



SOUTH DAKOTA MIGRATION HEADACHE

S.D. Migration Headache

This fact sheet provides background information on South Dakota wetlands and associated birdlife to support the Project WILD Aquatic activity, *Migration Headache*.

Objectives and Method

Refer to *Migration Headache*, found on page 87 in the 1987-1991 editions of the Project WILD Aquatic Guide, or page 94 in the 1992 edition.

Background

Each year, thousands of wetland dependent birds migrate throughout South Dakota. For some, our state serves as a stopover location, used en route to wetland areas beyond our border. However, many species nest and live within the *Prairie Pothole Region* that extends into eastern South Dakota. Wetlands and adjacent prairie nesting areas are vital to the birds' survival.

What is a wetland? Most of us imagine areas of still water surrounded by cattails and bulrushes. But, wetlands are also areas of water standing on fields or in shallow depressions in the early spring. These temporary wetlands provide food and breeding areas for migrating birds in the spring, before the deeper marshes are

thawed. Other wetlands used by migratory birds in South Dakota are dugouts, stock dams, ponds, intermittent streams, rivers and lakes. There are 49.3 million total land acres in the state. In 1780, 2.7 million of these acres were wetlands. By 1980, 35% of the wetlands were gone. Yet, South Dakota has fared better than many of its neighbors. In Iowa, 89% of wetland acres have been drained; in Minnesota 42% are gone, and in North Dakota 49% of wetland acres have been altered. South Dakotans must still be careful since many acres of wetland areas are altered each year in the state. (For more information about wetlands and their value see the Habitats fact sheet, *South Dakota Prairie Wetlands*.)

How is a wetland lost? In our mostly agricultural state, "losing" a wetland often occurs when the water is drained and the fertile ground is plowed and planted. In the past, the federal government encouraged farmers to drain wetlands. In 1985 a new bill called "Swamp buster" put limitations on wetland drainage for agriculture. Wetland loss can also occur through pollution. Although wetlands function as filters for chemicals, waste and fertilizers, their ability to absorb and neutralize these things can be overwhelmed by large amounts of pollution. This overload will reduce the variety of plants and animals

able to survive in the wetland. Wetland depressions can also be filled in by silt due to soil erosion.

What problems result when wetlands are lost? Loss of a wetland can adversely affect bird life. Food supplies as well as breeding territories are reduced. At first, the loss of only a few wetlands causes birds to crowd together into remaining wetlands. As more wetland acres are converted to other uses, the crowding becomes severe enough to impact needed life requirements. Because most water birds establish and defend a breeding territory, they will not tolerate crowding. Some birds will not nest, and the population declines. Crowding also makes it easier for predators to destroy nests, and promotes disease outbreaks such as avian cholera.

What is the status of bird species that depend on wetlands? The canvasback duck, an over water nesting species, is in serious trouble due to the cumulative effect of years of wetland drainage. However, most of the bird species with declining populations nest in the prairie grasslands (uplands) near the wetland "potholes". Biologists are especially concerned about mallards, northern pintails and blue-winged teal. Shorebirds such as sandpipers and phalaropes are also facing difficult times. Not only are the wetland "food baskets" disappearing, but the grasslands in which they nest are grazed or are being planted to row crops. Birds still use these altered nesting areas. But, with poorer quality cover, the nests are more vulnerable to predators. In some parts of South Dakota, only 10-15% of the duck nests ever produce young.

Other species are coping better. Canada goose, tundra swan and wood duck populations are all increasing. The giant Canada (a subspecies of Canada goose) was near extinction in the 1920's and 1930's! A South Dakota project to help the giant Canada began in 1962. The first reintroductions were in Mellette County in 1967, followed by restocking in many

other parts of the state. In 1992, waterfowl biologists believe that there were 5000 breeding pairs of giant Canada geese in eastern South Dakota. In some places the number of birds is so great that they must be frightened away from farmer's fields at certain times of the year, or coaxed to fields of "lure crops" planted to draw them away from a farmer's cash crop.

Tundra swans have doubled their population since 1950. A census in January 1991 found 95,900 tundra swans on the east coast of the U.S. Such large populations damage field crops and the oyster beds of the Chesapeake Bay. A limited autumn hunting season for tundra swans is now permitted in several states, including South Dakota. That managers can take this action is an excellent indicator of the health of the population.

Wood ducks have also flourished due to human intervention. Wood ducks nest in tree cavities, usually near a wetland. As dead trees (snags) were cut from wet woodlots and river bottoms, wood duck populations suffered. Over the past 50 years, people have learned about the importance of protecting wetlands, and providing and maintaining wood duck nest boxes. These boxes are a partial solution that has increased nesting success. Protecting and enhancing *riparian* areas is a better long-term solution.

Wetland bird populations that have remained stable include the white-fronted goose and the snow goose. Like tundra swans, these species use South Dakota wetlands during migration. Most goose and swan populations nest in wetlands of the Canadian Arctic. These lands are relatively untouched by human development. As long as quality wetlands are available to them during migration and good wintering areas remain, these populations will remain stable or gradually increase.

What conservation efforts have been undertaken? The picture for wetlands and their wildlife was so bleak in the

early 1980's that government officials decided to act. In 1986, the United States and Canada signed the North American Waterfowl Management Plan, the goal of which is to have 100 million ducks migrating south by the year 2000. For comparison, 65 million ducks migrated south in 1991. In South Dakota, this effort involves the US Fish and Wildlife Service, SD Game, Fish & Parks and its Foundation, The Nature Conservancy, the National Wildlife Federation Corporate Conservation Council, Ducks Unlimited, the Wildlife Management Institute, the Dakota Wildlife Trust and Pheasants Forever.

A key to successful wetlands conservation is the cooperation of landowners in the prairie pothole states. In South Dakota, the primary actions have been to protect existing wetlands, improve their quality, and restore wetlands that have been altered. Our state's premiere model has been the Lake Thompson Watershed Project that has renovated 506 square miles of watershed in 6 counties. Another important project has been the acquisition of 55 parcels of land for waterfowl habitat, accomplished with the help of Ducks Unlimited. Also, the use of duck stamp funds to purchase thousands of acres of wetland habitat has been ongoing.

Glossary

Prairie Pothole Region - the geographic region that has many permanent and temporary wetlands left by receding and melting glaciers. A map showing the extent of the Prairie Pothole Region is shown in the South Dakota Prairie Wetlands fact sheet in the Habitat section.

Riparian - referring to organisms or natural habitats that occur along the edges of waterways such as lakes, rivers and streams.

References

Dahl, T.E. 1990. Wetlands Losses in the U.S. 1780's to 1980's. U.S. Dept. of Interior, Fish and Wildlife Service, Washington, D.C. 21pp.

U.S. Fish and Wildlife Service. 1990. Wetlands Action Plan 1990: Wetlands Meeting the President's Challenge. 64 pp.

Materials

In addition to the materials listed in the activity guide, try using duck, goose and crane calls for an auditory experience. Also, set up a spread of decoys behind each wetland area.

Procedure

See the Project WILD Aquatic guide. To keep the simulation manageable, the Project WILD activity simplifies the events during migration and stresses the events on the wintering and nesting grounds. Explain that the nesting area will be South Dakota wetlands. The events can then be made specific to situations in our state.

Extensions

Use the waterfowl population censusing activity, *Prairie Populations* (see Dakota Projects chapter of the Natural Source) to help students understand how biologists can determine the numbers of waterfowl migrating through South Dakota each year.

Resources for Teachers

- Birds, Birds, Birds* from the Ranger Rick Naturescope series, National Wildlife Federation, Washington, D.C., grades K-6.
- Wading Into Wetlands* from the Ranger Rick Naturescope series, National Wildlife Federation, Washington, D.C., grades K-6.
- Wealth in Wetlands*, a video by the National Association of Conservation Districts, available for loan from your local SCS office (see Natural Source Directory for phone numbers), grades 9-12.
- Wonder of Wetlands*, an activity guide by Britt Eckhardt Slattery, Environmental Concern Inc., P.O. Box P, St. Michaels, MD 21663, grades K-12.

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Publication of *South Dakota Migration Headache* was funded by S.D. Dept. of Game, Fish and Parks, Division of Wildlife, Pierre, S.D. 57501.