

WILDLIFE

MANAGEMENT PLAN



U.S. ARMY ELECTRONIC PROVING GROUND
FORT HUACHUCA, ARIZONA

/ 1962

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INTRODUCTION

This Wildlife Management Plan for the U. S. Army Electronic Proving Ground is a guideline to supplement appropriate Department of the Army directives at local level in establishing goals for a meaningful conservation program that will bring about an optimum ecological condition through compatible land, water, and wildlife uses. A basis for mutual understanding between the various agencies concerned with natural resources is provided for in this plan.

Historically and aesthetically, Fort Huachuca is perhaps the most important military reservation in the United States from the standpoint of fauna and flora. About six hundred species of mammals, birds, and reptiles have been identified, and the number of plants in the area will no doubt exceed a thousand. Many of these plants and animals are very rare, being found only in this immediate vicinity.

Wildlife is managed and developed to encourage outdoor recreational activities for both military and civilian personnel. These activities include hunting, fishing, photography, hiking, bird-watching, etc. The development of personal attitudes toward favorable consideration of conservation through education is an allied function of this plan. The importance of conservation is to be stressed when teaching hunter safety, biological hazards, and survival techniques.

FORT HUACHUCA WILDLIFE AREA INVESTIGATIONS by Charles O. Wallmo, Arizona Game and Fish Department, 1951; THE MAMMALS OF THE HUACHUCA MOUNTAINS, SOUTHEASTERN ARIZONA by Donald F. Hoffmeister and Woodrow W. Goodpaster, University of Illinois, 1954; and unpublished papers of Leslie N. Goodding, Botanist (Retired), have contributed immeasurably as basic material for this plan.

OBJECTIVES

Wildlife management is the program of conservation, development, maintenance, and harvest of fish and game resources in combination with the other renewable natural resources to best serve the present and future needs of the United States and its people. This specific plan has the objective to cause the maximum sustained yield of wildlife on the U. S. Army Electronic Proving Ground, consistent with the primary purpose of the installation.

DEFINITIONS

For all purposes of identification and enforcement the definitions established by Title 17, Arizona Revised Statutes, and Paragraph 2, Section XIX, Post Regulations, shall apply. Glossary of technical terms shall be as defined in MANUAL OF GAME INVESTIGATIONAL TECHNIQUES, The Wildlife Society, 1960.

GENERAL DESCRIPTION OF THE AREA

The U. S. Army Electronic Proving Ground consists of some 102,598 acres of which we are principally concerned with only 44,800 acres comprising the Fort Huachuca Main Post. The remaining 57,798 acres are managed to conserve natural resources, but lack recreational value because of non-productive land characteristics or an over-riding military mission requirement. Included in this latter category is some 28,000 acres of grassland plains managed as a sanctuary. An additional sanctuary of 137 acres is maintained within the Main Post and an enclosed ammunition storage area of 64 acres is utilized for research and browse study. The Main Post is divided into 13 game management areas (Figure 1). The East Artillery Range and the Willcox Range are each considered as a single unit for management. There is an adequate supply of water for wildlife in mountain streams and reservoirs provided from seasonal and permanent water sources (Figure 2). There are 11 impact areas (Figure 3) and 32 buildings outside the cantonment area located throughout the Main Post and East Artillery Range being utilized in connection with the technical mission of the Command. Seven heliports are available for fire fighting support purposes (Figure 4).

The extensively managed portion of this reservation lies at the north end of the Huachuca Mountains which extend southeasterly to the Sonora border of Mexico. The most southerly point and highest elevation of the Fort is slightly over 8,600 feet. The most northerly and lowest part of the Fort is 4,400 feet, approximately two miles from the dry bed of the Babocomari River. At 5,200 feet there is an abrupt change from a pediment of grassy plains to steep brush and tree-covered mountains.

Several different types of soil and vegetation are prevalent in a profile of terrain that reflects how climatological factors are conditioned by latitude and altitude to bring about various physical divisions that tend to present themselves in life zones. For management purposes, the entire area is classified as follows:

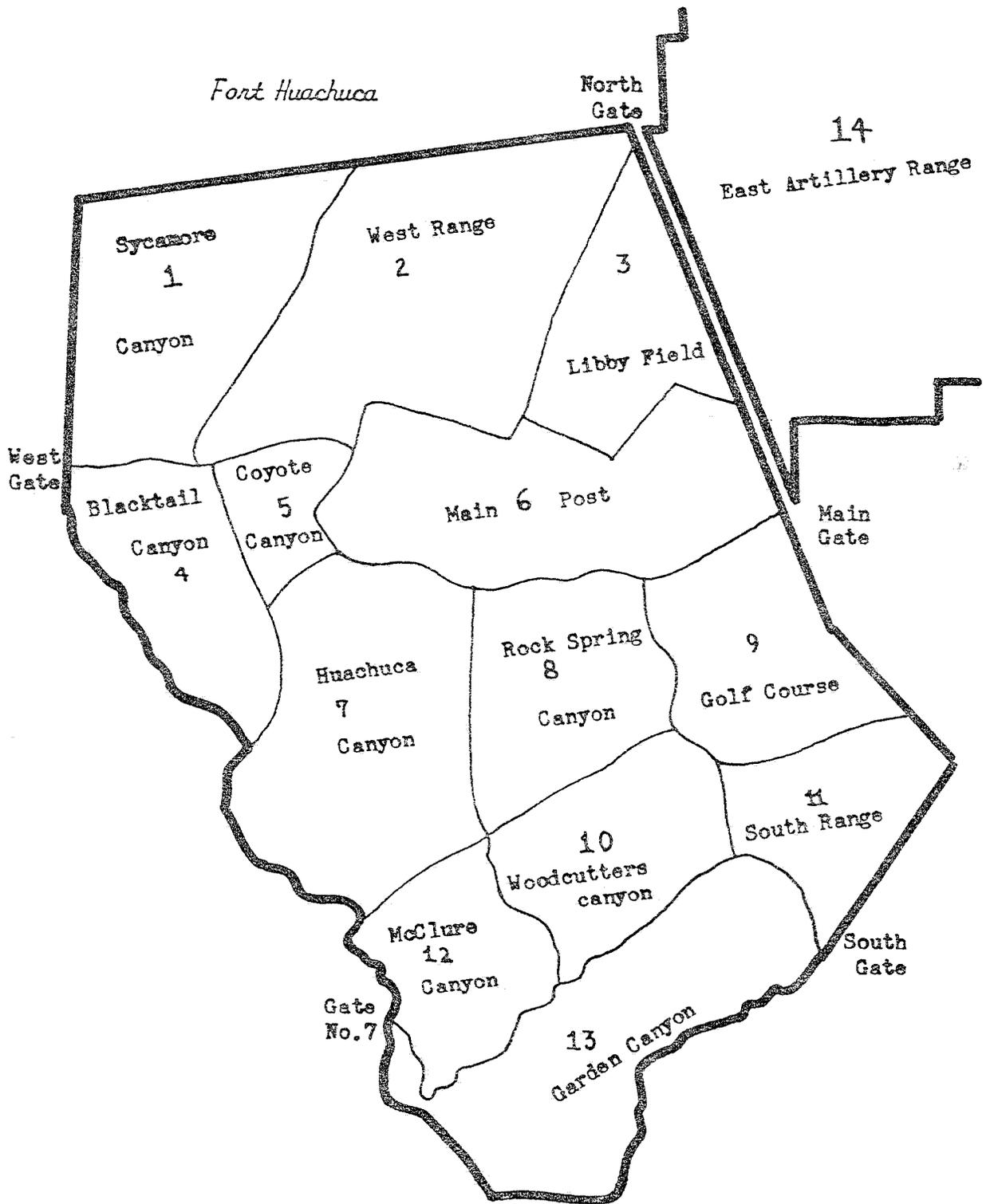


Figure 1 - Game Management Area Boundaries

<u>Fort Huachuca (Main Post)</u>	<u>Acres</u>
Lower Oak Woodland	1,400
Mountainous Oak Woodland	12,000
Pine-Oak Woodland and Conifer Forest	5,000
Grassland Plains	26,400
TOTAL	44,800
<u>East Artillery Range</u>	
Grassland Plains	28,577
<u>Willcox Range</u>	
Desert Playa	29,221
GRAND TOTAL	102,598

HISTORICAL RANGE USE

In the early 1800's a few Spanish haciendas sprung up in the foothills of the Huachuca Mountains, and cattle were raised by the rancheros in tens of thousands. It is said that the old Babocomari Ranch run 40,000 cattle along with others that ranged where Fort Huachuca was later to be established. Even after the military reservation was completely fenced, the cattle of neighboring ranches grazed on the area up until about 1930.

This area was obtained by the United States from Mexico in the Gadsen Purchase of 1853. The warlike Apache Indians and the influx of settlers and miners brought about the establishment of an army post in 1877. This camp became a permanent fort in 1881. Fort Huachuca soon became well known among biological collectors and scientists for its variety of flora and fauna.

Over the years the combined influence of large pickets of cavalry horses, massed thousands of men, hundreds of vehicles, and sporadic cattle grazing left conditions which rendered Fort Huachuca a somewhat different range in particular aspects than the surrounding country. Shortly after World War II, pending disposition of the property by the War Department, the grasslands were leased to several livestock growers. Since there could be no tenure guarantee on grazing leases, it seemed to be the policy of the stockmen to take all of what was there while it could be taken. Consequently the land was seriously overstocked for two seasons prior to 1949 when the property was deeded to the State of Arizona to become a wildlife area. Arizona charged the Game and Fish Commission with the responsibility of restoring the habitat through a proper range and wildlife management program.

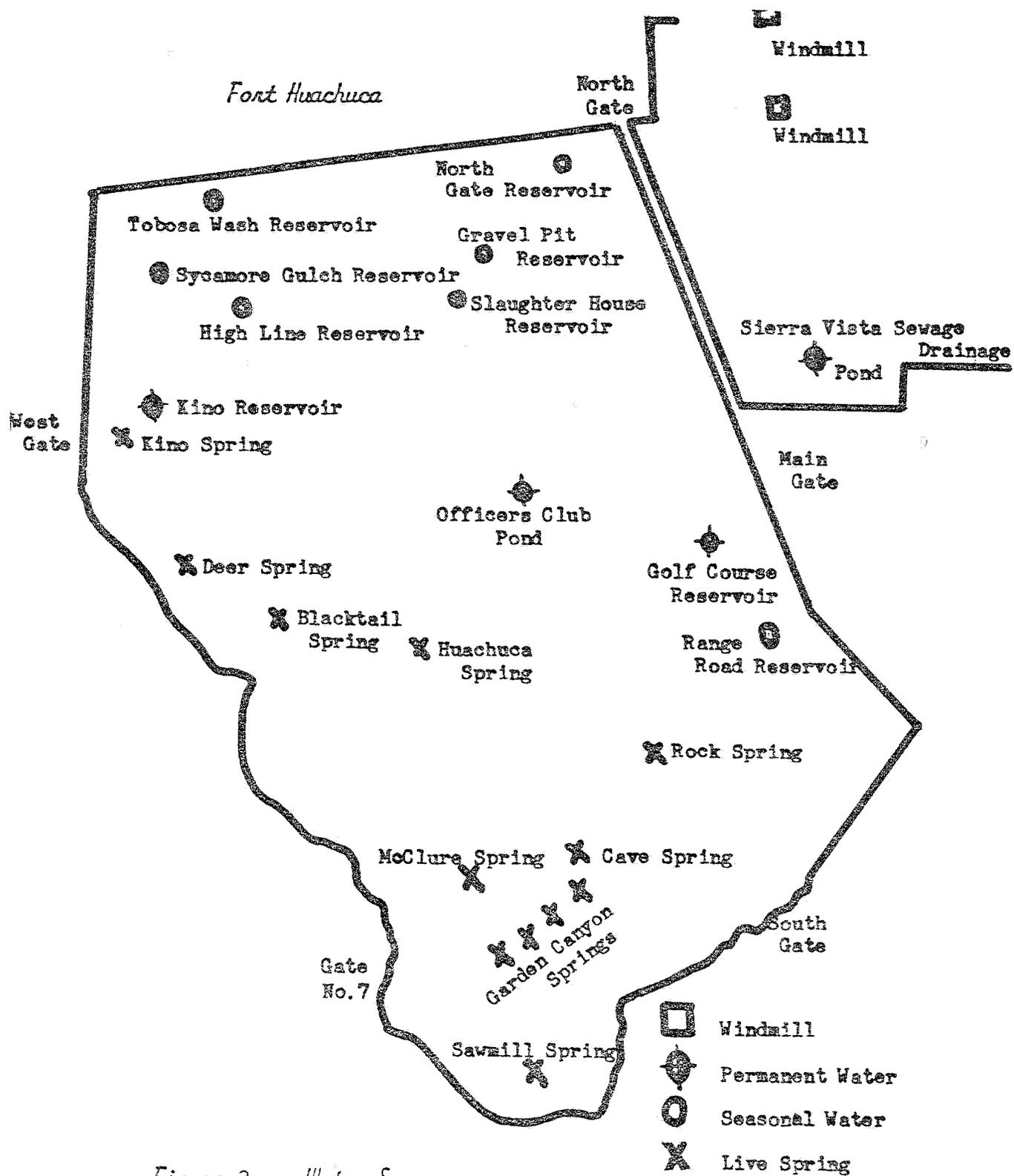


Figure 2 - Water Sources

For many years a limited area was used for gardening to produce fresh vegetables and pasture for the Fort herd of dairy cattle. Timber resources were utilized for fuel and lumber, most of it being cut in Garden (Tanner) Canyon. Wood was used for heating and cooking on the Fort until about 1941.

In 1949 a new range use was seen when the Arizona Game and Fish Department established a herd of 132 buffalo (bison). By the end of 1951, when the Federal Government reacquired the area the buffalo were at their population peak with a herd of about 400 animals. The Army Electronic Proving Ground was activated in 1954 and the buffalo were removed shortly thereafter.

Upon the activation of the Proving Ground, the need for a well-planned wildlife management program became evident with the heavy influx of personnel attracted to the area and a proportionate increase in hunting pressure. This resulted in the establishment of a Game Management Division as a permanent segment of the Command under the direction of the Provost Marshal in 1957. The operational phase of the game management program continued the practices initiated by the State. Thus flora of Fort Huachuca is more like the original desert grasslands of southeastern Arizona than the surrounding country.

This Command entered into an agreement on hunting with the State of Arizona on 19 July 1956. The basic agreement is kept current by Game and Fish Commission action on recommendations submitted annually by the USAEPG Wildlife Manager.

CLIMATIC CONDITIONS

The climate of Fort Huachuca might be described as arid to semiarid, with an average annual rainfall of 17.44 inches. Over half of this falls in July, August, and September, and about one-third from October to March. The driest period is from March to July. The average January temperature is 46.4 degrees F.; the average July temperature is 78.5 degrees. The annual mean relative humidity at noon over a 44 year period has been 38 percent. Over a 32 year period the lowest temperature on record was 0 degrees and the highest 105 degrees. The longest period when temperatures were continuously below freezing was six days. The average late frost is March 30 and the average early frost November 17. The growing season is 232 days. Snow-storms are common in winter at the higher elevations, the highest parts of the mountains often remaining snow-covered to depths exceeding one foot for several weeks. Torrential cloud-bursts rains are frequent in midsummer.

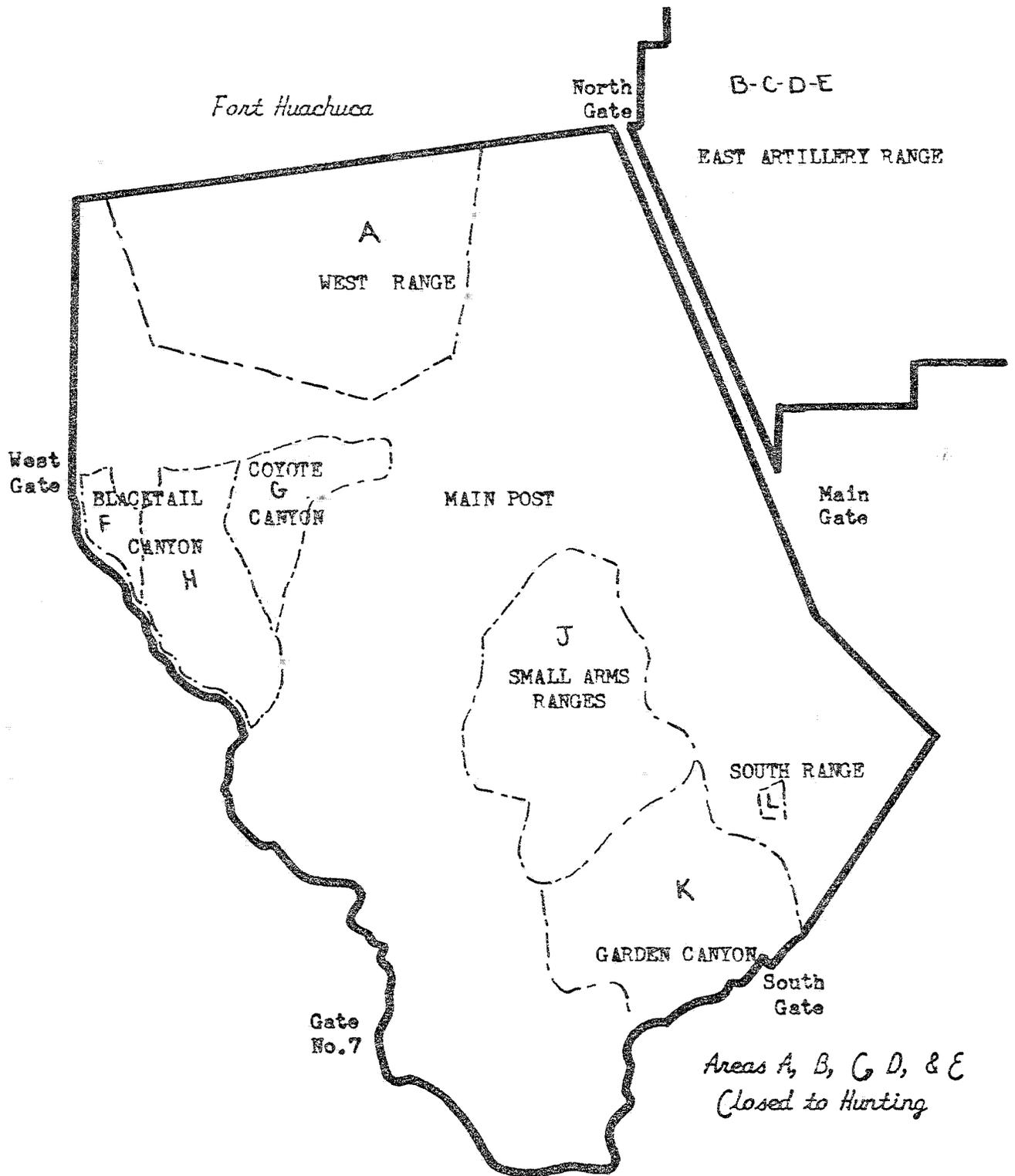


Figure 3 - Impact Areas

Precipitation varies directly with elevation so the Fort weather station in the oak woodland at 5,000 feet is not representative of conditions in the forested mountains above or the plains below. Using other southeastern Arizona weather records to illustrate this point, the Rucker Canyon station at 5,800 feet in the Chiricahuas (a similar mountain range 60 miles to the east of the Huachucas) averages about 21 inches of precipitation, while Lewis Springs at 4,000 feet on the San Pedro River, 15 miles to the east, gets only 11 inches.

Evaporational stress is as important as precipitation in determining the biotic conditions. While no exact records are available here, by comparison with other areas it is evident that we have in the neighborhood of 80 inches of evaporation per year. The resulting precipitation-evaporation ratio is an important relationship limiting Fort Huachuca's vegetation to two principal types--desert grassland and live oak woodland.

A still more limiting factor to animal populations and plant development is the fluctuation of rainfall from year to year. In 1947 the total recorded precipitation was 9.12 inches. In 1949 it was 22.27 inches. In 1949 there were numbers of streams and springs flowing throughout the area that were dry the next year. The water piped in from 8 springs for domestic supply was metered. In March 1949, 59,243,000 gallons were produced by these springs. In March 1950, 4,922,800 gallons were produced. During January, February, and March of 1949, 5.1 inches of precipitation were measured at the Fort station. During the same period in 1950 only 2.65 inches were measured. There is evidence that there are adverse effects in drought conditions on reproductive activity of certain species. So, as plants respond directly to precipitation, animals accordingly respond to plants. The degree of limitation exerted by minimal weather expectations are considered in planning the management of wildlife.

VEGETATION

It is of great practical importance to know not only the present condition of vegetation in developing a wildlife management plan, but also whether the vegetative cover is improving or deteriorating. Forage production never stands still, never remains the same year after year. These changes may have some causes, some of which can be controlled, some which cannot be. Management methods that are improving the habitat should be continued if at all possible. The ability to determine trends helps the wildlife manager to see where the habitat is deficient and what changes must be made for improvement.

About 400 species of plants were collected and identified by Leslie N. Goodding, research botanist, during a range survey conducted under Federal Aid to Wildlife Restoration Act Project 46-R-1 between 1 July 1949 and 30 June 1950. All identifications were verified or corrected through the University of Arizona herbarium. More recently 139 species of trees and shrubs were classified and evaluated for their potential wildlife food

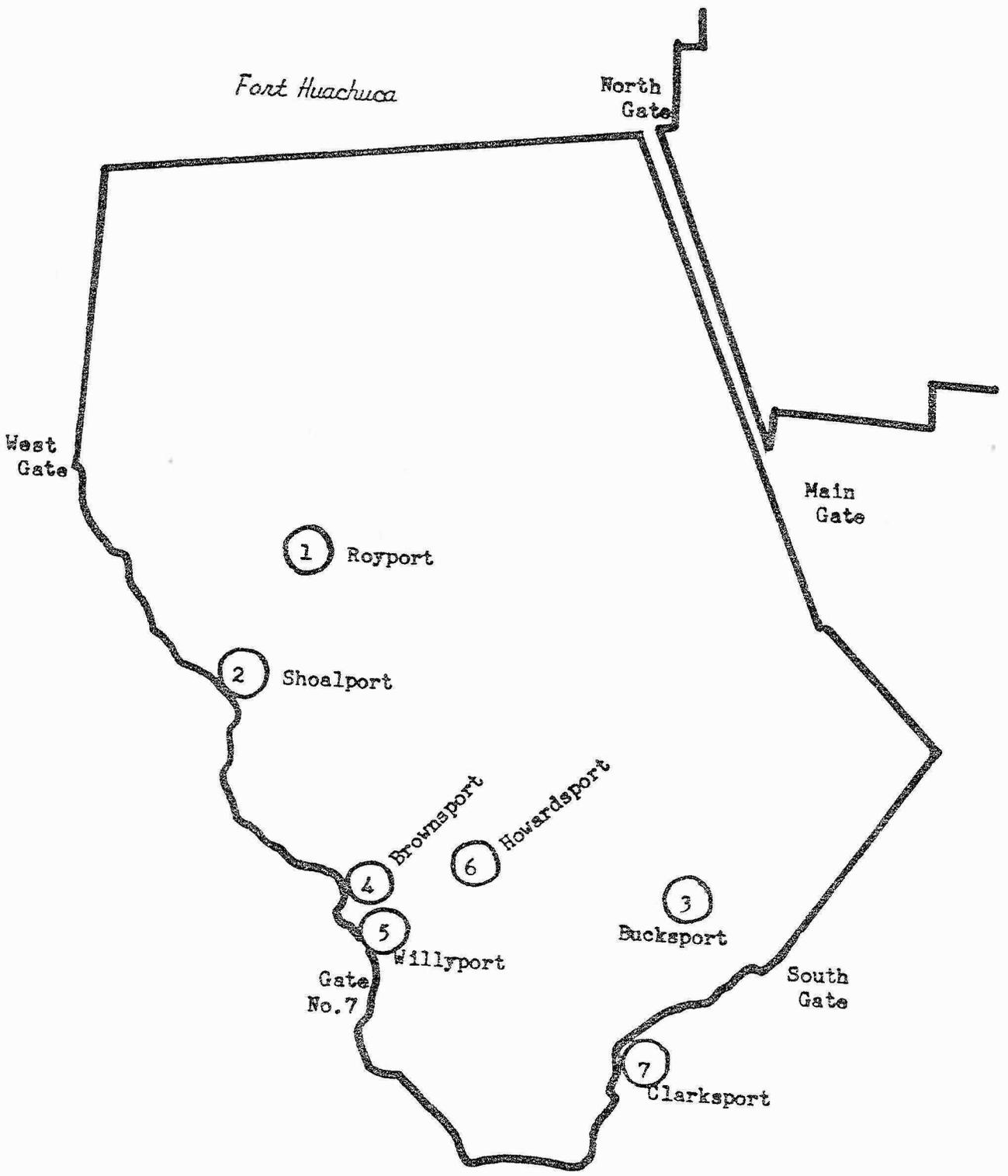


Figure 4 - Heliports

value and erosion control characteristics. For a simple general classification of the vegetation of Fort Huachuca it is divided into grassland, oak woodland, and pine-oak and conifer (Figure 5).

The oak woodland extends upwards onto the steep slopes where it blends with manzanita, mountain mahogany, and juniper. This is an important winter range for white-tailed deer. The acorn crop is usually abundant and the fruits of other trees and shrubs supply great volumes of food for Mearns quail, wild turkey, small birds, deer, and occasionally javelina. Conifer forests of mostly pines and Douglas fir occur only at the highest elevations, especially on cool northerly slopes.

More than a hundred species of grasses are on the reservation. It is hardly possible to accurately arrange them in the order of their importance. Perhaps it is best to consider them in groups. Those of greatest erosion control value are Blue Grama, Hairy Grama, Sideoats Grama, Purple Grama, Spruce-top Grama, Bermuda Grass, Curly Mesquite, Tobosa Grass, Mat Muhly, Deer Grass, Slender Bullgrass, Burro Grass, and Vine Mesquite. Those of highest forage value are Black Grama, Curly Mesquite, Hoe Grass, Blue Grama, Sideoats Grama, Hairy Grama, Purple Grama, Spruce-top Grama, Bulb Panic Grass, Rothrock Grama, all the Bromes, June Grass, Texas Timothy, New Mexico Muhly, Pinyon Rice Grass, Pringle's Needlegrass, Vine Mesquite, Lehmann's Lovegrass, Plains Lovegrass, Hairy Dropseed, Green Sprangletop, Beard Grass, Deer Grass, Slender Bull Grass, Bull Grass, and Mountain Muhly.

In addition to the native plants many introduced species have made their appearance. Among the introduced grasses we find Bermuda Grass, Redtop, Sandbur, Feather Fingergrass, Stink Grass, Lehmann's Lovegrass, Crabgrass, Hackelochloa, Rabbitfoot Grass, Johnson Grass, and Yellow Bristle Grass. This wide variety of vegetation makes Fort Huachuca an highly attractive area scenically and is geographically located so that it includes plant life of great interest to biologists. Some plants found here are very rare, like the *Allium plummerae* said to be found nowhere else in the world.

Chamiso (*Atriplex*), commonly known as "saltbush" is being encouraged as a wildlife food and cover plant. This succulent plant is widely used by both birds and mammals. It is believed that "saltbush" was a common plant of the Huachuca grasslands prior to the cattle grazing era. A few other plants of special interest for their food and cover value are under study at the time of this writing.

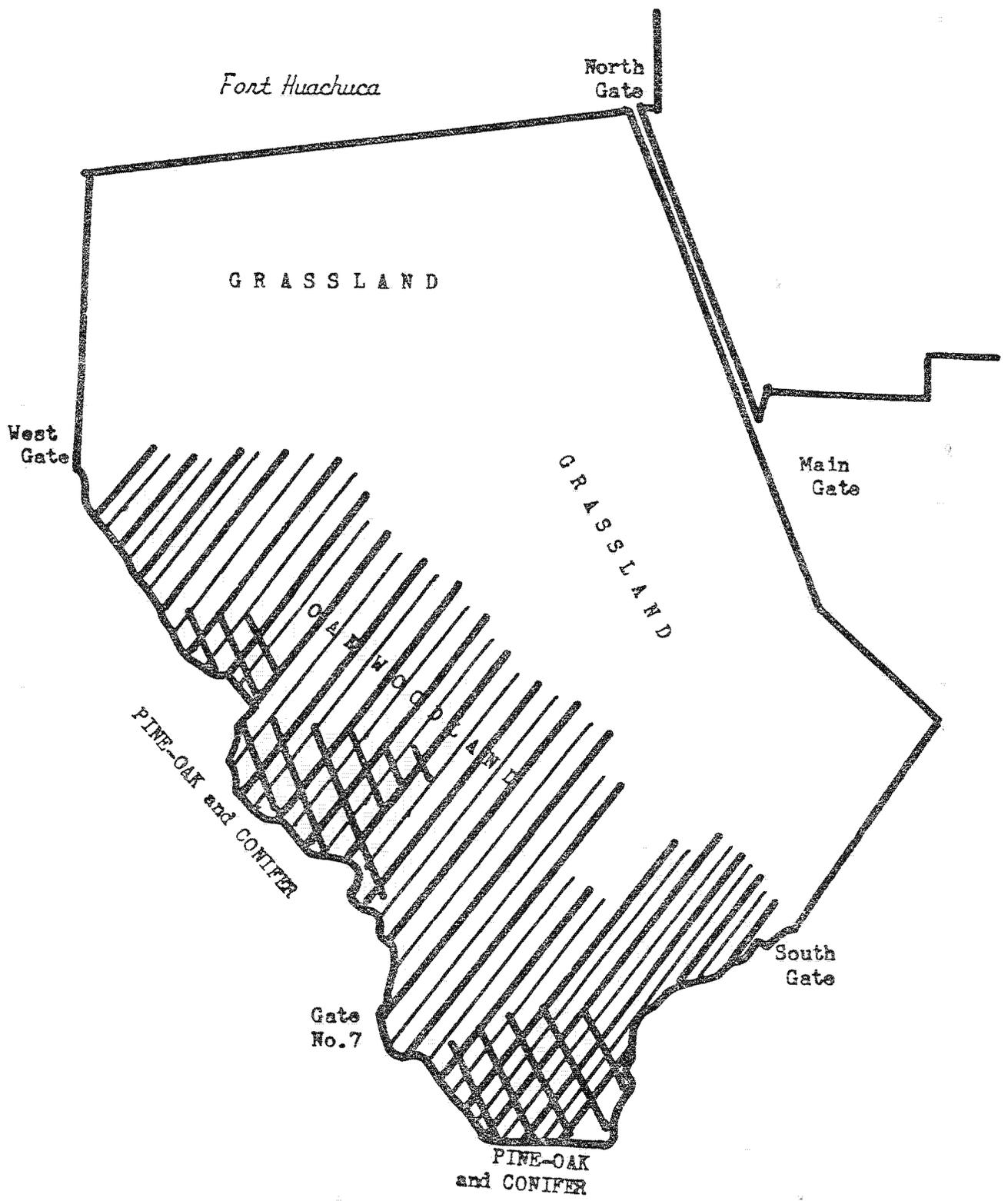


Figure 5 - Vegetation

GENERAL MANAGEMENT PLAN

The overall management of wildlife shall be in accordance with the criteria established by a cooperative plan mutually approved by designated representatives of the Department of Defense, Department of the Interior, and the State of Arizona, as prescribed by Public Law 86-797 to include the following:

a. Artificial Propagation: The artificial propagation of indigenous species for stocking or restocking will be accomplished as the need is determined. The introduction of exocitic species will be considered to increase the supply of game for recreational purposes and to divert hunting pressure from native species that may be diminishing in numbers. A limited amount of propagational work will be directed toward an evaluation of ecological requirements for various species. Exotic mammals, birds, and fish will not be introduced into the area without the concurrence of the Arizona Game and Fish Department.

b. Considered Species: Primary consideration shall be directed toward indigenous species that are present in the area and the reestablishment of indigenous species that have become depleted. Introduction of exotic species to receive secondary consideration.

c. Depredation: Damage to trees, shrubs, and other vegetation by deer and rabbits will be controlled to the greatest extent possible by manipulation of hunters to reduce such animals as near the improved areas as safe practices will permit. Development of food plant patches and supplemental feeding stations in remote areas will be used when deemed necessary to attract wildlife away from improved areas. Occupants of family quarters will be encouraged to use chemical repellents at their own expense to help control depredation by game animals.

d. Habitat: Attention will be directed toward creating and maintaining proper vegetation growth for food and cover to meet the requirements of beneficial wildlife. Water improvement will be a continuing project. Land management and timber harvest shall be as directed by the Post Engineer in accordance with AR 420-74.

e. Predator Control: The control of predatory and nuisance animals will be accomplished in accordance with procedures established by Post Regulations in cooperation with the appropriate local, State, or Federal authorities having an interest in the work. Predator control for the purpose of this plan will be directed toward the removal of such animals as destroy game, other beneficial wildlife, and domestic animals; or those that serve as reservoirs for rabies and responsible for its spread. Trapping will be carried on with the advice of the U. S. Fish and Wildlife Service.

f. Protection: Unauthorized hunting, trapping, and fishing will be prevented through the protective services of the Provost Marshal Section. Game management personnel will also enforce trespass regulations and fire prevention practices.

g. Regulations: Hunting and fishing regulations will be reviewed each year for their consistency with State and Federal regulations by the Wildlife Manager, and revised if required. Due consideration will be given to personnel safety and biological requirements of the animals affected in revising regulations. Revisions involving State or Federal regulations shall be in accordance with the advice of the Staff Judge Advocate.

MANAGEMENT BY SPECIES

Specific action affecting certain animals or groups of animals shall be as follows:

a. Antelope: There is every indication that the Pronghorn Antelope (Antilocarpa americana mexicana) formerly ranged over this area and then disappeared early in the 20th Century. The species was re-introduced as the results of transplanting animals from northern Arizona in 1949 by the Arizona Game and Fish Department. By 1957 the Fort Huachuca herd numbered slightly over a hundred animals and there were limited hunts for buck only in 1958 and 1959. Early in 1960 migration to other areas became evident as the Fort herd began to diminish. The reduction of the antelope population on the military reservation is attributed to the increased activity on the ranges brought about by the primary mission of the Command. Therefore, management of this species is now limited to preserving a remnant herd for their aesthetical value.

b. Birds of Prey: Arizona law protects hawks and owls, except Ospreys (Pandion haliaetus), Coopers Hawk (Accipiter cooperi), Sharp-shinned Hawk (Accipiter striatus velox), Goshawk (Accipiter gentilis), and Great Horned Owl (Bubo virginianus). All birds of prey are protected on the Fort Huachuca military reservation and may be removed only under the supervision of the Wildlife Manager for specific purposes.

c. Deer: The White-tailed Deer (Odocoileus virginianus couesi) is the most popular big game mammal hunted on the U. S. Army Electronic Proving Ground. However, the Desert Mule Deer (Odocoileus hemionus crooki) is also found in limited numbers in Game Management Areas 1, 2, and 14. The principle features of the deer management program is as follows:

(1) Constant evaluation of the species and densities of plants browsed by deer to determine the vegetative carrying capacity of the habitat. Browse study reports compiled by the Arizona Game and Fish Department from data furnished by the Wildlife Manager are utilized in making these evaluations.

(2) Maintain continuous deer population trends as a measurement in keeping the deer herd within the carrying capacity of the range.

(3) Maintain constant surveillance of the deer herd for evidence of disease. Animals taken by hunters and killed on the road will be examined for disease and parasites. Blood samples collected are sent to the Animal Disease Laboratory, Agricultural Research Service, U. S. Department of Agriculture. Pathological assistance is furnished by the University of Arizona through the Cooperative Wildlife Unit. The Post Veterinarian provides assistance to the Wildlife Manager in this work.

(4) Analyze and evaluate hunting requirements and predator kills to insure the harvest is sufficient to keep the deer population within the carrying capacity of the range.

(5) Coordinate and exchange scientific data with personnel engaged in deer management projects for the Arizona Game and Fish Department, and the Cooperative Wildlife Research Unit, University of Arizona.

d. Doves and Pigeons: Mourning Doves (Zenaidura macroura) are abundant in southeastern Arizona throughout the year and are hunted extensively on the military reservation. White-winged Doves (Zenaida asiatic) are also present during spring and fall migrations, but are not common nesters in the Huachucas. Inca Doves (Scardafella inca) and Mexican Ground Doves (Columbigallina passerina) make their appearance more or less by accident. The latter two species are not considered game birds. The Band-tailed Pigeon (Columba fasciata) breeds here, but is not hunted. Sufficient natural food is available to support a large dove and pigeon population, therefore, no effort is devoted to the management of these birds, except the enforcement of hunting regulations and to insure a water supply.

e. Fish: Warm water fish are present in small numbers in several of the earth tanks throughout the military reservation but not in sufficient numbers to encourage fishing. Rainbow Trout (Salmo gairdneri) are stocked in the Officers' Open Mess Pond by the U. S. Fish and Wildlife Service. Trout fishing is limited to children under 14 years of age. Mosquito Fish (Gambusia affenis) are used for mosquito abatement purposes. The initial stock of this species was furnished by the University of Arizona in 1961. Stocking and managing impoundments in relation to fisheries in general is guided by advice from biologists of the U. S. Fish and Wildlife Service, Arizona Game and Fish Department, and the University of Arizona. Fisheries are limited only by the availability of water. Water improvements are dependent upon funding.

f. Fur Bearers: Fur-bearing mammals present on the U. S. Army Electronic Proving Ground are Raccoon (Procyon lotor), Coati-mundi (Nasus narica), Badger (Taxidea taxus), and Ringtail Cat (Bassariscus astutus). The Coati-mundi is the most common, however, it is at a low point in an apparent population cycle at this time and requires no management action. The other species are not abundant enough to give concern.

g. Javelina: Next to the deer, the Javelina or Collared Peccary (pecari tajacu) is the most important big game species in regard to hunting. A lack of scientific data on this species prevents developing management plans to the same degree as in other big game animals. Examinations for disease and parasites follow the same procedures as used for deer. Extensive studies are underway by the University of Arizona at this time to collect information on food requirements and reproduction of the javelina which will provide basis for future plans. There has been no apparent change in the population of this species on Fort Huachuca during the past five years. Hunter success is better than state-wide average.

h. Miscellaneous Birds: In the category of miscellaneous birds we include the song or insectivorous and all other species not specifically classified under another heading in this plan. These birds are all protected on the military reservation, except the English Sparrow (Passer domesticus), Starling (Sturnus vulgaris), Crow (Corvus brachyrhchos), and Raven (Corvus corax). Management of protective cover and food for these birds will be consistent with land and woodland management plans as outlined by AR 420-74. A check-list of birds observed in the Huachuca Mountains contains 286 species.

i. Non-game Mammals: The State of Arizona defines non-game mammals as all wild animals except game animals, fur-bearing animals, and predatory animals. This includes the Rock Squirrel (Citellus variegatus) and Jack-rabbit (Lepus californicus), which are both considered undesirable and their numbers are kept to a minimum by encouraging hunters to take them throughout the year. The Rock Squirrel is especially destructive to the eggs and young of upland game birds. Game management personnel will continually remove these animals from within the Wildlife Sanctuary.

j. Predators: Predatory animals are Foxes (Urocyon and Vulpes), Skunks (Conepatus, Mephitis, and Spilogale), Mountain Lion (Felis concolor), Coyote (Canis latrans), Wolf (Canis lupus), Jaguar (Felis onca), Weasel (Mustela frenata), Bobcat (Lynx rufus), Ocelot (Felis pardalis), Porcupine (Erethizon dorsatum), and Feral House Cat. Mountain lions and Jaguars are held within a reasonable check by hunting. The influence of man has disrupted the balance of nature to a degree that control measures must be carried on at all times to keep Coyotes, Bobcats, and Skunks in check. These animals are not only a hazard to game species, but also present a public health threat as reservoirs for rabies. The control of predators is further discussed under the General Management Plan.

k. Rabbits: The Cottontail Rabbit (Sylvilagus audubonii) is kept to a small population on the military reservation by predators and heavy hunting pressure. However, there is no immediate danger of their depletion because of their abundance in the surrounding community where they are considered a pest to agriculture. Jackrabbits are covered under the non-game animals in this plan.

l. Reptiles: A partial list of snakes and lizards found on Fort Huachuca contain 65 species, some of them very rare. The Huachuca Black-headed Snake (Tantilla wilcoxi wilcoxi) is found only in the Huachuca Mountains. With the exception of Rattlesnakes (Crotalus and Sistrurus), Coral Snake (Micruroides euryxanthus), and Gila Monster (Heloderma suspectum), none of these reptiles are poisonous. The destruction of all species, except Rattlesnakes, is discouraged. The Gila Monster and Horned Lizard (Phrynosoma) are protected by Arizona laws and the destruction or molesting of these lizards is punishable by fine and imprisonment.

m. Upland Game Birds: Our upland game birds include six species of Quail, Chukar Partridge (Alectoris graeca), and Ringneck Pheasant (Phasianus colchicus). Scaled (Callipepla squamata) and Mearns Quail (Cyrtonyx montezumae mearnsi) are the most abundant. The Mearns is not considered a game bird because of its scarcity in general in so far as world population is concerned. Gambel Quail (Lophortyx gambelii) on Fort Huachuca are limited to a few covys in Game Management Areas 1, 2, and 14. Benson (Lophortyx douglasii bensoni) and Masked Bobwhite Quail (Colinus virginianus ridgwayi) were trapped in Mexico and released at Fort Huachuca by the Arizona Game and Fish Department in March 1950. It is believed that the Masked Bobwhite was a common species here prior to the introduction of cattle grazing in Arizona. The Benson may have also been a native at one time. The Western Bobwhite (Colinus virginianus texanus) has been introduced since the establishment of the Proving Ground. Records indicate that California Valley (Lophortyx californica) and Mountain Quail (Oreortyx pictus) were also released in the Huachuca Mountains in 1949 but there is no evidence of them remaining. Chukar Partridge were first liberated at Fort Huachuca in 1949 and since 1958 a limited artificial propagating program has been in progress. The future of the Chukar Partridge as a game bird to supplement the indigenous species looks promising, the principle obstacle in their introduction has been predators, especially Rock Squirrels destroying the nests. Ringneck Pheasant propagation has been purely experimental and their ability to adapt to this region has not been determined. Methods of habitat manipulation are studied to determine ways to increase quail production. Long range planning includes water improvements that will benefit upland game birds. Water for drinking and to provide green food during the breeding season is the most important single factor in increasing the supply of quail for recreational purposes.

n. Waterfowl: Migrant waterfowl appear in this area only by accident, therefore, ducks and geese are not included in the list of authorized game species to be taken at Fort Huachuca. Due to a lack of suitable water area the management of waterfowl is not considered in this plan.

o. Wild Turkey: Up until about the turn of the Century it is believed the Sierra Madre Turkey (Meleagris gallopavo mexicana) inhabited the Huachuca Mountains, it then disappeared. Since 1949 the Merriam Turkey (Meleagris gallopavo merriami) has been here as the result of transplants made by the Arizona Game and Fish Department. The Turkey population on Fort Huachuca has not increased enough to consider an open

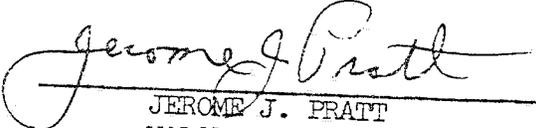
hunting season. Observations indicate that depredation is the limiting influence of the Turkey in the Huachucas since its population has never reached a high enough number to offset the annual losses. Management has been mostly protective in nature. Positive management procedures are limited only by availability of funds to provide supplemental production until the flock increases sufficiently to permit hunting.

REFERENCES

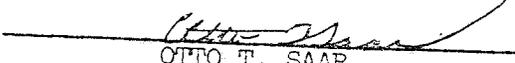
- a. Army Regulations 210-10; 210-221; 420-74; and 680-20.
- b. Public Laws 85-337 and 86-797.
- c. Code of Federal Regulations, Title 50.
- d. Arizona Revised Statutes, Title 17.

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