



# DEPARTMENT OF THE INTERIOR

## INFORMATION SERVICE

FISH AND WILDLIFE SERVICE

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PHOTOS available from Fish and Wildlife Service.

MANAGER OF NATIONAL WILDLIFE  
REFUGE A JACK-OF-ALL-TRADES

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NOTE TO EDITORS: This is the second of a series of feature stories explaining the work of the Fish and Wildlife Service, which will be issued from time to time. A few copies of the first feature, on Food-habits investigators, are still available. Photos to illustrate this story are available from the Fish and Wildlife Service, United States Department of the Interior, Washington, D. C.

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In 1934 a creek meandered through the marshy meadows in Bennett County, South Dakota. One year later a wildlife refuge manager of the Fish and Wildlife Service, United States Department of the Interior, moved in with a small crew of workmen. Presto! An unimportant duck-producing area became a big-time wild duck factory.

By 1940, ducks nesting on a 9,000-acre marsh of what is now the Lacreek National Wildlife Refuge in Bennett County produced 25,000 young. The nesting ducks were attracted by setting up a network of dams, lateral dikes, diversion ditches, and water-control structures all over the meadows.

This business of developing areas that are suitable for various forms of wildlife and that encourage the wild creatures to multiply and replenish their stocks or provide safe resting and feeding areas along migration lanes or wintering

grounds, is going on every day in all sections of the country. Many of the refuges were established primarily for the protection of one particular species, but all refuges protect any form of wildlife found on the area.

On the Lacreek Refuge, the principal forms protected are wild ducks and fur animals. The Charles Sheldon Refuge in Nevada is important primarily for antelopes; the Aransas Refuge in Texas for waterfowl and whooping cranes; the Moosehorn Refuge in Maine for woodcock; the Mattamuskeet Refuge in North Carolina for Canada geese; the Blackwater Refuge in Maryland for ducks and muskrats; and the Cabeza Prieta Refuge in Arizona for bighorn sheep.

#### Lots of Jobs for One Man

Wildlife refuges are becoming increasingly important. As the United States was settled, cities, villages, and farms were established on lands that were formerly occupied by wild birds and mammals. While the wildlife habitat was being usurped, the number of hunters was increasing. The result was inevitable: wildlife populations decreased.

Now most of the species are coming back again and are doing well. Restricted hunting is an important factor in the increased animal population. The system of national wildlife refuges, too, plays an important part in the recovery of the birds and mammals, for on these areas attractive wildlife habitats are maintained and the animals are protected from hunter's guns throughout the year.

Keeping an area suitable for wildlife is a job requiring the services of a biologist, a farmer, an engineer, a businessman, a mechanic, a maintenance man, and a public relations man. And all these people are one person, the refuge manager, of whom there are only about 60 employed full time to develop the 266 national wildlife refuges in the continental system administered by the Fish and Wildlife Service.

### Creates Marshes with Dams

The Lacreek Refuge provides a good example of how a refuge is developed and operated so that an area which had little value either for wildlife or for farming purposes is transformed into a marsh that is a wildlife haven of considerable importance.

When the preliminary investigations were made in South Dakota, Fish and Wildlife Service biologists saw a creek twisting through the hay meadows. The creek ran into a small marsh that served as a nesting area for a few ducks and also harbored a small number of muskrats.

Convinced that an excellent waterfowl nesting ground could be developed, the Refuge Division assigned a manager to the area and told him to go to work.

The refuge manager first decided what type of habitat could advantageously be developed to meet local conditions.

Then plans were drafted for a series of dams, lateral dikes, and diversion ditches. Soon crews of WPA and CCC workers were working on the South Dakota refuge under the direction of the manager. Dams and dikes were built; a diversion ditch was dug; and water-control structures were installed to regulate the water level.

Shortly, 9,000-acres in the Bennett County meadows were flooded.

Of course, it's no use having 9,000 acres of water for a waterfowl nesting ground if the wildfowl won't come there. And they won't use the area until there is food. This means the manager must know what kind of food to plant on the refuge.

### Farming Important Duty

He must know, for example, that eelgrass will not grow in South Dakota because that plant grows only in brackish or salt-water marshes. He must also know that eelgrass is an excellent food for brant but that these birds are not found in the interior of the county.

This "working knowledge" is essential because the manager must put into practice the recommendations made by Service scientists who specialize in various phases of game management and advise the refuge manager how to deal with his particular problems.

Not only must the manager know what kinds of plants a particular duck eats, but he must know in what depth of water the plant will grow best.

When the dikes, dams, and aquatic plants have created a suitable marsh for the waterfowl, the manager must begin farming operations, whether he deals with upland game birds, big-game animals, or migratory waterfowl.

The farm crops supplement the aquatic vegetation or woodland food used by the various forms of wildlife. Once again, the manager must rely upon himself to get the work done. The manager of the Sand Lake Refuge in South Dakota has a large acreage devoted to raising corn, sorghum, wheat, and barley. These fields serve as feeding grounds for the wild ducks, geese, and pheasants using the refuge.

At the Sacramento and Tule Lake National Wildlife Refuges in California, the managers have developed extensive farming areas to keep the thousands of birds frequenting the refuges from feeding excessively on adjoining farm fields.

#### Must Know Birds, Game Laws

Once his area is going well, the manager then has the problem of keeping it in good condition, checking dams for leakage and repairing any breaks caused by the elements or by over industrious beavers and muskrats.

When one animal preying upon another threatens the existence of the second animal on the refuge, the manager must be able to direct control measures that will prevent excessive depredations. That requires a knowledge of the predator's peculiar habits and ability to catch the offender.

On many of the refuges, particularly those with marsh areas, the managers must know something about fur animals. If muskrats thrive in a marsh, it is often necessary to trap the surplus stock. And here the manager relies upon his trapper-hunter experience. Incidentally, it may be noted that muskrats are usually helpful to waterfowl by digging up plant foods that the wildfowl eat.

During the spring and fall the manager observes the bird migrations for scientific purposes, and in January he participates in the Service's annual waterfowl inventory. His knowledge of ornithology is required to help him recognize the various species of birds he sees and estimate their numbers. Throughout the year he must be alert for game-law violators who trespass on the refuge or operate in the vicinity of his area. He must know the game laws to be able to recognize violators.

#### Refuges Producing Wildlife

Today, more and more of the continental waterfowl are utilizing the resting, nesting, and wintering grounds that comprise the nation-wide system of national wildlife refuges. Of greater importance, more and more birds are nesting on these areas and producing more birds, and many big-game animals are thriving under the favorable conditions that are being created.

All forms of wildlife, in fact, are being provided with suitable living quarters, and the refuge managers are responsible for the development of these wildlife havens.

Federal refuges are not the only important wildlife-producing areas, but they are among the more important in this country. And the refuge managers are not solely responsible for the tremendous increases in wildlife population that have been recorded in recent years. But anyone familiar with wildlife-conservation work knows that these jacks-of-all-trades play an important role in the salvation of what once was an apparently doomed natural resource--wildlife.