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Conservation Digest

DEPARTMENT OF GAME, FISH & PARKS - CELEBRATING 100 YEARS



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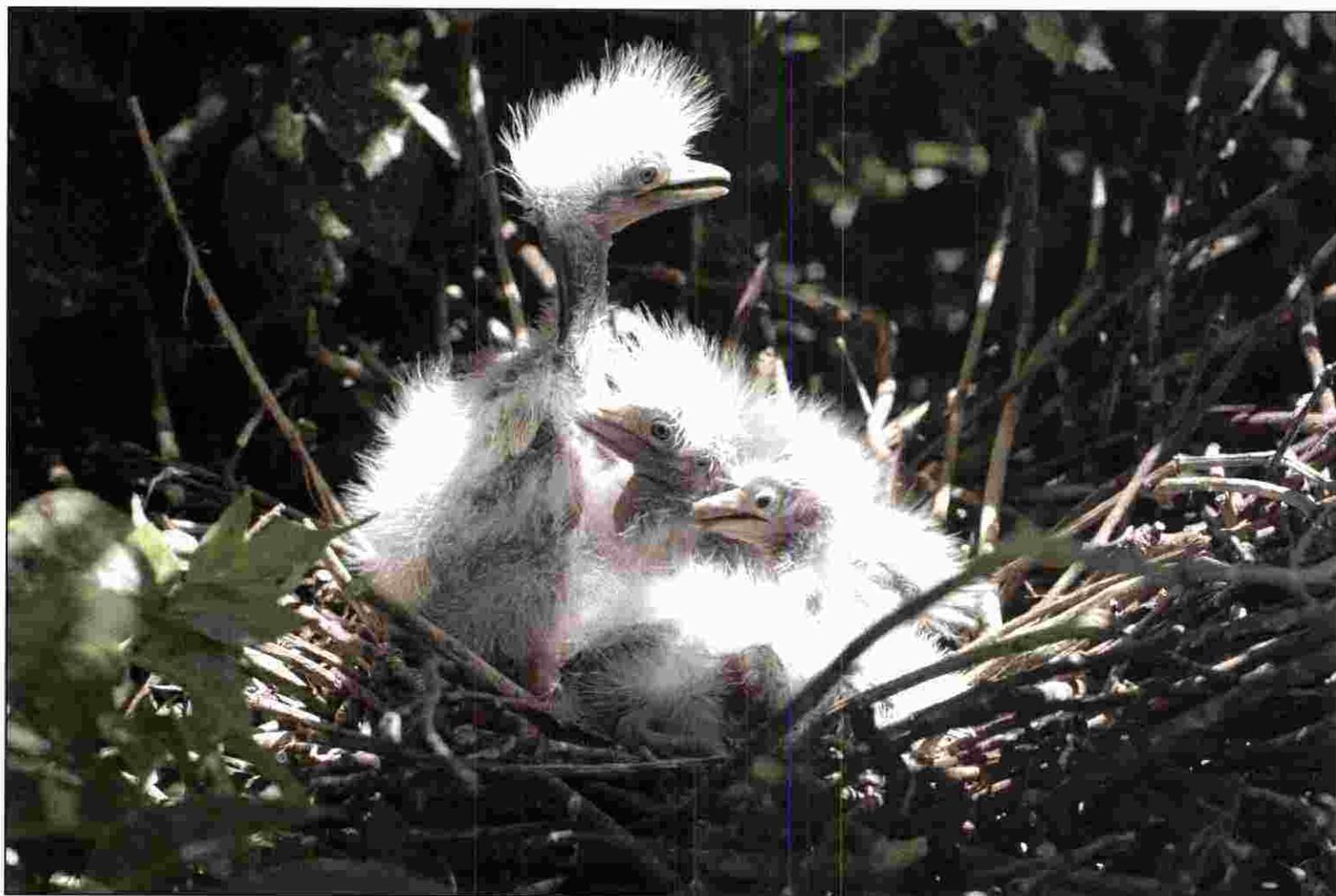
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BREEDING COLONIAL WATERBIRDS

by Nancy Drilling, Coordinator, South Dakota Breeding Bird Atlas, Rocky Mountain Bird Observatory



Cattle Egret chicks. Photo by Nancy Drilling.

In the summers of 2005 through 2007, I had the privilege of documenting one of the premier bird spectacles in South Dakota—colonies of breeding waterbirds. As part of the South Dakota Colonial Waterbird Survey coordinated by Rocky Mountain Bird Observatory, my colleagues and I crisscrossed the state looking for waterbird colonies. I marveled at elegant courtship displays of waving plumes and dancing on water, the agility and delicacy of a heron landing on its tree-top nest, the incredible density of nests of large-bodied birds (up to 40 nests per tree), the apartment-style of nesting in trees (herons on the top floor, cormorants in the middle, egrets on the bottom), and the sheer noise and energy of hundreds or thousands of birds packed into an area much smaller than a city block. I hope that

our efforts will contribute to managing both the conservation and controversial aspects of these spectacular birds.

“All Eggs in One Basket”

Colonial waterbirds are species that prefer to breed in high-density groups in a relatively small number of locations. Some South Dakota colonies can have more than 1,000 pairs and up to 10 different species breeding together. They favor predator-free habitats such as flooded timber, islands, and marsh reed beds. However, this ‘all eggs in one basket’ approach to breeding makes these species vulnerable to a catastrophic event at the breeding colony that could wipe out a large portion of the breeding population. In addition, nation-wide populations of these majestic birds have been reduced because of wetland loss,



Great Blue Heron colony. Photo by Travis O'Dell.

bioaccumulation of toxins, and degradation of their wintering habitats. Thus many of these species are the focus of conservation efforts throughout North America.

South Dakota Paradise

South Dakota has a lot of water and so not surprisingly, there are a lot of waterbirds. Twenty-four species of colonial waterbirds breed in South Dakota, including herons, night-herons, egrets, grebes, gulls, terns, White-faced Ibis, American White Pelican, and Double-crested Cormorant. Our statewide survey for waterbird colonies during the summers of 2005 - 2007 found 405 sites with breeding waterbirds (see map). We identified 26 of these sites as very important breeding waterbird colony sites (>200 total pairs and/or >5 breeding species).

The necessary ingredient for all breeding waterbirds is safe nesting habitat. In South Dakota, most species only breed East River because of the area's abundant marshes and flooded timber. An exception is the Great Blue Heron, which is the most common waterbird throughout the state, even in fairly arid regions of West River. This adaptable species is equally successful nesting in cottonwood trees along creeks, ponderosa pines in the Black Hills, and when really desperate, on the ground in reed beds.

In addition to breeding birds, some non-breeding water-

birds stay the summer. This is especially true of pelicans and cormorants, which usually don't breed until they are three or four years old. The one- to three-year old 'teenagers' wander widely, accounting for most summer sightings of these species far from any breeding colonies.

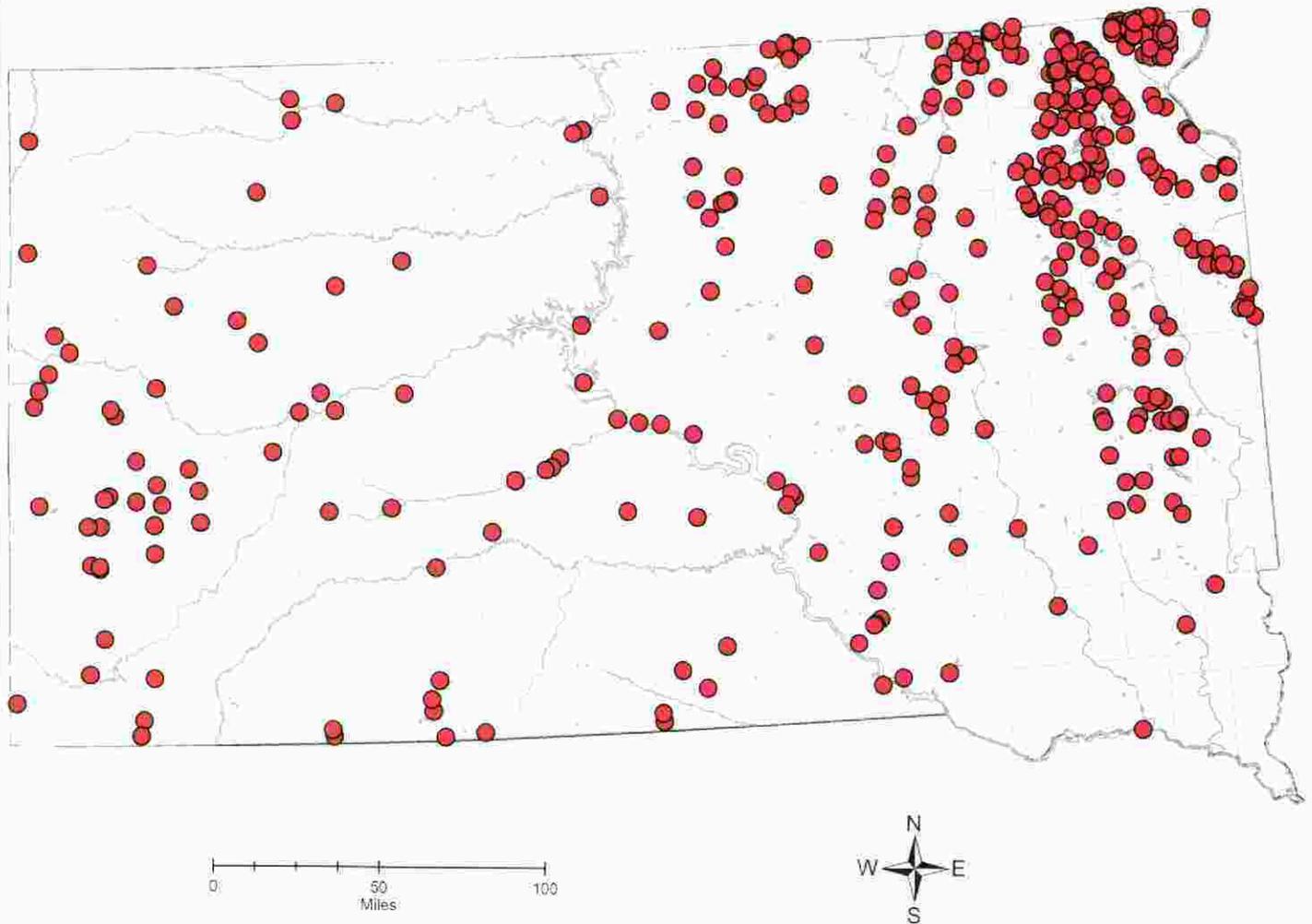
In the winter however, South Dakota is not a very hospitable place for waterbirds. All waterbirds, except a few gulls, leave the state for warmer climes, mostly in the southern U.S. During spring and fall migration, the waterbirds seen in South Dakota not only include the local breeding birds and their young, but also birds passing through on the way to their breeding colonies in North Dakota and Canada. During these periods, waterbirds can show up on any water in the state.

Controversy and Conservation

Colonial waterbirds have been nesting in the state as long as there has been water. All of these species are part of South Dakota's natural heritage. Because of their 'all eggs in one basket' breeding strategy, many of these birds are listed as Species of Special Concern by the South Dakota Natural Heritage Program and Species of Greatest Conservation Need by the South Dakota Wildlife Action Plan.

However, because many waterbirds primarily eat fish, these species have been controversial ever since the first trappers

ACTIVE BREEDING WATERBIRD COLONIES 2005-2007

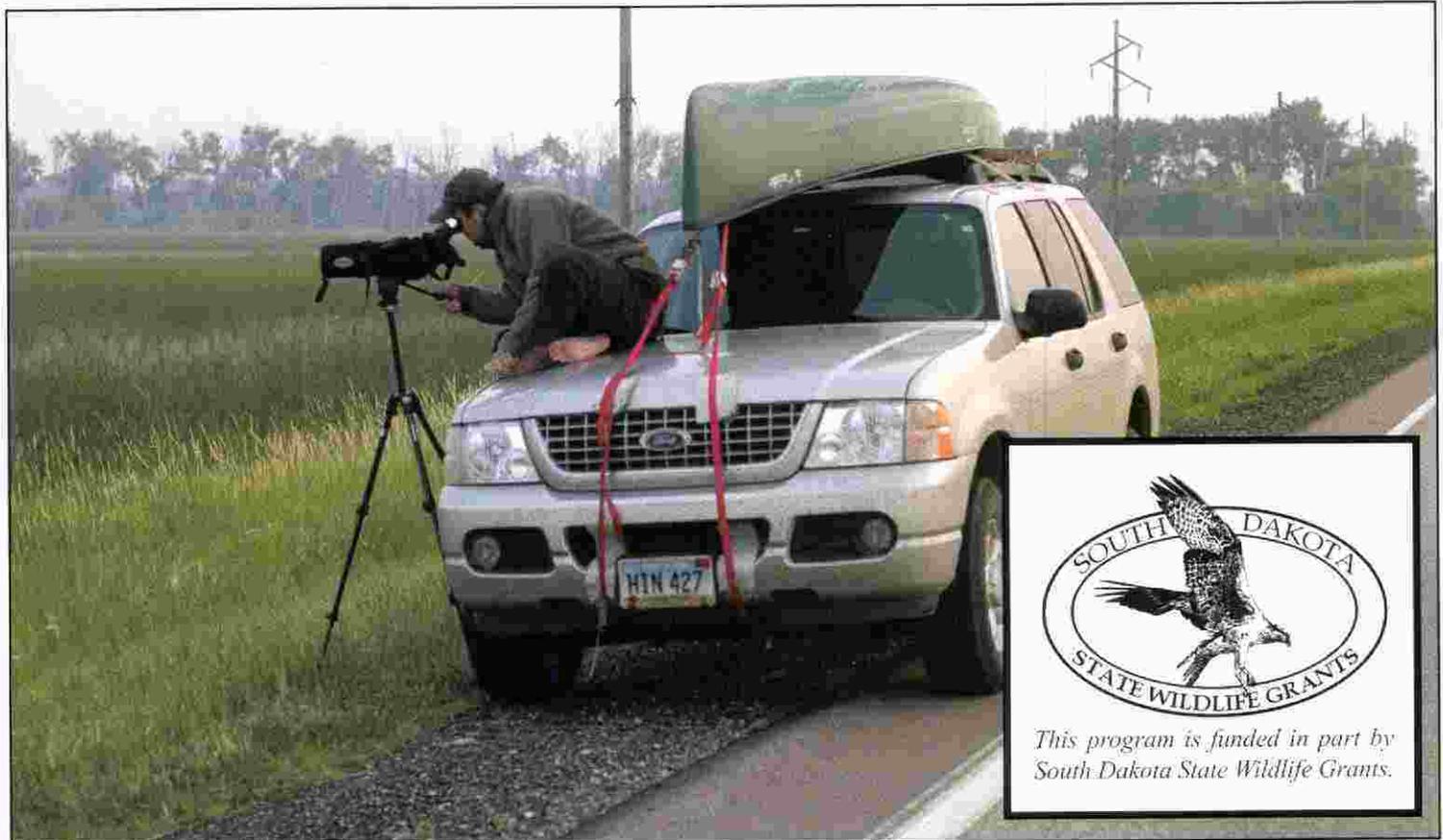


Gull nest with chicks. Photo by Nancy Drilling.

and soldiers began settling in Dakota Territory. In particular, the larger species such as pelicans, cormorants, herons, and egrets are thought to be depleting game fish populations. In reality, the situation is not that simple. First, fish-eating birds eat only the fish that are easiest to catch. So they target slower fish, regardless of whether the fish is a game species. Second, although fish make up the bulk of their diet, these birds also can eat large quantities of non-fish items such as crayfish and mud puppies. The Great Blue Heron has the most generalist diet of all the waterbirds, dining not only on fish, but also snakes, frogs, mice, crayfish, and small birds. Third, waterbirds disperse widely away from the colony to find food for their chicks, so they don't deplete the fish in the waters next to the colony. Finally, fish populations are affected by a wide variety of factors including predation by other fish, water pollution, water level changes, and overfishing. Usually a combination of negative events causes game fish populations to decrease, not just a single factor such as waterbird predation.

Monitoring is the Key

The first step to address both the conservation and controversial issues concerning colonial waterbirds is to track their popu-



Counting nests. Photo by Nancy Drilling

lations. Monitoring these birds at their breeding colonies over the long term is the most efficient way of population tracking. To do this, the Wildlife Diversity Program at Game, Fish and Parks has developed the Long-Term Breeding Waterbird Colony Monitoring Project. The objectives of this project are to:

- Improve information on conservation status of breeding colonial waterbirds in South Dakota,
- Identify and track factors that could result in a decline of colonial waterbird species that breed in South Dakota,
- Determine what and how management actions impact breeding populations,
- Provide information to aid management of waterbird-fisheries conflicts, and
- Ensure compatibility with regional and national monitoring efforts.

Every spring, volunteers across the state visit known colony locations to count nests and identify the breeding species. In addition, anyone who finds a colony is encouraged to tell Game, Fish, and Parks. These data are entered into a database at the Wildlife Diversity Program office in Pierre. This database is the basis for making science-based decisions on managing colonial waterbird populations in South Dakota.

If you would like to be volunteer colony monitor or to report a colony, contact the Wildlife Diversity Program at eileen.dowdstukel@state.sd.us. Copies of the 2005-2007 survey final report are available from the Wildlife Diversity Program or can be downloaded from www.rmbo.org/publications.

What to do if you have a breeding colony on your land.

Breeding waterbirds don't pay attention to who owns the land; they nest wherever there is suitable habitat. Here's what to do if you have a breeding colony on your land.

- Watch to see if any nests are built. Some waterbird concentrations are just roost sites and the birds are not actually nesting there.
- If you see nests, contact the Game, Fish, and Parks Department so that they can put your colony into their database for monitoring.
- Do not go into the colony during the nesting period and try to minimize disturbance nearby.
- Realize that these birds will not deplete the fish resources on your land. Breeding waterbirds intentionally forage away from the colony so they don't deplete the local fish population.
- Remember that all colonial waterbirds are migratory species and protected by federal and state laws. In certain instances, permits may be given to control cormorants.
- Enjoy your colony - you have a very special part of South Dakota's natural heritage on your land! Your protection of this colony helps ensure that future generations will be able to enjoy these beautiful birds.