

TRUMPETER SWAN RESTORATION

Prior to the settlement of Iowa, trumpeter swans nested throughout the state. However, wetland drainage and unregulated hunting of trumpeters soon brought their demise. Prior to 1998, the last pair wild nesting trumpeter swans in Iowa occurred in 1883 on the Twin Lakes Wildlife Area southwest of Belmond, Iowa in Hancock County. Trumpeter swans were first given nationwide protection in 1918 when the United States, Canada, and Mexico signed the International Migratory Bird Treaty. A nationwide survey in the early 1930's indicated that only 69 trumpeters existed in the continental United States with all those occurring in Red Rock Lakes National Wildlife Refuge in southwest Montana. The Red Rock Lakes became the nation's first National Wildlife Refuge because of the presence of these trumpeter swans.

Trumpeter Swan Restoration Program

Some 115 years later, the first modern day hatch of three wild trumpeter swan cygnets occurred in 1998 in Dubuque County. In 2000, a second pair nested on a Winnebago County Conservation Board wetland (Russ Tract at Thorpe Park) 8 miles west of Forest City.

In 1993, the Iowa Department of Natural Resources developed a plan to restore trumpeter swans to the state. There were two primary objectives with this plan. The first objective was to restore a self-sustaining, migratory population of trumpeter swans to its former nesting range in Iowa. To accomplish this, a goal was set to establish 15 wild nesting pairs to the state by 2003. That goal was reached in 2004. Due to the project's initial success, another goal was set to

have 25 wild nesting pairs by 2006. That goal was reached in 2005. Birds used for restoration purposes in Iowa have been obtained from 26 different states, including zoos, private propagators, other state swan projects, and any other sources that might have available swans. A total of 121 sources have been used to date. Once in Iowa, flightless breeder pairs are established at appropriate sites, the young of which are released for free flight across the state. We have found it necessary to move young produced at these flightless pair sites. Otherwise they interfere with the following year's reproductive activity because the adult pair will continually harass the young in order to exclude them from their nesting territory.

The second objective was to use the swans to "Trumpet the Cause For Wetlands". There have been well over 350 swan releases done by DNR staff with the public and media invited to attend. At which times, the many positive values of wetlands have been discussed with the groups attending the swan releases. The swans have garnered a lot of attention and interest from the public and the media both. DNR staff has used these opportunities to explain to these groups the value of having healthy wetlands to support "charismatic mega-fauna" such as Trumpeter Swans.

Funding to help support the DNR with this restoration program has come from a wide variety of swan enthusiasts, conservation groups, and charities. Considerable soft match/in-kind contributions have been made and are conservatively estimated at over 1.5 million dollars. The Trumpeter Swan Program was also awarded a State Wildlife Grant (SWG) in 2004. These funds have been used to help cover the

costs of feed, vet care, nesting site preparations, equipment, and the purchase of swans.

Marked Swans and Reported Observations

Through the summer of 2008 nearly all trumpeter swans released in Iowa were marked with plastic green or red neck collars and leg bands, along with U.S. Fish and Wildlife Service metal leg bands. The plastic neck collars and leg bands are marked with alpha letters C, F, H, J, K, P, T, M, and two numbers, 00 through 99. We have been disappointed that several of our marked swans have lost both plastic neck collars and legs bands and a few have lost the soft aluminum metal USFWS leg bands. Neck collar losses create problems analyzing both movements and mortality of Iowa Trumpeter Swans. In 2004, we began using stainless steel lock-on 9C FWS leg bands and we are not aware of any leg band losses since. During the last 4 years we have neck collared less than 5% of released swans

Iowa has the largest trumpeter swan observation database with over 4,100 observations of neck collared swans thru 2015. Iowa marked swans have been reported in 17 states, as far west as Colorado, east to Virginia and north into two Canadian provinces (Figure 3). After 10 years of migration observations, the largest concentrations of migrating Iowa swans are wintering in northeast and east-central Kansas and northwest and west-central Missouri. One Iowa trumpeter swan wintered as far south as Oklahoma during the winter of 1998/1999. Also, one swan wintered near Heber Springs, Arkansas in 1999/2000. During the winter of 2002-2003, 2 swans released at Hottes Lake near Spirit Lake, Iowa

migrated to Lubbock, Texas. These are possibly the first known, or at least the first of very few interior swans to migrate to Texas since the 1880's. Migration movements "out of that norm" included 3 swans released at Union Slough NWR that migrated to and wintered in southeast Colorado near Ft Lyon. Two of these were observed at Monticello, Minnesota in the spring of 1997. The straight-line round trip mileage for these birds is over 1,300 miles.

"Traditional" swan wintering sites are developing in Iowa. Sites include Bill Beemer's Pond, a private partner site near Webster City, a rock quarry at Atlantic in southwest Iowa, Bob & Mary Boock's wetland near Wheatland in east central Iowa, Laurie Severe Pond near Nora Springs, Dale Maffitt Reservoir south west of Des Moines and a rock quarry near Fertile, IA. A review of the last 15 years of swan sightings indicates most areas of the state are now seeing swans at sometime during the year. This is another indication that the restoration effort is moving forward.

Trumpeter Swan Mortality Factors

Iowa currently has the dubious distinction of having one of the highest shooting mortality rates of any state in the Midwest. This high mortality rate is a concern because it could obviously negatively impact wild nesting swans in future years. We hope that with increased publicity, additional enforcement efforts, and public scrutiny, we will see the illegal shootings reduced. There have been 11 confirmed shootings of Iowa swans that occurred out-of-state, (1 in Wisconsin, 3 in Missouri, 5 in Texas). A \$17,000 fine was charged to four men in connection with the family group of 5 Iowa swans shot in Texas.

Three hundred eight known mortalities have occurred to date: 68 have died due to power line collisions, 58 poached by violators, 66 died due to lead poisoning, 11 due to apparent malnutrition, and 38 to diseases. Several other mortalities have likely occurred from unknown and unreported causes. Mortality rates are higher than anticipated and likely slow trumpeter swan restoration efforts. Shooting a trumpeter swan can result in a citation of \$1500, liquidated damages, court costs, and perhaps hunting license revocation.

Current Status of the Trumpeter Swan Restoration Program

Trumpeter Swans are nearing sustainable numbers in north central and east central Iowa. As a result of the program's success, the Iowa DNR has significantly reduced their direct hands-on efforts of handling and transporting swans over the past three years. Instead, our time is now more focused on coordinating swan restoration efforts with willing partners such as county conservation boards and private landowners with suitable nesting and release sites. The southern half of Iowa is the current priority area for restoration activities and cygnet releases due to very low trumpeter swan nesting densities and the fact that trumpeters very rarely pioneer their nesting efforts south. A goal of self-sustaining numbers across south Iowa is desired. Currently, there are thirty partnership breeding pair sites that are active.

Eighteen trumpeter swans were released in Iowa in 2015 (Table 1). A total of 1,168 trumpeters have been released to date. A total of 71 wild free flying Trumpeter swans have been captured, banded and released in Iowa

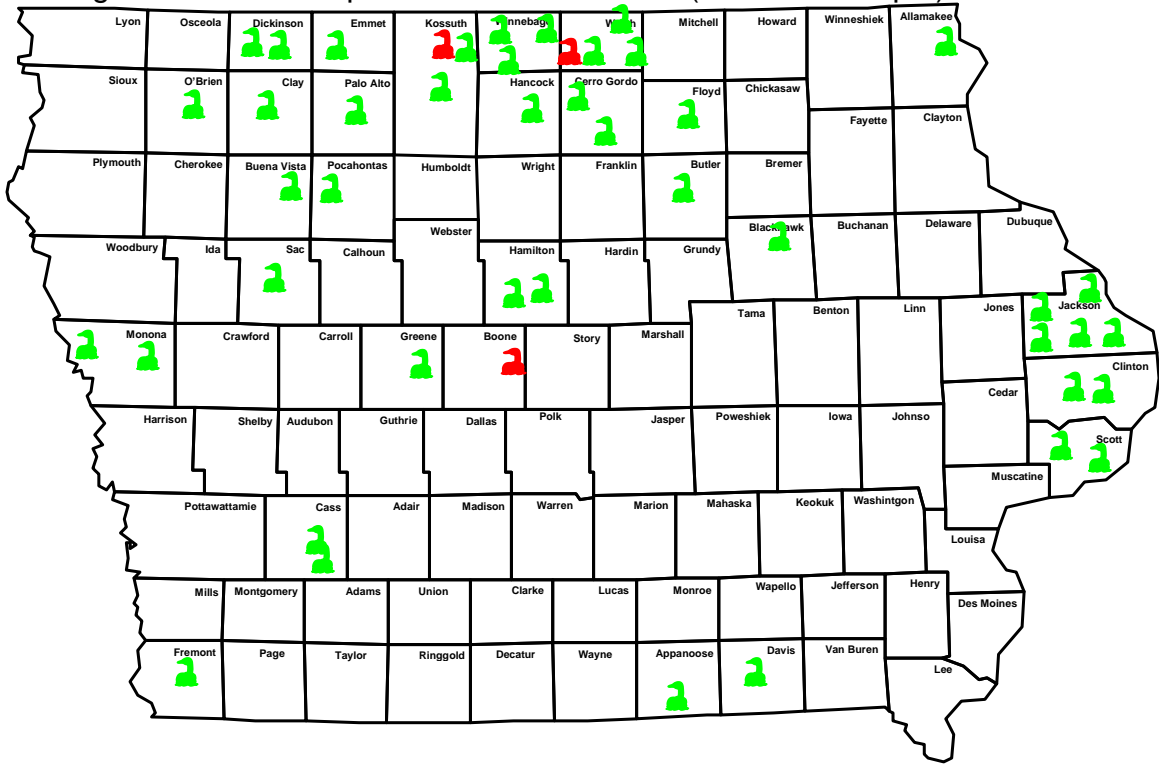
since 1997 (Table 2). Also in 2015, 45 trumpeter swan nest attempts occurred in Iowa, similar to 45 nests in 2014 and 46 in 2013 (Figure 2).

Since 1998, 482 known trumpeter swan nests have occurred in Iowa (Table 3). Figure 1 shows the statewide distribution of these nesting attempts. Spring flash flooding resulted in the loss of at least three swan nests in 2015 and ten total nests since 2013. Cygnet survival was near normal in 2015. Higher cygnet mortality was recorded in the fall 2012-2014 with dry wetland conditions and increased cases of lead poisoning. Many wetlands went completely dry in August and cygnets were forced to walk overland in search food and water. All wildlife populations are cyclic so we know that nest attempts will show ups and downs over the duration of the trumpeter restoration efforts. Each year there could also be 4 or 5 other nest attempts that we do not know about as we have had at least a few families of swans show up in the state prior to normal migration dates. Also of note, we have several pairs of Iowa swans nesting in Southern Minnesota and Wisconsin.

A total of 582 trumpeters were tallied during the mid-winter waterfowl survey in January 2015, up from 458 tallied in 2014 and down from 747 tallied in January 2013 (Table 4). If swans can find open water and food, many of them will remain throughout the winter. These "winter" sites have provided many people the opportunity to view these "charismatic-mega fauna."

The DNR and many Iowans are very excited about the future of trumpeter swans in the state and hope their numbers remain strong.

Figure 1. Wild Trumpeter Swan Nests 2015 (45 nest attempts)



Successful



Unsuccessful

Figure 2. Iowa Trumpeter Swan nest attempts.

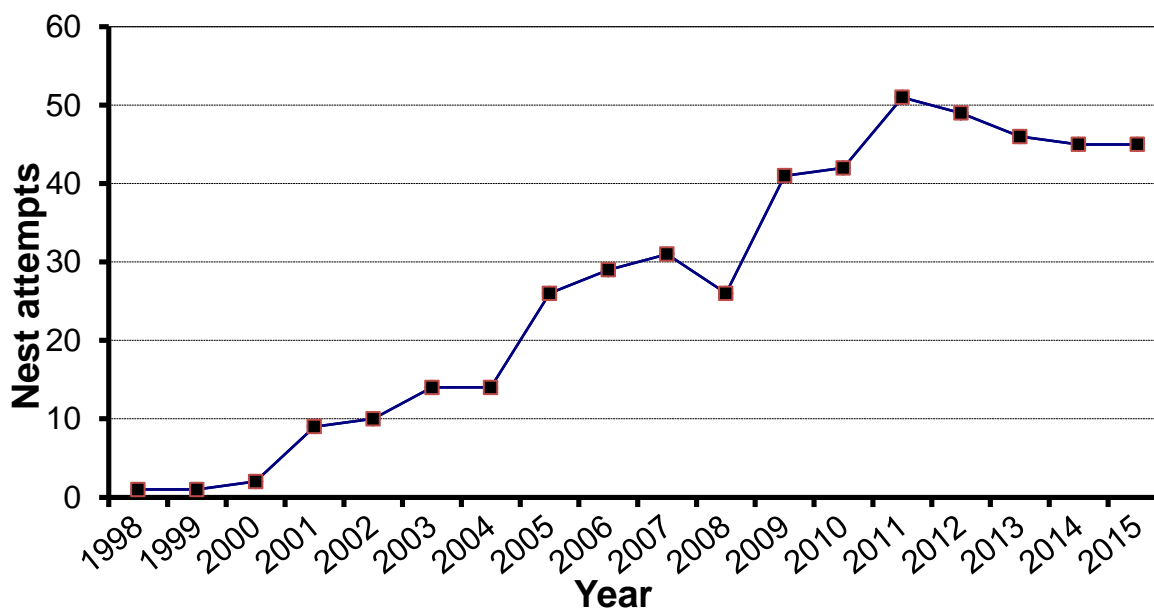


Table 1. Trumpeter Swans released in Iowa 2015.

<u>Year</u>	<u>Release Site</u>	<u>County</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
2015	Coffey Marsh	Wayne	2	2	4
	East Lake	Clarke	1	1	2
	Green Island WMA	Jackson	1	1	2
	Lake Anita	Cass	1	1	2
	Lake Icaria	Adams	1	1	2
	Summit Lake	Union	1	1	2
	Viking Lake	Montgomery	2	0	2
	Ventura Marsh	Cerro Gordo	2	0	2
				Total	18
				Grand Total	1168

Table 2. Wild free flying Trumpeter swans banded and released in Iowa, 1997 - present.

<u>Year</u>	<u>Area</u>	<u>County</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
1997	Miller's Quarry	Black Hawk	0	1	1
1998	Holzer's Pond	Dubuque	2	1	3
1999	Mason City	Cerro Gordo	3	2	5
2000	Holzer's Pond	Dubuque	2	1	3
2000	Mason City	Cerro Gordo	2	2	4
2000	Stark/Nessa Quarry	Hamilton	2	0	2
2001	Dunbar Slough	Greene	1	0	1
2001	Kennedy's Pond	Dubuque	1	1	2
2002	Holzer's Pond	Dubuque	3	1	4
2002	Schildberg Gravel Quarry	Cass	1	4	5
2002	East Twin Lake	Hancock	2	0	2
2003	Schildberg Gravel Quarry	Cass	2	2	4
2004	Schildberg Gravel Quarry	Cass	5	7	12
2004	Beemer's Pond	Hamilton	3	5	8
2005	Stark/Nessa Quarry	Hamilton	5	0	5
2006	Beemer's Pond	Hamilton	4	2	6
2006	Schildberg Gravel Quarry	Cass	0	1	1
2007	Ventura Marsh	Cerro Gordo	0	2	2
2008	Ventura Marsh	Cerro Gordo	0	1	1
				Total	71

Table 3. Wild free flying Trumpeter swans nest attempts and total number of released swans. 1994 - present.

<u>Year</u>	<u>Wild Nest</u>			<u>Captive</u>			<u>Released</u>	<u>Estimated Population</u>
	<u>Attempts (known)</u>	<u># of Broods</u>	<u># Hatched</u>	<u>Mean brood size</u>	<u>~ # Fledged</u>	<u>Adult total</u>		
1994	0	0	0		0		4	
1995	0	0	0		0		14	
1996	0	0	0		0		31	
1997	0	0	0		0		35	
1998	1	1	3	3.0	3		57	
1999	1	1	5	5.0	0		42	
2000	2	2	5	2.5	3		91	
2001	9	7	26	3.7	19		83	
2002	10	8	37	4.6	27		63	
2003	14	12	53	4.4	36		82	

2004	14	9	44	4.9	36		75	
2005	26	19	87	4.6	67	86	113	total =266 (Pop Survey Estimate)
2006	29	22	80	3.6	52		85	
2007	31	27	103	3.8	60		73	
2008	26	22	91	4.1	55		65	
2009	41	37	120	3.2	80		71	
2010	42	* 27 to 39	112	4.4	84	156	57	total =297 (Pop Survey Estimate)
2011	51	50	230		161		51	
2012	49	43	170	~3.9	119		20	
2013	46	37	114	~3.0	94		20	
2014	45	38	122	~4.4	90		20	
2015	45						18	
	482		1402		986		1168	

Table 4. Wintering Trumpeters in Iowa

Year	Beemers*	Atlantic*	Boock*	Severe*	Mason City*	Fertile Quarry	Cedar Rapids	Est Total # in state
1997	5							
1998	4							
1999	4							
2000	4							
2001	25							
2002	25	26						75
2003	35	22						100
2004	61	24	15					100
2005	74	24	15		13			
2006	75	33						200
2007	84	37						
2008	100	50	12	35				
2009	150	50						
2010	100	32	25	36	0			193
2011	240	60	33	44	0			377
2012	160	45				52	23	747
2013	160	39	20	55		20		458
2014	286	40		40	11			582

*Beemer's Pond, 5 miles west of Webster City, IA Hamilton county

*Atlantic Quarry, 1 mile NW of Atlantic, IA Cass county

*Boock's Wetland, 4 miles North of Wheatland, IA Clinton county

*Laurie Severe Pond, 2 miles South of Nora Springs, IA Floyd county

*Mason City, 1 mile S of Mason City, IA Cerro Gordo county

Figure 3. Observation reports of Iowa-collared/banded Trumpeter Swans, 1995-2015.

