Park region in 1856 (Fry, 1926). It is now the main summer use area for a majority of the Sespe-Sierra condor population, with condors arriving from the south in March and April, and reaching a peak in July and August. Most are gone again by October; however, there are many winter records, and the species has nested in the county at least once.

This is not considered an urban county, and human population growth is expected to be relatively slow (Shumway, 1971; Tulare County Planning Dept., 1972). However, the adjacent counties of Kern and Fresno are both expected to grow quickly and considerably, and it appears likely Tulare County will feel the pressure of human demand for more recreation and for more intensified or expanded crop production. By 1980, county grassland area is expected to decrease by about 75,000 acres; intensively managed cropland should increase by 44,000 acres (Tulare Co. Planning Dept., op. cit.). Additionally, with the extreme national demand for lumber, forest resources in the county will undoubtedly continue to be utilized at a high rate.

Expected land changes in the county will probably reduce the area of condor feeding habitat through loss of rangeland, by decreased amounts of available food, and by increased disturbance. Increased timber harvest and intensified recreation have potential for making some roosting areas unuseable and other unattractive to condors. However, the majority of lands regularly used by condors are included in that area the Tulare County Planning Department (1972) considers best used as open space. It is possible that, with proper planning and subsequent management, adverse impact on the condor can be kept minimal, while still achieving county goals for agriculture, recreation, and other resource use and conservation. Suggested plans for the condor in Tulare County are outlined below.

I. Nest site preservation - Possible nest sites in the county will be protected by roost site protection measures.

II. Roost site protection - Condors apparently occupy a number of roosting areas along the western slope of the Sierra Nevada, but one major one is currently known. Because this one roost is regularly used, and there are good feeding areas only a short distance away, it deserves special protection and management. If other major roosts are found, plans should be developed for them, also. However, it appears there will continue to be ample roosting area available in national parks and national forests, and no elaborate roost management program is necessary.

A. Set aside National Resource lands and State of California lands at Blue Ridge. Exclude from public sale, mining and mineral leasing, and prohibit additional development. Lands involved are in T19S R29E, including portions of sections 5-8, 15-16, and 18-21. Acreage involved is approximately 3,000 acres of National Resource lands and 320 acres of state lands. (Figure 5)

B. Acquire or otherwise secure private lands at Blue Ridge, approximately 1,000 acres in T19S, R29E, including portions of sections 7, 8, 17 and 20 (Figure 5). Administer with adjacent public lands.

III. Food and feeding areas - Of the approximately 250,000 acres of condor feeding habitat in the county, the area from Lake Kaweah (Highway 198) to Springville seems most important in relationship to condor roosting areas. However, other areas south of Springville are regularly used, and are probably only slightly less important than the above. As much of the total area as possible should be preserved, but emphasis should be placed on securing and managing the most important part.

A. Work with Tulare County and interested groups and individuals to maintain a large area of open space with a livestock economy.

B. Encourage land managers to leave dead animals where condors can use them, rather than hauling away or otherwise disposing of them. This is especially desirable from April through October.

C. Through fee purchase, purchase of development rights, easements, land use agreements or other devices, assure that the approximately 90,000 acres of rangeland between Lake Kaweah and Springville (including Potato Hill, Yokohl Valley, Lewis Creek, Frazier Valley) remains open livestock land with minimal human activity.

D. Should food supply appear to be limited on rangelands within the county at some future time, supplement by subsidizing land managers to provide animal carcasses, or by bringing carcasses into the area and setting them out at selected safe feeding sites.

IV. Protection from mortality

A. Discourage animal control programs that leave animals killed by chemical toxicants in areas accessible to condors.

B. Conduct a conservation education, public relations program within the county, stressing Tulare County's importance to the condor, the rarity of the species, condor identification, and the legal status of the bird. This should cut down the potential for indiscriminate shooting and harrassment of condors.

C. Regularly patrol the Blue Ridge area May-September to discourage shooting in the condor roosting area.

Kern County - Over 850,000 acres in eastern and southern Kern County are used regularly by condors. (Additionally, rangeland in the western portion of the county is used by the small population of condors in the Coast Range Mountains. Needs of that population are discussed elsewhere.) Habitat in the county serves the condor in several ways: as a fall and winter roosting and feeding area, as summer habitat for nonbreeding condors, and as feeding area for condors nesting in nearby parts of Ventura and Los Angeles counties. Because of this diversity of use, condors occur regularly in the county during every month of the year. In fall and winter, over 75 per cent of the condor population may be there.

Unlike the situation in Tulare County where public lands play a major part in condor preservation, most Kern County lands of importance to condors are privately owned. There are roosts on National Forest land,

but other roosts and essentially all feeding areas are private. Also, roosts and feeding areas are intermingled in such a way that use of one is dependent on condition of the other.

There is still much rangeland in Kern County and a sizeable livestock industry. However, the human population of the county is expected to increase substantially in the next ten years (Shumway, 1971), and additional demand for living space, recreational opportunities and food producing acreage can be expected to make some areas less useable for condors. Already a number of mountain recreational-residential subdivisions have replaced livestock on once important condor feeding areas in the Tehachapi Mountains. Also, although livestock numbers in portions of Kern County may have increased in recent years, trends toward better range sanitation and disease prevention, and to seasonal stocker cattle rather than yearlong cow-calf operations, may lead to a decrease in available condor food.

As former condor feeding areas in Ventura and Los Angeles counties are developed and their condor food supplies reduced, food in southwestern Kern County becomes increasingly important to condors nesting in Los Padres National Forest. Preservation and management of condor habitat in Kern County involves both retention of food supply for breeding birds, and maintenance of roosts and feeding areas for nonbreeding condors.

I. Nesting habitat - No nests are known in the county. However, preservation of food and feeding areas is highly important to nest success in adjoining counties.

II. Roosting habitat -

A. Tejon Ranch. Secure through fee purchase, land use agreements or other means, control of approximately 13,000 acres along Winters Ridge and El Paso Creek (T10N R17W, Sec. 3-16; T11N R16W, Sec. 17-20, 30. See Figure 6). Restrict additional development and use, and protect and enhance adjacent condor feeding areas.

B. Mt. Pinos area, Los Padres National Forest. As specified in the U.S. Forest Service condor habitat management plan (Carrier, 1971), motorized vehicles should be prohibited in the area between the summits of Mt. Pinos and Mt. Abel. An area of approximately 5,000 acres (Figure 4) should be closed to mining and mineral leasing. Proposals for other activities in this area that might interfere with condor use should whenever possible be reviewed by the Condor Recovery Team prior to Forest Service action. Increased patrol of the area by law enforcement personnel is needed during the hunting seasons. Use of firearms should be

evaluated and if a substantial threat to the condor exists, the roost area should be closed to the use and possession of firearms.

III. Food and feeding habitat -

A. Through contacts with Kern County planning departments and other local groups and individuals, encourage zoning, land use agreements, legislation, etc., that will result in large areas of open space within the present condor range being retained with few disturbances and with an optimum complement of livestock.

B. Through public contacts and educational programs, encourage land managers to leave dead animals where condors can utilize them, rather than burying, burning, or hauling them away.

C. Glennville - Woody area. Through land use agreements, easements, purchase of key parcels, etc., preserve approximately 60,000 acres of condor feeding area, roughly bounded by the north Kern County boundary line, White River Road, Glennville, Sequoia National Forest, Poso Flat Road, Woody-Granite Road, Garces Highway, and Eclipse Hill (Figure 8). Discourage further development of the area, and encourage that which must occur to locate in previously settled areas. Maintain a yearlong livestock economy in this area.

D. Tejon Ranch. Encourage the Tejon Ranch Company to leave the central core of the Ranch undeveloped, lightly used, and with a livestock economy. Specifically, through purchase, agreement, acquisition of development rights or other methods, preserve the following two units (Figure 6).

1. Tunis Canyon-El Paso Canyon area. Approximately 25,000 acres of rangeland north and west of the Winters Ridge - El Paso Creek roosting area should be set aside, to encourage condors to continue using the roost and feeding areas, and to assure that a portion of the ranch remains in a condition highly suitable for condors. The area should receive optimum livestock use, and permanent developments or any significant increases in public use should be avoided.

2. Grapevine - Live Oak area. Approximately 18,000 acres in this portion of the Ranch closest to condor nesting areas in Los Padres National Forest should be secured from further development or much increased public use. Additionally, as other nearby feeding areas become less useable, the food supply of this area may need to be enhanced by providing additional food.

IV. Protection from mortality -

A. Discourage animal control programs that use toxicants and that leave poisoned animals in areas accessible to condors.

B. Continue a regular conservation education, public relations program within the county, stressing its importance to condors, the rarity of the species, condor identification, and the legal status of the bird.

C. To discourage shooting in areas of condor congregation, increase patrol at Mt. Pinos roosts (July-August) and in the Glennville feeding area (August-September).

Los Angeles County - Only a small portion of Los Angeles County is used regularly by condors, but that portion is important as a nesting area, and as a flyway between nesting and feeding areas. A small amount of feeding area occurs near the Ventura County line both north and south of State Highway 126. Because the nesting area is an extension of the larger "Sespe-Piru" condor use area of Ventura County, management recommendations will be included in the Ventura County section of this report.

Ventura County - Most of Ventura County is used by condors. The north half of the county, included within the Los Padres National Forest, contains most of the known condor nest sites and many important roosting areas. Although increasing urbanization and accompanying developments have replaced livestock raising over much of the county, the remaining open lands are extremely important as foraging areas for nesting condors.

As noted previously, the value to condors of the National Forest habitat in central Ventura and western Los Angeles counties (termed the Sespe-Piru area) cannot be overemphasized. While other areas of condor habitat are very important, it is possible some could be modified or lost without causing the extinction of the species. But if the nesting, roosting and adjacent feeding areas of the Sespe-Piru area are modified to be much less acceptable to condors, it is doubtful the species could survive. Consequently, stringent regulations and single use management are warranted.

Rapid urbanization of Ventura County will continue to create problems for the condor. Open rangeland and livestock, already scarce in the county, may become even scarcer. Opportunity for condors to find food close to nesting areas will become less, which in turn may result in further depressed breeding activity. Increasing demands for recreational space and facilities accompanies human population increase. Additionally, expanding petroleum operations, development of other mineral resources, and desire to develop water sources within the Sespe-Piru region all threaten the security of the area. Regulations needed to restrict these latter developments are legally and administratively complicated, but responsible management is impossible without them.

I. Protection of Nesting and Roosting areas. Because nesting and roosting areas within the county are intermingled, and in many cases are the same site, protection and management needs are similar. Detailed recommendations outlined by the U.S. Forest Service (Carrier, 1971) are included in the following section.

A. Sespe - Piru area.

1. General - Basic Forest Service recommendations for nest and roost site protection are to eliminate all motorized activity and blasting within a 1-1/2 mile radius of nest sites, and to eliminate all human activity within one-half mile of nests and roosts. However, such regulations still leave portions of the Sespe-Piru area open to mining, mineral leasing, water development, and other major physical changes that could jeopardize nests and roosts even though more distant than 1-1/2 miles. Development itself, or access and disturbance related to the development, could exceed limits of condor tolerance. It is therefore recommended that the Departments of Agriculture and Interior jointly close the entire Sespe-Piru area to surface entry for mining, mineral leasing, water development, and power site location. Recreational and other uses should be limited to areas of existing roads, trails and camps.

2. Additional recommendations -

a. Aircraft restrictions: retain and legislatively strengthen the current 3,000 foot terrain clearance recommendation for all aircraft.

b. Acquire remaining patented lands within and adjacent to the Sespe Condor Sanctuary (Figure 3).

c. Increase signing, patrol and publicity to reduce trespass into nesting and roosting areas.

d. Fire control: Wildfire should be contained as quickly and efficiently as possible. Use of motorized fire-fighting equipment within the Sespe Condor Sanctuary is justified because the length of time involved in fire-related disturbances will be shorter than if only hand crews are used. Because aerial application of fire retardent chemicals is potentially hazardous to both aerial crews and condors, the following Los Padres National Forest guidelines apply: (1) suppression aircraft maintain a 200-foot clearance over ridges except when actually making drops (this to reduce potential for collision with condors; (2) if condors appear in drop zones, drops should be delayed until condors have moved away; and (3) no retardent drops will be made on stands of bigcone douglas fir or on cliff faces, both favored condor roost sites. Close liaison should be maintained between fire personnel and condor biologists during fire suppression operations.

B. Areas outside Sespe-Piru.

1. Close area within 1-1/2 miles of nest sites to all motorized activity and blasting.

2. Discourage public use of all kinds within one-half mile of nests and roosts.

II. Food and feeding habitat -

A. Through contact with Ventura County planning departments and other groups and individuals, encourage zoning, land use agreements, legislation, etc., that will result in large areas of open space within the present condor range being retained with few disturbances and with an optimum complement of livestock. Emphasis should be placed on the Big Mountain-Oak Ridge area south of the Santa Clara Valley, as this is a historically used condor feeding area, and is the largest area of open range in close proximity to the Sespe Condor Sanctuary.

B. Through public contacts and educational programs, encourage land managers to leave dead animals where condor can utilize them, rather than burning, burying or hauling them away.

C. Acquire the 1,800 acre Hopper Ranch, and reserve approximately 120 acres of adjacent National Resource Land (T14N R19W, SW 1/4 Sec. 3) as a condor feeding area and buffer zone for the Sespe Condor Sanctuary. Maintain optimum stocking with cattle, and supplement feed with additional carcasses. Close the area to public use except livestock management.

III. Protection from mortality -

A. Discourage animal control programs that leave poisoned animal carcasses in areas accessible to condors.

B. Continue a regular conservation education program within the county, stressing its importance to condors.

C. Continue the existing firearms closure on the Sespe Condor Sanctuary and adjacent areas; increase patrol and enforcement of the closure; evaluate the need for firearms restrictions in the Reyes Peak-Pine Mountain area.

Specific Action - Coast Range Condor Population

The Coast Range Mountains once supported a large number of condors, and there were several major nesting areas in Monterey, San Luis

Obispo and Santa Barbara Counties. Wanton shooting, and egg and specimen collecting in the late 1800's and early 1900's apparently combined to almost eradicate local populations, and now there are probably no more than ten condors in the entire Coast Range area. However, a portion of this population is nesting successfully, and there appears to be adequate nesting, roosting, and feeding terrain for a larger number of condors. It is possible that continued protection of birds and key habitat will result in increased numbers in the future. Chances of the condor population suffering a disastrous setback can be reduced by maintaining several viable subgroups of condors not dependent on the same habitat or influenced by the same events.

There is currently no indication that food or feeding habitat are in any way limiting the Coast Range condor population. Vast acreages are still only sparsely settled and support a yearlong livestock economy. While human population in the region will continue to increase, and more intensive use will be made of certain lands, such changes should have only limited impact on the condor in the near future.

I. Nest and Roost protection -

A. Continue to search for additional sites, and protect accordingly as found.

B. Close to all surface entry, blasting, mining and mineral leasing the area within 1-1/2 miles of the Hi Mountain nest and roost sites (Figure 10).

C. Similarly close the area within 1-1/2 miles of the Beartrap Canyon nests and roosts (Figure 10). Close or reroute Pine Springs Road between Chester Springs and Pine Springs Campground.

D. San Rafael Mountains, Santa Barbara County: (1) continue entry closure of the Sisquoc Condor Sanctuary; (2) protect Blue Falls area (T18N R28W, sec. 32) as a roosting, bathing, and possibly nesting area by limiting public access to the area; and (3) restrict motorized activity and blasting within 1-1/2 miles of the Indian Creek nest site (Figure 11).

II. Protection from mortality -

A. Continue conservation education program in Coast Range counties, stressing the existence of condors in that region, their needs and legal status.

B. Continue patrol around San Luis Obispo County nest sites to discourage indiscriminate shooting and molestation of nesting birds.

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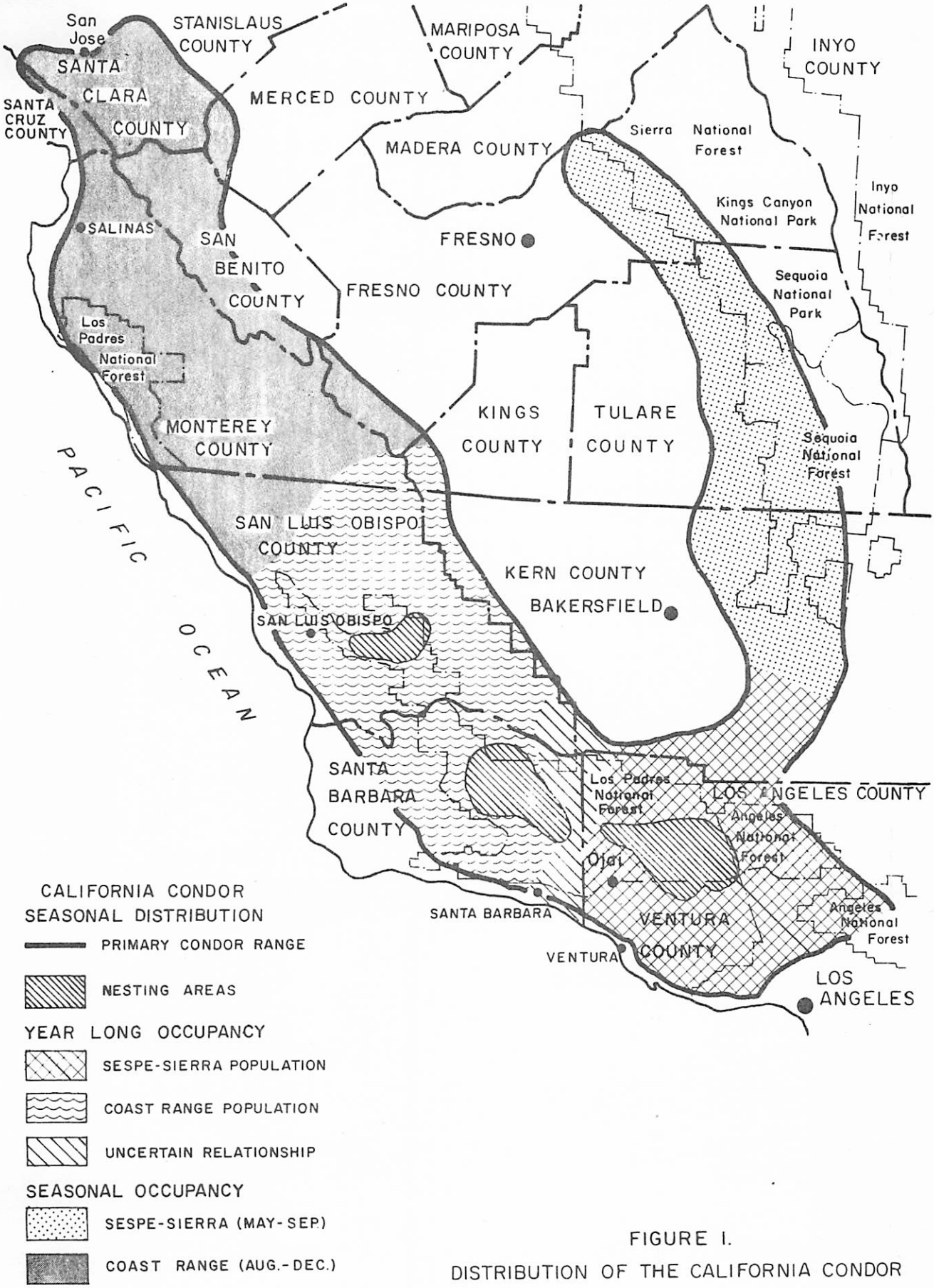
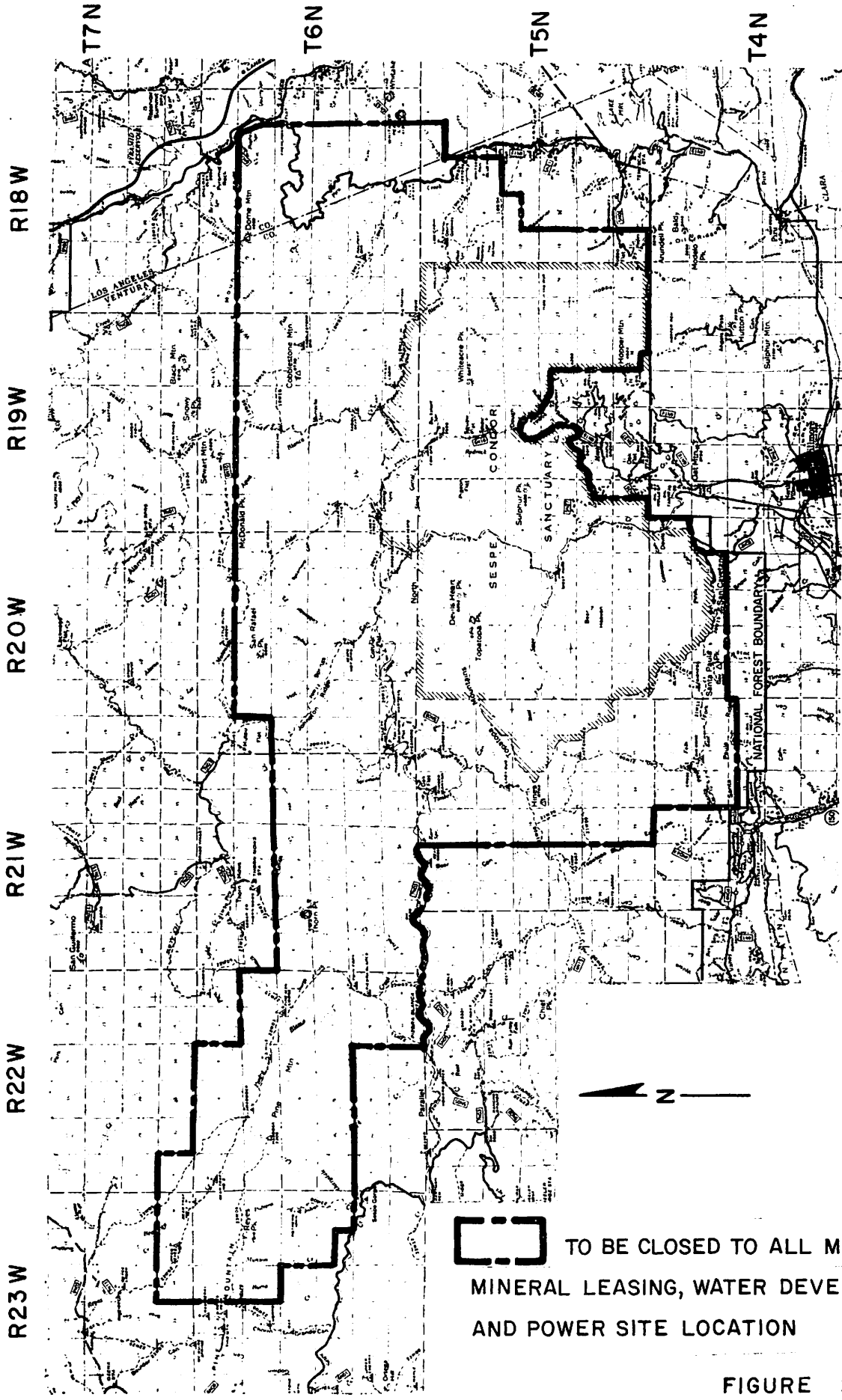
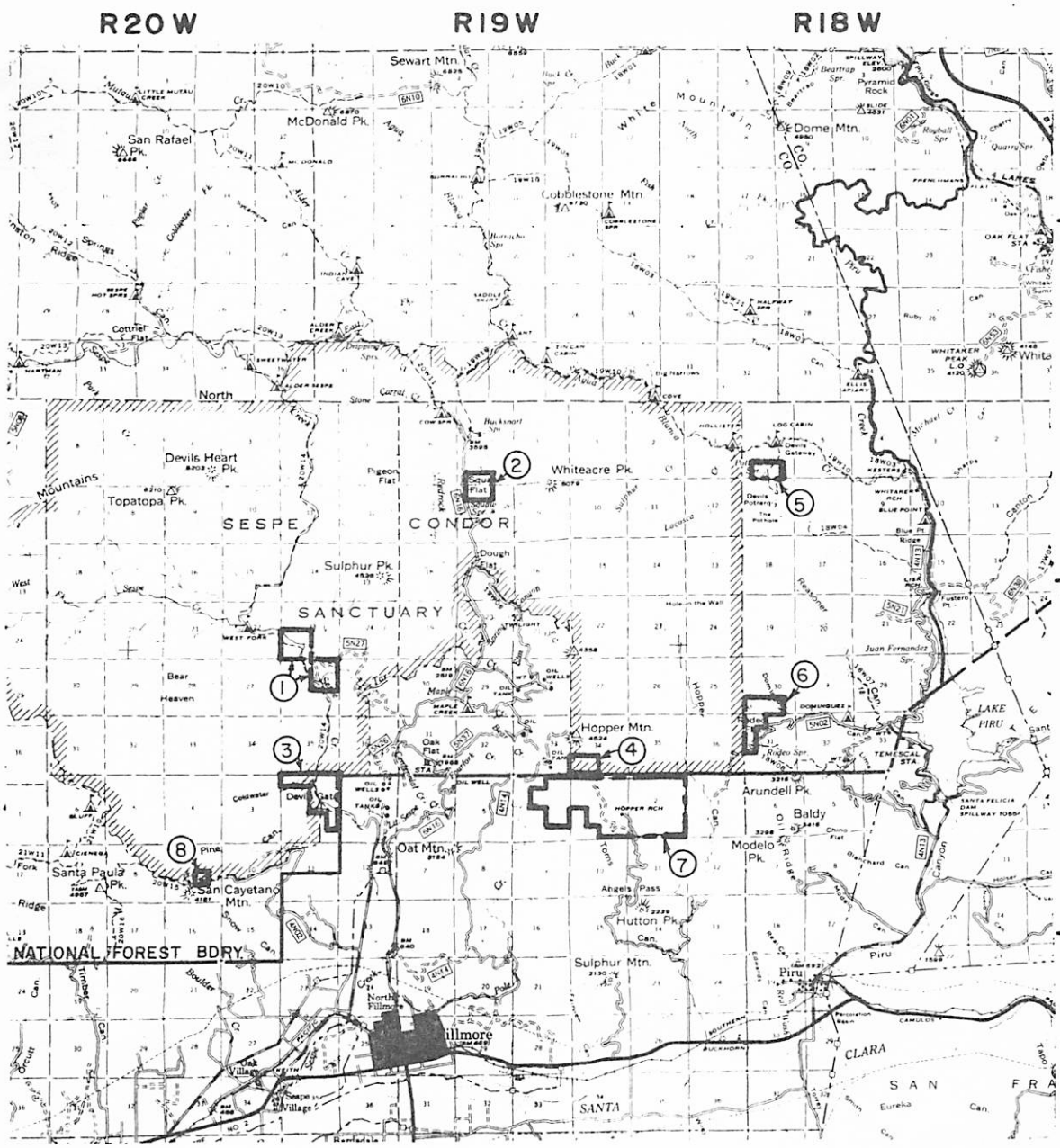


FIGURE I.
DISTRIBUTION OF THE CALIFORNIA CONDOR



TO BE CLOSED TO ALL MINING, MINERAL LEASING, WATER DEVELOPMENT AND POWER SITE LOCATION

FIGURE 2.
SESPE - PIRU CONDOR AREA



1. GREEN CABINS	(320.0A)	5. POTHOLE	(80.0A)
2. SQUAW FLAT	(160.0A)	6. DOMINGUEZ CANYON	(200.0A)
3. COLDWATER CANYON	(317.5A)	7. HOPPER RANCH	(1,707.5A)
4. TURNER OIL	(80.0A)	8. SAN CAYETANO	(38.0A)

FIGURE 3.
PROPOSED LAND ACQUISITION, VENTURA COUNTY

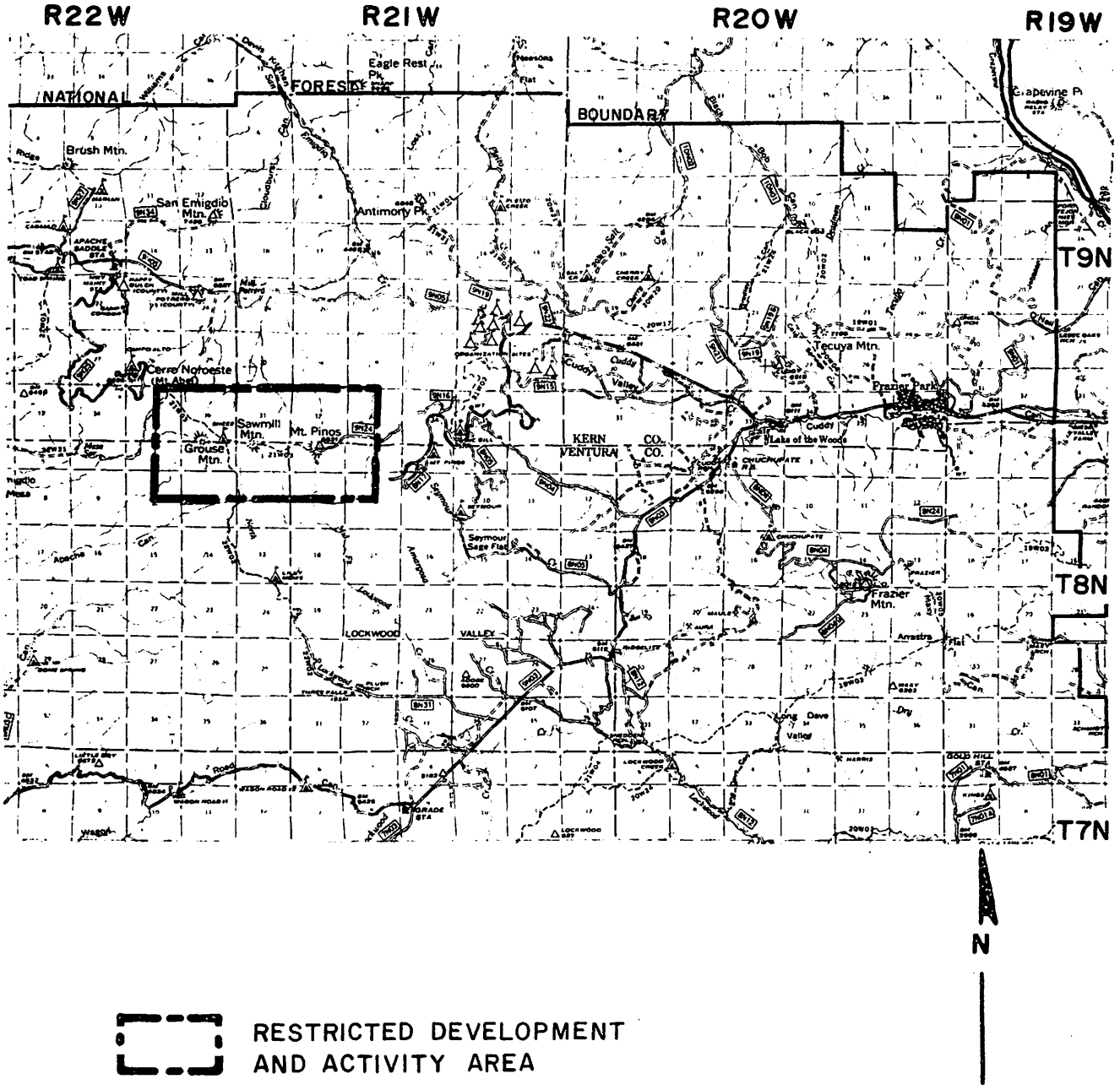
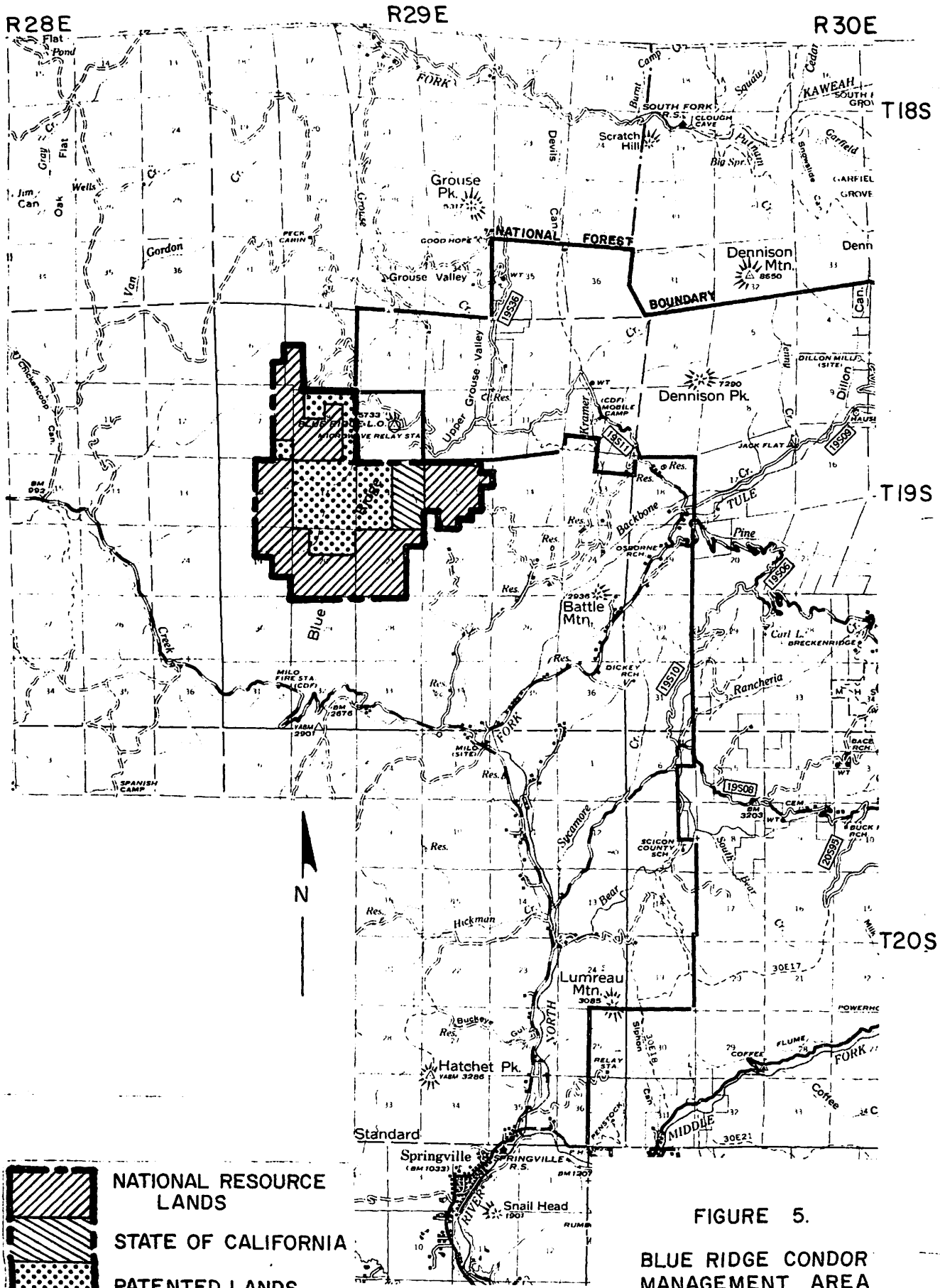


FIGURE 4.

MT. PINOS CONDOR AREA



NATIONAL RESOURCE LANDS

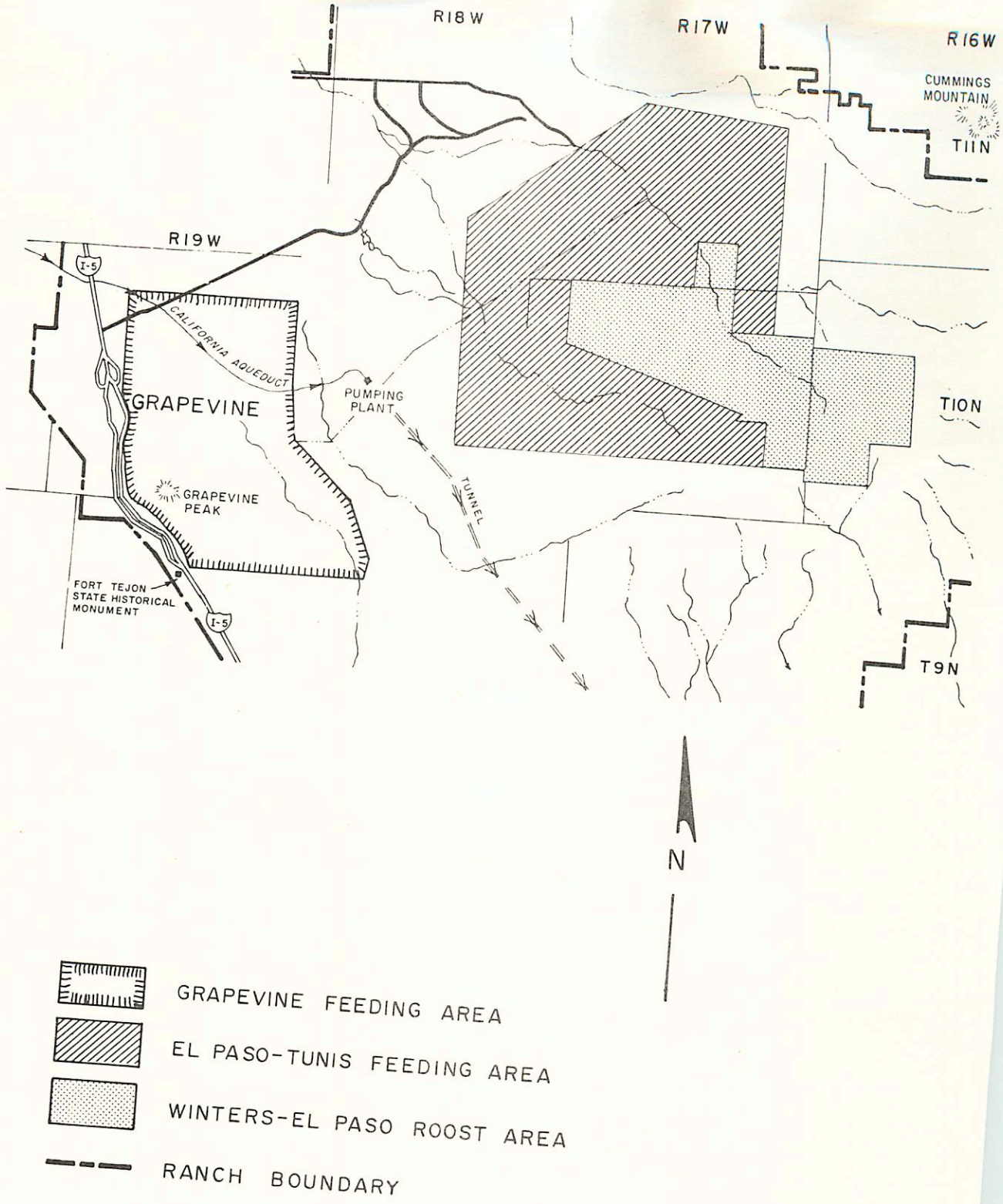
STATE OF CALIFORNIA

PATENTED LANDS

FIGURE 5.

BLUE RIDGE CONDOR MANAGEMENT AREA

TULARE COUNTY



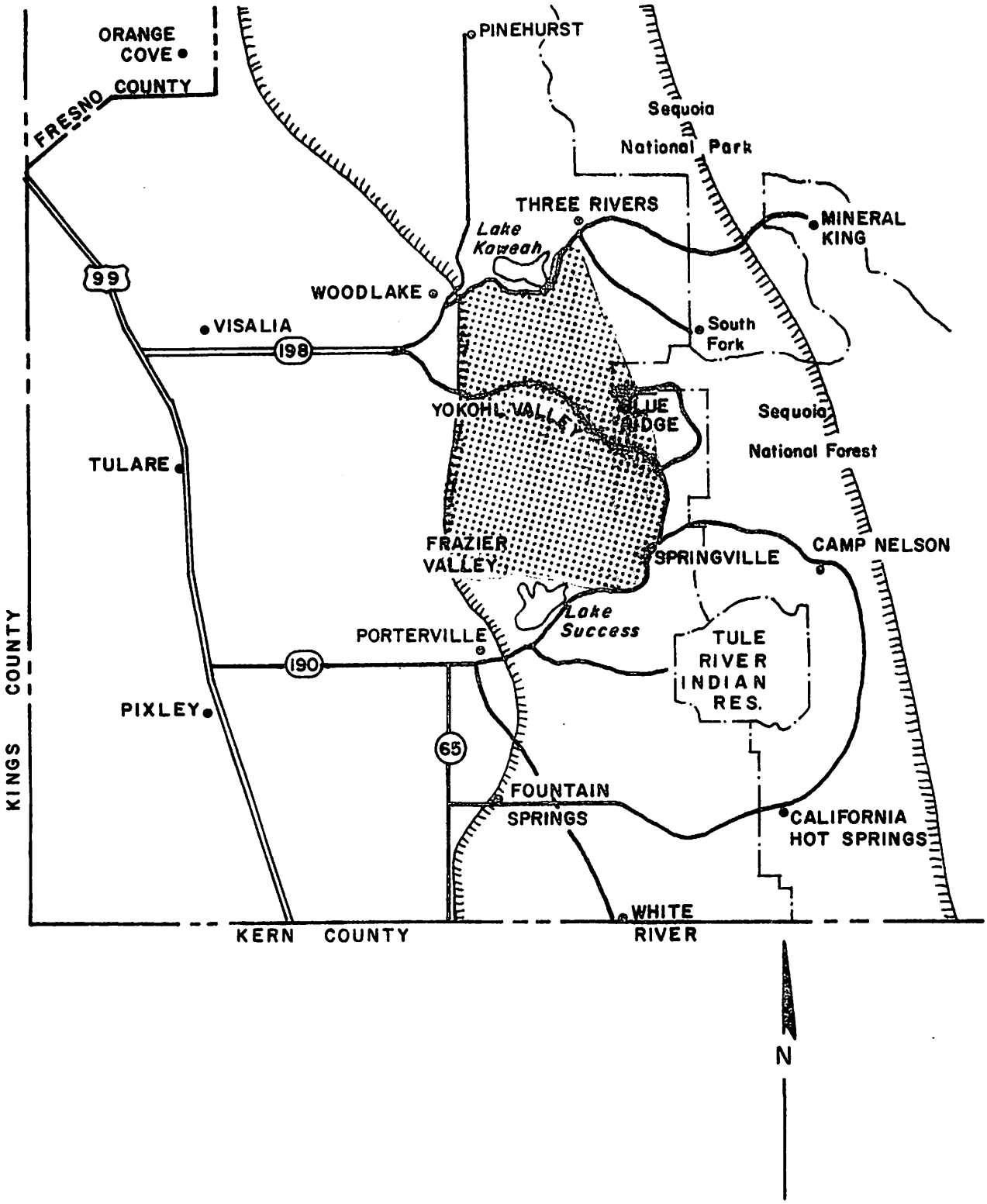
GRAPEVINE FEEDING AREA

EL PASO-TUNIS FEEDING AREA

WINTERS-EL PASO ROOST AREA

RANCH BOUNDARY

FIGURE 6.
TEJON RANCH CONDOR MANAGEMENT AREAS

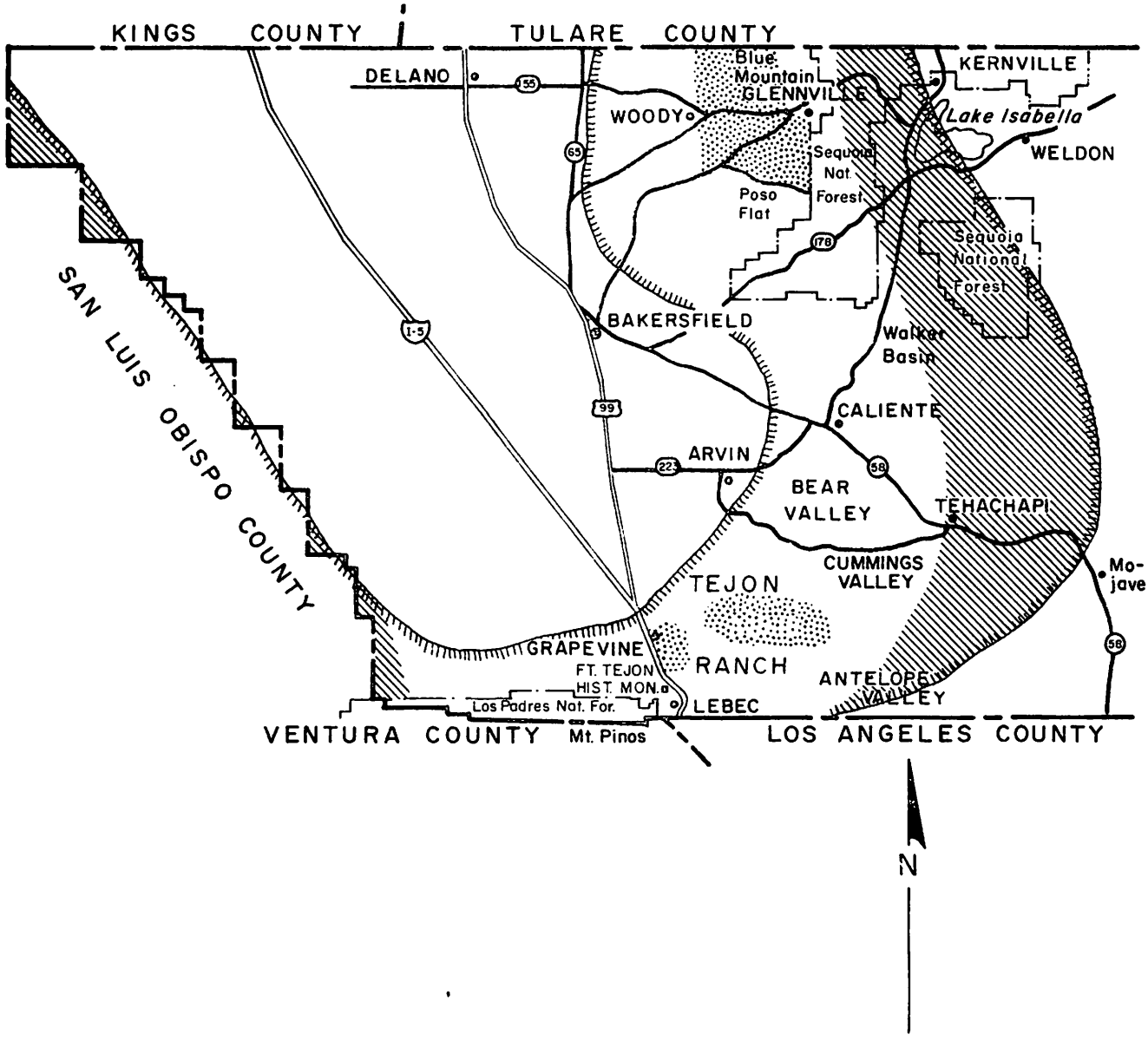


CONDOR RANGE

PRIMARY FEEDING AREA

FIGURE 7.

WESTERN TULARE COUNTY



NORMAL RANGE IN COUNTY

PRIMARY USE AREAS

SECONDARY USE

LIMITED USE

FIGURE 8.
KERN COUNTY CONDOR RANGE

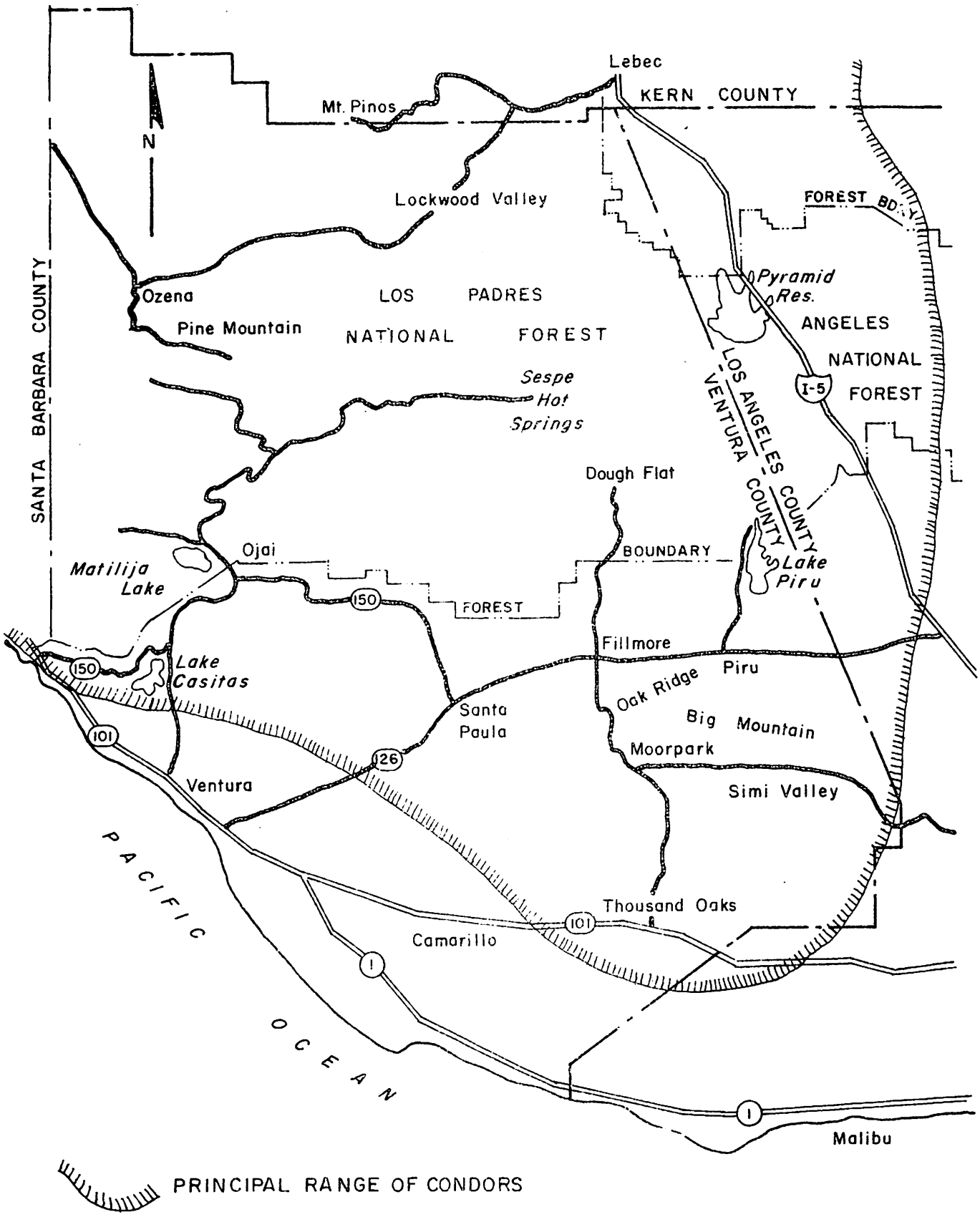
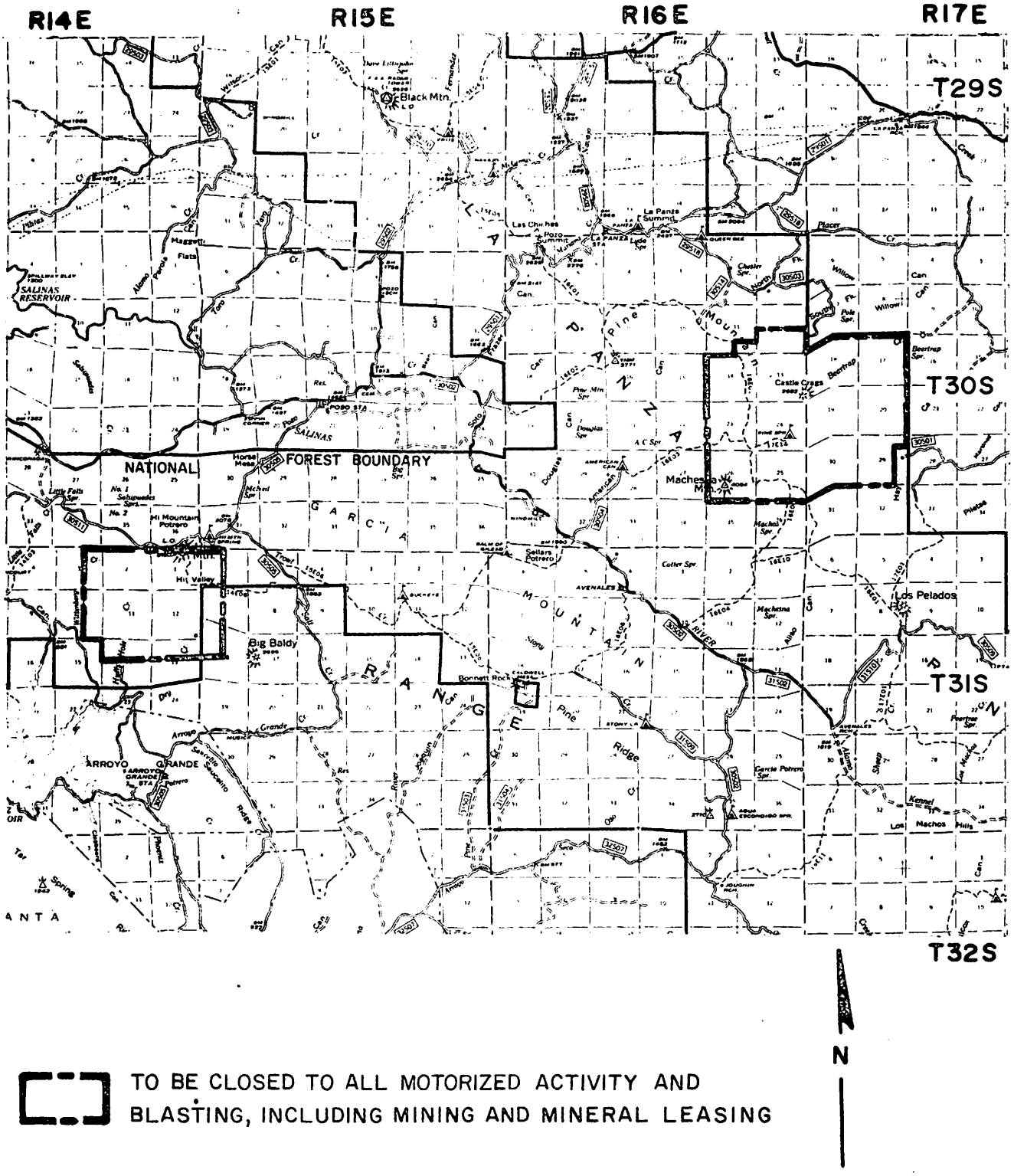


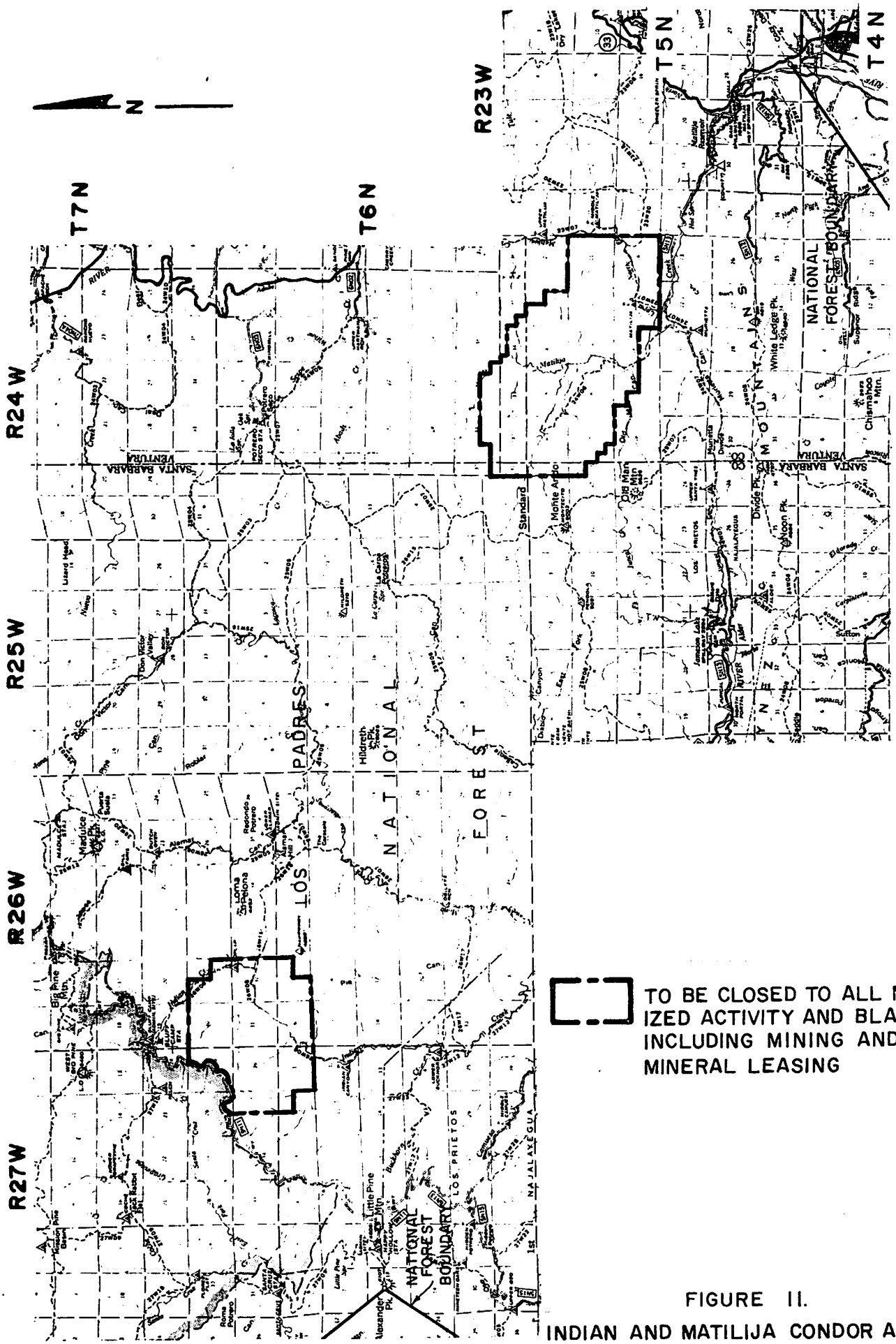
FIGURE 9.
CONDOR USE AREA
VENTURA AND LOS ANGELES COUNTIES



TO BE CLOSED TO ALL MOTORIZED ACTIVITY AND BLASTING, INCLUDING MINING AND MINERAL LEASING

FIGURE 10.

HI MOUNTAIN AND BEARTRAP CONDOR AREAS


N
T7N
T6N
T5N
T4N
R24W
R25W
R26W
R27W
R23W
LOS PADRES NATIONAL FOREST
NATIONAL FOREST BOUNDARY
SANTA BARBARA
VENTURA
Standard
Monte Arido
Divide Pk.
Noon Pk.
White Ledge Pk.
Chamaroo Mtn.
Maduce Pk.
Big Pine Mtn.
Little Pine Mtn.
Alexander Pk.
Hildreth Pk.
Lizard Head
Don Victor Valley
Lomas Bellonas
Redondo Potrero
Rodeo
Pine
Cedar
Oak
Sycamore
Matilija
Nira
Santa Ana
Sespe
Piedra Blanca
Piedra Pintada
Cuyama
Sisquoc
Santa Maria
Santa Ynez
Santa Barbara
Ventura
Los Prietos
Najalayegua
Cuyama
Sisquoc
Santa Maria
Santa Ynez
Santa Barbara
Ventura
Los Prietos
Najalayegua
Sespe
Piedra Blanca
Piedra Pintada

APPENDIX B
California Condor Critical Habitat - Proposed Notice for Federal Register

Section 7 of the Endangered Species Act of 1973 (PL 93-205) instructs the Secretary of Interior to take appropriate action to prevent destruction or modification of habitat considered critical to the survival of any endangered or threatened species. The Secretary, after consultation with individuals and organizations aware of the needs of the species, proposes that the following lands be considered critical for the survival of the California Condor (*Gymnogyps californianus*). On the basis of the best information currently available, these lands appear to comprise the most important lands and also the minimal amount of habitat the species needs for survival. Any proposal for changed use or modification of these lands should be carefully evaluated for possible effects on condor survival.

I. Lands critical for nesting and related yearlong activity

A. Sespe-Piru Condor Area - comprising approximately 150,000 acres in the Los Padres National Forest, Ventura County and Los Angeles County, California, as follows:

1. Sespe Condor Sanctuary, as delineated by Public Land Order 695 (Jan. 1951).
2. T4N R20W Sec. 2, 5-10, N½ Sec. 11.
3. T4N R21W Sec. 1-3, 10-12, N¼ Sec. 13, N¼ Sec. 14, N¼ Sec. 15.
4. T5N R18W Sec. 4-9, 18, 19, 30, 31, N½ Sec. 3, N½ Sec. 17.
5. T5N R21W Sec. 1-4, 9-16, 21-28, 33-36.
6. T6N R18W Sec. 7-11, 14-23, 26-35.
7. T6N R19W Sec. 7-36.
8. T6N R20W Sec. 8-36.
9. T6N R21W Sec. 13-36.
10. T6N R22W Sec. 3-26, 35, 36.
11. T6N R23W Sec. 1-3, 10-14, 24, N½ Sec. 23.
12. T7N R22W Sec. 31.
13. T7N R23W Sec. 34-36.

B. Matilija Condor Area - Approximately 10,000 acres, Los Padres National Forest, Ventura-Santa Barbara counties, California.

1. T5N R24W W½ Sec. 3, Sec. 4-11, 14, 15, N½ Sec. 16, N¼ Sec. 17
2. T5N R25W E½ Sec. 1, NE¼ Sec. 12.
3. T5½N R24W Sec. 31-34.
4. T6N R24W S½ Sec. 32, S½ Sec. 33, S½ Sec. 34.

C. Sisquoc-San Rafael Condor Area - Approximately 45,000 acres, Los Padres National Forest, Santa Barbara County, California.

1. T6N R26W Sec. 5, 6.
2. T6N R27W Sec. 1, 2.
3. T7N R26W Sec. 5-8, 17-20, 29-32.
4. T7N R27W Sec. 1-14, 23-26, 35, 36.
5. T7N R28W Sec. 1, 2, 11, 12.
6. T8N R26W Sec. 19-22, 27-34.
7. T8N R27W Sec. 19-36.

D. Hi Mountain-Beartrap Condor Areas - Approximately 12,000 acres, Los Padres National Forest, San Luis Obispo County, California.

1. T30S R16E Sec. 13, 14, 23-26, SE¼ Sec. 11, S½ Sec. 12.
2. T30S R17E Sec. 17-20, 29, 30.
3. T31S R14E Sec. 1, 2, 11, 12, E½ Sec. 3, E½ Sec. 10, N½ Sec. 14, N½ Sec. 13.
4. T31S R15E W½ Sec. 6, W½ Sec. 7, NW¼ Sec. 18.

II. Lands critical as condor roost areas.

A. Mt. Pinos Condor Area - Approximately 6,500 acres, Los Padres National Forest, Ventura-Kern counties, California.

1. T8N R21W W½ Sec. 5, Sec. 6, N½ Sec. 7, NW¼ Sec. 8.
2. T8N R22W Sec. 1, 2, E½ Sec. 3, NE¼ Sec. 10, N½ Sec. 11, N½ Sec. 12.
3. T9N R21W Sec. 31, 32, W½ Sec. 33.
4. T9N R22W E½ Sec. 35, Sec. 36.

B. Blue Ridge Condor Area - Approximately 11,000 acres, Tulare County, California.

T19S R29E, Sec. 5-9, 15-22, 27-30.

III. Lands critical for feeding and related activities. Condor feeding areas are in most cases not critical in the same sense as nesting and roosting areas. Certain feeding areas are preferred currently, but there are often suitable alternatives. However, because the location of food is directly related to both condor distribution and reproductive success, some areas of open range with adequate food and limited development and disturbance must be preserved in each of the following general regions:

A. Tejon Ranch, Kern County, California - Very important because it is the only significant feeding habitat remaining in close proximity to the Sespe-Piru condor nesting area.

B. Kern County rangelands between Highway 65 (Bakersfield to Tulare County line) and the western boundary of Sequoia National Forest.

C. Tulare County rangelands between Highway 65 (Kern County line to Exeter), Highway 198 (Exeter to Three Rivers), and the western boundary of Sequoia National Forest.

APPENDIX C

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
630 Sansome Street
San Francisco, California 94111

2610
October 25, 1973

Mr. Sanford R. Wilbur
USDI - Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife
1190 East Ojai Avenue
Ojai, California 93023

Dear Sandy:

Enclosed is our 2nd Draft review copy of the Condor Recovery Plan. The plan is well written and provides excellent guidance and information relative to the condor.

We would like to suggest the following changes:

1. Rather than close specific areas to mineral leasing, timber harvest or recreation development, we suggest the plan require a comprehensive environmental impact survey to determine what the impact these activities would have on the condor. This survey may reveal that closure is required or some modification related to time, technique, or area may be proper. We are required to prepare an EIS by law.

2. Many sections of the plan are written in negative terms. It would be most desirable to write from a positive view to secure support and understanding.

We hope these comments are helpful.

Sincerely,

Edward R. Schneegas

EDWARD R. SCHNEEGAS
Wildlife Branch Chief
Division of Range and Wildlife Management

Enclosures

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Los Padres National Forest
42 Aero Camino
Goleta, California 93017

November 12, 1973

Mr. Sandy Wilbur
USBSF&W
1190 East Ojai Ave.,
Ojai, Ca 93023

Dear Sandy:

We have reviewed the second draft of your Condor Recovery Plan. The plan is an excellent tool for use by all of us in furthering the protection and management of the condor and its habitat. However, I wish to express my concern toward the "Closure" statement regarding "Timber harvest and salvage operations" in the Mt. Pinos-Mt. Abel roosting habitat. I have no objections to calling attention to the fact that timber harvest and salvage operations could be disturbing in this area of condor habitat management. However, such operations are not the only developments and/or uses which could be a cause of major disturbance to the condor.

It is our feeling this statement is too restrictive concerning timber activity and not restrictive enough regarding other activities which might be considered in the future; for example, year-round operations of "winter" recreation resorts, etc.

Therefore, I would like to suggest rewording the second sentence under II,D Mt. Pinos-Mt. Abel, Los Padres N.F. (Roosting Habitat) to deal with National Forest activities as an entity; e.g. "National Forest program activities proposed in this area which may be critical to preservation of condor habitat will be reviewed by the Condor Recovery Team before approval of implementation will be granted. Plans for emergencies, as best they can be anticipated, will be prepared ahead for Recovery Team Review. All reasonable and possible precautions for condor habitat protection will be incorporated in these plans to guide emergency activities. It is recognized by the Recovery Team that some unforeseen emergencies may prevent prior review but that these occasions should be a rare exception."

A statement such as this will be more inclusive than the present one, and, at the same time, give some flexibility to forest managers in handling the habitat. It also states the intent to receive Recovery Team inputs before any proposed major activity within key condor

areas on National Forest land is permitted.

Regarding job number 2112, "close Mt. Pinos-Mt. Abel Trail." Ranger Zrelak has submitted his proposed action to close this trail to me. We are currently in the process of developing a forest proposal for the Regional Forester to consider and act upon. Closure of this trail should be effected by the beginning of next spring's arrival of the condors.

If you have further opinions or wish some clarification on my proposals, please contact either myself or B. K. Muldowney, Resource Management Officer.

ROBERT G. LANCASTER
FOREST SUPERVISOR

UNITED STATES GOVERNMENT

Memorandum

BUREAU OF SPORT FISHERIES AND WILDLIFE
P.O. BOX 3737 PORTLAND, OREGON 97208

TO : Wildlife Biologist, BSFW, Ojai, California DATE: July 10, 1973

FROM: Acting Regional Director, BSFW, Portland, Oregon

SUBJECT: California condor recovery plan - draft

recovery plan

We have reviewed with interest the second draft of subject recovery plan. We believe you have covered the subject quite well. Needed management objectives for the preservation of the California condor in California have been well covered in various sections of the recovery plan. We note, however, that no mention is made of continued research on various phases of the ecology of the California condor. On this latter point, it is our understanding that the position you now occupy is expected to be terminated within the next year to a year and a half.

Mr. Lostetter advised you yesterday that a representative of the Division of Realty would be visiting your station the latter part of this month or the first part of August. One of the purposes of his visit is to meet with the landowners of the Hopper Ranch. It is hopeful that he will give you sufficient lead time in order to make contact with you in your busy field program.

Pertinent correspondence to and from the U.S. Geological Survey on the subject of minerals on the Hopper Ranch are enclosed.

Also enclosed is a copy of the draft concerning the cooperative agreement between the Bureau and the California Department of Fish and Game. The rewriting of this draft is at the request of the Fish and Game Department.

Recovery plan

A copy of the second draft of the California condor recovery plan has been made and routed to the Divisions of Refuges and Realty for their information.

Donald J Hankla

Enclosures

Regional Director, BSF&W, Portland
Chief, Division of Wildlife Research, Washington
Acting Deputy
Director, BSF&W

AUG 3 1973

Draft Recovery Plan - California Condor

Mr. Wilbur's second draft of the California condor recovery plan was submitted to us with Mr. Lostetter's memorandum of June 8 and through Mr. MacDonald's of June 25. We thank you both.

While we have not reviewed this plan completely, we are nonetheless impressed with its general content and thoroughness. It is the best we have seen from field personnel and has been carried through more steps than any other recovery plan. Some of the Appendix, which is quite long, could have been included in the introductory material and step-down.

We particularly like the simplicity of the plan from the standpoint of review by non-technical groups. The language used is appropriate for individuals from all ranks. We recognize that this plan would not bring the California condor to the point that it could be declared non-endangered. This would take an extremely long time in view of the low productive rate of the bird. In this regard the plan is a departure from what we expect of other plans. However, we felt the plan provides the framework for reversing the present trend and increasing condor numbers above what they are now. The reasoning process which went into the step-down is exactly what we want to see. We commend you, the Technical and Advisory Committee members and Mr. Wilbur for getting this plan into such an advanced stage.

We want to review it further here but before doing so will await comments from the Condor Technical and Advisory Committees.

In addition to the Committee members, we would appreciate your suggestions on who should receive review drafts of the plan. We assume this would include the U.S. Forest Service, the California Department of Fish and Game, Bureau of Land Management, and National Audubon Society. Are there any other parties to your knowledge who should have the opportunity to review a draft before the plan is put into final form?

RECEIVED BY THE INTERIOR
OFFICE

Original signed by
Charles M. Loveless

cc:
Directorate Reading File

IN REPLY REFER TO:

C-930.3
6840

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
STATE OFFICE
2800 Cottage Way - Room E-2841
Sacramento, California 95825

SEP 18 1973

Mr. Sanford Wilbur
Patuxent Wildlife Research Center
California Field Station
1190 East Ojai Avenue
Ojai, California 93023

Dear Mr. Wilbur:

We are in general agreement with your proposed recovery plan for the California Condor. Many of the actions you proposed for protecting condor habitat are discretionary with the district manager and can be implemented with very little effort. The recommendations to withdraw areas and close them to mining would require considerably more work.

It would help us to include the recovery plan in our planning system if you could provide us a map delineating in detail the areas proposed for various degrees of restricted use. A narrative, keyed to the map areas, should describe what conditions are optimum for condor habitat. In your recovery plan outline, (objective #213) for example, you recommend roosting areas be closed to mining, mineral leasing, timber harvest, and additional permanent structures. This would seem to be more of a method to achieve the objective of limiting use. It may not be the best method. For our planning purposes it would be better to state the objectives as specific habitat conditions. This will allow us to evaluate other uses in the area and determine if they would have any adverse effects on condor habitat or be inconsistent with condor management objectives.

Sincerely yours,

J. R. Penny
State Director

STATE OF CALIFORNIA—RESOURCES AGENCY

RONALD REAGAN, Governor

DEPARTMENT OF FISH AND GAME
1416 NINTH STREET
SACRAMENTO, CALIFORNIA 95814

July 31, 1973

Mr. Sanford R. Wilbur
U. S. Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife
Patuxent Wildlife Research Center
California Field Station
1190 E. Ojai Avenue
Ojai, California 93023

Dear Sandy:

Thank you for the opportunity to review and comment on the second draft of the "California Condor Recovery Plan."

You are to be complimented on putting together the basic information necessary for the "recovery plan." Objectives and rationale used in support of the plan are excellent. Apparent conflicts between condor preservation and alternative land uses can be resolved with planning and an acceptance of responsibilities by local, state and federal agencies for the preservation of the California condor.

General editorial comments are included in the margin of the report. We strongly feel the Recovery Plan should include consideration for annual nest search and such considerations to be included under appropriate sections in the California Recovery Plan. We understand a summary, delineation of costs, responsibilities, time schedule and illustrative material will be provided for the plan at a later date.

Of immediate concern to us is that we view the Recovery Team as a means by which various agencies and interests can contribute their resources in man power and funds to reach a common objective. The objectives you stated: "to stop the decline of the species and maintain the population at a secure level." is the purpose of the Recovery Plan. To accomplish this, we feel the Condor Recovery Team should set some immediate goals and obtain the commitments to achieve these goals. We wish to know what the Recovery Team priorities are this fiscal year and who is contributing what and how. We are prepared to program the limited funds and manpower we have available but wish to do so only within the context of the priorities established by the Recovery Team Committee. It is our understanding that you will be serving as team chairman and that the Condor Recovery Team has now replaced the Condor Technical Committee.

I suggest that a Recovery Team meeting be scheduled in early September for

this purpose. This meeting will be a vital step in planning for our continued participation in the condor program.

Sincerely,

Eldridge Hunt

Eldridge G. Hunt, Chief
Wildlife Management Branch

cc: Schreiner, Keith
Lostetter, Clinton

Attach.

NATIONAL AUDUBON SOCIETY

950 THIRD AVENUE, NEW YORK, N.Y. 10022 (212) 832-3200 Cable: NATAUDUBON

en route Denver
7 June '73

Dear Sandy,

Congratulations on an excellent Recovery Plan for the condor. Excellent job!

Just a few suggestions for strengthening the section on objectives & Rationale:

p. 15, last line, insert before comma (experiential rather than experimental). This will take the sting out of your "inexact science", sophisticate it so that it can't be used against us.

p. 16, invert sentences in Point 1, to read, "Because the likelihood of preserving the condor .... and migratory behavior, positive steps must be taken on the basis of partial scientific evidence so as to avoid irreversible consequences, such as extinction."

Point 2, say, "If future research shows some of these measures to be unnecessary for condor survival, restrictions can be ....."

p. 17, 1st full par. — "Even the action plan outlined in the following pages may not arrest the decline ...."

last par., line 8, "consideration may then be given to taking some ...."

Cordially,

AMERICANS COMMITTED TO CONSERVATION

P.S. Pls give B two photocopies (one for me).

UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ

SCHOOL OF FORESTRY AND CONSERVATION
AGRICULTURAL EXPERIMENT STATION

BERKELEY, CALIFORNIA 94720

February 7, 1974

Mr. Sanford R. Wilbur
California Field Station
1190 East Ojai Avenue
Ojai, California 93023

Dear Sandy:

I've read with great interest your several reports on the condor situation and plans for recovery including the recent information letter Number 5. I'm very favorably impressed with the plans that are being considered but hope very much that we will never have to reach the point of artificial propagation as a last means of saving this species. Nevertheless I agree that this contingency should probably be considered.

As regards the experimental feeding program I think you have an excellent idea and it should be pursued. I will be much more comfortable, however, if there were a number of separate feeding sites rather than one within the sanctuary. Dispersal rather than concentration of the birds would seem the better course.

Congratulations on all that you are doing which I am following with great interest.

Sincerely,

Starker

A. Starker Leopold

ASL:na

I am still looking for a loose statistician to evaluate the condor data. Thanks for the help you gave Bruce Krogman on the tule goose study.

APPENDIX D
California Condor Recovery Plan
Checklist of necessary actions

A1.	Tejon Ranch preservation	
	a. Provide ranch with copy of recovery plan	X
	b. Meet with ranch personnel to discuss plan	
	c. With ranch, work out preservation plans	
	d. Depending on outcome of above, decide who will be responsible for what (fee purchase, mgt. agreements, etc.)	
	e. Budget cost items	
	f. Do the job	
A2.	Hopper Ranch acquisition	
	a. Budget funds for purchasing surface rights	X
	b. Acquire surface	
	c. Through cooperative agreements, purchase of mineral rights, or other, prevent development detrimental to condor use of Sanctuary	
A3.	Green Cabins acquisition	
	a. Acquire	X
	b. Do necessary oil operation cleanup so area can be completely closed to motorized activity	
A4.	Squaw Flat acquisition	
	a. Determine who will acquire it	
	b. Appraise, budget, etc.	
	c. Purchase	
A5.	Blue Ridge management	
	a. Restrict development of public lands	
	b. Acquire private lands	
A6.	Turner Oil property acquisition	
	a. Determine best method of preventing surface disturbance on portion of property facing nest areas	
	b. Decide whose responsibility	
	c. Budget	
	d. Accomplish	

A7. Tulare County land planning

a. Provide county planning department with copy of recovery plan	X
b. Discuss with them the alternatives available	
c. Decide on necessary fee purchases, co-op agreements, etc.	
d. Decide responsibilities for implementation	
e. Budget	
f. Accomplish	

A8. Kern County land planning

a. Provide county copy of recovery plan	X
b. Discuss alternatives with county	
c. Decide on necessary actions	
d. Decide responsibilities	
e. Budget	
f. Accomplish	

A9. Coldwater acquisition

a. Fund and schedule	X
b. Acquire	

A10. Potholes acquisition

a. Schedule	
b. Appraise	
c. Purchase	

A11. Dominguez Canyon acquisition

a. Schedule	
b. Appraise	
c. Purchase	

A12. San Cayetano acquisition

a. Schedule	
b. Appraise	
c. Purchase	

B1. Productivity research

a. Library research and analysis	
b. Evaluation of feeding programs and control of nesting disturbances	
c. Report on findings	

B2. Development of survey

a. Experimental surveys	
b. Statistical analysis of survey data	
c. Preparation of survey plan	

B3.	Mt. Pinos firearms investigation	
	a. Field documentation of condor use during hunting season	
	b. Observation of shooting activity	
	c. Preparation of report and recommendations	
	d. Implementation of recommendations	
B4.	Pine Mountain firearms investigation	
	a. Documentation of condor use	
	b. Observations of shooting activity	
	c. Report findings and recommendations	
	d. Implement recommendations	
B5.	Investigate need for additional supplemental feeding	
	a. Evaluate availability of food in condor use areas	
	b. Report findings	
	c. Implement programs if necessary	
B6.	Blue Ridge firearms investigations	
	a. Document condor use	X
	b. Observations of shooting near roosts	X
	c. Report findings	X
	d. Implement recommendations	
C1.	Sespe feeding program	
	a. Experimental feeding	X
	b. Document results and recommendations	X
	c. Prepare formal feeding plan	X
	d. Develop carcass storage facilities	X
	e. Acquire carcasses	
	f. Feed	
	g. Periodically document program	
C2.	Sespe-Piru closure	
	a. Delineate boundaries of Sespe-Piru area	X
	b. Decide what portion of area requires complete withdrawal from mining, etc. and what can be managed otherwise	
	c. Prepare report and recommendations	
	d. Transmit to Bureau of Land Management	
	e. BLM analysis	
	f. Final action	
C3.	Other nesting area closures	
	a. Decide on boundaries of nesting areas	X
	b. Decide what parts require total closure	
	c. Prepare report and recommendations	
	d. Transmit to BLM	
	e. BLM analysis	
	f. Final action	

C4.	Pine Springs Road Closure	
	a. Temporary closure during evaluation of forest road system	X
	b. Final decision by Forest Service	
	c. Implementation of decision	
C5.	Sanctuary maintenance	
	a. Establish sanctuaries	X
	b. Formulate sanctuary management policy	X
C6.	Sanctuary patrol	
	a. Continue existing patrol	
	b. Decide if more or different is needed	
	c. If more needed, decide responsibility	
	d. Budget and staff as required	
C7.	Air traffic restrictions over nesting areas	
	a. Legal closure of airspace over Sespe Sanctuary	X
	b. Get military acknowledgment of air closures	X
	c. Get nesting areas marked on civilian air charts, with recommended ceilings	X
C8.	Liaison to maintain air closures	
	a. Appoint liaison officer to handle aircraft problems	
	b. Prepare directions for field personnel for reporting aircraft problems	
	c. Handle problems as they occur	
C9.	Restrict development near nest sites	
	a. Formulate Forest Service condor management policy	X
C10.	Develop and implement information and education program	
	a. Continue existing activities	
	b. Develop an education plan outlining needs, methods, timetables, responsibilities, etc.	
	c. Implement plan	
C11.	Hopper Ranch management	
	a. Develop cooperative management agreement	X
	b. Develop management plan	
	c. Budget and staff as required	
	d. Implement plans	
C12.	Fire management in nesting areas	
	a. Develop formal written policy for fire control in nesting area	
	b. Continued implementation of policy	

C13. Mt. Pinos trail closure
- a. Officially designate trail closed to motor vehicles ___X___

C14. Patrol of congregation areas
- a. Identify areas and seasons of concern for law enforcement and other involved personnel
- b. Issue directives to personnel _____
- c. Implement directives _____

C15. Condor survey
- a. Preparation of survey plan (Item B2)
- b. Scheduling and budgeting _____
- c. Implementation _____

C16. Condor display at Los Angeles Zoo
- a. Agree on need for, and desirability of, display ___X___
- b. Approve Zoo plans for cage _____
- c. Develop plans for interpretive display _____
- d. Fund cage _____
- e. Fund display _____
- f. Construct cage _____
- g. Construct exhibit _____
- h. Maintain and update exhibit _____

C17. Pesticides control
- a. Analyze information on effects of various pesticide programs on condors
- b. Document existing programs _____
- c. Decide if additional controls are necessary _____
- d. Implement necessary controls _____

C18. Enhancing existing food supplies
- a. Contact ranchers and encourage them to leave dead stock for condors _____

C19. Restricting development in Mt. Pinos roost area
- a. Establish policy that proposal for changes in use of area will be fully evaluated with respect to condors ___X___

C20. Planning and development advice
- a. Contact planning and development groups, provide them with the recovery plan, or plan summary, and offer planning assistance.
- b. Provide assistance as required _____

C21. Open space planning
- a. Familiarize planning agencies, conservation groups, etc. within condor range of condor needs.
- b. Assist in planning effort, legislation, etc. _____