

C. Biotic Resources

The CPNA represents a unique and viable blending of plant and animal communities which at one time existed on a much larger scale throughout the San Joaquin Valley. Protection and enhancement of these important biological resources will assure future generations the opportunity to enjoy and study these formally common plants and animals.

Interest in natural history has brought naturalists to the area for over 100 years. Most of their work involved study of unique species and subspecies. During most winters, large numbers of hawks, sandhill cranes, long-billed curlews, mountain bluebirds, and mountain plovers are present. This winter-time abundance of diurnal species has led to annual treks by many different research and avocational groups interested in wildlife.

In response to management activities, primarily grazing, many monitoring efforts have been initiated to augment the current research and to provide adequate grazing administration controls, thereby adding stability necessary for proper research design. For example, roadside surveys are conducted in the fall, winter, and spring for all raptors, mountain plovers (*Charadrius montanus*), long-billed curlews (*Numenius americanus*), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), and blunt-nosed leopard lizard (*Gambellia sila*). Mapping of breeding bird distributions to contribute to the San Luis Obispo County breeding bird atlas was conducted from 1989 to 1994. Breeding bird surveys are conducted along Soda Lake road annually. Incidences of burrow collapse and timing of haystacking have been monitored to help determine grazing effects on Giant Kangaroo Rats (*Dipodomys ingens* - GKR). An intensive radio-telemetry study was initiated in 1994 to study San Joaquin antelope squirrel movements and habitat use near roads.



Some other research has been focused on understanding ecosystem relationships and rehabilitation. Such studies include investigating the relationships between San Joaquin Kit Fox (*Vulpes macrotis mutica*), and Coyotes (*Canis latrans*), associations between San Joaquin antelope squirrels and GKR's, distributions of translocated pronghorn, fire effects on GKR's, the role of GKR's in plant community establishment and the factors that contribute to effective grassland restoration.

1. Plant Communities

Over the course of geologic time, the plant communities inhabiting the Carrizo Plain have changed drastically in response to global and local changes in climate and relative positions of continental and oceanic plates. However, within several human life-spans, little large scale changes would be discernible. Annual and cyclic variations in temperature and rainfall, and their timing, can have drastic effects on distinct communities but rarely significantly alter the location of these communities on the landscape or the composition of species found within the

communities. Beginning Mediterranean species and unintentionally, to Europe and Asia. A California's climate, and a series of severe species in spreading over becoming dominant over resulted in a rapid change California's plant the grasslands. It is grasslands were native perennials bluegrass (*Poa secunda*), (*Nasella cernua*), squirrel *elymoides*), and california A variety of annual thought to have been bunchgrasses. communities, before this their compositions, will document as "prior to the plant species".



in the 1500's, were brought, intentionally North America from preadaptation to intensive livestock grazing, droughts assisted these large expanses and native species. This in the composition of communities, particularly thought that these valley characterized by various including one sided nodding needlegrass tail (*Elymus elymoides* ssp. melic (*Melica californica*). grasses and forbs are associated with these California's plant rapid change, whatever be referred to in this influx of Mediterranean

The Carrizo Plain is a diverse complex of valley sink scrub, valley saltbush scrub, interior coast range saltbush scrub, upper Sonoran subshrub scrub, non-native grassland, juniper-oak cismontane woodland and cismontane juniper woodland and scrub. In lowest elevations of the CPNA is a complex of barrens, grasslands and shrub lands, dominated by spiny saltbush (*Atriplex spinifera*), and iodine bush (*Allenrolfea occidentalis*). Also contained in this complex are numerous vernal pools. This complex can be several miles wide. Immediately up slope is either extensive non-native annual grassland or active drainages dominated by common saltbush (*Atriplex polycarpa*). Other lower elevation drainages are variously dominated by cheesebush (*Hymenoclea salsola*), or scalebroom (*Lepidospartum squamatum*).

Vernal pools are also found in the lowest portions of the valley floor. These pools are probably underlain by a claypan, which allows water to accumulate in the winter and evaporate in the summer, much like Soda lake but on a smaller scale. Vernal pools are characterized by a specialized flora, of herbaceous (mostly annual) species such as button celery (*Eryngium spinosepalum*), toad rush (*Juncus bufonius*), and valley popcornflower (*Plagiobothrys canescens*).

As the gently sloping plain gives way either to the Caliente Mountain's foothills or to the small hills associated with the San Andreas Fault, several shrub communities are well represented. On the Caliente side starting from the north are communities dominated by bush lupine (*Lupinus albifrons*), buckwheat (*Erigonum fasciculatum*, *E. heermanii* and *E. elongatum*), bladder pod (*Isomeris arborea*), and goldenbush (*Ericameria linearifolia*). Near the Selby Parking Area scrub oaks (*Quercus turbinella*) and junipers (*Juniperus californica*) venture toward the grassy plain. Near the KCL Campground the foothills are clothed in common saltbush (*A. polycarpa*), which is typically found in drainages and alluvial fans. By Wells Ranch, goldenbush (*E. linearifolia*), winter fat (*Krascheninnikovia lanata*), eastwoodia (*Eastwoodia elegans*), and snakeweed (*Gutierrezia californica*), are common. Several small hills run from the Wells Ranch proper southeast most of the way to the Hanline Ranch. These hills are mostly dominated by ephedra (*E. californica* and *E. viridis*). On the east side including the Elkhorn Plain, a similar, albeit drier progression occurs north to south. Ephedra dominates the small hills in the northern and middle portions of the Elkhorn Plain. Occasional drainages with common saltbush cross through the ephedra dominated community. To the south, upland common saltbush (*A. polycarpa*) co-dominates with snakeweed (*G. californica*), goldenbush (*E. linearifolia*), and winterfat (*K. lanata*).

Southern portions, and southern and western exposures of both the Temblor and Caliente Mountains have extensive stands of yucca (*Yucca whipplei*). Higher and/or moister portions of both mountains have blue and scrub oaks (*Quercus douglasii* and *Q. turbinella*), juniper (*J. californica*), elderberry (*Sambucus mexicana*), goldenbush (*E. linearifolia*), and eastwoodia (*E. elegans*).

The Caliente Mountain have a diverse shrub community influenced by coastal environments exemplified by manzanita (*Arctostaphylos glauca*), black sage (*Salvia mellifera*), desert and Great Basin environments represented by rabbitbrush (*Chrysothamnus nauseosus*) and sagebrush (*Artemisia californica*). Added to this complex vegetative matrix are numerous seeps and springs with aquatic herbaceous vegetation and occasional cottonwood.



Rock outcrops cutbanks, erosional features and cliffs provide habitat for a large number of species that would otherwise be absent. The Caliente Mountain and foothills have a greater abundance of such geologic features than the Temblor Mountain. Human made structures and plantings around ranch houses also increase the diversity of wildlife. In many cases, these structures extend the local distribution farther into the valley than would otherwise be the case.

Several natural communities are of limited distribution in California, due mainly to conversion of these habitats for human uses in the past 150 years. On the Carrizo Plain, this would include the valley sink scrub, valley saltbush scrub, interior coast range saltbush scrub, native grasslands, and vernal pools. The plant communities have been mapped at various scales for different objectives. The most detailed

map was generated by the CEC in 1989 (Table 2). A coarser level of resolution was produced by the University of California, Santa Barbara, for analyzing

California condor habitat use. Since the CEC's map was produced, a major change in the amount and distribution of common saltbush (*A. polycarpa*) has occurred. This change was mapped at the 1:24,000 scale for a portion of the CPNA, and has been further documented by aerial photography taken before and after the major saltbush recruitment event. During the same period, over 27,000 acres of recently cultivated land was left fallow, resulting in an increase primarily of non-native annual grasslands with a minor but biologically significant increase in common saltbush along active washes. The above reports and maps are available at the Bakersfield BLM office. The DFG and the California Native Plant Society (CNPS) have been conducting transects characterizing plant communities.



Several plant species listed as threatened and

endangered, such as California jewelflower (*Caulanthus californicus*), San Joaquin woolly-threads (*Lembertia congdonii*), and Hoover's woolly star, (*Eriastrum hooveri*), are found within these communities.

Several species within the CPNA are recognized

as federal candidate species. They are recurved larkspur (*Delphinium recurvatum*), Temblor buckwheat (*Eriogonum temblorense*), Jared's peppergrass (*Lepidium jaredii* ssp. *jaredii*), Lost Hills saltbush (*Atriplex vallicola*), forked fiddleneck (*Amsinckia vernicosa* var. *furcata*), stinkbells (*Fritillaria agrestis*) and cottony buckwheat (*Eriogonum gossypinum*), oval-leaved snapdragon (*Antirrhinum ovatum*), Kern tarplant (*Hemizonia pallida*), Munz' tidy-tips (*Layia munzii*), Hollisteria (*Hollisteria lanata*) and gypsum-loving larkspur (*Delphinium gypsophilum*).

Nearly 350 species of vascular plants are believed to occur within the CPNA (Appendix F). Approximately 75% of the surface coverage consist of non-native grassland and saltbush scrub plant communities.

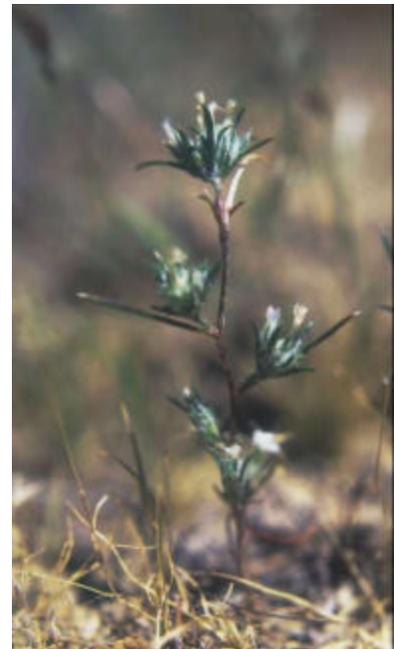


TABLE 2 - CPNA Vegetation Associations Mapped 1987-1989 by California Energy Commission.

Vegetation Association	Acres	Percent
Diablan Sage Association	1,420	0.7
Recently fallowed	13,470	7.0
Interior Coast Range Saltbush Scrub	19,350	10.0
Juniper-Oak Cismontane Woodland	5,030	2.6
Cismontane Juniper Woodland and Scrub	13,100	6.8
Soda Lake	4,820	2.5
Non-native Grassland	71,900	37.2
Tilled in 1987-1989	14,260	7.4
Upper Sonoran Subshrub Scrub	32,430	16.8
Valley Sink Scrub	3,050	1.6
Valley Saltbush Scrub	14,530	7.5
TOTAL (acres)	193,360	100

2. Animal Communities

The number of vertebrate species known to occur on the CPNA has increased because of expanded interest and research (Appendix E). Most species' distribution and abundance are poorly known. It should be emphasized that a given species' distribution and abundance are not static. Data gathered over many years may not reveal important trend information or may indicate a trend when none exists. Very little is known about invertebrates. Limited collections have been made and efforts are underway to encourage more work on this group which may have the largest influence on the ecosystem of any animal group.

This area is subjected to tremendous annual and seasonal fluctuation in temperature, precipitation, humidity, and wind speed. These factors, coupled with geologic processes (including soil formation), have had a direct influence on vegetative community development and distribution. This indirectly influences the distribution, abundance, and cycles of the animals. Population fluctuation of many resident species are characteristic and appear to be largely in response to changes in food availability. Year to year fluctuations are the norm, and it is probably these continuing circumstances from which most of these species have evolved and adapted.

Insectivorous bat and bird diversity increases in the summer in the foothills and mountains and also in the valley but mostly around ranch buildings. In the winter bird species diversity increases, especially in the valley, as insectivores, graminivores and vertebrate eating carnivores come, often in large numbers.

3. Listed Species

The CPNA was identified in the "Biologic Framework for Natural Lands and Endangered Species in the Southern San Joaquin Valley" as a Threatened and Endangered Species Management Area. This is due to the large expanse of relatively intact ecosystem as well as a large number of California and Federally listed and candidate plant and animal species known or suspected to occur within the area. Four plant species and 11 animal species are currently listed, proposed to be listed, or fully protected by the ESA, CESA or CCR. These species are listed below. Appendices E and F list the animal and plant species, respectively, that are known or suspected to occur within the CPNA. These Appendices include a number of additional species with special status.

The protection status for each species listed below is given after the scientific name. The status codes are:

Federal Status: FE, endangered; FT, threatened; FPE, proposed endangered; FC, candidate.

California Status: CE, endangered; CT, threatened; CFP, fully protected; CSC, California Species of Special Concern; CR, California Rare.

Bakersfield saltbush (*Atriplex tularensis*, -/CE). Not known from the project area, but potential habitat exists in the alkali sink area around Soda Lake.

California jewelflower (*Caulanthus californicus*, FE/CE). Found in grasslands and lower portions of the upper Sonoran sub-shrub scrub southeast of the KCL Ranch in the Swain, Fault, and House pastures, and in the Old Corral East pasture in the Carrizo Plain proper. It is known only from the Carrizo Plain, the hills of southwestern Fresno County and the Cuyama Valley of Northern Santa Barbara County.

San Joaquin woolly-threads (*Lembertia congdonii*, FE/-). Occurs in large areas, mostly on sandy flats, of the Carrizo Plain and Elkhorn Plain. It occurs in the following pastures: Center Well, Shipping, Swain, Fault, Padrone, Old Corral North, Old Corral East, Silver Gate, and East and West Cochora.

Hoover's woolly-star (*Eriastrum hooveri*, FT/-). Known to occur in several locations in the CPNA including the West Cochora, Fault, and Shipping pastures and on the south flanks of the Caliente Mountain.

Blunt-nosed leopard lizard (*Gambelia silus*, FE/CE). Known to occur west of the Carrizo Plain alkali basin from the intersection of Washburn Ranch Road and Soda Lake Road south to the project boundary, and on the east from the intersection of Wallace Creek and Elkhorn Plain

Road south to the project boundary. The species has also been reported within the Carrizo Plain alkali basin north to Seven Mile Road.

California Condor (*Gymnogyps californianus*, FE/CE). Historically foraged on the Elkhorn and Carrizo Plains.

Bald Eagle (*Haliaeetus leucocephalus*, FT/CE). Rare winter visitor and migrant. Nesting has been documented in western San Luis Obispo County.

Swainson's Hawk (*Buteo swainsoni*, -/CT). Uncommon migrant, may have bred historically.

American Peregrine Falcon (*Falco peregrinus anatum*, FE/CE). Rare winter visitor and migrant. Several pairs nest farther west in San Luis Obispo County.

Greater Sandhill Crane (*Grus canadensis tabida*, -/CT). No well documented records are known for the Carrizo Plain. Several reports have been made by skilled observers. This subspecies is difficult to distinguish from other subspecies wintering in California. It is likely an uncommon winter visitor to Carrizo Plain.

San Joaquin antelope squirrel (*Ammospermophilus nelsoni*, -/CT). Known to occur throughout much of the project area. No recent observations have been made on the west side north of the intersection of Selby Road with Soda Lake Road. The species is observed up to Seven Mile Road from Carrizo Plain' alkali basin east to the intersection with Elkhorn Road. It is most common in relatively level grass and shrublands but frequently occurs on the steep slopes and ridgelines of the Caliente and Temblor Mountains.

Giant kangaroo rat (*Dipodomys ingens*, FE/CE). Known to occur throughout the project area concentrating where terrain is level to gently rolling.

San Joaquin antelope squirrel

San Joaquin kit fox (*Vulpes macrotis mutica*, FE/CT). Known to occur throughout the project area.

Longhorn fairy shrimp (*Branchinecta longiantenna*, FE/-). Collected from two pools beside a dirt road near the northwest end of Soda Lake. Known to occur in several vernal pools within the project area.

Vernal pool fairy shrimp (*Branchinecta lynchi*, FT/-). Collected with *Branchinecta longiantenna* from the Soda Lake area. Potential to occur in other locations within the project area.

The current suite of listed plants and animals has led to increased research and monitoring activity. Long-term, intensive demographic studies have been initiated for the giant kangaroo rat (GKR) and blunt-nosed leopard lizard (BNLL). In addition to demography, these studies are also designed to shed light on the effects of grazing on their survival and reproductive success. A study was conducted on habitat use, movements, survival, mortality factors and reproduction for the San Joaquin kit fox. The Department of Fish and Game has conducted quarterly spotlight surveys for the San Joaquin kit fox since 1970. Several studies on demography and grazing effects have been initiated for the San Joaquin woolly-threads and California jewelflower (demography only). These studies are providing information critical in determining the ecosystem response to climatic and management factors and providing alternative management approaches to achieving long-term, self-sustaining populations of these species.

4. Habitat Management

Active habitat management is required to achieve long-term self-sustaining populations of listed and indigenous species and to restore native communities. Currently, two tools are in use and being evaluated for their efficacy in meeting stated goals. Prescribed fire and livestock grazing are being utilized within a research context to alter species composition. Wildfire, while not a planned research tool, also provides opportunities to further our understanding of fire's effect on plant and animal communities.

a. Fire

Fire can alter community structure and composition. This may be either compatible or incompatible with our ecosystem goals. Compatibility depends on when and where a fire occurs, and how the fire is managed. Fire's role in the ecosystems of the CPNA and its suitability as a management tool is not fully understood. Wildfire can cause vegetative type conversion such as when a saltbush community is burned and immediately replaced by non-native annual grassland. Less obvious, but possibly as important, is a change in species composition with similar vegetative structure. Fire can increase the composition of native annuals and perennials, contributing to long-term restoration goals. Fire as a management tool seems particularly well suited to grassland restoration. Annual fires for several years may give perennial grasses a competitive edge over non-native annuals allowing them to become well established. By altering plant community structure and composition, fire also affects vertebrate and invertebrate communities.



Suppression tactics for wildfire will be the least-impacting on the sensitive resources. For example, established road networks, rather than constructing new fire lines, are utilized as fire breaks to backfire from when fires become too large or too dangerous for fire personnel to apply direct attack.

When direct attack is applied in grassland communities, handline or hoses are preferred to reduce off-road impacts to endangered species and their habitats. Shrub communities that exhibit severe impacts from fire are protected to the fullest extent possible with aggressive fire suppression tactics that keeps the size of the wildfires to a minimum.

The use of fire retardants by air tankers needs to be limited to prevent damage to pictographs and vernal pool water quality. Retardant should be kept away from rock outcrops and water ways. Fire retardant would stain pictographs and possibly break them off the fragile sandstone backings with the force of the drop. The intrusion of this ammonium phosphate might have an impact on the longhorn and vernal pool fairy shrimp.

Culturally and biologically sensitive resources have been noted on the Carrizo Pre-attack Map (Technical Appendix). This map has been distributed to all initial attack resources responding to the CPNA. This map will be evaluated each year, updated if necessary, and reviewed with other initial attack agencies.



Little fire history information has been compiled for the CPNA. A fire of 416 acres raced up the east slope of the Caliente Mountain near the Washburn Ranch in 1978. In the summer of 1993 a wildfire burned 225 acres on the south Elkhorn Plain. In May 1994, 3,400 acres of grassland burned on the American Ranch.

Prescribed fires will be designed to meet resource protection objectives while upholding mandates to protect property. Several prescribed burns have been conducted, including two for mountain plover research and two for studying the effects of fire on perennial grassland restoration. Direct wildlife mortality, changes in GKR demographics, and changes in plant community composition and productivity were also studied. Research on the effects of fire on CPNA ecosystems will continue to be critical in evaluating and improving management.

b. Livestock Grazing

Livestock grazing can be an effective tool to remove standing biomass, reduce the importance (as defined by density, cover and frequency) of non-native species, and enhance the re-establishment of native species. It is hoped that livestock grazing can benefit the natural communities, wildlife and sensitive species that depend on indigenous habitats. The grazing system was designed to serve these purposes while facilitating research on the effects of grazing on listed species. Information gathered will help determine if grazing is consistent with providing habitat suitable for long-term sustainable populations of listed species and restoration of native communities. Throughout the CPNA, areas that are not grazed provide controls for research and also protect sensitive areas such as Painted Rock and alkali wetlands. Livestock grazing will occur only to support the goals which serve the mission, not to establish federal grazing preference. If research indicates that grazing is incompatible with or does not further the goals of the CPNA, livestock grazing will be eliminated. The ultimate long-term vision is to increase the role that native ungulates have in maintaining natural communities.

Public lands within the CPNA boundary encompass portions of 16 federal grazing allotments or management units (see Map #2 in Appendix G for allotment boundaries). Eight of these allotments (Washburn Ranch #18, Painted Rock Ranch #26, KCL Ranch #29, Goodwin Ranch #43, Saucito Ranch #46, Temblor-Caliente #53, Carrizo Ranch #70) are all included in the grazing/research program described below. The remainder of the 16 allotments (North Temblor #15, Frazer Valley #21, McKittrick Summit #22, Sulphur Canyon #31, Selby Ranch #44, Chico Martinez #63, Chimineas Ranch #73, and Maricopa Range #96) are managed under the interim grazing policies for the Caliente Resource Area until the RMP is complete. Grazing use in these remaining eight allotments is not managed on a rest-rotation system. These allotments are grazed with differing seasons throughout the year as directed by the grazing management guidelines in the Caliente RMP. Private lands held by TNC in the CPNA are grazed in the same manner as the public lands within the grazing/research program. Unfenced private inholdings within the CPNA are also being grazed by other private landholders and these areas may not conform to the grazing prescription placed on public lands.

DFG property is governed by Section 630(b)(75), Title 14, CCR entitled the Carrizo Plain Ecological Reserve. Grazing may occur under permit from DFG and will be managed consistent with CPNA grazing/research program.



The grazing/research program began in December of 1989. There are currently 135,095 acres of public land including 10,564 authorized animal unit months (AUMs) and 14,180 acres closed to grazing within eight different allotments. In addition, there are 12,410 acres of public land closed to grazing within alkali sink habitat surrounding Soda Lake. The grazing program described is planned to continue for six years, starting December 1, 1996, but may be modified based upon research results.

The Phelan allotment #92 (4640 acres) will be authorized for sheep grazing. The lease for this allotment will not be held by TNC, and grazing will not follow the standard management prescription. This pasture will be grazed in a manner that will mimic past livestock use that has favored use by mountain plovers. Because these rare birds use open areas with low vegetation structure for roosting and foraging, the goal of grazing in this pasture will be to leave approximately 500 lbs/acre of annual mulch throughout the year. Grazing will be allowed without a specified season of use as forage is available and residual mulch is greater than 500 lbs/acre within medium production sites on the allotment. Other goals for this area include

maintaining the saltbush in drainages and minimizing erosion through placement of water, bedding sites and livestock distribution. Monitoring and research will be conducted to evaluate the suitability of this and alternative management actions for those species requiring more open habitats.

In the long term, grazing allotments and pastures will be delineated along ecological boundaries. Until adequate data has been collected and evaluated to warrant changes, in physical barriers, grazing allotments and pastures will utilize existing ranch boundaries and fence lines. Unnecessary fences or range improvements will be removed as they are identified.

The management purpose of the grazing system is to give a growth advantage to native perennial plants and help reduce the aggressive establishment of non-native annual plants. Although resource conditions are the factors which determine when to begin and end grazing treatments, calendar dates that represent the typical dates these conditions occur were chosen to facilitate management planning. December 1 was selected as the approximate date when early non-native annual plants have germinated and begun growth and thus is the time when livestock grazing pressures should begin. April 1 was chosen as the livestock removal date because that is when native perennial grasses are often in their most critical boot stage. Each grazing allotment contains an annually grazed pasture in which grazing will be allowed for the entire December 1 through April 1 season, and a non-grazed pasture which is never grazed. Due to the limited number of pastures available to the Saucito allotment, it does not have an "annual" treatment pasture. The Painted Rock allotment also has a limited number of pastures available and thus the Goodwin allotment serves as the Painted Rock allotment's "annual" pasture in its entirety.

Where logistically possible with existing facilities (and not precluded by previous management decisions, such as no grazing on the California jewelflower) a three pasture rest-rotation grazing system will also be implemented in each grazing allotment. The rest-rotation will allow early or late germinating native plants the opportunity to grow with out the same grazing pressure every year. In any given year one of the three pastures will be used "early" (Dec. 1 through Feb. 14), and a second pasture will be used "late" (Feb. 15 through April 1), and the third pasture "rest" will not be grazed. The rotation sequence for a single pasture will be "early" one year, then "late" the next year and then "rested" the third year. Some grazing allotments may have several pastures of the same treatment in a single year, being grouped according to their vegetation and acreage in order to come up with fairly equal treatments each year. Treatment schedules are included in Table 3 of Appendix G.

Due to the high cost of providing water to the pastures and repairing existing facilities in the Temblor-Caliente allotment, a rest-rotation system was not implementable. This entire allotment will be treated as "annual" until a rest-rotation system is implementable. Pastures will be used when resources and water are available throughout the grazing season, (except in the West Cochora pasture in which it may continue through May 31 to accommodate pre-existing research needs). Stocking rates will remain at the numbers that would have been implemented on the rest rotation system. In this manner more livestock numbers will not be run by making the entire allotment available, but those allowed will be spread out in available pastures only.

Livestock will be brought to and taken from the CPNA by stock trucks or trailed in on county road rights-of-way. Restrictions on placement of salt and mineral supplements will be imposed as necessary. Supplemental feeding will not be allowed except in corrals. Supplemental feeding to remedy bloat problems may be allowed within designated pastures after approval from TNC.



Horse use and boarding required for livestock operations will occur in designated pastures and corrals. Holding injured or escaped livestock, or animals requiring veterinarian care, could also occur in these pastures or corrals. The following guidelines are intended to prevent horse boarding inconsistent with the goals of the grazing system. Up to five horses will be allowed in designated areas during the grazing season. More than five horses may be allowed

in designated areas for up to seven days. If more than twenty horses or seven days are necessary for livestock operations, special approval is required. Outside the grazing season, up to three animals per allotment will be allowed for seven days when actively used for the management of the grazing program. The lessee will report horse use in pastures as part of the actual use report submitted to BLM for billing. Pastures designated for horses must also adhere to resource thresholds as described for the entire grazing program.

Any deviation from the described grazing program would be implemented following coordination and consultation between the management partners and the USFWS. Grazing authorizations on all new acquisitions will be reviewed by the managing partners for consistency with the CPNA's mission. Pre-existing management prescription (livestock class, use periods, and stocking densities) may be continued.

A maximum stocking rate of 0.2 AUM per acre (five acres per AUM) will be imposed to protect soil stability and function and to reduce possible damage to GKR burrows. BLM authorized grazing preference will be based on this stocking rate. Adjustments to allotment ratings, capacity determinations and resultant stocking rates and densities will be made in cooperation and consultation between managing partners and as a result of research findings (Section 9, subsection d - Habitat Management). BLM billing will be on an actual use basis.

Livestock will not be turned into a pasture unless there is at least 500 lbs/acre of residual annual dry matter (mulch) and two inches of new green forage, or at least 700 lbs/acre of mulch with no new green annual forage. Livestock will be removed from a pasture within seven days after mulch levels drop to 500 lbs./acre, regardless of calendar date.

Maximum utilization allowed on key perennial species is 20% of the current annual year's growth. When this threshold is met, livestock will be removed from the pasture, regardless of calendar date. Adjustments to maximum utilization levels will be made in cooperation and consultation between managing partners and as a result of research findings (Section 9, subsection d - Habitat Management).

Livestock may also be removed from a pasture before the calendar end date if GKR "haystacking" is damaged by livestock. The managing partners are continuing to coordinate with the USFWS and species experts to assess this issue.



The use and development of range improvements on public lands will be authorized through cooperative agreements which place maintenance responsibility on the grazing lessee. The BLM will maintain title to the range improvements on public lands. Administrative access to these range improvements is necessary to ensure maintenance capabilities. Range improvements on TNC and DFG lands are administered by the respective owners. Existing livestock management facilities, including access roads, corrals, barns, water pumps, water tanks, water troughs, pipelines, spring collection boxes, fences and cattleguards will be used when possible. When consistent with our mission, facilities may be created or modified to prevent or reduce livestock distribution problems or to help continue the grazing system as planned. Existing facility maintenance will occur periodically throughout the year, and may include:

grading, mowing or repairing roads; repairing drainage crossings; cleaning or replacing culverts, scraping out or modifying corrals; hauling materials from existing roads to repair fences; mowing vegetation along fences; cleaning out, replacing or moving cattleguards; repairing, removing or replacing water tanks, their bases and troughs; locating and repairing, replacing or bypassing sections of buried pipeline; locating, cleaning out, repairing or replacing spring collection boxes.