

WHOOPING CRANE RECOVERY ACTIVITIES

MARCH - SEPTEMBER 2004

by Tom Stehn
USFWS Whooping Crane Coordinator
(361) 286-3559, Ext. 221
Tom.Stehn@fws.gov

HIGHLIGHTS

In Canada, a record 66 chicks hatched from 54 nests, including 20 sets of twins. From these, a record 40 chicks fledged in mid-August, including 5 sets of twins. The excellent production means that this winter, the whooping crane population should surpass 200, up from 193 this past spring.

The Northern Life Museum in Fort Smith, N.W.T. opened a new exhibit prominently displaying the whooping crane named CANUS. CANUS was the most prolific whooping crane ever, siring approximately 186 chicks in his 38-years in captivity at Patuxent.

The National Academy of Science released a report in April on the Platte River in Nebraska supporting USFWS designation of critical habitat and efforts to provide endangered species habitat.

A Dallas man pled guilty to federal charges surrounding the killing of a whooping crane in Texas last fall. He started serving a six-month prison sentence and faces more than \$10,000 in fines.

The resident whooping cranes in Florida survived three hurricanes with their habitat benefiting from heavy rains. Only one crane was killed by a predator about the time of Hurricane Charley, but the death was believed to be unrelated to the storm. The crane that died had been named "Lucky", the first whooping crane to have fledged in Florida from the reintroduced flock. In 2004, a record 13 whooping crane pairs nested in Florida, but hatching success was poor and only one chick fledged.

Nine of the eastern migratory whooping cranes got blocked by Lake Michigan in their migration northward. Six of them summered in Michigan, while three finally make it around the southern end of the lake and returned to central Wisconsin. One of the Michigan cranes died. The remainder of the 35 eastern migratory whooping cranes migrated back successfully to central Wisconsin.

The Whooping Crane Eastern Partnership (WCEP) Migration Team trained 14 more juvenile whooping cranes for the fall migration that began October 10th. All 14 cranes of the chicks were hatched at the USGS Patuxent Wildlife Research Center (Patuxent), with one of the eggs having come from the International Crane Foundation (ICF). Three other egg transfers from the San Antonio Zoo (2 eggs) and ICF (1 egg) did not result in

surviving chicks. ICF raised four cranes, joined by two cranes from Calgary, which will be shipped to Florida as a release cohort for the nonmigratory flock.

The Audubon Zoo in New Orleans dedicated its new whooping crane exhibit on September 22nd holding a display pair. The exhibit has a large pool and is in a prominent location near the zoo entrance. The Audubon Nature Institute in New Orleans received a 1.2 million dollar Congressional appropriation to build a new whooping crane breeding facility for 10 pairs of whooping cranes. Ground clearing began during the summer and construction started.

Captive breeding facilities had a fair production season in 2004 and fledged 30 chicks. Chicks were allocated to the ultralight project (15), the nonmigratory flock in Florida (6), a solo release in central Wisconsin (1), genetic holdbacks as future breeders (6), a holdback as a display bird (1), and a holdback for health reasons (1). Genetic goals of the captive flocks were fully met in 2004, with several very valuable chicks produced. Numbers for reintroductions were less than hoped for, but met minimum targets. Whooping crane numbers at the end of September, 2004, both captive (134) and wild (318), totaled a record 452.

ARANSAS – WOOD BUFFALO FLOCK

SPRING MIGRATION, 2004

An estimated 169 adults/subadults and 24 juvenile whooping cranes (193 total) migrated north in the spring of 2004, nine more than had left Aransas in spring, 2003. One white-plumaged crane and one juvenile were still at Aransas on May 4th but had departed by May 12th. No mortalities were reported during the spring migration which occurred at the usual time. One hundred seventy-one cranes (89%) of the flock departed Aransas between March 24 and April 14, with 153 whooping cranes (79%) starting the migration between March 31 and April 14.

The first dates recorded for confirmed observations of migrating whooping cranes were March 8 in the U.S. and April 16 in Canada. The last sighting date was April 29 in the U.S. and May 30 in Canada. All but one of the confirmed sightings in the U.S. were reported between March 27 and April 29. The weather during April was unseasonably warm and dry in the northern Great Plains, with numerous high temperatures in the 80s. A major sandhill crane, and probably whooping crane, migration occurred April 3-5. The mild weather during April allowed the migration to progress quickly. A total of 40 sightings were reported from Texas (2), Oklahoma (3), Kansas (3), Nebraska (4), South Dakota (1), North Dakota (9), and Saskatchewan (18).^A

^A (paragraph paraphrased from Jobman 2004, Cooperative Whooping Crane Tracking Project).

SUMMER, 2004

In Canada, aerial surveys of the nesting grounds were conducted in May, June, and August to document the number of nests, eggs, chicks hatched, and chicks fledged. Contract flights were done in May and August by Brian Johns and Lea Craig-Moore of CWS. A USFWS aircraft with Pilot Jim Bredy and observer Tom Stehn helped Brian Johns conduct the June surveys. In 2004, a record 66 chicks hatch from 54 nests, including 20 sets of twins. From these, a record 40 chicks survived to fledge in mid-August, including 5 sets of twins. The excellent results from 2004 mean the whooping crane population in the 2004-05 winter should surpass 200, up from the flock size of 193 in spring, 2004. It is hoped that more than 30 chicks will arrive at Aransas that would set a record.

An estimated 13 known adult pairs failed to nest but were present on their territories. It is possible the late snow melt in 2004 kept some pairs from nesting. Temperature records in Fort Smith just outside the Park indicated a tie for the coldest May on record. The 67 adult pairs accounted for in Wood Buffalo (54 nests plus 13 pairs on territories) approaches closely the 69 territories delineated during the 2003-04 winter. One pair for a second year in a row incubated a nest containing no eggs.

Conditions in August were very dry in Wood Buffalo National Park, including the crane nesting area. Hopefully crane survival will be high despite the dry conditions. Rains are desperately needed before next year if the 2005 nesting season is to be any good. Fires burned into several of the crane nesting territories. Over 190,000 ha (roughly 5 %) of the Park had burned by mid-summer. Several of the crane aerial surveys had limited visibility because of smoke, and the main highway across the Park and only access for the town of Fort Smith had to be closed several times because of fires. Wood Buffalo National Park is one of the largest parks in the world (17,300 square miles), an area larger than Switzerland. In general, fires in the Park are allowed to burn unless they threaten to cross park boundaries.

On May 22, the Northern Life Museum in Fort Smith, N.W.T. opened a new whooping crane exhibit featuring CANUS, the crane that had lived at Patuxent for 38 years until its death in January, 2003. CANUS was the most prolific whooping crane ever siring approximately 186 chicks in captivity since it was an excellent semen donor and samples were used extensively for artificial insemination programs. This bird, named after Canada and the U.S., had been captured as a juvenile with an injured wing in Wood Buffalo, and promises had been made that upon its death that it would be returned to Canada. These promises were honored. John French of Patuxent attended the museum opening, as did Brian Johns of CWS and former Canadian whooping crane biologist Ernie Kuyt. The exhibit is very well done.

PLATTE RIVER

The drought affecting the Platte continued throughout the summer. At the end of September, the river remained mostly dry. The reservoir at Lake McConaughy approached an all-time low of about 25% capacity.

In April, a National Academy of Science (NAS) panel released a report on the central Platte River in Nebraska supporting USFWS designation of critical habitat and efforts to provide endangered species habitat. The river is considered by many conservationists to be the most important stopover for migratory birds in the nation's heartland. The central Platte River provides habitat for endangered whooping cranes and interior least terns, threatened piping plovers, and on the lower Platte River habitat for the endangered pallid sturgeon. The Platte River Basin stretches across Colorado, Wyoming, and Nebraska. A series of dams and reservoirs have been constructed throughout the river basin for flood control and to provide water for farm irrigation, power generation, recreation, and municipal use. This water control system has caused habitat changes at odds with the protection of federally listed species. In recent years, the U. S. Fish and Wildlife Service (USFWS) issued a series of opinions requiring that new water depletions would have to be balanced by mitigation measures.

The NAS study concluded that areas along Nebraska's Platte River are properly designated as "critical habitat" for the whooping crane and piping plover. The committee appointed by the National Research Council found that recommendations by the federal government aimed at protecting these and other federally listed species were scientifically valid at the time they were made, but called on future decisions to be based on newer scientific approaches. The report concludes that in most instances habitat conditions are indeed affecting the likelihood of species survival and recovery. The committee found that the central Platte habitat is important to whooping cranes because many, if not all, stop there during migration at some point in their lives - some seven percent of the total population stops there in any one year. The report also notes that if whooping crane deaths - which occur primarily during migration - were to increase by only three percent, the general population would probably become unstable.

The Draft Environmental Impact Statement (DEIS) for the Platte River Recovery Implementation Program (Program) was released for public review in February. Public meetings were held and the often extended public comment period ended September 20th. Tom Stehn, representing the International Whooping Crane Recovery Team, submitted comments. In the August working draft biological opinion, the USFWS identified several areas in the Program documents requiring further development to enable the identification of a single preferred alternative. Following discussions with the Program Governance Committee, the USFWS decided to not release the draft Biological Opinion pending completion of Program documents by February 2005, and the development of a final EIS and preferred alternative by August, 2005. The final biological opinion on the Program is expected within two or three months following the release of the final EIS. Meanwhile, the wrangling continues and the habitat for endangered species continues to degrade.

There are interesting parallels between water management issues on the Platte River and the Guadalupe River in Texas that both provide inflows to whooping crane critical habitat. The water diversions on the Platte and Guadalupe Rivers have very different biological impacts, but both are harmful to whooping crane habitat. USFWS has repeatedly stated that the Platte River resource is seriously degraded and not able to adequately support endangered species. The Nebraska Department of Natural Resources determined earlier this spring that the Platte River in Nebraska is overappropriated (officially) upstream of Elm Creek, the next town west of Kearney. The parallel with the Guadalupe is that environmentalists feel that on sections of the Guadalupe, water flows are already over-appropriated. Just as water depletions on the Platte River have continued to grow over time, more and more water rights continue to be granted from the Guadalupe. The USFWS has developed jeopardy opinions for any water project taking more than 25 acre-feet from the Platte where the whooping cranes may make only a brief stopover in spring and fall. This can be compared with the current proposal to take approximately 89,000 acre-feet from the mouth of the Guadalupe River and pump it back to San Antonio for human consumption that could impact whooping crane habitat that the birds utilize six months of the year.

WHOOPING CRANE SHOOTING CASE IN TEXAS - SENTENCING

A Dallas man who pled guilty to federal charges surrounding the killing of a whooping crane in Texas in the fall of 2003 will spend six months in prison and faces more than \$10,000 in fines. In May, Donald W. Jones was sentenced to six months in federal prison, levied a \$2,000 fine and prohibited from hunting again in the United States until his sentence is completed. In addition to the federal penalties, Jones faces more than \$8,000 in civil penalties from the state of Texas and was scheduled to serve his sentence starting on July 19.

Mr. Jones had entered a guilty plea in February 2004 to transporting wildlife taken and possessed in violation of 16 U.S.C. §§ 3372(a)(1) and 3373(d)(2). Jones admitted that on November 14, 2003 he knowingly transported a whooping crane and three ducks, when he knew the wildlife was taken and possessed in violation of the Migratory Bird Treaty Act. On a day that the regular Texas waterfowl hunting season was closed, Jones was duck hunting at Lake Bardwell in Ellis County, Texas. Lake Bardwell lies in a geographical zone of Texas closed to all crane hunting. At approximately 6:30 p.m. in response to a tip from the public, a Texas Game Warden apprehended Jones as he was preparing his boat and truck to depart from Lake Bardwell. In response to the warden's questions about what wildlife had been taken, Jones volunteered that he had killed three ducks. The warden asked Jones if he had killed any other wildlife, and Jones responded, "No." The warden then began to examine various bags inside Jones' boat and truck and discovered a zippered bag containing a dead whooping crane underneath a piece of camouflage burlap. When questioned, Jones responded that he had always wanted to shoot a sandhill crane and admitted that he shot the whooping crane by mistake, believing it to be a white sandhill crane. The whooping crane recovered from Jones is believed to be one of four spotted in the Lake Bardwell area, south of Dallas, during the week of

November 10, 2003. Biologists believe that the three remaining birds that remained in the area resumed their annual migration south for the winter.

In response to various notes on a birding web site about the punishment, USFWS Special Agent Steve Hamilton wrote the following in the June, 2004 newsletter of the Audubon Outdoor Club, Corpus Christi, Texas.

“The defendant being sentenced to 6 months is the most time of incarceration that any defendant has ever received in a whooping crane killing. In 1991, a defendant received 60 days confinement, a \$10,000 fine, and 5 years probation. The defendant in the most recent case did not have the financial means to pay any restitution or a substantial fine. The defendant claimed in court that the IRS was in the process of placing liens on his property and garnishment of his wages. I’ve learned from almost 30 years of wildlife enforcement that incarceration in a federal prison for wildlife crimes sends a strong message to would-be violators. It’s always easier to pay money than to spend time locked up.... Needless to say, I’m very pleased with the court’s ruling in this matter. I believe the bar has been set high for any future incidents of this kind.”

U.S. Attorney Boyle praised the investigative efforts of agents of the United States Fish and Wildlife Service and game wardens with the Texas Parks and Wildlife Department. The case was prosecuted by Assistant United States Attorney Mark D. McBride. Special Agent Hamilton did an excellent job pursuing the sentencing phase of this case. It took a lot of effort to get the message across of how valuable whooping cranes are. For the court, Tom Stehn calculated that the cost of releasing one migratory whooping crane in central Wisconsin is approximately \$160,000. The Judge reportedly watched a Whooping Crane Eastern Partnership video about reintroduction efforts just prior to sentencing.

In response to this incident, Texas Parks and Wildlife Department worked to produce a poster of look-alike species, a short news release video to use before hunting season, and produce a 10-15 minute “shoot-don’t shoot” video that will focus on white birds and protecting whooping cranes.

ARANSAS NATIONAL WILDLIFE REFUGE

Freshwater Inflows

Water issues continued to receive a tremendous amount of attention in Texas. Freshwater inflows needed to protect whooping cranes and their winter food supply were featured in the June-July National Wildlife Federation Magazine on water conservation in the southwest. Tom Stehn was interviewed and helped bring attention to the difficult issue of water diversions on Texas rivers.

The San Marcos River Foundation’s (SMRF) application for a conservation flow of 1.3 million acre-feet was dismissed by the State. The SMRF application is now before the State District Court in Austin. Three water agencies had claimed there was not sufficient

water in the Guadalupe River for that large of a conservation flows. The legislature directed the Texas Council on Environmental Quality to suspend processing permit applications requesting conservation flows for bays and estuaries. As soon as these conservation water rights applications were set aside, permit applications were filed for hundreds of thousands of acre-feet up and down the coast. Three water agencies applied for a new water right for 289,000 acre-feet of water from the Guadalupe. These applications are currently being processed.

The bays and whooping cranes will suffer from insufficient inflows, particularly in drought years. An analysis by the National Wildlife Federation (NWF) found that if a repeat of the 1950's worst year drought occurs and water rights are fully utilized, that because of all the water appropriated since that time, there would only be 28% of river water reaching the bays compared to the drastic low flows that occurred during the 1950's. Furthermore, the NWF found that flows would be below the state-established salinity threshold for 24 consecutive months with full permit usage, compared to the worst historic period of 14 months below the salinity threshold. Twenty-four consecutive months of elevated salinities could severely impact shrimp, oysters, blue crabs and fish and wildlife, including whooping cranes which depend upon them. In October, the NWF put out a report entitled "Bays in Peril: A Forecast of Freshwater Flows to Texas Estuaries". Their report stated that inflows below drought tolerance levels would increase in frequency by 250% compared to natural conditions if currently authorized surface water permits are fully utilized and if wastewater reuse increased to 50%. Their projections show the San Antonio Bay system that contains whooping crane critical habitat will be significantly threatened during periods of low rainfall under current water management practices.

The Lower Guadalupe Water Supply Project (LGWSP) chugged along with efforts made to contract a firm to write an EIS. Opposition to the project has grown in counties near the coast where a proposed 50,000 acre-feet of ground water in some years will be pumped back to San Antonio. Congressman Ron Paul has officially come out opposed to LGWSP. Texas A & M University's inflow/salinity/crab/crane study at Aransas continued full-time with 3 professors and approximately 6 graduate students. The refuge provided considerable logistical support and housing for the students. A two-day conference with invited wetland and modeling experts was held in San Antonio at the end of September to fine-tune the study.

On September 8th, Tom Stehn was interviewed on camera by Lee Smith of TPWD for their annual television special on water issues which this year focuses on rivers. This program will air on all Texas PBS stations and on TPWD's weekly show.

Chemical Spill

In May in San Antonio Bay just north of the refuge, an estimated 1,000 gallons of diesel fuel leaked from a tug as it began sinking while pulling two barges. One of the barges was empty and the other contained 9,700 barrels of cyclohexane. The undamaged barges kept the tug from sinking entirely. Three tug crewmembers were rescued by the Coast

Guard. The slick of up to ½-mile in size stayed out in the open bay and mostly evaporated and/or was partly contained before it could harm nearby wetlands.

National Estuarine Research Reserve

A proposal by the University of Texas to create a 245,000-acre National Estuarine Research Reserve (NERR) and build a coastal wetlands research facility in the Coastal Bend was approved by federal officials at the end of September. U.S. Senator Kay Bailey Hutchison, R-Texas, was a strong supporter of the university's bid for the site. When the review process appeared at a stalemate, she contacted the National Oceanic and Atmospheric Administration (NOAA) on behalf of the university, and approval was obtained. "This center will fulfill an important federal need," Hutchison said, "while bringing new jobs to the region and enhancing Texas' standing as a research leader."

This is the first wetlands research system to be developed in Texas to join 25 national estuarine research reserves. The proposal has been promoted by Dr. Paul Montagna of the Texas Marine Science Institute in Port Aransas dating back to 1997. The NERR is a way for U. of Texas and other universities to get funding from NOAA to do basic biological monitoring and research over a large area of land, bay and gulf. When complete, the research reserve will have an annual operating budget of \$450,000 and employ four researchers. This research reserve will study the ecosystem in Copano and Aransas bays, which are fed by the Mission and Aransas rivers. The area was selected for reserve designation because of its relatively pristine status compared to other bays in Texas. It includes all of the original Aransas Refuge, and also includes portions on the south end of Matagorda Island. This program will focus on long-term baseline environmental monitoring of the bays, research, and environmental education. This will add to the biological database for the refuge environs and could lead to increased knowledge and subsequent efforts to try to keep this area from undesirable changes. It will NOT increase regulatory protection for the estuarine reserve. Plans call for the program to begin in 2006. Steps to be undertaken in the next 2 years are to write an EIS and management plan.

Cedar Bayou

With above average rainfall throughout the summer, Cedar Bayou, the natural pass between the Gulf and bays in whooping crane critical habitat, remained open. Cedar Bayou will not naturally stay open if substantial inflows from the Guadalupe River aren't preserved since the construction of the GIWW and passes at Port Aransas and Port O'Connor have changed basic water dynamics of the system. The non-profit group Friends of Cedar Bayou raised \$100,000 from various fishing and shrimping organizations and businesses for an engineering study for dredging the bayou when it next silts up and becomes closed. The study should take place in the next 6 months and make recommendations on project feasibility and how dredging could best be done (dredging dimensions, location, jetties, costs, placement of spoil, environmental benefits, etc). This study should be important in creating support for an effort to keep Cedar Bayou open with maintenance dredging whenever needed.

Specimens

Whooping crane specimens shipped in the last 6 months include the following:

The adult crane shot in Texas last fall was shipped to Texas A & M University (TAMU) for their museum collection. The Florida Fish and Wildlife Conservation Commission also shipped one specimen to TAMU for use as a display mount. The Patuxent Wildlife Research Center shipped one adult to Mascatauck NWR in Indiana for display and two adults to Texas Parks and Wildlife Department (TPWD) for mounting and use in an educational display in an Operation Game Thief trailer. Parts of the two adults will be combined into one taxidermy mount. Florida had originally sent one adult for use in TPWD's Game Thief trailer, but the specimen was not of suitable quality and was forwarded on to U. of Wisconsin-Madison to salvage the complete skeleton.

Funding Issues

The Whooping Crane Coordinator's salary, travel and recovery budget were funded this year using a challenge cost-share grant under President Bush's Cooperative Conservation Initiative to complete projects in conjunction with states, local communities, businesses, landowners and other partners. The International Crane Foundation provided in-kind matching funds for the grant for which I am deeply grateful. Use of cost-share money was necessary because of lack of funding in the USFWS Region 2 Endangered Species program. Other cost share funds in Region 2 went to Attwater's prairie chickens.

Following a public speech at the Whooping Crane Festival in Port Aransas in February, contacts were made with a person wanting to provide funding for whooping cranes in her will. This was later set up by Dr. Jim Lewis through the Whooping Crane Conservation Association.

Recovery Plan Revision

Work continued with more edits made to complete a final draft of a revised Canada-U.S. Whooping Crane Recovery Plan. The document was reviewed by the Albuquerque office of USFWS and prepared for signature. It was hoped the document will go out for public comment in November.

Whooping Crane Conservation Association (WCCA)

Arrangements have been finalized for the next annual WCCA meeting to be held on November 19th in conjunction with the 5-day Space Coast Birding and Wildlife Festival in Titusville, Florida. Many expert speakers will be present.

Whooping Crane Collisions with Power Lines

Tom Stehn continued work on a paper about whooping crane collisions with power lines. This issue remains the number one cause of mortality of fledged whooping cranes in the

Aransas-Wood Buffalo population. More needs to be done to reduce these losses. A draft manuscript was reviewed by USFWS biologists Wendy Brown and Albert Manville with expertise in this area.

Whooping Crane Recovery Team

The next meeting of the Whooping Crane Captive Management and Recovery Teams is scheduled for February 8-10 at the Patuxent Wildlife Research Center in Laurel, Maryland. February 10th will be a closed meeting for Recovery Team members only.

FLORIDA NONMIGRATORY FLOCK

The following material was taken from Florida's *Whooping Crane Quarterly Report, June – September, 2004* written by Marty Folk;

The resident whooping cranes in Florida survived 3 hurricanes. A fourth hurricane hit Florida but missed the crane area. The last time 4 hurricanes made landfall in any state was in 1886 when 4 hurricanes struck Texas. Despite winds over 100 mph at times, and literally billions of dollars in property damage, project personnel did not detect any whooping crane mortality or injury associated with the storms. Only one crane was killed by a predator about the time of Hurricane Charley, but the death was believed unrelated to the storm. The crane that died was known as "Lucky", the first whooping crane to have fledged in Florida from the reintroduced flock. Overall, the storms probably benefited the cranes by bringing rain. However, as far as tropical weather systems are concerned, the 3 storms in the crane area were not really big "rain-makers". Hurricane Charley came through the crane area on 13 August with winds gusting to 110 mph. It was a fast-moving storm that did not have time to drop much rain (ca. 4 inches). Hurricane Frances also crossed the crane area of central Florida (4-5 September), moving slower and dropping about 6 inches of rain in crane habitats. Finally, Hurricane Jeanne brought winds of around 100 mph and more rain on 26 September.

The following is paraphrased from the Florida Fish and Wildlife Conservation Commission's *Annual Whooping Crane Study Progress Report (July 2003 to June 2004)* submitted by Steve Nesbitt;

This year, the FFWCC whooping crane project soft released 16 captive reared whooping cranes (2 cohorts of 8) in Lake County. There was no mortality of these 16 release birds and 81% survival from releases of 2003 hatch-year juveniles. Project personnel recovered 13 mortalities among the older birds; 6 due to predation, 2 struck power lines, 1 apparently struck a fence post, and 4 were undetermined. At the end of June, they were monitoring 70 birds (13 pairs) and suspect that others survive but could not be tracked.

A constant effort is required to keep functional transmitters on all whooping cranes in the project. Personnel captured 22 cranes during the year, with 21 captured for radio replacement and one was to treat a broken wing tip. Flightless molt was again noticed among the older birds. There were no “extraordinary” movements among the non-migratory population this year. There were times when whooping cranes from the migratory (WCEP) project were within a few kilometers of some of the non-migratory cranes though they never made contact. Biologists are still waiting to document the results when contact between these 2 populations inevitably occurs.

This year 11 pairs of whooping cranes laid in 13 nests. Additionally, an 8-year-old male whooping crane nested with a female Florida sandhill crane. The nest did not hatch and the eggs were apparently infertile. Six of the other nests were infertile or experienced early embryo death. There seemed to be a remarkable number of infertile nests this year. Three of the nests produced 4 chicks, but only 1 chick was fledged from pair 591/369 who also fledged a chick in 2003. Overall the nesting results from this year were disappointing compared to those from last year.

This year for the first time biologists manipulated nests to remove eggs from a pair that the Recovery Team did not want to produce any more young. Full-sibling pair 800/898 (the Leesburg pair and parents of “Lucky”) have already fledged 2 chicks into the population. The Recovery Team had decided that if possible, it would be good to prevent the pair from raising any more of their own offspring. However, to capitalize on their experienced parental skills, the Team approved the substitution of an egg from a more genetically valuable pair. This year the pair chose a sub-optimal nest site that would have required them to cross paved roads to travel with a chick, so their egg was collected on March 1st with the hopes that the disturbance at the nest would induce them to move to a new marsh for any re-nesting attempts. The collected egg was transported on March 2nd to the Freeport McMoRan Audubon Species Survival Center in Belle Chasse, Louisiana where the chick hatched the same day. The chick will be used as an imprint model and gave the Center their first experience raising a whooping crane chick. As predicted, pair 800/898 re-nested, but back in the same small marsh. Biologists moved one of the eggs from the re-nest into the nest of 513/1134, hoping to give them experience hatching and raising young. They did hatch the egg and raised it for about 10 days before the chick disappeared. The Leesburg pair nested a third time, with an egg moved on May 19th into their nest from a captive pair from the Species Survival Center, but it failed to hatch.

As part of an infectious bursal disease study, blood was periodically collected from sentinel chickens at the whooping crane release site. Kristi Candelora (as part of her Masters degree project) also collected blood from wild turkeys and sandhills, with 160 samples submitted. Analysis of the samples is ongoing. It is hoped her study will provide a better understanding of the prevalence and possible etiology of the disease in Florida and its effect on whooping cranes. Dr. Marilyn

Spalding presented a paper at the joint meeting of the Wildlife Disease Association and the American Association of Zoo and Wildlife Veterinarians in San Diego, California entitled "Infectious Bursal Disease virus associated with a wasting syndrome in released whooping cranes in Florida" detailing the results to date.

WHOOPING CRANE EASTERN PARTNERSHIP (WCEP)

The spring 2004 whooping crane migration in the eastern U.S. was full of adventures. In April, one crane in a group of eight blown too far to the east by unfavorable winds hit a power line in North Carolina after being flushed by close approach of people, but continued in migration with the group. Also, one crane was noted with the ragged top of an aluminum drink can securely affixed over its mandibles so that they could not be opened. A costumed caretaker captured the crane, removed the can top, and released her back into the group. In the spring, after a lengthy stopover in Ohio, eight birds spilt into groups of 5 and 3 and ended up in Michigan with their migration blocked by Lake Michigan. Cranes will not cross such a large body of water. They wandered extensively along the lake shore. One group of 5 flew 140+ miles north and spent considerable time near the Huron-Manistee National Forest. Three of the Michigan cranes made it around the southern end of Lake Michigan and returned to Wisconsin by July 28th. One second-year bird last seen heading north from Lake County, Florida on April 6th made it to Kalamazoo County in southcentral Michigan. A total of 6 birds summered in different parts of Michigan as a group of 5 and a single. One of the birds in the group of 5 died with cause of death still being investigated. The WCEP partnership held lengthy discussions with much difference of opinion about whether the birds in Michigan should be captured and transported back to central Wisconsin. The majority of the Project Direction Team felt these birds would return to Wisconsin in subsequent years so that capture was not necessary. Others felt it was better to maximize chances to establish a group in a core reintroduction area by moving them back to Wisconsin. A policy was formulated that until more is learned about future movements of such "wayward" birds, the birds would be left in place if they were in suitable habitat and remained wild and not conditioned to people. In total, 30 of the 36 eastern migratory whooping cranes migrated back to central Wisconsin. One bird with a malfunctioning radio that summers by herself near Horicon NWR in Wisconsin was not seen all summer but re-surfaced in October near Horicon.

Breeding is not expected until possibly next year, but one pair approaching breeding age acted territorial at Necedah NWR. Hopefully, within a year or two there will be whooping cranes breeding again in the Midwest after being absent for more than a century. Survival of more than 80% for the reintroduced cranes is outstanding and a tribute to the dozens of dedicated folks involved in this program, including Operation Migration, the International Crane Foundation, Necedah and Chassahowitzka NWRs, the state DNRs along the route, the Natural Resources Foundation of Wisconsin, the National Fish and Wildlife Foundation, many state, Federal, and NGO biologists, and many landowners and private donors that have contributed to this program through funding, aerial tracking, or allowing the cranes and accompanying ultralight airplanes to utilize

their property. WCEP's annual report was sent to the 20 Flyway States in April to keep multiple partners informed of the reintroduction's enormous progress.

Sixteen chicks produced at Patuxent received the full regimen of exposure to airplane engine noise and trike conditioning. One of the chicks came from an egg laid at ICF and flown to Patuxent for hatching. Three other eggs hoped to increase cohort numbers by shipping them from ICF and San Antonio Zoo were unsuccessful due to hatching problems. Three additional chicks allocated to WCEP were pulled from the program for health reasons, with one currently surviving. Chicks were shipped to Necedah NWR in 3 separate cohorts (7 on June 16th, 6 on June 30th, and 3 on July 15th) because of the 47-day age difference between the young. All transportation was carried out with the donated aircraft and expertise of Windway Corporation. Two of the whoopers shipped to Necedah had washers in their gizzards that had to be removed. One ultralight chick swallowed a plastic tie wrap that was removed at the U. of Wisconsin-Madison, but then fractured its leg after being transported in a crate following surgery and had to be euthanized. That left 15 whoopers in the ultralight training program. One of those had abnormal feather growth which hindered its flight ability until the feathers grew back late in the summer. However, this bird missed so much training that it behaviorally was not a good candidate for the ultralight migration and may be released solo into flocks of older whooping cranes in the fall to see if it will follow them to Florida.

Much work was done repairing the pens at training site # 1 at Necedah NWR in preparation for the arrival of the cohorts. Also, a mobile trailer was re-modeled on the inside to serve as an isolation health care facility at Necedah NWR for any injured birds. Wisconsin's Milwaukee County Zoo has agreed to become a rehabilitation provider for WCEP birds. They will hold drop-out birds until a permanent home in captivity can be found for them. The Zoo may also be interested in building a facility for putting a permanent pair on display.

In April, a 1-hour television special filmed by the British Broadcasting Company that included much footage of the WCEP project aired nationwide on the PBS show "Nature". The WCEP team also started talks with filmmaker Stephen Low wanting to do an IMAX film on the project. The IMAX team has been given the green light for project planning. Mike Day, Executive Director of the Minnesota Science Museum IMAX Theater and Jim Mallman, President of Watchable Wildlife, will be actively pursuing \$6-7 million to finance the film. The story line will focus on the whooping crane reintroduction and how the refuge system makes it possible. Key participants made a reconnaissance trip July 21-23 to Wisconsin to meet WCEP personnel, see about filming possibilities that mustn't interfere with the reintroduction, and do project planning.

Meetings with over 30 participants were held at Necedah NWR September 20-22 to plan for the upcoming migration and all future aspects of WCEP. At the end of September, there were 35 whooping cranes in the eastern migratory flock. Fourteen additional juveniles were poised to make their first migration south behind an ultralight which began on October 10th.

CAPTIVE FLOCKS

SPECIES SURVIVAL CENTER, BELLE CHASSE, LOUISIANA

The Audubon Center for Research of Endangered Species / Freeport McMoRan Audubon Species Survival Center is now referred to as the Research Center or Species Survival Center. The former acronym of ACRES is no longer being used.

On March 2nd, an egg from the wild whooping crane pair (800/898) in Florida was picked up and transported to the Species Survival Center in Belle Chasse where it hatched. This gave them experience hatching and raising their first whooping crane. Since the parents are a brother-sister pair, the chick with inbred genetics was raised and will be used only as an imprint model for other breeding pairs at the Center. One whooping crane pair at the Center laid a fertile egg in 2004. The egg was transported to Florida on May 19th and placed in the wild in a re-nest of the Leesburg pair. Unfortunately, the egg did not hatch.

The Audubon Nature Institute received a \$1.2 million Congressional appropriation through the USFWS to build a new whooping crane breeding facility for 10 pairs of whooping cranes and a chick rearing facility at the Species Survival Center. Ground clearing began during the summer and construction contracts granted. The Species Survival Center currently has 3 pair of whooping cranes, 2 single birds awaiting suitable genetic fits for mates, and 1 juvenile. Ultimately, they hope to produce chicks for a whooping crane reintroduction in Louisiana and to do research on propagation issues. A meeting was held April 8th at the Center to fine tune the design of the new breeding facility. Guests brought in to contribute their experience included George Archibald, Jane Chandler, Sara Simmonds, and Tom Stehn. The meeting helped the center finalize plans.

AUDUBON ZOO, NEW ORLEANS

Audubon Nature Institute dedicated its new whooping crane exhibit on September 22 that holds a display pair. The new exhibit with a large pool and upland terrain is in a prominent location near the zoo entrance. The zoo also resurrected a bronze sculpture of a crane that used to be near where Josephine had been exhibited. The Audubon Zoo had whooping cranes on display between 1941 to 1975, including Josephine, one of only 2 survivors of the Louisiana population. Josephine hatched the first whooping crane chick in captivity. She produced 52 eggs with 3 surviving chicks. Audubon's whooping cranes were sent to the International Crane Foundation in the 1970's. The 2 cranes currently on exhibit came from San Antonio and Patuxent.

CALGARY ZOO

In 2004, the captive flock at the Devonian Wildlife Conservation Center in Calgary, Alberta produced 22 eggs, but only 3 were fertile (all from the pair Hope and Chinook) despite starting a program of artificial insemination on some of the pairs. One female laid for the first time. Plans were formulated to ship two fertile eggs at the end of April

to Patuxent for the WCEP ultralight project, but there were never 2 eggs of similar age so no shipment was done. All 3 whooper chicks were parent-reared, and 6 different whooper pairs get some good parenting and chick-rearing experience this year, 3 with whooper chicks, and 3 with sandhill chicks. Two chicks were shipped to ICF on September 30th destined for release in Florida's nonmigratory flock. A third chick was held back because of a wing problem and will fill out the pair on display at the Calgary Zoo.

Two summer interns working at the Conservation Center both did projects with the whooping cranes, one involving various types of environmental enrichment for the birds, and one involving assessing parenting abilities of 2 different pairs of whoopers. They are both writing articles that will be published next year.

HOMOSASSA SPRINGS WILDLIFE STATE PARK, FLORIDA

In response to the threat of multiple hurricanes, the Homosassa Springs State Wildlife Exhibit evacuated their single whooping crane on several occasions to Gainesville where it was held in a 5 x 8 foot pen in a concrete building. They are scheduled to get a male crane to form an exhibit pair as soon as a genetically surplus bird becomes available.

INTERNATIONAL CRANE FOUNDATION (ICF)

In 2004, the 32 captive whooping cranes at ICF in Baraboo, Wisconsin had a very good year. The flock at ICF laid 40 eggs from 8 different females. Of these, 21 eggs were fertile. Only 11 eggs hatched due to poor hatchability. Four chicks were raised for the Florida nonmigratory flock, and 3 chicks were kept as genetic holdbacks to re-build the captive flock. Two eggs were shipped to Patuxent for use in the WCEP project, but one chick developed health problems and had to be euthanized. The other chick is currently migrating behind the ultralight towards Florida. Two pairs from which future production is hoped for showed progress with nest building and incubating dummy eggs, and one of the pairs raised a sandhill chick. ICF also received shipment of 2 juveniles from Calgary to socialize into a cohort for Florida.

ICF is currently busy with construction of the new Isolation Chick-rearing Facility at the back of the property. A road, well, and electricity have been put in, and foundation work is underway. They expect to have the facility ready for the next breeding season. ICF will be converting the old Chick House (in use since 1984) to public education functions, featuring live video connection to the iso facility via fiber optic cable so that the public can see chicks being reared by our costumed staff.

LOWRY PARK ZOO, TAMPA, FLORIDA

Meetings were held and plans formulated for the Lowry Park Zoo to build a whooping crane socialization facility at their remote Green Swamp location where they also keep red wolves. This facility will allow whooping crane cohorts to be formed and socialized in Florida, and reduces the disease risk at other crane breeding facilities. A donor was

found for the whooper socialization pens, although additional funds are needed. This facility will hopefully be in place in fall, 2005.

MILWAUKEE COUNTY ZOO, WISCONSIN

ICF veterinarian Dr. Barry Hartup arranged with the Milwaukee County Zoo to do rehabilitation on any injured whooping cranes in Wisconsin and provide temporary housing for cranes to be transferred to captivity from release projects. The zoo was very willing to help the whooping crane recovery program. They also expressed interest in someday having a pair on display.

PATUXENT WILDLIFE RESEARCH CENTER

In 2004, Patuxent produced 54 whooping crane eggs from 13 pair. Of the 54 eggs, 23 were fertile and 21 hatched. Three new pairs came into production, with one female laying for the first time at age 16. Two eggs were received from ICF and two from the San Antonio Zoo. Both eggs from ICF hatched, but one chick had to be euthanized because of leg problems. The other chick was shipped as part of the WCEP project. Of the two eggs from the San Antonio Zoo, only one hatched and that chick lived for only 12 hours. Sixteen chicks were trained at Patuxent to approximately 40-50 days of age and then shipped to Necedah for the WCEP project. Three chicks were retained for genetic representation and one because of a beak injury.

Biologist Dr. David Ellis announced his retirement in March. Dave made many contributions to crane recovery with his innovative thinking and tremendous energy. He will be missed. Robert Doyle from the Baltimore Zoological Park and Charles Shafer from ICF were hired as full-time permanent Biological Technicians to work with the crane program. In October, Patuxent advertised to fill a geneticist position formerly held by Dr. Gee.

Arrangements are being made for the Whooping Crane Recovery and Whooping Crane Captive Management meetings that will be held at Patuxent February 8-10, 2005.

SAN ANTONIO ZOO

Both of the zoo's fertile eggs from their pair on exhibit (Tarzan and Jane) were transported to Patuxent on April 21. One egg pipped, but died during hatch. The second egg also didn't make it.

VICTORIA ZOO

The Victoria Zoo in Texas, approved to put a pair of whooping cranes on display, put out a news release in April about their hopes for getting a pair. They plan to build a whole new facility on higher ground above the river floodplain. The new director for the zoo is Clarence Wright.

WHOOPING CRANE NUMBERS / September 30, 2004

Wild Populations

Location	Adults	Young	Total	Adult Pairs
Aransas/Wood Buffalo NP	193	*40	*193	67
Rocky Mountains	0	0	0	0
Florida non-migratory	74	1	**75	13
Wisconsin/Florida migratory	35	***15	50	0
Subtotal in the Wild	302	16	318	77

* 40 chicks fledged in Wood Buffalo in mid-August but are not counted until they arrive at Aransas in fall, 2004.

** This number (birds being monitored plus 5) is an estimate since not all whooping cranes in Florida can be located on a regular basis.

*** These are chicks hatched at Patuxent and currently being flight-trained in Wisconsin.

Captive Populations

Location	Adults	Young	Total	Breeding Pairs
Patuxent WRC, Maryland	50	4	54	13
International Crane Foundation, Wis.	32	7	39	10
Devonian Wildlife Conservation Center, Calgary	18	*3	21	6
Species Survival Center, Belle Chasse, La.	8	**1	9	1
New Orleans Zoo	2	0	2	0
San Antonio Zoo, Texas	6	0	6	2
Homosassa Springs Wildlife State Park	1	0	1	0
Lowery Park Zoo, Tampa, Fla.	2	0	2	0
Subtotal in Captivity	119	15	134	32

* Two of the 3 chicks were shipped to ICF on September 30th for socialization into a cohort for FL.

** Egg came from the wild Florida nonmigratory flock.

TOTALS (Wild + Captive) 318 + 134 = 452