

YELLOWSTONE BIRD REPORT 1999



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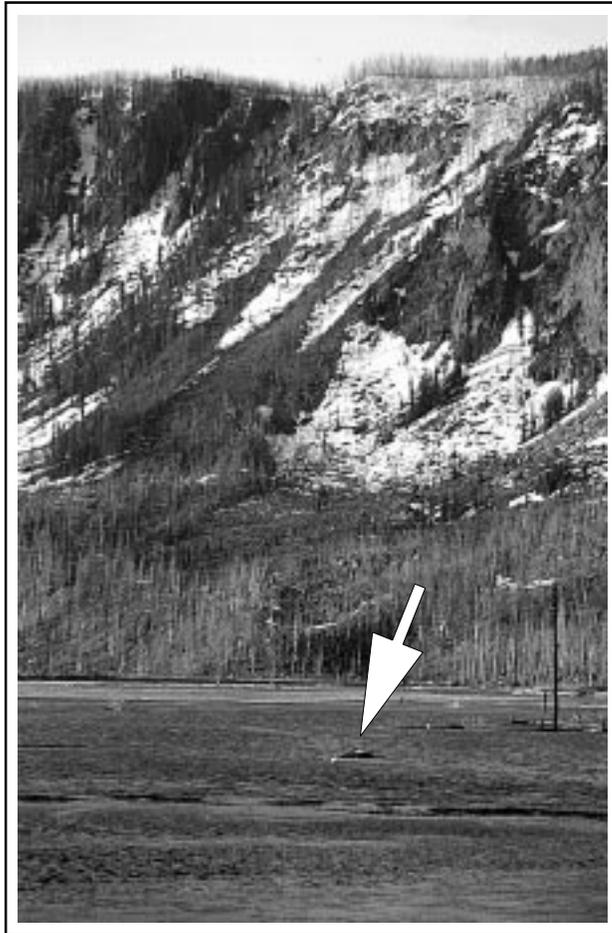
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Cover: Special thanks to my wife, Karen McEneaney, for the stunning pencil drawing of a Golden Eagle (Aquila chrysaetos) talon. The Golden Eagle is one of Yellowstone's most formidable avian predators. When viewing Golden Eagle talons up close, one soon realizes why the bird is a force to be reckoned with in the natural world.

Title page: Great Horned Owllet. The photographs in this report are courtesy of Terry McEneaney.

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Warm spells in June 1999 caused severe flooding, such as at this Trumpeter Swan nesting area near Seven Mile Bridge on the Madison River. Without the aid of the floating nest platform, the Trumpeter Swans would have abandoned the site at the onslaught of flooding.

INTRODUCTION

The Yellowstone Bird Report annually summarizes bird information collected for Yellowstone National Park. It began as a quarterly publication in 1990, but since 1996 it has been an annual document summarizing all results and activities for the calendar year. This information is also used in the Superintendent's Annual Report and provides valuable information for the Yellowstone NP historical record and interested public.

WEATHER PATTERNS AND SUMMARY

The year 1999 marked the end of a weather pattern known as La Niña. By Yellowstone National Park standards, the winter was relatively mild. In January and February large amounts of precipitation fell, but temperatures were average (Table 1). March was average in both precipitation and

temperature. April and May were cold, resulting in a late spring. An unseasonable amount of precipitation fell parkwide during May, causing early flooding. The June flooding that occurred was caused by warm temperature spells, as precipitation was near average and temperatures were otherwise colder than normal.

The seasons are always highly variable in Yellowstone NP, but the summer of 1999 was relatively cool and wet, particularly at high elevations. There were very few lightning strikes, so wildfire reports were minimal. Fall was dry, windy, and warm. Precipitation was slow in coming, with very little snow on the high peaks in early winter. Large numbers of elk remained in the park well into December due to the shortage of snow.

TABLE 1. 1998/1999 TEMPERATURE AND PRECIPITATION COMPARISONS

Month	TEMPERATURE (°F)			
	1998		1999	
	Min.	Max.	Min.	Max.
Jan	-20 OF	43 M	-26 OF	44 OF
Feb	-23 OF	45 M	-27 OF	50 T
Mar	-25 SR	56 M	-28 OF	66 M
Apr	4 OF	68 M	-9 L	66 M
May	21 OF	77 M	4 L	78 M
Jun	20 T	77 OF	10 OF	84 OF
Jul	20 SR	94 M	22 OF	92 T
Aug	32 SR	90 M	26 T	88 M
Sep	25 T	92 M	4 T	80 M
Oct	22 T	72 SR	10 OF	72 T
Nov	-7 OF	54 M	-9 OF	66 T
Dec	-45 OF	46 T	-16 T	51 SR

Month	PRECIPITATION (INCHES)			
	1998		1999	
	Min.	Max.	Min.	Max.
Jan	1.33 M	6.53 SR	1.07 M	7.39 SR
Feb	0.13 M	1.15 SR	0.94 T	5.13 SR
Mar	0.63 T	3.84 SR	0.31 M	1.87 SR
Apr	0.26 T	3.13 SR	1.14 OF	1.91 SR
May	0.07 T	3.12 SR	1.51 T	3.86 SR
Jun	4.13 T	5.51 L	1.59 M	4.02 L
Jul	0.86 M	2.71 OF	0.51 M	1.85 SR
Aug	0.19 M	2.07 SR	3.04 L	3.46 T
Sep	1.68 M	2.93 SR	0.14 M	1.60 L
Oct	0.29 M	1.44 OF	0.17 M	0.82 T
Nov	1.96 M	5.46 SR	0.31 T	2.57 SR
Dec	0.66 M	4.08 SR	0.95 M	2.90 SR

L=Lake, M=Mammoth, OF=Old Faithful, SR=Snake River, and T=Tower.



In 1999, Bald Eagles maintained 26 active nests in Yellowstone National Park.



Since the fires of 1988, it appears that the frequency with which Bald Eagles are taking over Osprey nest sites is increasing.

THREATENED AND ENDANGERED SPECIES

PEREGRINE FALCON

As of August 26, 1999, the Peregrine Falcon was “delisted,” or removed, from the list of threatened and endangered species. Although this species is no longer officially listed as endangered, provisions afforded by the Endangered Species Act require that it be monitored closely for the next five years to ensure its recovery. (See “Species of Special Concern,” page 11.)

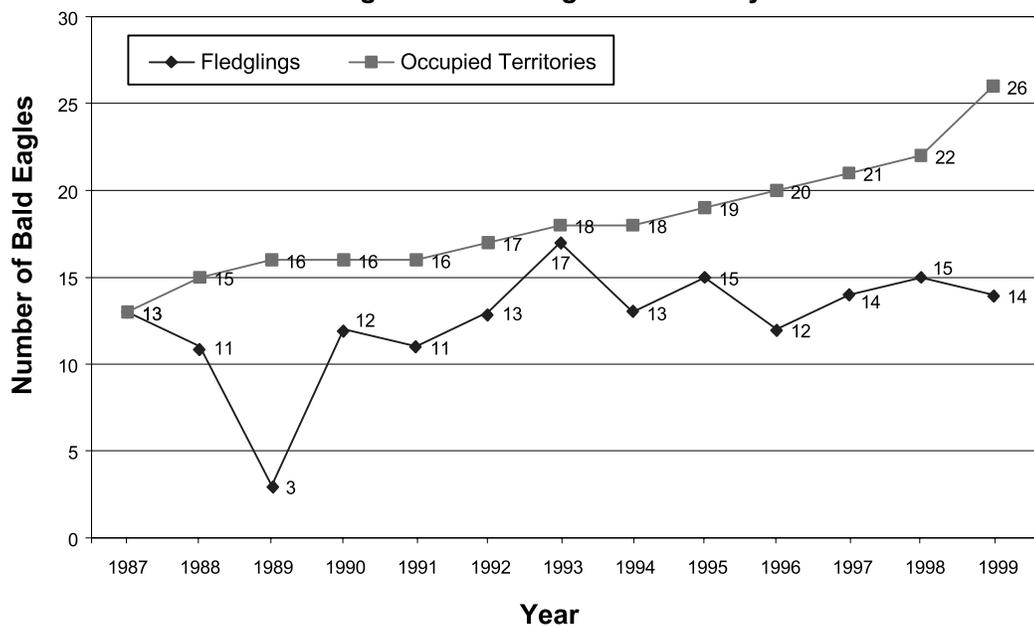
BALD EAGLE

In 1995, the U.S. Fish and Wildlife Service downlisted the Bald Eagle from endangered to threatened due to significant population gains made over the last three decades. Certain specific populations, however, are not completely recovered due to heavy metal contamination problems in the Great Lakes region, and habitat encroachment and devel-

opment problems associated with riparian zones in the desert southwest.

In Yellowstone NP, a total of 14 eaglets fledged from 26 active nests during 1999 (Figure 1). Nest substrate instability, a result of the 1988 Yellowstone NP wildfires, caused minimal problems for nesting pairs; however, in following decades we expect large numbers of trees to topple to the ground. This will undoubtedly result in nest failure, loss of nest sites, and sudden changes in the locations of nesting territories. Although it has occasionally been documented that Bald Eagles will take over previously occupied Osprey nests, the incidence of takeover appears to be increasing due to the competition for nest sites. In 1999 alone, two previously known Osprey nest sites were occupied by Bald Eagles.

Figure 1. Bald Eagle Productivity



WHOOPING CRANE

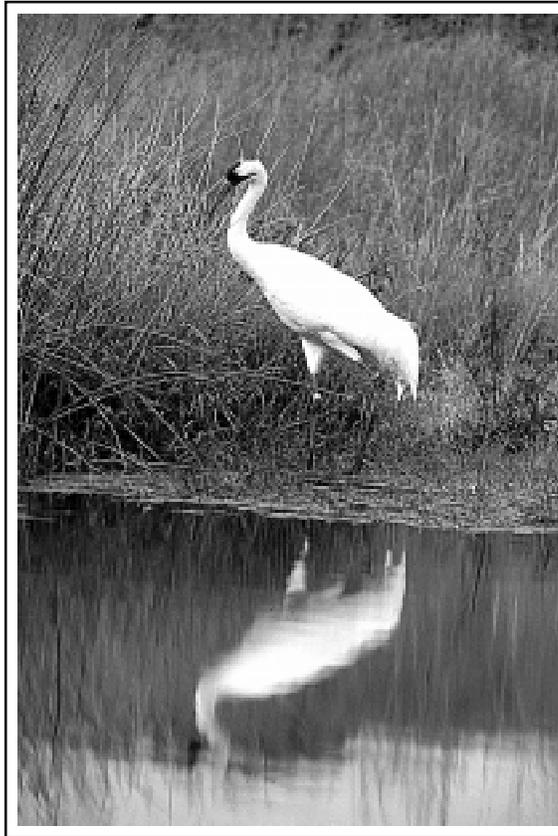
The Whooping Crane is currently classified as an endangered species. The worldwide population consists of both wild and captive populations. This endemic North American species continues to be the rarest and most endangered crane in the world. Population figures as of December 1999 placed the wild population at 252 cranes, and the captive population at 132 cranes, for a total world population of 384 Whooping Cranes (Table 2).

A cross-fostering experiment to create a new migratory flock of Whooping Cranes took place in the Rocky Mountains in 1975. Under the direction of the U.S. Fish and Wildlife Service, researcher Rod Drewien transported Whooping Crane eggs from Wood Buffalo National Park in Alberta, Canada, and placed them under incubating Sandhill Cranes on Gray's Lake National Wildlife Refuge in Idaho. The main focus of the cross-fostering experiment was to have Sandhill Crane adults hatch and raise Whooping Crane young. The hope was that the Sandhill Cranes would lead immature Whooping Cranes on migration to a Sandhill Crane winter safehaven known as Bosque del Apache National Wildlife Refuge in New Mexico.

Initially, the cross-fostering experiment showed promising signs, but eventually problems developed. Of particular concern were high crane mortality and Whooping Crane mating behavioral problems associated with the experiment. However, a significant amount of valuable information was gained as a result of this study. In summary, a total of 289 eggs were removed from the wild for this experiment,

which resulted in the Rocky Mountain Whooping Crane population reaching a peak of 35 subadults and adults in 1985.

As of 1999, only two adults had survived from the original Gray's Lake experiment, and they resided within the greater Yellowstone area. These



As of 1999, Whooping Crane numbers totaled 252 in the wild and 132 in captivity, bringing the total world Whooping Crane population to 384.

birds were not paired. One bird has resided in a remote area of Yellowstone National Park for years, and the other frequents the Centennial Valley of Montana. In addition, the Yellowstone National Park bird program has been monitoring a sandhill-whooper hybrid since its discovery in 1992. The bird was previously frequently seen with a Sandhill Crane and carefully monitored. This bird has significant scientific value, since it could allow us an opportunity to see whether it can reproduce successfully in the wild. This important piece of information could assist Whooping Crane recovery efforts in the future. Unfortunately, this hybrid crane could not be located during the 1999

field season and is presumed dead.

Another Whooping Crane experiment that had a bearing on Yellowstone occurred in the Rocky Mountains in 1997–98. Four young Whooping Cranes raised in captivity at Patuxent Wildlife Research Center in Maryland were transported to a ranch in eastern Idaho as part of an experiment to learn how to establish a new migratory flock of Whooping Cranes in North America. The birds were trained to follow an ultralight aircraft.

In the autumn of 1997, these cranes traveled from eastern Idaho to the Bosque del Apache National Wildlife Refuge in New Mexico following the aircraft. Two of the cranes were killed by

predators on the wintering grounds. The two remaining “ultralight” cranes began their spring travels north on March 5, 1998, staging for a month in the San Luis Valley of Colorado. Once moving again, the birds had problems with fences and powerlines. (Collisions with wires continue to be the greatest cause of mortality for immature Whooping Cranes.) These cranes were quickly recaptured and released into a presumably safer environment in Yellowstone National Park.

In May 1998, these two ultralight Whooping Cranes were released in the Slough Creek area of the park. This area proved to be troublesome. Visitors came in close contact with the birds, creating imprinting problems. Later that summer, an effort was made to recapture the cranes, but only one was caught. This bird was transported to a remote area of the park. The other crane remained

in the vicinity of Slough Creek until it migrated out of the area that fall. Both birds returned to the wintering grounds. In the spring of 1999, one of these birds died in northern Utah of causes yet to be determined, leaving a lone survivor residing in eastern Idaho for the summer.

The prognosis for the Whooping Crane in the greater Yellowstone area does not appear promising, and it may disappear from the area in the near future. The Whooping Crane Recovery Team has deemphasized efforts to establish this species in the greater Yellowstone area in the immediate future, citing mortality, disease, habitat, pair-bonding, imprinting, and state support issues, to name a few. In September 1999, the Whooping Crane Recovery Team recommended the Wisconsin-Florida corridor as the best experimental site for establishing a migratory flock of Whooping Cranes.

TABLE 2. 1999 WILD AND EXPERIMENTAL WHOOPING CRANE POPULATIONS

WILD POPULATIONS

Area	Adults	Young	Total
Aransas/Wood Buffalo NP	168	17	185
Rocky Mountain	3	0	3*
Florida	60	4	64
Subtotal in the wild	231	21	252

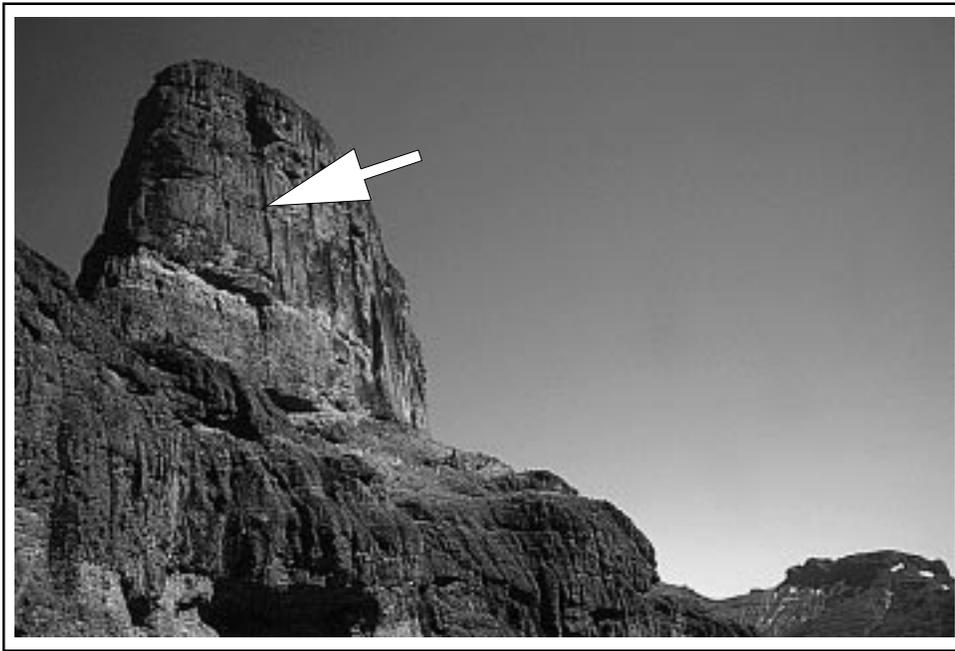
*These birds (one ultralight and two Gray's Lake Whooping Cranes) all summered in the greater Yellowstone area.

CAPTIVE POPULATIONS

Area	Adults	Young	Total	Breeding Pairs
Patuxent WRC, MD	44	26	70	10
International Crane Foundation, WI	29	1	30	6
Calgary Zoo, Alberta, Canada	21	2	23	2
San Antonio Gardens, TX	4	2	6	2
White Oak Conservation Center, FL	1	0	1	0
Lowery Park Zoo, Tampa, FL	1	0	0	0
Audubon Institute, New Orleans, LA	2	0	2	0
Subtotal in captivity	102	31	132	20

Total (wild and captive)

384



One of the 14 Peregrine Falcon eyries monitored in Yellowstone in 1999.

SPECIES OF SPECIAL CONCERN

PEREGRINE FALCON

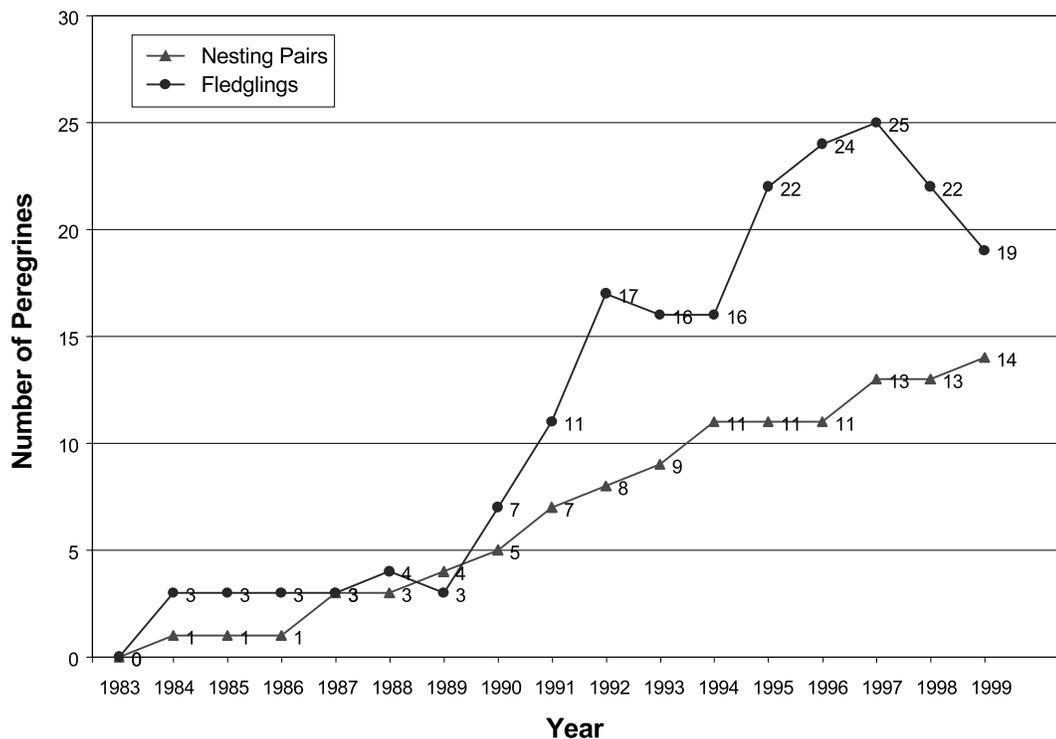
As mentioned earlier, the Peregrine Falcon has been removed from the list of endangered species and is now managed as a species of special concern. Yellowstone NP continues to be a stronghold for peregrines in the Northern Rockies. A new eyrie was found in 1999, bringing the total number of eyries to 14 (Figure 2). In spite of unusually cold and wet weather conditions in the spring and early summer, which typically result in the loss of young, 19 young fledged.

Monitoring peregrine eyries is a time-consuming task, involving a minimum of three visits to each eyrie per year. Beginning in 2000, a minimum of one-third of all known eyries in the park are expected to be checked each year, thus completing a full parkwide production survey every three years. This will allow the park ornithologist time to check additional cliff faces for new eyries as well.



Swan Lake Flats is characteristic habitat for Yellowstone's Peregrine Falcons.

Figure 2. Peregrine Falcon Productivity



TRUMPETER SWAN

The Yellowstone NP resident Trumpeter Swan population continues to show signs of a population at risk. Traditionally, the Centennial Valley of Montana has been a hot spot for cygnet production in the greater Yellowstone area. However, events over the last several years have led to a reduction of breeding swans and fledged cygnets (Figure 3).

The number of adult swans in Yellowstone National Park has declined over the years and currently stands at 20 individuals (Figure 4). In recent years, trumpeter swan nest attempts have ranged from 4 to 10 per year (Figure 5). There were only six nest attempts in 1999, compared with nine in 1998.

Figure 5. Yellowstone Trumpeter Swan Nest Attempts

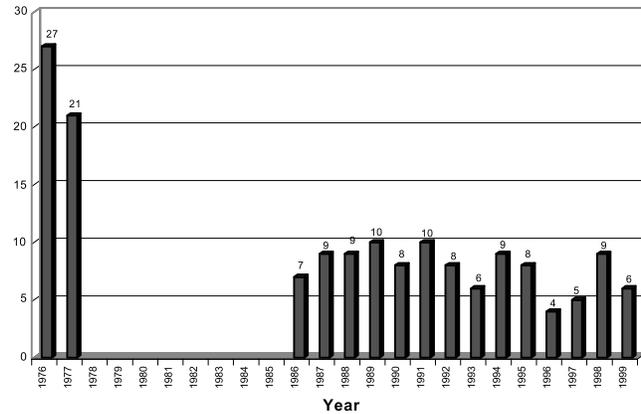


Figure 3. Yellowstone Trumpeter Swan Cygnet Productivity

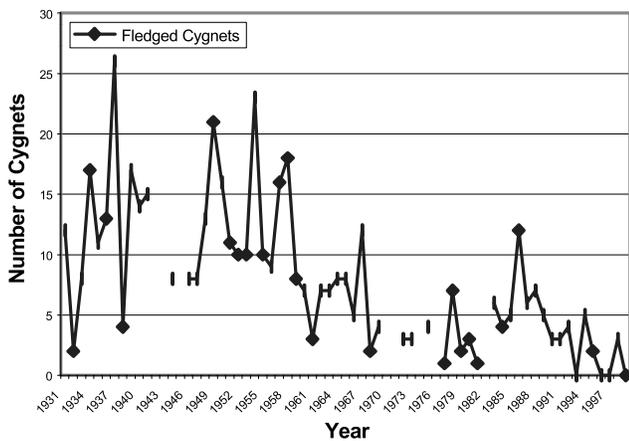
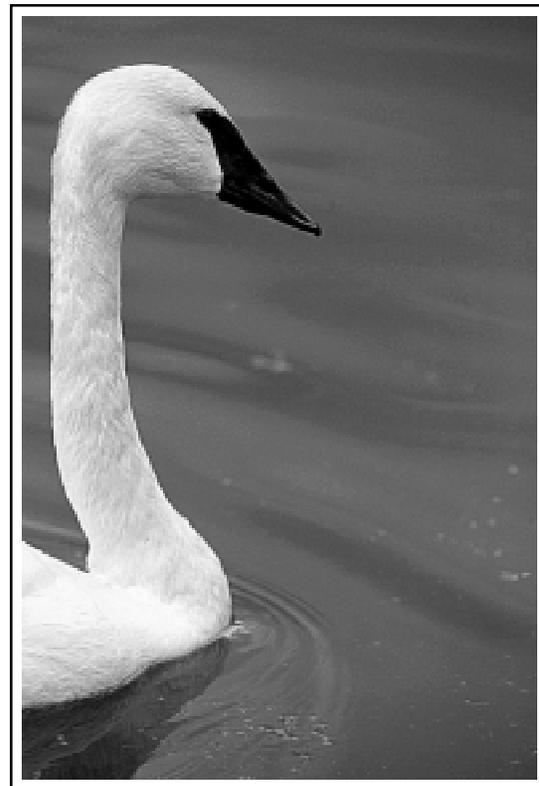
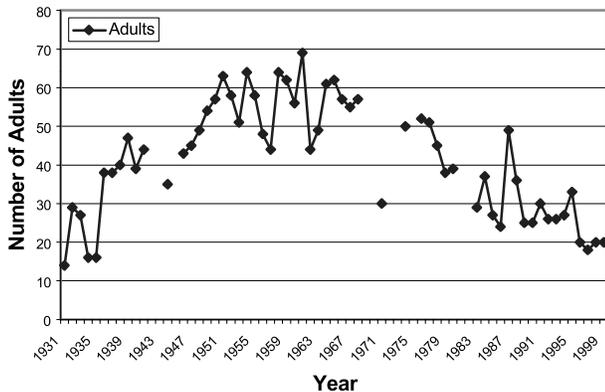


Figure 4. Yellowstone Trumpeter Swan Population Dynamics



One of only 20 resident adult Trumpeter Swans found in Yellowstone in 1999.

Paradise Valley Trumpeter Swan Flock.

Yellowstone National Park began to participate in Trumpeter Swan conservation issues in Paradise Valley (north of the park) due to the potential threat posed by exotic Mute Swans. In the 1960s, a private landowner purchased a pair of Mute Swans for aesthetic purposes. By the late 1970s, the Mute Swan population had grown to a high of 120 individuals. Fearing potential competition with native Trumpeter Swans in Yellowstone National Park, the National Park Service became involved in a program to reverse this alien threat to native swans. In 1987, a slide program was presented by the Yellowstone National Park staff to Paradise Valley landowners interested in helping resident Trumpeter Swans. After the initial presentation, an informal agreement was reached indicating the importance of eliminating Mute Swans immediately and replacing them with captive-raised Trumpeter Swans. The biggest obstacle was finding private funding to pay for the program, particularly since the purchase of captive Trumpeter Swans can be very expensive. Generous support from the Cinnabar Foundation and the Chevron Corporation, in addition to contributions from private citizens, allowed this program to proceed on schedule.

Once funding was procured, a plan was developed. The first order of business was the

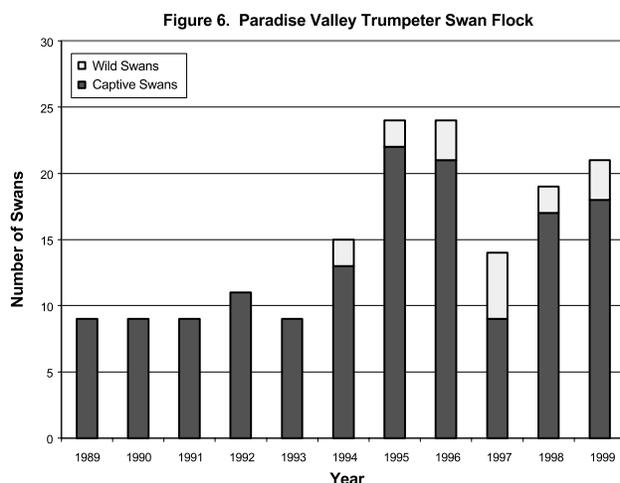
elimination of Mute Swans. The staff ornithologist, through the help of landowners and park rangers, began to eliminate the first Mute Swans in the fall of 1987. By 1989, the Mute Swan population was reduced to 13 individuals, and Trumpeter Swans were introduced into Paradise Valley. In 1991, Trumpeter Swans outnumbered Mute Swans nine to two in Paradise Valley. By the mid-1990s, Mute



The Brockway Ranch played an important role in the conservation of the Trumpeter Swan in Paradise Valley.

Swans were eliminated from Paradise Valley altogether. Therefore, the threat posed by an alien species was extinguished in a relatively short period of time.

Throughout the years, the Paradise Valley Trumpeter Swan program has experienced two major setbacks: 1) two captive swans and one wild swan were illegally shot or poached on the DePuy Ranch on December 2, 1995, and 2) severe floods on the Yellowstone River during the spring and summer of 1997 and 1998 flushed many swans downriver, leading to a major decline in the swan flock. In 1999, one captive swan pair managed to fledge five cygnets on one ranch and a wild swan pair fledged a single cygnet. However, there currently exists a flock in Paradise Valley that totals 21 swans (Figure 6), compared to 20 individuals found in Yellowstone National Park in 1999.



MOLLY ISLANDS COLONIAL NESTING BIRDS

The Molly Islands Colonial Nesting Bird Census was conducted in mid-May, early June, early August, and mid-September, 1999. The Molly Islands consist of two small islands appropriately named Rocky Island and Sandy Island, due to the nature of the nesting substrate. The census techniques applied this year were consistent with those conducted over the last several years. However, due to logistical difficulties on Yellowstone Lake, only aerial surveys were employed.

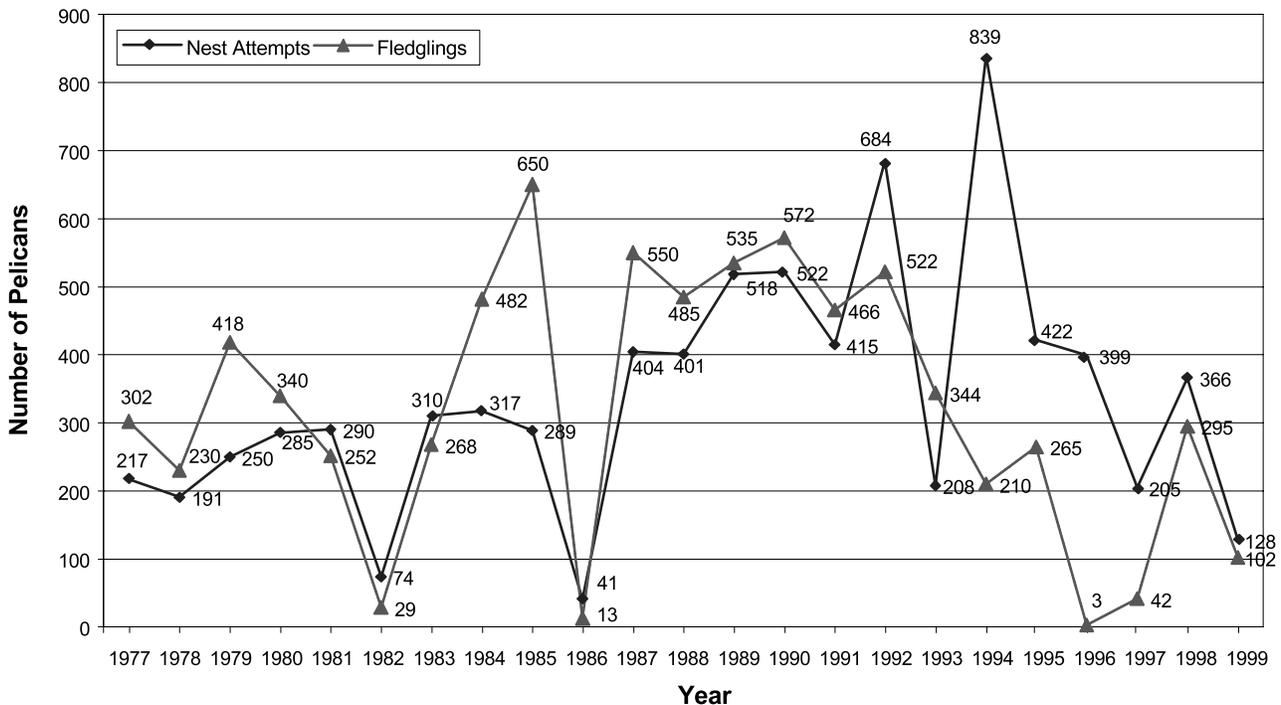
Yellowstone Lake remained in a deep freeze much later than normal in 1999; therefore, pelicans were late in arriving at the islands. On Rocky Island, a total of 58 pelican nests were initiated on the highest part of the island (Table 3). Pelican nesting was restricted to one aggregation. Double-Crested Cormorants constructed 50 nests within this pelican aggregation. High water levels, as a result of snow runoff, threatened the colonial nesting birds again this year. Once the flooding receded, only 10 American White Pelican nests and 35 Double-Crested Cormorant nests remained, and all of these turned out to be successful. Of the 90 pairs of California Gulls that attempted to nest, 51 nesting pairs were successful in raising young. The four Caspian Tern nests quite suddenly were reduced to

two nests due to flooding. The following young fledged from Rocky Island: 12 American White Pelicans, 98 Double-Crested Cormorants, 90 California Gulls, and 2 Caspian Terns.

On Sandy Island, a total of 70 American White Pelican nests were initiated in one large aggregation, but only 52 nests were successful in rearing 90 young. Double-Crested Cormorants did better than expected, with 25 successful nests out of the 40 nests initiated, resulting in 50 fledged young. As usual, no Caspian Terns nested on Sandy Island.

In summary, 1999 was a year of low colonial nesting bird production due to the late nesting season, cold temperatures, and sudden flooding. Total production on the Molly Islands resulted in fledging 102 American White Pelicans (Figure 7), 148 Double-Crested Cormorants, 90 California Gulls, and 2 Caspian Terns. As the exotic lake trout management program continues in Yellowstone Lake, so too, the status of the Molly Islands birds will play a more critical role in assessing the impacts of this exotic organism on endemic piscivorous bird species. At this time, however, lake trout do not appear to have adversely affected colonial nesting bird production. Climatic conditions continue to appear to play the most important role in influencing bird production on these islands.

Figure 7. American White Pelican Productivity





Rocky Island, one of the two islands that comprise the Molly Islands. Aerial photographs continue to play a major role in censusing Yellowstone's colonial nesting birds.

TABLE 3. 1999 MOLLY ISLANDS COLONIAL NESTING BIRD PRODUCTIVITY

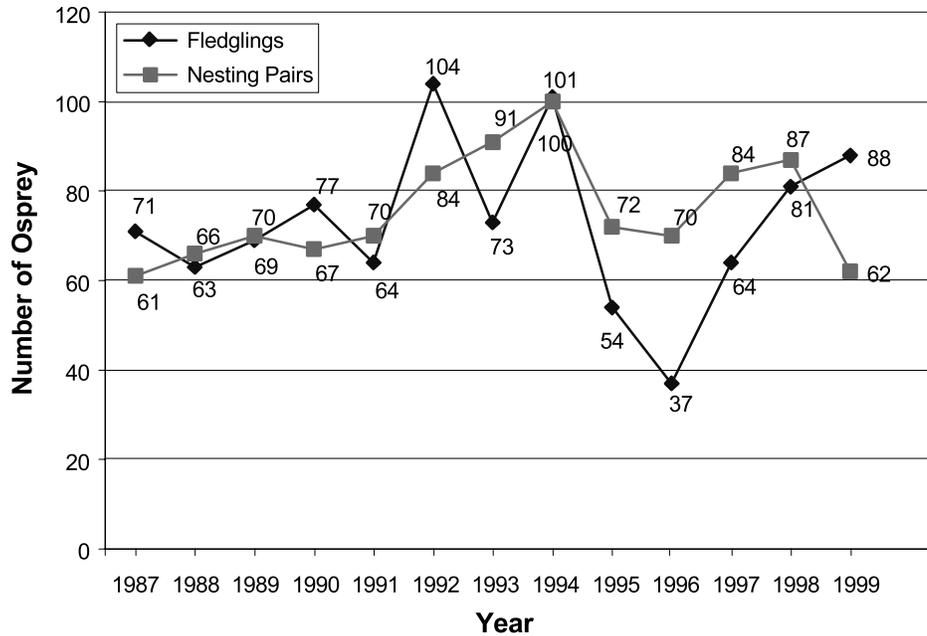
Area	Species	Nests Initiated	Nests Successful	Young Fledged
Rocky Island				
	American White Pelican	58	10	12
	Double-Crested Cormorant	50	35	98
	California Gull	90	51	90
	Caspian Tern	4	2	2
Sandy Island				
	American White Pelican	70	52	90
	Double-Crested Cormorant	40	25	50
Molly Islands Totals				
	American White Pelican	128	62	102
	Double-Crested Cormorant	90	60	148
	California Gull	90	51	90
	Caspian Tern	4	2	2

OSPREY

The Yellowstone NP Osprey population fared better than expected in 1999. Egg laying was later than normal due to the late spring weather, resulting in 62 nesting pairs fledging 88 young (Figure 8). Tree nest-site instability and weather continued to play a role in influencing Osprey productivity in the

park. The incidence of Bald Eagles taking over Osprey nest sites was noticeable this year and was documented at two sites. Monitoring the population dynamics of Ospreys and other piscivorous bird species is especially important as we chart lake trout numbers over time.

Figure 8. Osprey Productivity



Yellowstone Lake is home to the greatest density of Ospreys anywhere in Yellowstone National Park.

HARLEQUIN DUCK

The Harlequin Duck population in Yellowstone NP continues to maintain itself and is only mildly variable from year to year, with generally 16–20 pairs residing in the park. Monitoring adults is the most effective method of keeping track of population vigor and trends. Monitoring annual productivity is not cost effective, as data collection is extremely time-consuming and difficult due to the remoteness of many of the areas in which harlequins are found. Productivity is extremely variable from year to year and is highly influenced by weather, such as flooding.



Harlequin Duck male and female, Yellowstone National Park.

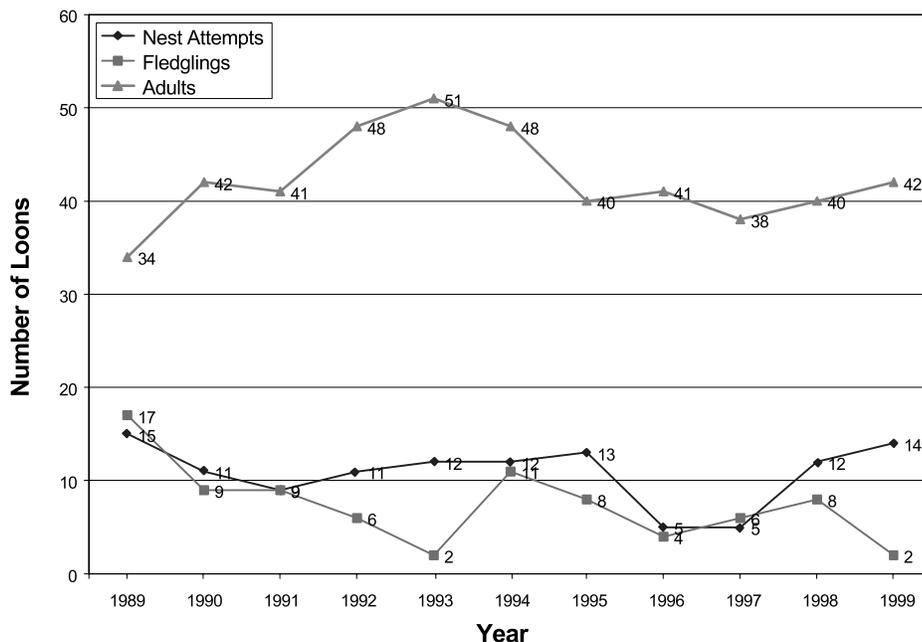
COMMON LOON

The Common Loon population in Yellowstone NP continues to fluctuate from year to year. There were 14 nest attempts in 1999, yet only two young managed to reach fledgling age (Figure 9). A total of 42 adults were found in the park in 1999 (numbers have ranged between 34 and 51 individuals). Yearly fluctuations in adult numbers and in the production of young are the result of variable weather conditions. Flooding during the month of June was primarily responsible for the poor loonlet production.



Common Loon, Yellowstone National Park.

Figure 9. Common Loon Productivity Trends



OTHER STUDIES AND POPULATION MONITORING

NORTH AMERICAN BIRD MIGRATION COUNT

Yellowstone National Park participated in the North American Bird Migration Count for the seventh consecutive year in 1999. Originally designed to collect quantitative and qualitative spring bird migration information on a continental scale, the count has turned into a low-key social event. The survey is traditionally scheduled each year on the second Saturday in May. This year the count was conducted on May 8. Three observers recorded a total of 2,963 individual birds (Table 4). A total of 85 species of birds were recorded during the count, including 70 species within the confines of Yellowstone NP.



Volunteers like Mark Donahue and Jeff Johnson played an important role in collecting data for a separate migration study conducted on Mt. Washburn from 1995 through 1997.

**TABLE 4. 1999 NORTH AMERICAN BIRD MIGRATION COUNT SUMMARY
YELLOWSTONE NATIONAL PARK AND VICINITY**

Year	1993	1994	1995	1996	1997	1998	1999
Number of Species Recorded	72	74	61	82	93	91	85
Revised Number of Species (1996 Standards and Route)	86	74	75	82	93	91	85
Total Number of Species in YNP	69	73	52	73	70	69	70
Total Individual Birds							
Yellowstone NP, WY	1,545	1,793	2,408	1,797	1,038	1,073	826
Yellowstone NP, MT	289	145	242	113	94	64	163
Outside YNP (Park Co., MT)	<u>139</u>	<u>89</u>	<u>248</u>	<u>313</u>	<u>949</u>	<u>413</u>	<u>1,974</u>
Grand Totals	1,973	2,027	2,898	2,223	2,081	1,550	2,963
Number of Observers	2	5	7	4	4	4	3
Hours in the Field	16	47.5	76.5	28	42	48	36

MID-WINTER BALD EAGLE SURVEY

A mid-winter Bald Eagle survey was conducted for the 13th consecutive year in Yellowstone National Park and on portions of the northern range outside of the park. A total of 25 eagles were counted on January 8, 1999 (Figure 10). Of the total, 22 were identified as Bald Eagles, and three were identified as Golden Eagles. The northern range outside of Yellowstone National Park continues to be the hot spot for wintering eagles, possibly in relation to carrion availability from the regular- and late-season elk reduction hunts. Weather continues to play a major role in eagle distribution, as does prey and carrion availability.

BREEDING BIRD SURVEYS

Three Breeding Bird Surveys were conducted in 1999. This songbird data was sent to the continental clearing house located at the Patuxent Wildlife Research Center in Laurel, Maryland, and is included in the information available online at www.mp2-pwrc.usgs.gov/bbs. Data from these surveys are used to develop population trends for North American songbirds. Yellowstone National Park Breeding Bird Surveys date back as far as 1982.

GLACIER BOULDER ROUTE SURVEY

The Glacier Boulder route survey documents birdlife found exclusively in lodgepole pine, and was conducted again in 1999. The transect begins at the

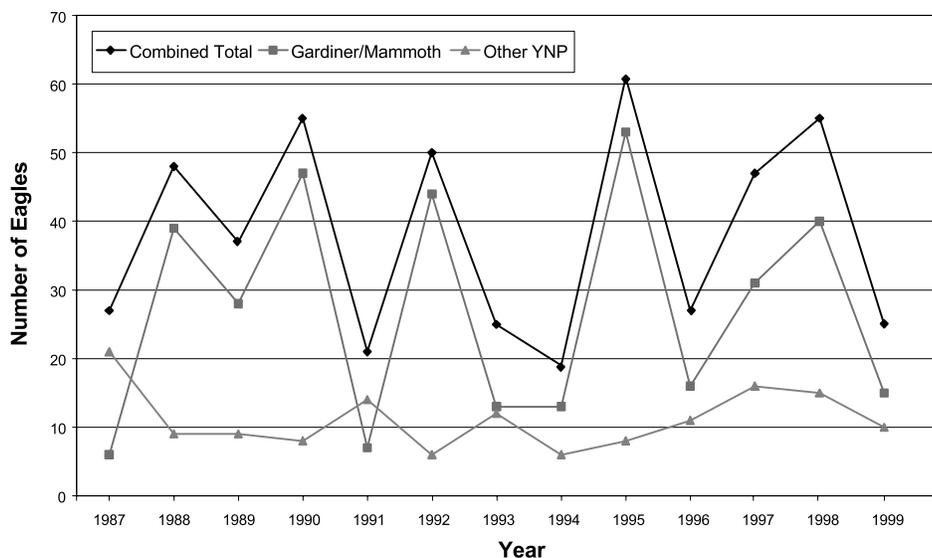
Glacier Boulder trailhead near Inspiration Point. The point count census consists of 30 stations and is conducted entirely on foot. Census protocol for this survey is similar to that of a Breeding Bird Survey. This was the fourth year in a row that this survey was conducted, establishing additional baseline data for neotropical migrant landbird monitoring.

CHRISTMAS BIRD COUNT

The 1999 Christmas Bird Count (CBC) marked the 27th year that the survey has been conducted in the Yellowstone area. During count day, December 19, a total of 34 species comprising 1,986 individuals were recorded. Five additional species were recorded during count week. Highlights of the CBC included one Harris' Sparrow and two Virginia Rails during count day, and one Northern Saw-Whet Owl and two Marsh Wrens during count week. The Northern Saw-Whet Owl, found on December 20 in Gardiner, Montana, constituted a new species for count week. As of 1999, a grand total of 95 species have been recorded on Yellowstone CBC day, and 97 species during CBC week.

This Christmas Bird Count had the highest public participation ever—22 people. Temperatures ranged from -12 to 30°F. Conditions were mild, and rivers that would usually have been frozen were not. Despite the mild conditions, a slightly above average number of species were observed. Record numbers of Canada Geese (275) and Green-Winged Teal (27) were also documented.

Figure 10. Mid-Winter Bald Eagle Survey



MISCELLANEOUS PROJECTS AND PROGRAMS

NEW BIRD RECORDS FOR YELLOWSTONE NATIONAL PARK

Two new species of birds were added to the bird checklist in 1999. On August 27, 1999, a Wandering Tattler was found in Porcelain Basin (Norris Geyser Basin) by park visitor Larry Schmahl. Mr. Schmahl provided excellent details of his observation of this unique shorebird, and the information has been submitted to the park bird records. On October 30, 1999, Anita Varley found a small owl that had been killed by Black-Billed Magpies in front of the administration building. The owl was identified as a Flammulated Owl. The specimen has been preserved and will be placed into the park scientific bird collection in 2000.

As of 1999, 311 species of birds have been documented in the park since it was established in 1872. The Yellowstone National Park bird checklist was last revised in June 1996. A newly revised bird checklist will be available by April 2000. This checklist is available on the park website at www.nps.gov/yell.

TRUMPETER SWAN CONSERVATION VIDEO

The staff ornithologist spent a large percentage of his time in 1999 working on the production of a Trumpeter Swan conservation video entitled "Save the Yellowstone Trumpeter Swan." Private funding for this project was provided by the Bernice Barbour Foundation through the assistance of the Yellowstone Park Foundation, a private group which provides fundraising assistance to Yellowstone National Park. Work involved video planning; development of a film schedule and video script; film layout; and video production. The video is designed to be broken down into two parts: a 10-minute version for general visitor center audiences, and a 29-minute version for other audiences. The video is expected to be available in the spring of 2000.

BIRD WEBSITE REVISION

Plans have been made for a more refined bird section on the official Yellowstone National Park website. Park website coordinator Tom Cawley and the staff ornithologist worked incrementally to change the bird information on the park website. Plans call for a more detailed section on birds, which will include information on threatened and endangered birds, species of special concern, and neotropical migrant landbirds; instructions on how to add bird observations to park bird records, and on how to contribute to the Yellowstone Park Foundation's Yellowstone Bird Fund and their current projects; a revised bird checklist; access to bird population trend data; and annual reports.

BIRD IMPRESSION

In the fall of 1998, a cast or impression was discovered in a geothermal sinter deposit by graduate student Alan Channing from the University of Wales. The staff ornithologist was called in to assist Mr. Channing in determining if the impression was that of a bird. It was determined that the cast was indeed that of a bird, and it was remarkably well preserved. Details such as feather



Alan Channing of the University of Wales (center) and his field assistants upon discovering the bird impression in Yellowstone National Park.

tracts, legs, neck, head, and bill were evident. The specimen was collected and later identified as an American Coot (*Fulica americana*). The bird cast was transferred to the Museum of the Rockies, where it is being temporarily stored pending further analysis. Museum of the Rockies paleontologist Jack Horner is working with his associates and Mr. Channing on a scientific publication scheduled for the fall of 2000.

NATIONAL GEOGRAPHIC FIELD GUIDE

The staff ornithologist assisted the National Geographic Society in revising the second edition of the "Field Guide to the Birds of North America." This is one of the most popular bird field guides in North America. The ornithologist assisted by providing species distribution data for the entire greater Yellowstone area. In the past, range and distribution maps for this geographic area have sometimes been inaccurate due to the lack of knowledge of species in this area.

RETIREMENT OF YELLOWSTONE PILOT DAVE STRADLEY

The staff ornithologist attended the retirement party for Dave Stradley of the Gallatin Flying Service. Dave Stradley made a significant contribution to Yellowstone National Park, not only in regard to Yellowstone's bird management program, but to many other wildlife programs as well. The bird management program benefited from his piloting skills and experience, as well as his sharp eyes. Yellowstone's bird data is unique not only in its duration, but in its consistency over time, and using the same pilot and observer for so many years added to this consistency. Dave really was a standout in censusing birds. Bird censusing from a low-flying aircraft is hazardous duty. The park thanks him for his service and his dedication to birds over the years.

YELLOWSTONE BIRDS: THEIR ECOLOGY AND DISTRIBUTION

This project has not progressed since 1998, as there was simply no work time to devote to this

project. All work done to date has been on the staff ornithologist's personal time.

COMPUTERIZED DATABASE

The tables and charts found in this report are the result of an effort to computerize the bird database over the last two years. Progress is slowly being made on this huge project. A computer technician will assist the staff ornithologist in the summer of 2000.

ENVIRONMENTAL ASSESSMENTS AND STATUS REVIEWS

The most important Yellowstone NP assessments in 1999 that utilized bird data were highway construction, winter use, and bison management. The U.S. Fish and Wildlife Service also contacted the staff ornithologist regarding status reviews for the Black Tern and Sage Grouse. Because of the large number of bird species, more status reviews of this nature are expected in the future.

WHOOPING CRANE RECOVERY TEAM MEETING

The staff ornithologist attended the Whooping Crane Recovery Team meeting in Baraboo, Wisconsin, on September 22, 1999. At that meeting, he presented an update on the "Status of the Whooping Crane in Yellowstone National Park and the Greater Yellowstone." The presentation was well received, and the team was delighted that a representative of Yellowstone National Park was able to attend. Many new contacts were forged and old acquaintances were renewed during that meeting. (See the Whooping Crane section, page 8, for a status update.)

GREATER YELLOWSTONE BALD EAGLE WORKING GROUP

Established in 1982, the Greater Yellowstone Bald Eagle Working Group is still in existence. Bald Eagle productivity and other management information are communicated to the group via an annual meeting, but a meeting was not held in 1999. Hopefully, the working group will continue to exist.

The Bald Eagle is doing remarkably well and is ecologically recovered in the greater Yellowstone area. The group is unified in its belief that the Bald Eagle can be delisted in this area. The U.S. Fish and Wildlife Service is expected to take such action in 2000.

GREATER YELLOWSTONE PEREGRINE FALCON WORKING GROUP

Peregrine Falcon working groups are primarily organized by state. The park participates in two Peregrine Falcon working groups (Montana and Wyoming), and has been an active participant ever since peregrines have been found in the greater Yellowstone area. Wyoming has an informal working group and most of the coordination is done over the telephone. Montana has a more formalized working group. Yellowstone National Park works closely with both state agencies and the Peregrine Fund. Working as a team is one of the main reasons the peregrine has made such a remarkable recovery. The Peregrine Falcon was officially delisted on August 26, 1999.

GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP

The Greater Yellowstone Trumpeter Swan Working Group was organized in 1997. The staff ornithologist is chairman of this working group. Yellowstone National Park and Wyoming Game and Fish are taking the lead to ensure that the greater Yellowstone area Trumpeter Swans are conserved.

Annual population and production data for greater Yellowstone area Trumpeter Swans are collected by the group, and management activities are communicated between agencies at these meetings. A meeting took place in Yellowstone National Park in the fall of 1999, with more than 30 members in attendance. The working group realizes the fragility of the greater Yellowstone area and the Yellowstone National Park Trumpeter Swan population.

MONTANA BIRD RECORDS COMMITTEE

The Montana Bird Records Committee meets once or twice a year, depending on the volume of

information, to review new bird records. This is a very high profile committee, which keeps the park up-to-date on the latest advances in ornithology. The staff ornithologist is chairman of this committee.

WYOMING BIRD RECORDS COMMITTEE

The staff ornithologist was elected to the Wyoming Bird Records Committee in 1998. Similar to the Montana program, the Wyoming Bird Records Committee meets once a year in the spring to review bird records. Yellowstone participated in its first meeting in May 1999 in Lander, Wyoming. The staff ornithologist was selected as the chair for the committee for the next three years.

HARLEQUIN DUCK WORKING GROUP

Yellowstone National Park is a member of the Harlequin Duck Working Group. Although no formal meeting occurred in 1999, the staff ornithologist is planning to attend the March 2000 meeting.

NEOTROPICAL MIGRANT WORKING GROUPS

Yellowstone National Park typically participates in three neotropical migrant working groups. The two state working groups are the Montana Partners in Flight and the Wyoming Partners In Flight. The third group, an international working group, is called the Western Working Group Partners in Flight. Ornithologists from all over the West are in this group, including colleagues from Canada and Mexico. They are currently focused on prioritizing species and developing conservation plans. Meetings occur twice a year, usually in different areas of the West. The staff ornithologist was unable to attend the important Neotropical Ornithological Congress in Monterey, Mexico, due to budget shortages. These shortages kept him from attending any of the 1999 neotropical migrant working group meetings.

ADOPT A BIOSPHERE RESERVE PROGRAM AND THE NPS RECYCLED UNIFORM PROGRAM

Yellowstone continues to assist the two adopted biosphere reserves in Mexico (Mariposa Monarca Biosphere Reserve and the Manantlan

Biosphere Reserve). We continue to offer logistical support, as well as to provide our counterparts with recycled National Park Service uniform components. They keep the NPS patch on the uniform and add their own biosphere reserve patch. In 1999, a large shipment of uniform components was sent to the Mariposa Monarca Biosphere Reserve.

MUSEUM SCIENTIFIC BIRD COLLECTION

The Albright Visitor Center and museum continues to add birds to its collection. The freezer is nearly full. A contract has been awarded to Barbara Williams of Rockford, Illinois, to prepare study skins for the collection in 2000.

SWALLOW, WOODPECKER, AND RAVEN MANAGEMENT AND MITIGATION

Swallows, Northern Flickers, and Ravens continue to pose obstacles for the people responsible for the care and management of buildings in the park. In addition, there are some health risks associated with some of these bird species. These birds are protected by law under the Migratory Bird Treaty Act and, as such, mitigation options are very limited. With proper installation, plastic netting can

be used to discourage nesting in selected areas of high public use.

SPEAKING ENGAGEMENTS AND PUBLIC CONTACTS

Public contacts are increasing each year. The park concessioners annually request bird lectures for summer and winter guides. In addition, there are hundreds of letters of inquiry about bird information. Speaking engagements also increased in 1999 (Table 5).

INJURED AND ROAD-KILLED BIRDLIFE

As long as we have roads, we will have injured birdlife. A protocol for handling injured and road-killed birds has been in place for the last few years and appears to be working well. Procedures were followed very well in 1999, and there have been no problems with associated with this protocol. In the past, problems with park personnel typically involved not following protocol and procedures, which resulted in improper lines of communication and in turning birds over to unqualified rehabilitators. The only professional bird rehabilitator we are involved with is Big Sky Wild Care of Bozeman, Montana. All road-killed birds are to be salvaged, if

TABLE 5. PRESENTATIONS AND SPEAKING ENGAGEMENTS
1999 BIRD MANAGEMENT PROGRAM

Date	Location	Affiliation	Subject	Number Attending
5/26	Mammoth, WY	National Workshop	How to Conduct a Bird walk	40
6/3	West Yellowstone, MT	Greater Yell. Coalition	Center Stage-Back Stage: Two Different Views of Yellowstone Birds	250
6/4	West Yellowstone, MT	Greater Yell. Coalition	Avian Adventures panel	250
6/5	West Yellowstone, MT	Greater Yell. Coalition	Bird Identification Workshop	20
7/8	Mammoth, WY	Exploring Yellowstone	Feathers	12
7/15	Bozeman, MT	Museum of the Rockies	Identifying and Aging Bald and Golden Eagles	45
8/12	Bozeman, MT	Museum of the Rockies	Identifying and Aging Bald and Golden Eagles	60
9/16	Idaho Falls, ID	Trumpeter Swan Soc.	Yell. Trumpeter Swan Management.—Past, Present, and Future	100
9/22	Baraboo, WI	Whooping Crane RT	Status of the Whooping Crane in YNP and the greater Yellowstone	50
9/25–6	YNP, WY	Field Trip	Raptor Migration Count	30
10/12	Mammoth, WY	Exotic Species Symp.	Non-Indigenous Birds of greater Yellowstone—Their History, Status, and Management	100
12/19	Mammoth, WY	Field Trip	Christmas Bird Count	22

possible, for future placement in the Albright museum collection.

NEWS RELEASES, SCIENTIFIC INQUIRIES, INTERVIEWS, AND MEDIA CONTACTS

Working with the public demands a fair amount of time, but it is always time well spent. However, each year it seems to occupy a large percentage of the staff ornithologist's work schedule. The public is keenly interested in new information about Yellowstone National Park's birds. It is only fitting that a professional ornithologist make these contacts, particularly since birders comprise a large segment of the North American human population and are excellent supporters of national parks and bird conservation programs. It is difficult to quantify this type of information request, but a concerted effort will be made to do a better job of documentation in the future.

PEREGRINE FALCON VICTORY CELEBRATION

The staff ornithologist was officially invited to a Peregrine Falcon victory celebration in Boise, Idaho. On August 26, 1999, the Peregrine Falcon was officially delisted as an endangered species. Yellowstone National Park, along with many other government and nongovernment agencies and individuals, played a role in the recovery of the species. The Peregrine Fund hosted the celebration, since it played a major role in the recovery of the species. The staff ornithologist represented the NPS at this historic event. It was, without doubt, one of the most important events in the history of the Peregrine Falcon, rivaling the 1965 meeting in Madison, Wisconsin, that was the impetus for peregrine recovery. The event was well attended, and it was wonderful seeing colleagues and renewing old acquaintances.



Trumpeter Swan nesting habitat in Yellowstone.

SPECIFIC GOALS FOR 2000

1. Develop a Bird Management Plan by December 2000.
2. Complete a 10-minute and a 29-minute video on the conservation of the Yellowstone Trumpeter Swan.
3. Search for new Peregrine Falcon eyries.
4. Update the bird section of the Yellowstone National Park website.
5. Continue to computerize Yellowstone National Park bird data.
6. Research the history of Yellowstone ornithology.
7. Experiment and collect point count data on Yellowstone Lake to establish baseline data.
8. Complete grassland point counts on the northern range to establish baseline information.

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