

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
National Park Service

National Parks and Wildlife  
By Joseph S. Dixon, Field Naturalist,  
National Park Service.

Since the national parks were set aside to preserve their outstanding natural features unimpaired for the benefit of future as well as our present generation, protection becomes a primary and major function of the National Park Service. This is particularly true with regard to the endemic plant and animal life found in our national parks, especially of those native species that have been exterminated from their former habitats by encroaching civilization. Many species have thus escaped impending extinction by persisting in areas that have subsequently been made national parks, which have become veritable "cities of refuge" for them.

Facts are indispensable to sound procedure. The National Park Service has therefore taken steps to have one "wildlife" ranger appointed in each national park whose primary duty is to keep the Park Superintendent and the Wildlife Division informed as to plant, fish and all other wildlife conditions in that park. Such a wildlife ranger must have a native or natural interest in, and field knowledge of, the animal life in that national park. He must also keep in close touch with all the other rangers of the park so as to be able to report their wildlife findings. Through the cooperative efforts of the entire ranger force, an annual census is taken of the larger birds and mammals in each national park. The method used is to count the number of deer, elk or bear in typical areas of known size or acreage and upon these counts is based the estimates which are gotten out each year. It has been our experience that if the same area is covered each season by the same man at the same time of year, accurate comparable results are obtained. It is the comparative yearly numbers that is most important. After having counted game birds and mammals for forty years, I refuse to report that one national park has 667 Franklin Grouse or that another national park has 1,871 Sierra Grouse, for in my experience this is a greater degree of exactitude than the facts warrant. In a similar manner, there may be 267 moose in a certain national park but there might be a few more or less.

Probably one of the most exact censuses recently taken is the winter count of the Kaibab deer herd. Here, following a fresh fall of snow, with national forest, national park and Arizona state game officials cooperating, it has been possible, with an adequate number of riders, to cover the main winter range and to count most of the deer in a given area. But even on the Kaibab there is room for difference of opinion as regards total numbers.

However, one fact is generally agreed upon by all parties, which is that preservation of habitat including food, shelter and safe breeding places is essential to the continued existence of any species. The need for preservation of the various types of ecological habitats is essential if we are to maintain any adequate supply of native wildlife in our national and state parks. This is the reason why the major portion of the time and efforts of the Wildlife Technicians of the National Park Service has been spent in examination and study of possible and probable effects of the hundreds of projects that are proposed each year in our national and state parks. The inter-relation of living animals are also studied by our wildlife technicians. Thus one man is giving special attention to a study of the food habits of the coyote in Lava Beds National Monument, and another to a study of the food habits of the coyote in the Yellowstone region.

Another example of great importance has been forage problems of deer in Yosemite, Sequoia and in Zion National Park. In all three areas mule deer have increased until they have become so numerous that they have threatened to destroy certain native plants and shrubs which are most palatable to deer and hence their preferred food. When the most desirable food is exhausted the deer turn to the less palatable food plants. In order that we may have some "yardstick" by which we can measure this "deer pressure" on native vegetation, we have erected, through the help of CCC enrollees, a series of small selected fenced areas or plots in representative forage areas on the floor of Yosemite Valley, as well as in Sequoia National Park and at other critical areas. These sample plots are small, usually being 50 feet square, and are fenced so as to exclude deer but to admit small mammals and birds. Some surprising results have already been shown by these fenced plots. Thus the first season after the plot had been fenced at the lower margin of the Bridal Veil Meadow in Yosemite, I found that the deer nipped off and ate 80 per cent of the heads of the cow parsley just as the flowers started to unfold while inside the fenced area none were destroyed. In a similar manner, the second season I found by actual count 60 fine, healthy plants of the Small Tiger Lily (Lilium parvum) in full flower inside the fence and only four flowering plants of this species could be found outside the fence where they formerly had been equally numerous. Similar surprising results have been noted and recorded in other fenced sample plots.

Another important phase of ecology study in Yosemite is carried on by the Yosemite School of Field Natural History. Each year a group of twenty graduate students chosen from universities from all over the United States, gather for six weeks of intensive field work in Yosemite. Three weeks out of the six are spent in special ecological study. Each year a special area is chosen on our Boundary Hill reserve area. In this selected area a detailed study is made of every living thing found there, starting with geology and soil formation and continuing on up through plants, trees, insects, amphibians, birds and mammals. The location, kind and size of each growing tree, shrub and plant is accurately plotted on graph paper. Photographs are taken and the whole finished report is placed in permanent file in the Yosemite Museum. Not only does this give definite data for present administrative use but it also provides accurate, detailed

information for the future. Thus it will be possible in 1997 by consulting this permanent record to learn just what the conditions were there in 1937. An accurate record of conditions as they existed on the floor of Yosemite Valley in 1837 would be priceless to us today.

In our national parks we are making special efforts to preserve for present and future generations such vanishing typical North American mammals as bison, bighorn, wolverine, timber wolf, fisher and pine marten. Let us examine into the areas that offer possible hope for the future for certain of these species. Let us take the grizzly bear and timber wolf as examples of large carnivorous animals which cannot well be maintained on the open cattle ranges of the west because of their destructiveness to domestic livestock. The grizzly bear which was selected as the state animal of California was formerly one of the best-known and most widely distributed species of mammals in California. Yet, through the coming of civilization and the settlement of the state, this, the outstanding mammal of California, became extinct in practically one generation. In my study and investigation of the faunas of the national parks of the west I find only two; Yellowstone and Mount McKinley National Parks, that have sufficient size, climatic conditions and practically an adequate natural food supply to insure perpetuation of a breeding stock of grizzly bears and timber wolves. Even California with its four national parks was unable to save its native grizzly bear from extinction.

Fortunately in the case of the Trumpeter Swan, steps were taken in time to preserve this largest living North American waterfowl from impending extinction. Not only has this rare species received special protection in Yellowstone National Park but through the coordinated work of the Biological Survey critical areas in the Red Rock Lake area have been secured as federal wildfowl sanctuary. The future home and existence of the Trumpeter Swan now seem definitely assured.

In a similar manner the Rocky Mountain Bighorn, including the various geographical races, needs protection for the future for it has been killed and greatly reduced in numbers over much of its former range.

I wish to place the greatest possible emphasis on the need for preserving the ecological niche or habitat of the animal that is to be preserved. No animal lives entirely by itself alone. It is dependent upon many other factors involving other plants and other animals, including man.

Our aim in national parks is not only to preserve certain native trees and animals but also to preserve the whole original primitive picture by permanent preservation of typical native plant and animal communities. Such native communities are valuable sources of scientific data that will be increasingly difficult or impossible to obtain elsewhere. The need for such areas is keenly felt by the biologists of today and future generations probably will feel their need even more keenly. I therefore firmly believe that the human need for, and value of, such primitive plant and animal communities will be greater in the future for the education, inspiration and enjoyment of the people than it is today.

If we are to effectively insure the future of our outstanding native wildlife three steps are necessary:

1. We must see that an adequate pure native breeding stock of the species is preserved and maintained to insure its future.
2. Not only must the species itself, but the accompanying plant and animal community or ecological background be preserved to insure proper preservation of the animals.
3. There must be adequate technical supervision of men trained in this work which should not be turned over to a construction or camp foreman. Wildlife management calls for wildlife training and experience.