

Iowa Colonial Waterbird Rookeries

Annual Report

2014

Introduction

A variety of birds are grouped under the Colonial Waterbird label which share two characteristics: 1) they tend to nest in large groups or colonies and 2) they depend upon water for their primary food source. They can be divided further into two distinct groups; the wading birds such as herons and egrets and the seabirds such as terns and gulls. Because of this group of bird's dependence upon aquatic habitats and their position towards the top of the food chain, they are of particular conservation concern. The nesting habits, especially nest site fidelity, of many of the species also make them relatively accessible for monitoring.

In Iowa, we are primarily interested in monitoring species in the wading bird group of Colonial Waterbirds. This includes: Great Blue Heron, Great Egret, Cattle Egret, Green Heron, Little Blue Heron, Sandhill Cranes, Black-crowned Night-heron and Yellow-crowned Night-heron. The only seabirds included are the Double-crested Cormorant and American White Pelican. The nesting of these species has been monitored in Iowa with varying degrees of effort for many years. The species most recorded is the Great Blue Heron which nests throughout the state in colonies ranging from 2 to 3 nests to hundreds in the colonies along the Mississippi River. Great Egrets and double-crested cormorants are recorded less commonly and all the additional species are reported very rarely either because they are rare nesters (Little Blue Heron, Cattle Egret) or because their nesting habits are far more secretive and in some cases not often colonial (the Night-herons and Green Heron).

The Iowa DNR has attempted since 2006 to monitor these colonial nesters through the Volunteer Wildlife Monitoring Program but the lack of structure to and emphasis on the survey has hampered efforts. In 2014, a call for the report of new nest sites as well as updated reports on existing nest sites was distributed. Volunteers were then recruited to monitor specific rookery sites which met the following criteria: 1) greater than 10 nests in the colony and 2) designated as either active or having unknown activity. Unknown activity usually means that the last time a report was received, the rookery was active but a report has not been received in three or more years.

Data Summary

In the DNR's current rookery database, 109 rookeries fit the criteria to be designated as monitored or "sentinel" sites. Of these sites, 43 have a status of active and 66 have unknown activity. There were ten rookery sites reported to us for the first time this year. A vast majority of these rookeries are Great Blue Heron only (99 rookeries or 91%) but it also includes rookeries being used by multiple colonial species as well as other single species such as Double-crested cormorants (table 1). No rookeries were monitored for the following species: Green Heron, Little Blue Heron, Sandhill Cranes, Black-crowned

Night-heron and Yellow-crowned Night-heron. Sandhill Crane breeding activities in the state are currently monitored through a different type of survey.

There were 11 sentinel rookeries that volunteers signed up to monitor in 2014 and data was received on all 11 rookeries. In addition there were 5 rookeries reported on opportunistically or as part of surveillance performed by the U.S. Fish and Wildlife Service. Three of the rookeries were extensively searched for and could not be found. These rookeries will be removed from the monitored sites list and made inactive. A fourth site was reported as inactive. Twelve sites were reported as active in 2014 (Table 2).

A total of 2,722 nests were reported amongst the twelve active rookery sites, grouping all species together. The vast majority of these nests were on the Upper Mississippi River Wildlife Refuge (2,427) which supports very large mixed-species colonies on several islands in the river. Volunteers were able to collect data on the number of young in nests for 8 of the twelve rookery sites and there were 1,283 young counted for an average of 160.4 young per rookery (Table 2). Removing the Mississippi River Rookeries, there were 161 young counted in 122 active nests (1.32 young/nest) and from 5 rookeries (32.2 young/rookery).

The species with the most rookeries reported was the Great Blue Heron (11), though the largest number of nests reported was for Double-crested Cormorant (Total = 1039, Inland = 71, Mississippi River = 968) (Table 3). For rookeries away from the Mississippi river there were 4 Great Blue Heron rookeries reported with a total of 51 active nests and 63 heron chicks (chicks/rookery = 15.75, chicks/nest = 1.24) and 1 rookery of Double-Crested Cormorants with 71 active nests and 98 young (chicks/nest = 1.38).

Conclusions

It's impossible to make too many comprehensive statements about the status of Colonial Waterbirds in Iowa based on data from 16 rookery sites. At a minimum, Iowa currently supports successful nesting for five species of colonial waterbird: Great Blue Heron, Great Egret, Double-crested Cormorant, American White Pelican and Cattle Egret. In addition, for the first four species listed, large stable rookeries exist and both Great Blue Herons and Double-crested cormorants have relatively large rookery sites away from the Mississippi river.

There are a number of challenges to this monitoring effort. A majority of the nest sites in our database are marked as having unknown activity and haven't been reported on in many years. With our small sample size it appeared that in many cases this meant the rookery no longer existed or was very difficult to locate. Rookeries, once they reach a certain size do have some level of permanence but they are a bit more intransigent than Bald Eagle, Peregrine Falcon and Osprey nests, the focus of our other bird nest monitoring activities in the Volunteer Wildlife Monitoring Program. They are also frequently more difficult to gather reproduction success data from, because after leaf out, the number of nests and their relatively smaller size make it very difficult to get an accurate estimate of the number of young produced. As volunteers and the DNR work together we will try to address some of these challenges and improve the survey protocols.

Acknowledgements

Most heartfelt thanks go to the ten Volunteer Wildlife Monitors who were willing to add to their current volunteer duties in order to adopt a rookery site. These volunteers were: Mindy and Ted Kralicek, Bobbie Davis, Mike Stark, William and Mary Larson, Annie McCabe, Patty and Dave Hansen, Rich Miescke, James Conway, Wayne Meyne and Jim Tredway. Thank you for all the great work you do and in some cases risking life and limb to seek out these nest sites! Also thanks to Dr. Steve Dinsmore and the U.S. Fish and Wildlife Service for keeping an eye on the gargantuan Mississippi River Island nest sites. Finally, thanks to the folks who responded to our plea for rookery updates and new rookery locations!

Table 1. Species Composition of Rookeries Eligible for Monitoring

Species in Rookery	Number of Monitored Rookeries (n= 109)
Great Blue Heron Only	99
Great Blue Heron/Great Egret/Cormorant/Pelican	3
Great Blue Heron/Great Egret/Cormorant	1
Double Crested Cormorant only	2
Great Blue Heron/Great Egret	3
Cattle Egret/Great Egret	1
TOTAL	109

Table 2. Summary of Monitoring Results for Colonial Waterbird Rookeries (All Species)	
	2014
Total Rookeries Chosen	109
Assigned Rookeries	11
# of Assigned Rookeries With Data Collected	11
# of Monitored sites with Data	16
Active Rookeries	12
<i>Num Nests Total</i>	2722
<i>Num Nests/Rookery Average</i>	226.8
<i>Num. of Rookeries with Data on Young</i>	8
<i>Avg. # of Young/Rookery</i>	160.4
Inactive Rookeries	1
Rookeries gone/not located	3

Table 3. 2014 Rookery Data by Species					
	Great Blue Heron	Great Egret	Double Crested Cormorant	American White Pelican	Cattle Egret
Number of Active Rookeries Reported	11	4	5	3	1
Number of Nests	182	542	1039	885	NA
Number of Active Nests*	72	NA	71	NA	2
Number of Young	63	NA	643	575	2
<i>Species of interest with no reported data: Green Heron, Little Blue Heron, Sandhill Cranes, Black-crowned Night-heron and Yellow-crowned Night-heron</i>					

* Not all reports include a count of active nests

Figure 1. Iowa Colonial Waterbird Rookeries Designated as Monitoring Sites

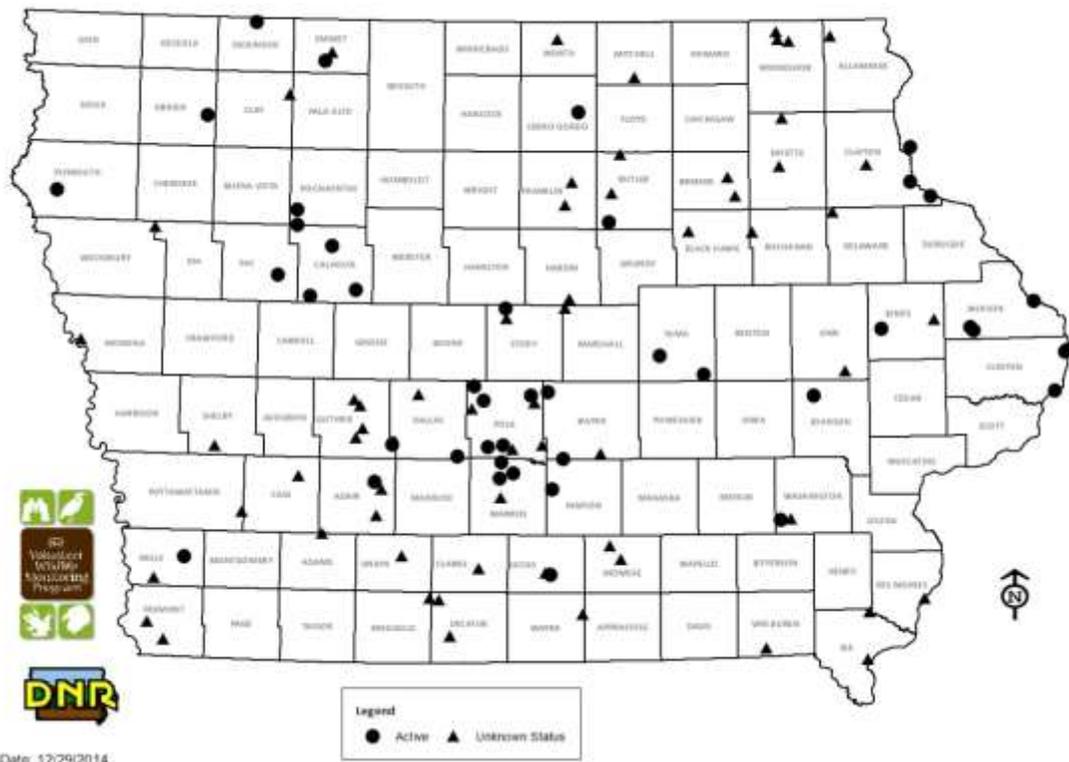


Figure 2. Iowa Colonial Waterbird Rookeries Monitored in 2014

