



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE  
WASHINGTON 25, D.C.

IN REPLY REFER TO:  
N16-PE

June 18, 1962  
Air Mail

Dr. A. Starker Leopold  
Museum of Vertebrate Zoology  
University of California  
Berkeley 4, California

Dear Starker:

As I promised to do some weeks ago, I am sending under separate cover a large packet of information pertaining to wildlife management in the National Park System. Copies of this letter and identical material are being sent to all the members of the Advisory Board on wildlife and game management of which you are the chairman.

The packet contains a great many things, and I hope all of them will be useful. Even so, I must admit that it is not entirely complete, as yet, and additional submissions will be made from time to time.

The enclosed typewritten statement entitled, "Summaries of Wildlife Conditions in Areas of the National Park System--1962" is an attempt to describe the current situation in those areas which we consider have special problems at this time. We will continue to review this subject and will add other summaries dealing with problem areas which may have been inadvertently overlooked. More specific information also will be submitted as it is obtained. I hope that you and the other board members will be sure to ask questions about any of the statements made or will call attention to any gaps in the information that has been provided.

You will note that some mention is made of fishery matters in the narrative reports on individual areas, and background policy information is included in the packet. Please let me know if the scope of your review will include a detailed study of fishery management and, if so, we will supplement this information substantially.

Considerable background material is contained in the packet of information sent, including a copy of Fauna of the National Parks of the United States, Fauna Series No. 2, printed in 1935. Statements are included describing the policy and programs of the National Park

Service pertaining to wildlife management as well as copies of letters and excerpts from letters from outside interests commenting on these policies and statements. The packet also includes pertinent news releases and other material which is self explanatory. A more complete report on the Yellowstone elk reduction program will be submitted in a few weeks.

We all hope you and the other Board members have an opportunity to visit many areas in the National Park System during the summer and fall. A set of leaflets on parks that we anticipate may be on your itinerary, and maps of the National Park System have been provided. Additional information will be sent on request. I am sure you will find the Park Superintendents, the Park Rangers and Naturalists, and all of the Service employees eager to help you and the other Board members in every way possible.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Gordon".

C. Gordon Fredine, Chief  
Division of Extension Services

Enclosures

Copy to: Dr. Stanley A. Cain  
Dr. Clarence Cottam  
Dr. Ira N. Gabrielson  
Mr. Thomas L. Kimball

SUMMARIES OF WILDLIFE CONDITIONS  
IN AREAS OF THE NATIONAL PARK SYSTEM - 1962

Region One - includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, Puerto Rico, and the Virgin Islands.

Virgin Islands National Park, St. John Island

The major wildlife problem in the Virgin Islands National Park is the mongoose. These are common to abundant throughout St. John Island and, undoubtedly, have an adverse effect on the native fauna. Limited control measures were begun in 1961, including trapping, shooting, and poisoning. Complete eradication of the mongoose and reintroduction of native species is the ultimate goal, but this is complicated by the fact that the Park comprises less than a third of the total island, and truly effective methods of control are just now being developed.

A few stray horses, donkeys, and a considerable number of more or less feral pigs are loose on the island. Local residents, both inside and outside the Park claim ownership of these animals, and a campaign of education as well as control is necessary and is being developed.

The marine environments adjacent to the Park as yet are not legally a part thereof. Protection of the marine fauna, particularly the rarer types and the coral formations, is largely by persuasion and education. As a management measure, the planting of 1200 young green turtles was made at Lesser Lameshur Bay in October 1961. The National Park Service cooperated with the government of the Virgin Islands, the Jackson Hole Preserve, and Mr. Archie Carr of the Tortuguero Turtle Hatchery in Costa Rica. Control of the mongoose is necessary if future turtle nesting is to be successful.

A sand fly control program has been initiated in a portion of the Park and is being watched carefully for adverse effects.

Buck Island National Monument

This small island off the coast of St. Croix Island also is infested with mongoose. Since this island is not inhabited by people, we have a good chance of eliminating the mongoose here without interfering with other uses. A control program has been developed in cooperation with the Bureau of Sport Fisheries and Wildlife, and will begin in April 1963.

Protection of the unique coral formations and marine life in waters adjacent to the island is one of the principal conservation

objectives. Skin diving and snorkeling for observation purposes is encouraged but spear fishing is looked upon as hunting, and is discouraged in the interest of maintaining a balanced population of fishes which are not made wary by spearing activities.

#### Blue Ridge Parkway, Virginia and North Carolina

Although wildlife is protected in this elongated area, hunting under State control on land adjacent to the Parkway is the primary management factor influencing abundance of these animals. The Parkway operates closely with the State officials concerned on all matters pertaining to wildlife protection and management.

A memorandum of agreement entered into on April 3, 1959, with the two States, provides that the Parkway Superintendent designate fishing waters and limitations. The States manage Parkway waters in accordance with normal practices used in the respective states, including fish stocking and management studies. By mutual agreement with the States, fly fishing only has been instituted on certain waters, and the elimination of rough fish has been accomplished in Price Lake and its headwaters, which were later restocked with trout. Arrangements have been made for rehabilitation of Trout Lake in Cone Park in the fall of 1962.

#### Cape Hatteras National Seashore, North Carolina

Waterfowl hunting has been permitted, as provided by law, during the past three seasons. The hunting has been managed by the National Park Service after the State of North Carolina declined to handle it. However, the State assists in law enforcement work. Good cooperation and public relations have prevailed.

By agreement with local owners, free ranging horses, cattle and goats have been controlled on Ocracoke Island.

Nutria have been observed on the islands of the National Seashore and their control is desirable. The private lands interspersed throughout the Seashore complicate this problem and State cooperation will be necessary.

An experimental mosquito control program has been initiated which involves water control primarily. Effects on other animals is being studied concurrently.



### Shenandoah National Park, Virginia

Deer and bear are potential wildlife management problems in this Park. Big game hunting is permitted on all lands adjoining the Park and such hunting helps to control populations within the Park, particularly during severe winters when deer move out into adjacent lowlands. There is no evidence, as yet, of overbrowsing by deer in the Park, but some complaints have been heard from orchardists near the Park because of damage they attribute to Park deer. Studies are needed in cooperation with the State to provide the facts on which future deer management, on a coordinated basis, can be based.

Black bear show signs of increasing in numbers and a few are beginning to raid campgrounds in the Park. Close adherence to the Service's bear management policy is expected to prevent the development of serious nuisance problems. So far, there has been no control or any other form of intensive management of deer and bear in this area.

During the winter of 1958-59, the Park cooperated with the local counties in a fox control program for the purpose of reducing the incidence of rabies. A very few foxes were trapped within the Park as a part of this campaign. At present the rabies problem has subsided somewhat and no further need for control of the fox population in the Park has been demonstrated.

The Park is sponsoring a "Fishing for Fun" program on the Rapidan and Staunton Rivers in cooperation with the Virginia Commission. Fisheries management in the Park is aimed at maintaining wild populations of native fish. A nine-inch limit is enforced which is criticized by some who want more fish to take home. The Park objective is to limit harvest of fish to within the productive capacity of the trout streams in the Park, most of which are marginal in productivity, without resorting to put-and-take stocking.

### Pea Ridge National Military Park, Arkansas

Complaints that "wolves" were present in this military park led to investigation which revealed that the animals are coyotes. A cooperative agreement was reached with the Arkansas Fish and Wildlife Commission whereby State trappers are permitted to trap coyotes in the Park during the current year. The quota for the year is a maximum of five; however, none has been taken as yet within the Park. The situation will be reviewed again next fall to see if control work needs to be continued.

#### Mammoth Cave National Park, Kentucky

During the 1930's, deer were reintroduced into Kentucky, including the Mammoth Cave National Park area. Following reintroduction, deer increased generally. In 1956 Kentucky opened its first deer hunting season in about 100 years.

In 1954 it began to appear that deer were becoming too abundant in the Park and the State Department of Fish and Wildlife Resources was asked to cooperate in a study of the situation. Deer browse studies indicated that there was overbrowsing of the vegetation and control measures should be initiated. In 1956 the counties adjacent to the Park were opened to hunting but the 1957 browse studies showed that overbrowsing continued. A cooperative agreement was reached with the State of Kentucky for a livetrapping program. Each year since 1957, deer in the Park have been live-trapped by the State and transported to other areas in Kentucky for release. An average of more than 200 deer per year has been removed in this way. Two hundred and seventy-one deer were live-trapped in the Park between October 1961 and March 1962. Continued removal by livetrapping, plus the possible lengthening of hunting seasons in areas adjacent to the Park will be necessary to maintain the deer population at compatible levels. Hunting in the counties next to the Park is restricted at present to three days for guns and thirty days for bow and arrow hunters.

No other wildlife control measures within the Park have been found necessary.

Pollution of the Green River by salt brines from upstream oil fields threatened the welfare of the aquatic resources in the 24-mile reach of the Green River within the Park and its underground tributaries. The salt content of the water became intolerable in 1959 and 1960, and the National Park Service cooperated with the State pollution control people and the United States Public Health Service in efforts to reduce the problem. Concern was felt for the welfare of the blind fish in the Mammoth Cave waters. Reduction of oil production and better disposal of brines have alleviated this problem, but it continues to bear watching.

#### Great Smoky Mountains National Park, North Carolina and Tennessee

Black bear continue to be a problem along the roads and in some campgrounds. See "Summary of Bear Management Activities, 1960-61."

No significant deer management problems have been encountered, as yet, and no control has been needed.

The Russian wild boar has become a problem in the Park. The rooting damage caused by this exotic species became so apparent by the late 1950's that a program of control was deemed necessary. In accordance with National Park Service policy, the objective is to eliminate this exotic species from the Park. Both livetrapping and shooting are methods used to control the animals. Between August 10, 1959, when the control program was started, and January 31, 1962, a total of 22 wild boars had been captured and transplanted to other areas in Tennessee in cooperation with the Game and Fish Commission. The Park will continue to trap and transfer as many trapped boars as possible to the states of Tennessee and North Carolina. In addition to the trapping program, a total of 36 wild boars have been shot by Park rangers during this period. Five of these were destroyed during the past winter. The Tennessee Game and Fish Commission has proposed that State managed hunts of wild boar be carried out within the Park in order to help satisfy the demand for boar hunting in that State.

The fishery management work in the Park is of particular interest. See the paper "Fishing for Fun Program on Trout Streams in Great Smoky Mountains National Park," by Lennon and Parker, 1960.

#### Everglades National Park, Florida

No significant deer or other wildlife control problems exist in this Park. Some concern has been felt regarding raccoon predation on nests of birds on some of the keys in Florida Bay. Several years ago, assistance was requested from the U.S. Fish and Wildlife Service to study this problem. A few raccoons were trapped but the study indicated that no serious problem existed and control has been discontinued.

In accordance with understandings reached at the time the Park was established, commercial fishing is permitted in Florida Bay. In cooperation with the State, commercial fishing methods used and the harvest permitted are regulated within sound sustained yield principles. The vast brackish water zone in the Park and other inshore water areas provide outstanding spawning or nursery grounds for fishes and shrimp. The value of this habitat in connection with offshore fisheries, particularly the Tortugas shrimp fishery, is well appreciated. Maintenance of the quality of this habitat in the face of the adverse influences of outside water-control programs and the encroachment on Park boundaries of municipal and industrial developments is a very serious problem.

Region Two - comprising the states of Colorado, (except Mesa Verde National Park and Great Sand Dunes National Monument), Iowa, Kansas, Missouri, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wyoming, and Dinosaur National Monument in Utah.

Glacier National Park, Montana

In 1954, the St. Mary elk herd numbered about 900 head. The range showed severe damage to plants resulting from overbrowsing and overgrazing. Range studies indicated that this herd should be reduced to a maximum of 250 head. During the first three winters of the management program, efforts were made to haze the elk out of the Park. This worked fairly successfully at first as the Indians harvested the elk on the outside. However, the elk later became accustomed to the hazing and refused to leave the park, after which direct control reduction was begun. A total of 200 elk were killed in the Park between 1955 and 1962. The kill outside the Park doubtlessly exceeded this number. It has been the practice to appoint four Indians as seasonal Park rangers to assist with the direct reduction work, and the Blackfeet Indian Tribal Council has cooperated to the extent of furnishing horses, gutters, trucks, and oversnow equipment. The State Fish and Game Commission does not participate in this management work although, of course, it is fully advised of the program. The Commission seems satisfied with the operation.

See the "Summary of Bear Management Activities, 1960-61," for data on black bear problems. During the past few years, grizzly bears have attacked people in the Park on three occasions with serious results but no fatalities. One individual sued the United States for damages approaching a half a million dollars and was awarded \$108,000, in total, by a U.S. District Court. The Park is intensifying its warnings to the public regarding the dangerous nature of grizzly bears, and all wild animals, but no control of other than known rogue animals is contemplated at this time. Of course, when a grizzly invades a campground or other populated place, the Park has little alternative other than to destroy the animal.

Yellowstone National Park, Wyoming, Montana, and Idaho

Special reports on the Yellowstone northern elk herd reduction program and management problem will be submitted. Elk summering on high ranges in southern Yellowstone will be covered in a report for Grand Teton National Park.

To summarize the past winter reduction operations, 297 elk were livetrapped and moved out of the Park, 13 were lost in trap accidents,

4,298 elk were shot by Park Rangers within the Park, and at least 448 winter-killed elk have been observed. Thus the total reduction amounted to 5,056 animals, plus 125 killed by hunters north of the Park boundary. A careful count of elk following the reduction program revealed a total of 5,725 remaining in the herd, including 3,100 animals just north of the Park boundary in Montana.

The bison reduction program resulted in livetrapping and moving 143 animals and killing 4.

For bear control activities, see the Summary of Bear Management Activities, 1960-61.

#### Wind Cave National Park, South Dakota

Elk and bison control work in this fairly large, fenced Park have been carried out over the past 25 years. The objective has been to maintain these populations within the carrying capacity of the range to support them. Visitors have an outstanding opportunity to observe these animals during the summer months. When reductions are needed, the animals are sometimes herded into adjacent Custer State Park, where they are slaughtered. In some years the animals are shot within the Park and hauled to the Custer State Park meat processing center. In recent years the State has taken all of the surplus elk and 80 per cent of the surplus buffalo. The Park's 20 per cent share of buffalo is distributed to Indian tribes in South Dakota, as designated by the Bureau of Indian Affairs. The good to excellent condition of the range in Wind Cave National Park as compared to Custer State Park and other adjacent lands is testimony to the effectiveness of this control work.

During the winter of 1961-62, 150 buffalo were removed by direct reduction in the Park.

No reduction of the elk population has been necessary during the past several years, but it is likely that this control work will need to be resumed within the next year or two. The cooperative agreement with the State of South Dakota for disposal of surplus animals through Custer State Park is up for renewal this year.

A surplus of antelope has built up and plans have been discussed with the State for removal by livetrapping.

Extensive prairie dog towns exist in the Park but no control has been necessary.

This is one of the areas in the National Park System where we have hoped to re-establish and protect blackfooted ferret populations. To date we have not found a source of animals for stocking purposes and none have turned up spontaneously.

#### Badlands National Monument, South Dakota

Relatively small populations of deer and antelope occur in the Monument and have not required control. However, following complaints from one rancher adjacent to the Monument, a deer reduction hunt was held by the State a mile or two outside the north boundary in December 1960. Eleven deer were taken.

Adjacent ranchers have begun to complain about deer and antelope which they claim move onto their lands from the Monument. However, the Monument staff believes that the relatively small populations of these animals do not require control.

#### Grand Teton National Park, Wyoming

The large Jackson Hole elk herd, a large part of which summers in the southern part of Yellowstone National Park and in the Teton National Forest, presents a very complex management problem. Winter feeding of large numbers of elk on the National Elk Refuge, administered by the Bureau of Sport Fisheries and Wildlife, and winter feeding grounds managed by the State, are attempts to offset the loss of winter range in Jackson Hole. However, the summer range in some areas of southern Yellowstone National Park and in Teton National Forest is suffering from overutilization. This complex problem is well discussed by Robert Bendt, National Park Service biologist, in a paper given at the 1962 North American Wildlife Conference, a copy of which is available to you. The results of the cooperative reduction work involved in opening part of the Grand Teton National Park to hunting, under the law passed in 1950, are given in Mr. Bendt's paper. The Service has agreed to open portions of the Park to hunting again in 1962. See News Release of May 7, 1962.

Bear control work in Grand Teton is reported in the "Summary of Bear Management Activities, 1960-61."

#### Dinosaur National Monument, Utah and Colorado

No wildlife reduction work has been carried on in the Monument, but the area recently has been the center of a controversy regarding hunting on Monument lands. Deer populations within the Monument are not considered to be excessive. However, range utilization by livestock grazing, as permitted under the laws establishing the Monument, complicates the picture.



Proposed minor boundary adjustments have stimulated debates respecting the movement of deer on and off the Monument and the extent to which Monument deer are subjected to hunting outside. In cooperation with the Monument, the Utah Fish and Game Department attempted two years ago to trap and mark deer in the Island park area of the Monument in order to obtain data on deer movements. Because of the open winter, only one deer was trapped and tagged. During the past winter, however, the project was resumed and 18 deer were trapped and marked through February 1962.

A small population of Rocky Mountain bighorn occurs in the Monument and was the subject of study by Mr. William Barmore under the direction of Dr. Jess Low of the Utah Cooperative Wildlife Research Unit.

#### Colorado National Monument, Colorado

The small bison herd in this Monument requires periodic reduction. Animals killed in connection with this program are given to the Ute or Navajo Indians. The first reduction program was held in 1942 and between 10 and 20 bison have been eliminated every few years. No other wildlife control work has been found to be necessary.

#### Theodore Roosevelt National Memorial Park, North Dakota

This is a relatively new park and management practices have been aimed at restoring populations of native animals and maintaining them at levels within the carrying capacity of the range. Natural populations of mule deer have been supplemented by the establishment of pronghorn, bison, and bighorn. The mule deer and pronghorn move on and off the area through the fence at will and hunting seasons adjacent to the Park tend to keep these populations in balance. Twenty-six bison were introduced into the South Unit about six years ago. The plan is to limit the bison herd to 200 animals in the South Unit and control of the herd will not be required before 1963 or 1964. Consideration is being given to stocking the North Unit with bison from this parent herd, which would further delay the need for other forms of herd reduction.

The State of North Dakota introduced bighorn from British Columbia about five years ago and, at its request, the South Unit of the Park has been stocked with bighorn surplus to the North Dakota propagation herd. The bighorn in the



South Unit are doing well and two rams were removed from the enclosure, where they are being held, for release in the North Unit. Further releases probably will be made in the North Unit in future years. It is anticipated that bighorn eventually also will be free to move on and off the Park as the population increases.

Coyote control outside the park boundaries has been carried out by the Bureau of Sport Fisheries and Wildlife in connection with its cooperative predator and rodent control program. No predator control work within the Park has been carried out and no problem exists at the present time.

#### Rocky Mountain National Park, Colorado

Control programs affecting deer and elk herds in Rocky Mountain National Park were initiated during the winter of 1944-45. The objective has been to maintain the populations within the carrying capacities of the ranges they use. Annual direct reduction activities have been continuous since the 1949-50 season. The Colorado Department of Game and Fish has cooperated with the Park in the direct control program since its initiation in 1944. The Department originally provided a small crew to assist the Park, provided the ammunition for the work, and disposed of the carcasses. Since the mid-1950's, an employee of the Department has assisted in the shooting activities as a Deputy Park Ranger. However, in 1961 the Colorado Game and Fish Department requested that its participation be terminated and this was agreed to by the Park. During the winter of 1961-62, 59 elk were killed in the Park and disposed of through channels of the U. S. General Services Administration. With the exception of a few carcasses that have gone to cooperating agencies for special research studies, all carcasses have been turned over to the Lowry Air Force Base, Denver. No deer reduction work was carried out this past winter or was believed necessary. The 1960-61 reduction program removed 143 elk.

The control program is aimed only at elk and deer herds utilizing winter range within the Park. Counts in December 1960 indicated that over 700 elk wintered in the Park. The specific objective is to reduce this herd eventually to a maximum of 400 until range conditions have improved. As to mule deer, the approximate total of 450 head that now winters in the Park appears to be optimum at the present time.

Region Three - includes Oklahoma, Texas, Arizona, New Mexico, and Utah (excluding Dinosaur National Monument).

Big Bend National Park, Texas

No wildlife control work has been practiced in this area during the past year, and no need for current control work has been demonstrated. During the past 10 years or so, a number of feral burros have been destroyed, and two cougars were destroyed. One of the cougars was considered dangerous to visitors; the other had been trailed into the Park after preying upon livestock on neighboring ranch lands. Efforts are being made to obtain more detailed information on burro control efforts and confirmation of the above cougar control reports.

Bryce Canyon National Park, Utah

No wildlife control work has been carried out. Moderate to severe overutilization of browse on deer migration routes has been observed, but no feasible control measures have been determined as yet.

Carlsbad Caverns National Park, New Mexico

No recent information available. Feral burros were eliminated at least 10 years ago. The area has small populations of deer, antelope and elk, but no range problems.

Grand Canyon National Park, Arizona

Mule deer on the South Rim have been subject to control during the past 17 years. During the past year range studies indicated that 167 deer should be removed from the South Rim during 1961-62. By May 25, 1962, a total of 70 deer had been livetrapped. Five of these were accidentally killed during the control operations, and the remaining 65 were turned over to the Navajo Indian Tribe for release on the Reservation. This work has been done in cooperation with the Bureau of Indian Affairs and The Bureau of Sport Fisheries and Wildlife, United States Fish and Wildlife Service. The Arizona Game and Fish Department is fully informed of the program, and assisted the program prior to 1960-61. Feral burro control in the Grand Canyon has been carried on for many years. A more detailed report on numbers removed will be provided later.

#### Lake Mead National Recreation Area, Nevada and Arizona

No wildlife reduction programs have been carried out and none are believed to be required.

Feral burros have been subjected to control, off and on, during the past 20 years. In 1961, eight permits were issued to capture burros alive, for a total of 110 animals. However, at most, 14 burros were captured under these permits.

Wildlife management, including hunting, is regulated in this area by the Nevada and Arizona game departments in cooperation with the National Park Service. Limited hunting has been carried out under this arrangement.

#### Mesa Verde National Park, Colorado

An overabundance of mule deer has been apparent during the past 10 years. Between 1952 and 1956, a total of 139 deer was removed by livetrapping and release outside the Park. In 1961, the Park urged the Colorado Fish and Game Department to hold an extended open season on deer in surrounding areas. A 15-day extended season was opened following the regular deer hunting season. This move was very successful, and a satisfactory harvest of deer was accomplished outside but immediately adjacent to the Park. This reduction relieved deer abundance sufficiently so that no direct control action within the Park is considered to be necessary at the present time.

#### Organ Pipe Cactus National Monument, Arizona

No wildlife control work has been conducted and none is believed to be required.

#### Platt National Park, Oklahoma

No wildlife control has been required in this relatively small area, but recent reports indicate that some nuisance beaver may have to be removed.

#### Saguaro National Monument, Arizona

No wildlife control work has been conducted and none is believed to be required.

### Zion National Park, Utah

A complex deer problem exists in this Park. In 1937, the Zion Canyon portion could be characterized as "deer-devastated." Sporadic and most small-scale control operations have been carried out, but the lower density of deer numbers in the canyon at present possibly is due to food-plant scarcity rather than the control work.

An area known as the "Rock Pasture," about 640 acres in extent, is in particular need of protection from deer overutilization at present. This is a remote area and is located along one of the main deer migratory routes. Studies over the past 10 years show that deer utilization of browse has been severe and the preferred species are in danger. Because of the shifting nature of the deer population that uses this area, no feasible control plan has been developed as yet short of a general deer reduction program both inside and outside the Park.

Heavy hunting pressure in the East Zion Unit outside the Park and on inholdings in the Kolob section is having a controlling influence on the overall deer population. Predation in the Parunuweap and Kolob sections also is helping to limit deer populations. However, a thorough review of the current situation apparently is needed on which to base future management.

Region Four - Washington, Oregon, California, Idaho and Nevada  
(except Lake Mead) Alaska and Hawaii.

Death Valley National Monument, California

No wildlife control work has been carried on or required. The feral burro is subject to control to keep population levels compatible with range carrying capacity and the conservation requirements of native animals and plants. Complete elimination of burros is not planned inasmuch as they have a certain historical significance in Death Valley. (See Welles & Welles, The Bighorn of Death Valley, 1961, for a discussion of the burro situation and control needed.)

During the winter of 1961-62, a quota of 250 feral burros was scheduled for removal by a skilled trapper and stockman. Through February 23, 1962, 100 burros had been captured and removed. These animals are domesticated after capture and used for pack strings and, in the case of younger and gentler ones, as pets.

Yosemite National Park, California

The problem of deer overabundance in Yosemite is a very localized one and does not involve many animals. Normally, the deer in the park migrate out in the fall and drift back in when the snow leaves in the spring. The localized deer problems arise due to individual deer that because of feeding and frequent attention by visitors become year-round Yosemite Valley or Mariposa Grove residents. These resident deer refuse to leave in the fall. When these beggar deer become numerous much damage is done to vegetation, but this damage is localized. Two years ago the Park removed about 40 deer from Yosemite Valley and Mariposa Grove. These deer were immobilized with a Cap-chur gun and removed to other sections of the Park where they could return to their normal wild state.

Hunting in areas outside the Park and predation inside the Park (coyotes are numerous but cougars are scarce), are depended upon to maintain the population at an acceptable level. Malnutrition is probably the major cause of mortality among the old and very young deer, and the unborn deer.

Sequoia-Kings Canyon National Parks, California

The mule deer situation in Sequoia-Kings Canyon is similar to that in Yosemite National Park. For the most part the deer migrate out of the Park in the fall and early winter where

they are subjected to hunting. A combination of hunting pressure and cougar predation within the Park serve to keep the deer population in balance with its environment. However, Giant Forest, in Sequoia National Park, is a problem area inasmuch as deer feeding by visitors tends to maintain a resident herd in this area above the capacity of the food supply to support it. The presence of many people also discourages predation. As a result, serious damage was done to the understory and ground cover in Giant Forest. Efforts were made to control this resident population in 1944 and in 1948, but in 1955 an annual program of reducing the Giant Forest deer herd was initiated. Removal by shooting of 75 to 125 deer per year, since 1955, has resulted in a definite response of vegetation which is most encouraging. In 1961, 24 deer were removed through October. A quota of between 75 and 100 deer is to be eliminated during the period May 15 to October 20, 1962. All deer killed are field dressed and turned over to public institutions for consumption through the cooperation of the local California Department of Fish and Game employees.

#### Lassen Volcanic National Park, California

The summer range for mule deer in the Park is suffering severely from overutilization by the deer. Hunting outside the Park has been depended to keep the herd in check but this has not been completely effective. Very few deer winter in the Park. No control program in the Park has been initiated, as yet, but consideration is being given to developing such a program, perhaps by livetrapping and removal. A more adequate harvest of deer outside the Park would be a most helpful solution, but recent attempts to schedule a doe season in the lower areas to the west of the Park met with violent negative reaction on the part of influential sportsmen. A 1962 doe season is scheduled again by the State for consideration by county officials and for recommendations to the California Fish and Game Commissioners.

The State has cooperated with the Park in the construction of four deer exclosures to determine the effects of overpopulation of deer upon Park vegetation. These studies are continuing and Regional Research Biologist Richard Prasil of the National Park Service's San Francisco office is expected to participate in range studies this summer.

### Lava Beds National Monument, California

Lava Beds suffers intermittent overuse by deer depending upon movements into the Monument from the higher elevations to the south during severe winters. The Monument lands are on the fringe of the area used by the so-called interstate deer herd, the winter and summer ranges of which have been more or less seriously overbrowsed. California and Oregon State game managers have recommended increased hunter harvest of this herd during open seasons. No control work within the Monument has been carried out or recommended.

### Olympic National Park, Washington

Aside from a minor black bear problem, no wildlife species have required control or presented serious problems in Olympic National Park. The Roosevelt elk population, which is hunted on surrounding lands, does not require special control work at this time. There has been some criticism in regard to hunter access through public lands to open hunting territory, but this is disappearing as county and logging roads are extended in lands adjacent to the Park. A fair cougar population exists and exerts some influence on the deer population which, together with hunting outside, is maintaining fairly stable conditions.

### Areas in Alaska

Aside from the occasional need to control bears, no management control of wildlife in the Alaskan areas has been necessary in Mt. McKinley National Park or Katmai and Glacier Bay National Monuments. State officials sought to open both Katmai and Glacier Bay National Monuments to hunting and trapping in 1961, but they were convinced by the State Attorney General that this could not be done without the consent of the United States. A summary of statements made by Alaskan State officials on this matter will be supplied.

### Hawaii Volcanoes National Park, Hawaii

The wildlife management activities have been limited to the control of feral goats and pigs in the interest of maintaining the native flora and fauna. Control of the goats and pigs has been carried out more or less continuously since 1937. Complete extermination of the goats is desirable, but because of the nature of the terrain and the constant influx of goats from outside the area this is not a practical objective.



However, in 1961 and so far in 1962, a total of 2,036 goats has been destroyed within the Park.

Feral pigs fall into a slightly different category. Their complete extermination is not an objective since these animals arrived with the Hawaiians and are now considered a part of the Hawaiian native scene. However, it is necessary to control their numbers in order to prevent damage to the forest floor. In 1961 and so far in 1962, 366 pigs have been destroyed in the Park.

The mongoose constitutes a problem and is an exotic. It is so common that its total extermination is considered to be extremely difficult. The only control being considered at the present time is in the vicinity of nene inclosures which have been established within the Park in order to assist in the restoration and conservation of this species. The nene work is being carried out in cooperation with the Hawaii Division of Fish and Game and the Bureau of Sport Fisheries and Wildlife.

Region Five - comprising the States of Connecticut, Delaware, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

Morristown National Historical Park, New Jersey

Virginia whitetail deer exist in this Park but hunting in surrounding areas controls its abundance. About five years ago some concern was felt over an outbreak of disease among deer in this general area but it has subsided.

Isle Royale National Park, Michigan

Moose have been known to overutilize preferred browse species on the island. With the advent of the timber wolf into Isle Royale about 1949, predation by these animals, who subsist primarily on moose, has had a stabilizing effect on the moose population. Moose browse studies have been conducted intermittently by a research biologist of the Bureau of Sport Fisheries and Wildlife for approximately the past 10 years. For the past three years a study under Dr. Durward Allen on the wolves of Isle Royale has revealed that a fairly static population of approximately 20 animals exists there now. Evidence from the continuing browse studies indicates that the range is improving at the present time, and that a reasonable balance apparently has been reached between the moose and wolf populations.

Acadia National Park, Maine

The big fire in the mid-1930's on Mt. Desert Island has influenced severe fluctuations in the resident deer population. Improved browse conditions after the fire helped to stimulate a great increase in deer abundance. There is no hunting on the Island so there has been no control of the deer population other than by limited poaching. When it became apparent that deer were overutilizing and adversely limiting reproduction of native trees, such as the white cedar, a deer control program was initiated by the Park in 1960. Livetrapping and the use of the Cap-chur gun were not effective and resulted in the removal of only two animals. Sixty-five deer have been shot by Park rangers. The quota to be removed at this time is set at approximately 180. This reduction program must continue unless hunting adjacent to the Park is permitted. During the last State legislature, an effort was made to open Mt. Desert Island to deer hunting (excluding the Park) but it was defeated.