

South Dakota State University

Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange

SDSU Extension Special Series

SDSU Extension

10-1979

Endangered and Threatened Species in South Dakota

Alan W. Wentz

Cooperative Extension Service
South Dakota State University

Follow this and additional works at: https://openprairie.sdstate.edu/extension_ss

Recommended Citation

Wentz, Alan W. and Service, Cooperative Extension, "Endangered and Threatened Species in South Dakota" (1979). *SDSU Extension Special Series*. 119.
https://openprairie.sdstate.edu/extension_ss/119

This Other is brought to you for free and open access by the SDSU Extension at Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in SDSU Extension Special Series by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact michael.biondo@sdstate.edu.

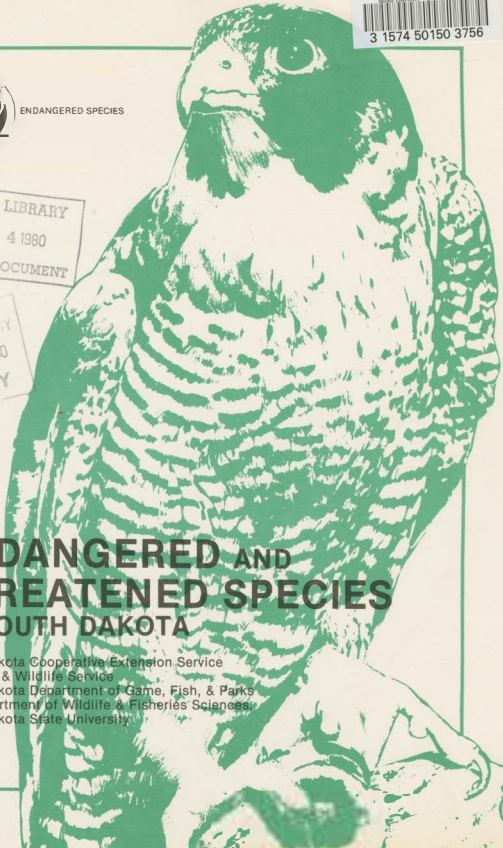
SDSU LIBRARY - BROOKINGS, SD
3 1574 50150 3756



ENDANGERED SPECIES

SDSU LIBRARY
SEP 4 1980
STATE DOCUMENT

SOUTH DAKOTA
STATE UNIVERSITY
OCT 14 1980
LIBRARY



ESS 27A

ENDANGERED AND THREATENED SPECIES IN SOUTH DAKOTA

South Dakota Cooperative Extension Service
U.S. Fish & Wildlife Service
South Dakota Department of Game, Fish, & Parks
and Department of Wildlife & Fisheries Sciences
South Dakota State University

630.732
6087.72
ESS # 27A



ENDANGERED AND THREATENED SPECIES IN SOUTH DAKOTA

W. Alan Wentz
Extension Wildlife Specialist
South Dakota State University

"Rare" and "unusual" plants and animals have always fascinated people. Humans usually assign high values to things that are rare as opposed to things that are common. Consider, for example, the present values we assign to gold and diamonds in relation to the value we give to gravel.

For the same reasons rare animals and plants have been sought after by humans. Early explorers often returned to their native lands with live or dead specimens of exotic animals. Not many years ago women in the eastern United States sought to adorn their clothing with the unusual feathers of plumed birds, such as egrets and herons, that lived in the Gulf Coast states. Even today people pay large sums of money to obtain items made from rare plants and animals, such as scrimshaw, leopard skin coats, and exotic cactuses.

In modern-day society, we have provided legal protection to items that are rare and in demand by humans. Without this legal protection these rare items may become completely depleted, or in the case of living organisms, extinct. Once a rare item is totally depleted, or extinct, all present and future economic values are gone, forever. With renewable items, such as plants and animals, proper protection and management will allow the organism to remain in existence and to provide economic and other values into the future.

In the 1960's and 1970's the United States government began to recognize the values of rare plants and animals to society. This has resulted in a series of laws to protect rare species that we have legally defined as "endangered" or "threatened." The Endangered Species Act of 1973 has been the most important legislation protecting rare plants and animals thus far.

The Endangered Species Act

The Endangered Species Act became effective on 28 December 1973 and was significantly amended in 1978. The Act and its amendments cover all species, both plants and animals. Protection is provided to any species threatened by any of the following:

- 1) The present or threatened destruction, modification, or curtailment of the species' habitat or range;
- 2) Over-utilization for commercial, sporting, scientific, or educational purposes;
- 3) Disease or predation;
- 4) The inadequacy of existing regulatory mechanisms; and
- 5) Other natural or man-made factors affecting its continued existence.

Species may be classified as **endangered** or **threatened** under the Act. Endangered species are those in danger of extinction throughout all or a significant

part of their range. Threatened species are those that are likely to become endangered within the foreseeable future throughout all or a significant part of their range.

The law is designed to provide a means to conserve the ecosystems upon which endangered and threatened species depend, to provide a program for the conservation of such endangered and threatened species, and to take such steps as may be appropriate to achieve the purposes of the agreements on these species that exist between countries. The Act also provides for land acquisition and financial assistance to states and foreign countries to protect and manage endangered and threatened species.

There are a variety of restrictions relating to endangered and threatened species of plants and animals. For example, it is unlawful for any person to import, export, sell, or ship in interstate or foreign commerce, harass, harm, or capture any endangered wildlife within the United States and its territorial seas or on the high seas; it is also unlawful for any person to violate any established regulations that apply to threatened species. All of the restrictions apply to both live and dead individuals, and to any parts or products made from or including parts of the species. It is unlawful to import, export, ship, or sell endangered plants

or their parts in interstate or foreign commerce.

Under certain circumstances, a person can obtain a permit to import, export, take, ship, hold, etc., endangered or threatened species, including parts or products. These permits can be obtained on the basis of "economic hardship" (issued only during the first year after a species is considered for listing) or for scientific or propagation purposes (issued only to highly qualified scientists or others of recognized qualifications who are attempting to contribute to the survival of the species).

The Endangered Species Act is administered by the U.S. Secretary of the Interior through the Fish and Wildlife Service and its Office of Endangered Species. Marine species are managed with the cooperation of the National Marine Fisheries Service. Enforcement of this Act and provisions of the Convention on International Trade in Endangered Species of wild fauna and flora that pertain to the import or export of terrestrial plants is conducted by the U.S. Department of Agriculture.

State laws protecting endangered and threatened species

In South Dakota 30 species are currently classified by state law as endangered or threatened. This also includes all species classified by federal law as endangered or threatened.

According to South Dakota law, an endangered species is "any species of wildlife or plants which is in danger of extinction throughout all or a significant part of its range other than a species of insects determined by the Game, Fish and Parks Commission or the Secretary of the United States Department of Interior to constitute a pest whose protection under this [law] would present an overwhelming and overriding risk to man." A threatened



The black-footed ferret and black tailed prairiedog are predator and prey. Widespread poisoning campaigns against the prairie dog brought the ferret to near extinction and greatly reduced its known range. Today the few remaining ferrets are dependent upon our tolerance of prairiedogs, which are still being poisoned



species is classified as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

Species needing protection may be added to the state list by the Department of Game, Fish and Parks as necessary. This is done after a species is determined to be endangered or threatened by 1) publishing notice of this action, 2) notifying adjoining states that the species will be added, and 3) allowing 30 days for public comment. Public involvement is sought during all stages of this process.

State law prohibits the possession, transport, or sale of any endangered or threatened species except under special permit. Permits for scientific, zoological, or educational purposes, or for propagation in captivity are applied for through the Department of Game, Fish and Parks.

Why species are endangered

Until about 1600, various animal species of the world become extinct at a rate of about one species every 50 years. Recently the rate of extinction has increased to nearly one species per year and it has been estimated that by the year 2000 nearly 100 species will become extinct each year. In the United States 47 species of animals became extinct between 1700 and 1970, but 25 of those (53%) vanished between 1920 and 1970. The fact is that although species do become endangered and eventually extinct naturally, we humans have accelerated this process.

There are many reasons why individual species have become endangered. Most of these reasons can be classified as environmental change, intentional human control, and market exploitation.

Environmental changes caused by humans are the primary reasons why species have become endangered. These changes have included such things as habitat destruction, land management practices, introductions of exotic organisms, chemical pollution such as with pesticides, herbicides, and fertilizers, and a great variety of other changes. Many of the animals that are endangered have very sensitive habitat requirements, and even slight changes in the environment create problems for them.

Habitat destruction takes on a variety of forms. Draining and filling of our natural wetlands and the channelization and damming of our streams and rivers are two of the most permanent forms of habitat destruction. Clearing of woodlands and plowing of native prairie are also destructive. Habitat destruction can take many forms, but in all cases it destroys the food, cover, and other things that wildlife needs to survive.

Other kinds of environmental change such as pollution have also affected wildlife. While many kinds of chemical pollution lead to habitat destruction, some forms of pollution have had direct effects on wildlife. One of the best examples of this direct effect came from the use of the chemical DDT, an insecticide. Widespread use of DDT caused large reductions in many species of wild animals. DDT (and some other insecticides) caused physiological changes in birds such as brown pelicans and peregrine falcons. These physiological changes caused problems in reproduction and direct deaths in some species. A number of species of birds were classified as endangered or threatened due to these pesticides. Because of this and dangers to humans, DDT and most closely related insecticides have been banned in the United States and many other countries.

Intentional human control has

placed a number of species on the list of endangered and threatened organisms. Wolves and grizzly bears are two obvious examples of animals that were intentionally controlled. A few species have become endangered as a side effect of the direct control of another species. The endangered black-footed ferret suffered because of intentional poisoning of prairie dogs, the ferret's primary food source. Today, prairie dogs have been poisoned out of most of their original range and the black-footed ferret is the rarest mammal in the United States. Some populations and whole species of prairie dogs have become endangered or extinct due to intentional poisoning.

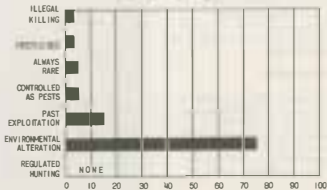
Market exploitation has put a number of plants and animals on the list of endangered and threatened species. Some whales, sea turtles, alligators and crocodiles, spotted cats, and numerous other species of animals have been reduced to endangered or threatened status due to commercial exploitation. Even some species of plants, such as ginseng and various

cacti, have been over-exploited for commercial gain.

No discussion of why species are endangered would be complete without mention of hunting and trapping. Hunting and trapping are often blamed for causing the rarity of many animals. In the distant past there can be no doubt that guns and traps were sometimes used as instruments to eliminate animals during intentional human control and market exploitation. However, sport hunting and trapping have never caused the extinction or endangering of any species in the United States. Quite to the contrary, species that are hunted and trapped for recreation are among our most common forms of wildlife. The modern science of wildlife management regulates sport hunting and trapping so that only the harvestable surpluses of animal populations are taken. Indeed many of the techniques learned in the management of animals that are hunted are now being used to help preserve endangered wildlife.

In the final analysis the proper preservation and

HOW RARE AND ENDANGERED SPECIES GET THAT WAY



management of habitat are the salvation of endangered and threatened species. Without appropriate habitat these and all other species will not survive.

Habitat: The primary need

The Endangered Species Act recognizes habitat as the primary need of all endangered and threatened species. The habitat of a species must include all of the things necessary to the survival of that species—food, shelter, and water.

A species' habitat needs may be relatively simple or very complex. Resident animals (those that live in one area all year) usually have less complex habitat needs than migratory species that may move between two or more continents twice a year, but even a small animal that occupies only an acre or two of land might have complex habitat needs.

We have a complete understanding of the habitat requirements of very few, if any, species. Wildlife managers are studying the habitat needs of many endangered species with the hope that a more complete understanding will allow us to properly protect and manage them. The process of understanding endangered species that are so few in number is time consuming and costly. In the meantime, wildlife managers are using methods learned on common species that have been more intensively studied. These techniques include various types of habitat preservation and management as outlined below.

Critical habitat

Critical habitat is provided for by Section 7 of the Endangered Species Act of 1973 which charges federal agencies (and only federal agencies) with the responsibility for ensuring that actions authorized, funded, or carried out by them do not jeopardize the continued existence of endangered or

Endangered and Threatened Species of South Dakota

Bald eagle* (<i>Haliaeetus leucocephalus</i>)	Osprey (<i>Pandion haliaeetus</i>)
Peregrine falcon* (<i>Falco peregrinus anatum</i>)	Buff-breasted sandpiper (<i>Tryngites subruficollis</i>)
Whooping crane* (<i>Grus americana</i>)	
Eskimo curlew* (<i>Numenius borealis</i>)	
Interior least tern (<i>Sterna albifrons althalassos</i>)	
Black-footed ferret* (<i>Mustela nigripes</i>)	Northern swift fox (<i>Vulpes velox hebes</i>)
	River otter (<i>Lutra canadensis interior</i>)
	Mountain lion (<i>Felix concolor</i>)
	Black bear (<i>Ursus americanus</i>)
	Blandings turtle (<i>Emydoidea blandingi</i>)
	False map turtle (<i>Graptemys pseudogeographica</i>)
	Spiny softshell turtle (<i>Trionyx spiniferus</i>)
	Eastern hognose snake (<i>Heterodon platyrhinos</i>)
	Three lined snake (<i>Tropidoclonion lineatum</i>)
	Brown snake (<i>Storeria dekayi</i>)
	Northern red-bellied snake (<i>Storeria occipitomaculata</i>)
Central mudminnow (<i>Umbra limi</i>)	Pallid sturgeon (<i>Scaphirhynchus albus</i>)
Pearl dace (<i>Semotilus margarita</i>)	Sturgeon chub (<i>Hybopsis gelida</i>)
Banded killifish (<i>Fundulus diaphanus</i>)	Sicklefin chub (<i>Hybopsis meeki</i>)
	Northern redbelly dace (<i>Phoxinus eos</i>)

	Finescaled dace (<i>Phoxinus neogaeus</i>)	
	Longnose sucker (<i>Catostomus catostomus</i>)	
	Trout-perch (<i>Percopsis omiscomaycus</i>)	
	Plains topminnow (<i>Fundulus sciadicus</i>)	

threatened species, or 2) result in destruction or adverse modification of the habitats of these species. [State and private actions that do not involve federal money or approval do not come under the terms of the Act.]

Critical habitat is defined as "the specific areas within the geographical area occupied by the species at the time it is listed . . . on which are found those physical or biological features (1) essential to the conservation of the species and (2) which may require special management consideration or protection; and . . . specific areas outside the geographical area . . . upon a determination by the Secretary that such areas are essential for the conservation of the species. These areas exclude man made structures or settlements not essential to the normal needs or survival of the listed species."

The Secretary of Interior must consider the economic impacts of specifying critical habitat, and to

"the maximum extent prudent" critical habitat must be determined at the time a species is listed.

Simply stated, critical habitat is the area of land, water, and air space required for the normal needs and survival of a species. The Fish and Wildlife Service considers the physiological, behavioral, ecological, and evolutionary requirements for the survival and recovery of listed species in determining what areas or parts of habitat are critical. These requirements include, but are not limited to:

- 1) Space for individual and population growth and for normal behavior;
- 2) Food, water, air, light, minerals, or other nutritional or physiological requirements;
- 3) Cover or shelter;
- 4) Sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and

- 5) Habitats that are protected from disturbances or are representative of the geographical distributions of the listed species.

Determination of a critical habitat may include consideration of certain biological, physical, or human elements of a species' environment, if—but only if—the element is required for the continued survival or reasonable recovery of the species.

If an activity or project uses federal funds or requires federal approval, then the particular agency having jurisdiction must decide whether or not the action would "jeopardize the continued existence of the species or result in destruction or modification" of its critical habitat. The Fish and Wildlife Service may review the action at this time.

The determining of critical habitat is a means of helping all federal agencies meet their responsibilities under the Endangered Species Act of 1973 and its amendments. **It is a tool to help save and restore species, not a weapon to hinder economic or social progress.**

Critical habitat does not impose an "iron curtain" around a particular area. It does not create a wilderness area, inviolate sanctuary, or sealed-off refuge and it does not give the Fish and Wildlife Service or any other group an easement or any other control on private property. It does require a federal agency to follow the appropriate regulations related to endangered species.

Habitat preservation and management

Habitat preservation and management is an absolute necessity for the protection of endangered and threatened species; many species are being protected on National Wildlife Refuges. A recent survey indicated that at least 44 different endangered animals are presently finding suitable habitat on 139 National Wildlife

Refuges in 39 states. In a few cases habitats or easements on habitats have been purchased to protect these species. When easements are purchased, the land remains in private ownership and only certain uses are regulated.

In the Dakotas the Fish and Wildlife Service manages numerous small wetland and upland areas under its Small Wetlands Acquisition and Easement Program for waterfowl and local wildlife. The lands, coupled with state owned public shooting areas and game production areas, also provide habitat suitable for several endangered species. These lands were purchased primarily with money from hunting licenses and fees.

Other kinds of federal lands, such as national forests, also provide habitat for endangered species.

What good are they?

Extinction is a natural process so why should we attempt to save species that seem to be heading for oblivion? Is it really worth thousands of dollars every year to save the last few whooping cranes or a few black-footed ferrets?

There are no easy answers to this type of question. Although these questions seem simple, the answer is complex. Endangered species have been shown to have a variety of values.

One of the values of endangered species is their use as indicators of quality in our environment. Most endangered species have very narrow habitat requirements, and this makes them susceptible to even minor changes in environmental quality. In other words, they can serve as warning signals for us since any environmental change that affects another animal may eventually affect humans. One good example of this value came when we discovered that the insecticide DDT was slowly



The peregrine falcon was nearly eliminated from the U.S. due to DDT, now banned. The peregrine has been absent from the Black Hills since 1945. In 1979, two young peregrines were successfully reintroduced into the Hills by putting them into the nest of prairie falcons who raised them as their own.

eliminating the peregrine falcon and affecting other raptors, such as the bald eagle. This warning signal eventually led to the banning of DDT and other harmful insecticides that are dangerous to humans.

A second value of endangered species is the value to our natural ecosystems. We know that all species are connected to other species. These interconnected groups of species are the living parts of ecosystems. We also know that removal of any single link in the ecosystem affects all other parts of the ecosystem. We can't always see these effects or their results, but they do exist. Man is also a part of these ecosystems and elimination of enough links could have a disastrous effect on us.

As we learn more about endangered species (and all other plants and animals), we begin to discover all sorts of new values. Many species have

been proven to be of scientific value for such things as the production of medicines. It is to our benefit to retain as many species as possible for the use and study by future generations, especially since we cannot predict which species will be of later benefit to us. For all we know, some species now on the verge of extinction may hold the clue that would provide a cure for cancer.

Another compelling reason for the preservation of endangered species is our moral responsibility to future generations. Most endangered species were forced into this condition by the direct actions of the human race. Since we are responsible for the diminished numbers of these species and since we have the ability to preserve these species, then we also have the obligation to preserve them. We owe this not only to the species themselves, but also to future generations of our own kind.

Listing a species*

Federal procedures are required to list a species as endangered or threatened. A member of the public or the Fish and Wildlife Service may initiate the listing process based on available knowledge of the species' biological status and any existing or potential threats.

A proposed listing, delisting, or reclassification is published in the Federal Register, and the public is given at least 60 days to comment. State governors are allowed 90 days in the case of species resident in that state. A public hearing may be requested within 45 days after Federal Register publication. Following review of comments and evaluation of the best available biological data, a final rulemaking is then formulated by the Director of the Fish and Wildlife Service. The rulemaking will generally become official 30 days after publication of the final "determination."

Consultation*

The Endangered Species Act requires that each federal agency must decide whether or not its actions are in compliance with the law. Federal agencies sponsoring or undertaking projects that may affect endangered or threatened species must insure that actions authorized, funded, or carried out by them do not jeopardize the continued existence of such species or result in the destruction or adverse modification of their critical habitat.

Consultation with the Fish and Wildlife Service or the National Marine Fisheries Service is mandatory if a federal agency finds that its activities or programs may affect a listed species in any way. After consultation, the involved agency decides whether to proceed or not.

Recovery teams

Endangered species "recovery teams" have been established for 66 species. Recovery teams are composed of three to seven members, all of whom are wildlife professionals from agencies and organizations with responsibility for and expertise with each species. Teams include state and federal biologists, university researchers, and representatives of private conservation groups. The teams operate independently of the respective agencies or organizations of team members.

The recovery team approach arose to allow better coordination of programs from different agencies and to eliminate needless duplication. The goal of each team is usually the removal of the species under consideration from the endangered or threatened list. A more immediate goal may be to prevent or delay the imminent extinction of a species.

Recovery teams develop recovery plans that relate to the

* Listing and consultation regulations may be modified subsequent to preparation of this publication

biological status of a species. The plan outlines all of the known factors related to the biology of the species and then gives a step-by-step outline for achieving management goals for the team objective. The recommendations of teams are used to guide funding for future work on a species. Teams are not involved with socio-economic or political problems, nor are they directly involved in land or habitat manipulations.

Involved agencies and organizations

The U.S. Fish and Wildlife Service and its Office of Endangered Species is the primary agency concerned with

the management and protection of endangered and threatened species. The National Marine Fisheries Service deals with marine species.

The Endangered Species Scientific Authority (ESSA), which was established by presidential order in 1977 to formulate biological policy for U.S. import and export of endangered wildlife and plants, is funded by the U.S. Department of the Interior (USD^I) but it functions as a semi-autonomous interagency organization. ESSA has representatives from seven agencies: USD^I (Office of Endangered Species), U.S. Department of Agriculture, U.S. Department of Health, Education, and Welfare, U.S. Department of Commerce, National Science Foundation, Council on Environmental Quality, and the Smithsonian Institution.

Within individual states the state wildlife agency usually has responsibility for managing and protecting endangered species.



Audubon's bighorn sheep once roamed western South Dakota. But domestic sheep transmitted diseases and competed for forage and winter range. The Audubon's bighorn became extinct in 1918. A partial replacement is the Rocky Mountain bighorn. With careful management, such as treatment for domestic sheep diseases before release, a stable population allows a limited hunting season each year.





The U.S. Fish & Wildlife Service has preserved many small wetlands and nearby prairie areas by purchase or easement. The funds come from duck stamp sales. The network of habitats protects many plants and animals, including endangered species.

Many states have lists of state endangered species, not all of which are classified as federally endangered species. In South Dakota the Department of Game, Fish and Parks has responsibility for endangered and threatened species.

Many private conservation organizations are concerned with endangered species. The National Audubon Society, the National Wildlife Federation, and the Defenders of Wildlife are among the best known conservation organizations that work to preserve endangered species.

What can you do?

1. Learn all you can about the endangered and threatened species in South Dakota, the nation, and the world.
2. Determine what efforts are underway to protect the habitat of these species and see if there is any way for you to help.
3. Find out what kinds of pollution are being allowed in your area, and why. Attempt to reduce pollution of the environment, such as that caused by industry and agriculture.

4. Inform your elected local, state, and national officials about your concern for endangered species and what needs to be done to protect them.
5. If you observe the destruction of wildlife habitat, especially on public lands, find out why it is occurring and see what can be done to stop it.
6. Write to state and national wildlife agencies and private organizations for more information on endangered species (list on last page of this publication).
7. Join your local and national conservation organizations with the objective to protect endangered wildlife and provide a healthy environment for all living things, including man.
8. Invite local biologists from the Department of Game, Fish and Parks and the Fish and Wildlife Service to talk to your local club, organization, or school about endangered wildlife.

Whom to contact

You can write to the following agencies and organizations to obtain more information on endangered species and their conservation.

State and federal agencies

South Dakota Department of Game, Fish and Parks
Anderson Building
Pierre, SD 57501

U.S. Fish and Wildlife Service
Area Office
Box 250, Federal Building
Pierre, SD 57501

U.S. Fish and Wildlife Service
Office of Endangered Species
Department of the Interior
Washington, DC 20240

U.S. Forest Service
U.S. Department of Agriculture
Washington, DC 20250

Endangered Species Scientific
Authority
18th and C Streets, NW
Washington, DC 20240

Private conservation organizations

National Audubon Society
950 Third Avenue
New York, NY 10022

North Midwest Regional Office
National Audubon Society
P.O. Box 1591
Jamestown, ND 58401

National Wildlife Federation
1412 16th St. NW
Washington, DC 20036

Defenders of Wildlife
1244 19th St., NW
Washington, DC 20036

Acknowledgements

The production of this information packet would not have been possible without the contributions of the following individuals and agencies:

Charles G. Scalet, John T. Ratti, Timothy C. Modde, Lester D. Flake, and Alice A. Molengraaf, Department of Wildlife and Fisheries Sciences, South Dakota State University

Raymond L. Linder and Richard L. Applegate, South Dakota Cooperative Wildlife and Fisheries Research Units, South Dakota State University

Duane Hanson, Agricultural Information Office, South Dakota State University

Conrad Hillman, Maurice Anderson, Kent Olson, and John Hardister, U.S. Fish and Wildlife Service.

Jon Sharps, K. L. Cool, and Ken Moun, South Dakota Department of Game, Fish and Parks

This publication is part of an Endangered Species Information Packet. Individual copies of this packet may be obtained from Extension Wildlife Specialist, South Dakota State University, Brookings, SD 57007.

The Endangered Species Information Packet was prepared through the cooperation of the U.S. Fish and Wildlife Service, the S.D. Department of Game, Fish and Parks, the South Dakota State University Department of Wildlife and Fisheries Sciences, and the South Dakota Cooperative Extension Service.

