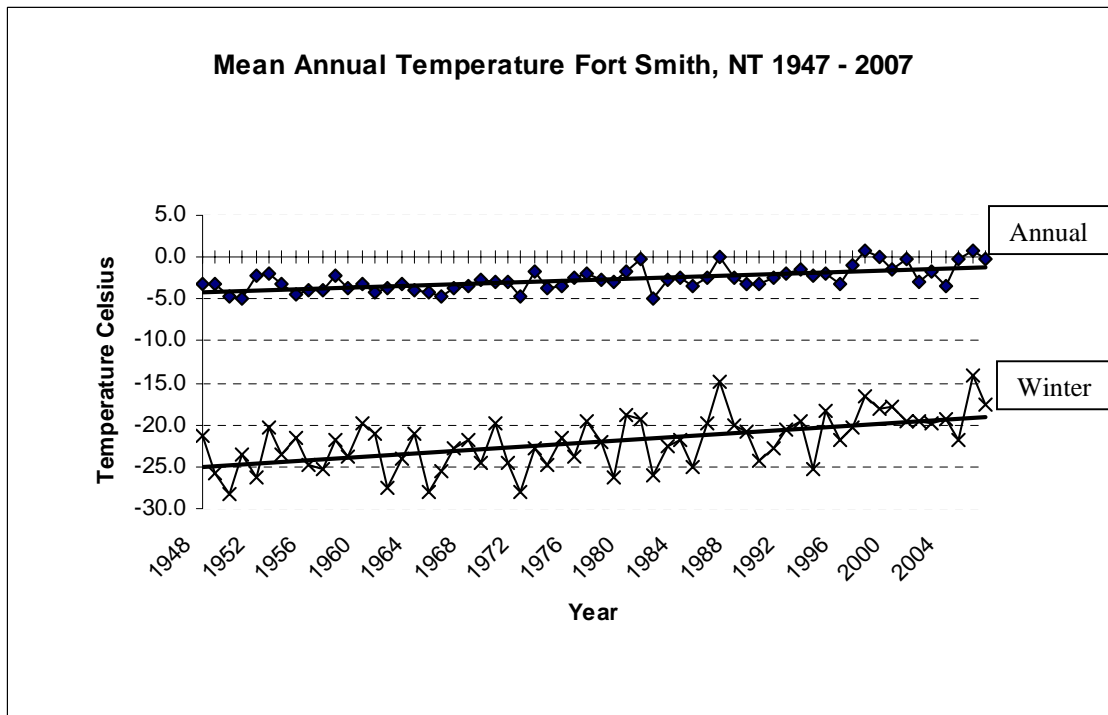


## Wood Buffalo/Aransas Flock

### NESTING SEASON SUMMARY

#### Phenology and Habitat Conditions

Temperatures recorded at Fort Smith over the last 60 years indicate that the mean annual temperature has increased 3° C, with winter temperatures increasing by 5° C (see figure below).



Annual precipitation from May 2007 to April 2008 was near normal resulting in the nesting area being fairly wet in spring 2008 (see figure on facing page). April was 2° C colder than normal resulting in the spring melt of 2008 being about 7 days later than usual in the Whooping Crane nesting area. Spring and summer temperatures were slightly warmer than normal and there were no severe rain events accompanied

by cold temperatures during chick hatching and the first 3 weeks after hatching in June. However, there was twice the normal amount of rainfall for the month.

#### Breeding Pair Surveys

Twenty hours of Whooping Crane breeding pair surveys were carried out by the Canadian Wildlife Service (CWS) between May 16 and May 24. These aerial surveys were conducted in Cessna 185 and 210 aircraft, owned by Northwestern Air Lease of Fort Smith and piloted by I. Bourke and C. Eisan. B. Johns (CWS) directed the surveys and K. St. Laurent (CWS) and B. Johns conducted the observations. During the 8 surveys, 66 Whooping Crane nests were discovered. Six pairs of cranes that had bred in previous years were also observed, for a total of 72 occupied territories.

#### Hatching Success and Summer Range Surveys

The Canadian Wildlife Service with the assistance of the United States Fish and Wildlife Service (USFWS) conducted 20 hours of hatching success surveys between June 16 and June 22, 2008. B. Johns directed all surveys which were conducted in a USFWS Partenavia PN68

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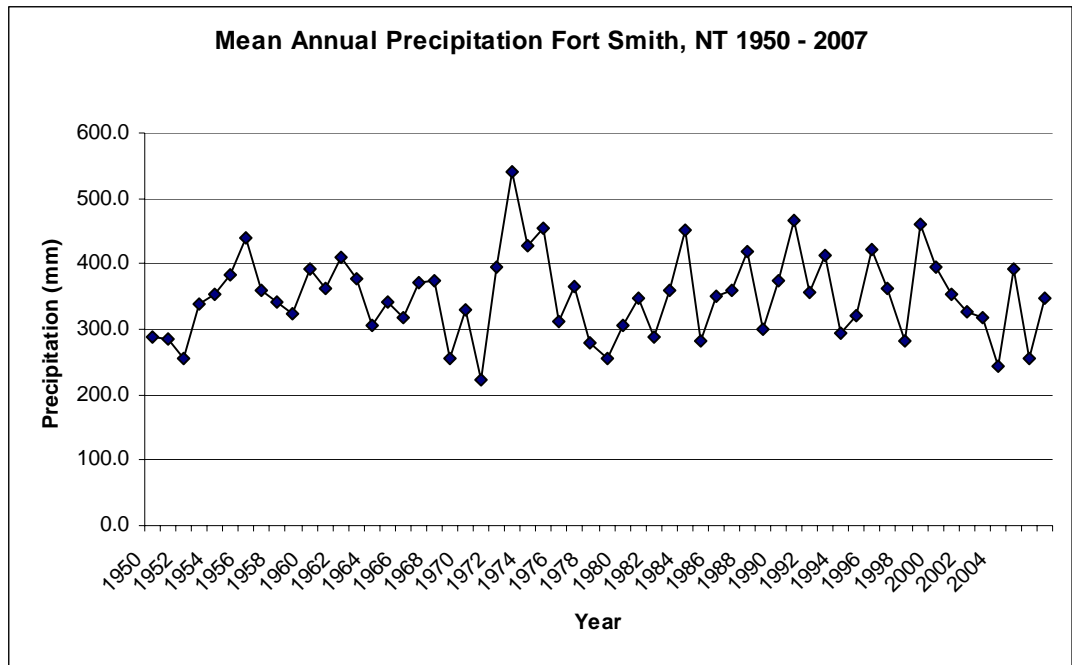
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piloted by J. Bredy (USFWS) with B. Johns and T. Stehn (USFWS) as observers. The June surveys were conducted after most nests had hatched. Pairs with either zero or one chick may have hatched one or two chicks but had already lost one or more young by the time the surveys were conducted.

The chick counts are to be used as a minimum number hatched. Sixty-four young were discovered during the surveys, including 12 pairs with two young each.

### Fledging Success Surveys

Eighteen hours of Whooping Crane fledging success surveys were carried out by the CWS from August 14 to August 19, 2008. All surveys



were directed by B. Johns and conducted in Northwestern Air Lease's Cessna 185 or 210 aircraft, piloted by C. Hoyle, P. Clairet and C Eisan. Observations were conducted by K. St. Laurent and B. Johns. A total of 41 young were discovered in 39 family groups.

### Crane Photography

National Geographic photographer Klaus Nigge photographed events at one nest over a period of eight days from May 29 - June 5. He documented one egg hatching and the second being taken by a common raven along with mate incubation exchange frequency.

### Whooping Crane Migration

In the spring of 2008, there were 41 confirmed sightings in prairie Canada, totaling 134 birds. The earliest recorded sighting was on April 5, 2008 and the latest recorded spring sighting was on May 10, 2008. At least three sub-adult Whooping Cranes spent at least part of the summer south of the breeding area in Saskatchewan.

### Overall Breeding Grounds Summary

Sixty-six pairs nested during the 2008 breeding season. Habitat conditions in the park and surrounding area were better than average during the nesting season. Summer rains were near normal resulting in average habitat conditions during the summer. At least 64 chicks successfully hatched in and adjacent to Wood Buffalo National Park and at least 41 of those survived to fledging age. The total number of territorial pairs (72) matches the number of territories occupied on the cranes' wintering grounds during the winter of 2007/08 (T. Stehn pers. com.). Another 17 pairs of sub-adult or non-territorial cranes were also observed scattered throughout the breeding area.

\*\*\*\*From a report by Brian Johns and Kathy St. Laurent, Canadian Wildlife Service\*\*\*\*

**The following is adapted from the report “WHOOPING CRANE RECOVERY ACTIVITIES November, 2007 – September, 2008” by Tom Stehn, U. S. Fish and Wildlife Service Whooping Crane**

### **Land Development in Texas**

Whooping cranes use wetlands and adjacent upland habitats off of Aransas and Matagorda Island National Wildlife Refuges (NWR). Some of these areas are included in designated Critical Habitat; others are not. Real estate development pressures are rapidly increasing along these formerly isolated shores. It will bring many new residents to a formerly sparsely populated portion of the Texas coast. Six waterfront developments are planned between Seadrift and Port O’Connor which are considerably larger than either of those towns. The population of Seadrift is expected to double in the next decade. Additional developments are occurring on the Lamar Peninsula directly west of Aransas NWR. These developments will limit the area the whooping crane flock needs for expansion if the flock continues to grow. Permanent protection of this habitat is essential in the near term in order for the species to reach long-term recovery goals.

To try to conserve key lands currently used by whooping cranes as well as set aside lands expected to be used in the future, conservationists undertook some actions to try to counter the rapid development. The Texas Nature Conservancy (TNC) in partnership with other agencies is working hard to protect key areas with conservation easements placed on key buffer areas as a means for people and wildlife to coexist. Two areas slated for protection using Section 6 grants are located in the crane area at Welder Flats. Matching funds will come partially from one development currently under construction in the crane area near Port O’Connor. The TNC applied for a 1.5 million dollar grant from the Coastal Impacts Assistance Program to protect 5,000 acres of crane habitat in the next 3 years primarily through purchase of conservation easements. This grant application was not funded in 2008. However, it made the cut of worthwhile projects for which there just weren’t sufficient funds available, and was re-applied for in 2009. In the meantime, 5 developments are either under construction or in the planning stages in areas where crane use has been documented. I strongly recommend that a Habitat Conservation Plan be prepared for future developments occurring in the current and anticipated future crane range.

In September 2008, Tom Stehn and Felipe Prieto presented a paper at the 11<sup>th</sup> North American Crane Workshop on the change in territories and range of wintering whooping cranes at Aransas between 1950 and 2006. Based on estimates of minimum territory sizes, they calculated that the current range and nearby adjacent areas of unoccupied habitat will support approximately 511 cranes. If the cranes expand outwards into new areas as far as 69 miles from Aransas NWR, they estimated there is enough salt marsh habitat on the central Texas coast to support 1,004 whooping cranes. Although this meets the criteria set for down-listing the species to “threatened” status, there is insufficient habitat to fully recover the species. Therefore, with marsh habitat a key limiting factor for whooping crane recovery, it is imperative that as much of the marsh as possible be protected from development.

### **Freshwater Inflows**

Two major processes have continued throughout the past year. The state-appointed Environmental Flows Advisory Group met and held hearings to provide future recommendations to ensure rivers have sufficient flows and the bays have sufficient inflows to remain productive. The second planning process that got underway is the Edwards Aquifer Recovery Implementation Program (EARIP) mandated by the Texas Legislature to determine the sustainable levels of pumping from the aquifer and drought management strategies. The Edwards Aquifer now serves 1.7 million people in South Central Texas, providing San Antonio with 95% of the city’s water. The population is expected to double by mid-century, increasing the demand for water. The EARIP will develop a plan to balance the needs of aquifer stakeholders in San Antonio and surrounding areas with the requirements of the Endangered Species Act (ESA). Although the Edwards Aquifer is a long way from the

coast and the EARIP is focused on endangered invertebrate species in several key springs fed by the aquifer, spring flow can be a major component of inflows (up to 80%) into whooping crane critical habitat, especially in times of drought. Sufficient inflows are essential to support abundant blue crab populations, the primary food of whooping cranes during winter.

### **Wind Energy Development and Power Lines**

The development of wind farms is occurring at a rapid pace in the Central Flyway. Multiple wind farms have already been built, and it is important to analyze the potential impact of literally tens of thousands of wind turbines being placed in the whooping crane migration corridor in the coming years. For example, one notably large project on the border of the Dakotas called Titan is proposing to place 4,000 wind turbines over 200 square miles within the whooping crane migration corridor.

With an investment of over \$9 billion, the wind industry installed 5,244 megawatts of power in 2007, expanding the nation's total wind power generating capacity by 45% in a single calendar year. These new installations are expected to power the equivalent of 1.5 million American households. This was the 3rd consecutive year of record-setting growth, establishing wind energy as one of the largest sources of new electricity for the country. The U.S. wind power fleet now numbers 16,818 megawatts across 34 states, about 1% of national usage, powering over 4.5 million homes. Texas has the most installed wind generating capacity of any state.

Projected growth of the wind industry is hard to visualize. Texas billionaire T. Boone Pickens has gotten heavily involved in wind energy development. His vision for wind farms is part of his wider vision for replacing natural gas with wind and solar for power generation, and using the natural gas instead to power vehicles. A newspaper article written April 18, 2008 provided the following description;

“To picture Pickens' energy strategy, imagine a compass. Stretching from north to south from Saskatchewan to Texas\* would be thousands of wind turbines, which could take advantage of some of the best U.S. wind production conditions. On the east-west axis from Texas to California would be large arrays of solar generation, which could send electricity into growing Southern California cities like Los Angeles. The end result would be to free up more clean-burning natural gas - primarily a power-generation fuel now - to power automobiles.”

\* Note that Texas to Saskatchewan is the exact route of the whooping crane migration corridor. Many of the best wind development sites are located in that corridor.

The majority of the wind farms do not require federal permits and thus there is no nexus for the companies to consult with USFWS. However, the projects must avoid “take” of endangered species under Section 10 of the ESA. Wind farms have the potential to directly kill whooping cranes either from the turbines themselves or associated construction of power lines. If whooping cranes completely avoid wind farm areas, wind energy development could result in the removal of hundreds of square miles of migration stopover habitat from use by the cranes. The National Academy of Science Report in 2004 on Platte River endangered species report stated unequivocally the threat to whooping cranes if migration habitat is lost.

I'm concerned that potential impacts to whooping cranes need to be fully evaluated. USFWS biologists throughout the whooping crane migration corridor initiated conference calls to develop a unified approach to wind energy development issues and met in December, 2007 in Lakewood, Colorado. The meeting included both representatives of Endangered Species and Refuges since wind development companies are requesting placing turbines on federal grassland easements in the Dakotas which in some instances USFWS has allowed. From this meeting and follow-up conference calls, it was decided to recommend that the industry prepare a Habitat Conservation Plan (HCP) for wind energy development for the entire U.S. whooping crane migration corridor. An HCP is a document that assigns a level of “take” of an endangered species from development actions that occur on private lands where there is no federal nexus. It legalizes those actions if measures described in the HCP are carried out. Points that involved lots of discussion included whether or not to include

in the HCP all endangered species as well as migratory bird issues. A decision was reached to focus primarily on whooping cranes. A whooping crane / wind energy development summit meeting was held in July, 2008 in Denver to discuss all aspects of writing an HCP. Two USFWS Regional Directors attended along with key wind development and utility companies working in the Central Flyway. Discussions are continuing to try to get this HCP process underway.

I made a presentation in September, 2007 to the Avian Power Line Interaction Committee (APLIC) expressing concerns about increased construction of power lines, especially as wind power is developed. APLIC is very interested in continuing to pursue conservation measures needed for whooping cranes and have formed a whooping crane issue subcommittee. Whooping crane collisions with power lines are believed to be the number one source of mortality for fledged whooping cranes. Continued construction of power lines including those associated with proposed wind farms in the migration corridor threatens the recovery of the whooping crane.

Early on in my meeting with wind companies, I talked of two possible scenarios for offsetting anticipated impacts of wind farms. These were;

1. To mark all new power lines as well as an equivalent distance of existing power lines to offset the threat of whooping cranes colliding with a wind turbine or power lines built to support wind development. Existing lines need to be marked so that there is no net increase in the threat of collision since marking lines is only 50-80% effective in reducing avian collisions. Existing lines targeted would hopefully be in the migration corridor located within 2 miles of a suitable crane wetland or known stopover site.
2. To set aside whooping crane migration stopover habitat in perpetuity to counter potential loss of habitat from wind energy development.

The Nebraska USFWS Endangered Species office in Grand Island, Nebraska using GIS techniques prepared updated maps on the location of the whooping crane migration corridor. This is a very important tool for analyzing the risk to the species for specific wind farms. The data showed that 75% of all documented whooping crane stopovers occur in a migration corridor roughly 80 miles wide. This work complemented work done by Dr. Karine Gil de Weir at the Platte River Habitat Whooping Crane Trust.

One wind farm proposed at Wessington Springs in South Dakota entered formal consultation under the ESA, the first case of its kind involving whooping cranes. The federal nexus existed because of the involvement of the Western Area Power Administration (WAPA). An Environmental Assessment was prepared and USFWS wrote a draft biological opinion. No incidental take was granted in the biological opinion, but take of habitat was covered. A second project entering federal review involves 27 miles of transmission line in eastern Montana.

### **Administration**

The Recovery Strategy for the Whooping Crane in Canada was posted in its final version on the SARA Public Registry on November 20, 2007. It can be downloaded at:

[http://www.sararegistry.gc.ca/virtual\\_sara/files/plans/rs\\_whooping\\_crane\\_final\\_1007\\_e.pdf](http://www.sararegistry.gc.ca/virtual_sara/files/plans/rs_whooping_crane_final_1007_e.pdf)

The Crane Conservation Act was re-introduced in both the House and the Senate in Washington and passed by the House in early June, 2008. This legislation is aimed at helping species of cranes world-wide, and would allow 20% of appropriated funds to go towards crane species in North America.

*\*\*\*\*To read the full report from which this article was adapted, visit the WCCA website at: [http://whoopingcrane.com/Documents/WCRA\\_07to08.pdf](http://whoopingcrane.com/Documents/WCRA_07to08.pdf)\*\*\*\**

## WHOOPING CRANE NUMBERS IN NORTH AMERICA September 30, 2008

### Wild Populations

	Adult	Young	Total	Adult Pairs
Aransas/Wood Buffalo	227	39	266 <sup>A</sup>	72
Rocky Mountains	0	0	0	0
Florida non-migratory	30 <sup>B</sup>	0	30 <sup>B</sup>	12
Wisconsin/Florida migratory	69	22 <sup>C</sup>	91	11
<b>Subtotal in the Wild</b>	<b>326</b>	<b>61</b>	<b>387</b>	<b>95</b>

<sup>A</sup> The 266 cranes above is the estimated flock size in spring, 2008. Forty-one chicks fledged from a record 66 nests in 2008. Chicks hatched in 2008 are not added to the count until they reach Aransas in late fall.

<sup>B</sup> This number reflects the 26 birds regularly monitored in Florida plus 4 additional cranes believed to be alive in unknown locations. No chicks fledged in the wild in 2008.

<sup>C</sup> The 5 whooping crane breeding facilities (Patuxent Wildlife Research Center, International Crane Foundation, Calgary Zoo, San Antonio Zoo, and Species Survival Center in New Orleans) either provided eggs or hatched and raised chicks in 2008. Four eggs came from abandoned wild nests in Wisconsin and successfully hatched at Patuxent. Twenty-two chicks are currently being raised for the release programs in central Wisconsin (15 ultralight, 7 direct autumn release).

### Captive Populations

	Adult	Young <sup>D</sup>	Total	Breeding Pairs
Patuxent WRC, Maryland	62	4	66	13
International Crane Foundation, WI	32	0	32	11
Devonian Wildl. Cons.Cent./Calgary	24	0	24	6
Species Survival Center, Louisiana	12	0	12	1
Calgary Zoo, Alberta	2	0	2	0
New Orleans Zoo, Louisiana	2	0	2	0
San Antonio Zoo, Texas	7	0	7	1
Homosassa Springs Wildl State Park	2	0	2	0
Lowry Park Zoo, Tampa, Florida	1	0	1	0
Jacksonville Zoo, Florida	2	0	2	0
Milwaukee County Zoo, Wisconsin	1	1	2	0
<b>Subtotal in Captivity</b>	<b>147</b>	<b>5</b>	<b>152</b>	<b>32</b>

<sup>D</sup> Two of these young are genetic holdbacks and will remain in captivity as future breeding stock. The table does not reflect captive young that have entered reintroduction programs in 2008.

**TOTALS (Wild + Captive)    387 + 152= 539**

## Updates from Reintroductions

### Eastern Migratory Population

The eastern migratory whooping crane population currently includes 69 adult birds and 22 juveniles. Most of the whooping cranes in the eastern migratory population make the desired migration between Wisconsin and Florida. A few birds continue to summer in Michigan, and a few wander into Minnesota and Iowa. In early June, 2008, 3 birds wandered into North Dakota before returning to Minnesota.

Five whooping crane breeding facilities (Patuxent Wildlife Research Center, International Crane Foundation, Calgary Zoo, San Antonio Zoo, and the Species Survival Center in New Orleans) either provided eggs or hatched and raised chicks in 2008. Eggs were shipped across international borders and between facilities to meet production targets for the ultralight (UL) and direct autumn release (DAR) reintroduction programs. Twenty-two chicks were raised for the release programs in central Wisconsin (15 UL, 7 DAR). This compares with fall 2007 when 27 birds were re-introduced into the eastern migratory population (17 UL and 10 DAR). Chicks were hatched and trained at Patuxent prior to shipment to Necedah NWR for the UL project. The Windway Capital Corporation flight team transported the chicks to Wisconsin. Additional eggs were hatched and chicks reared for several weeks at ICF before being transported to Necedah NWR for the DAR project.

The nesting season for the wild migratory whooping cranes in Wisconsin was a disappointment. All 11 nests built in central Wisconsin were abandoned just prior to expected hatching. Four of 6 eggs rescued from the nests successfully hatched at Patuxent. Nesting failure is currently the project's foremost concern. Project Biologist Dr. Richard Urbanek has postulated that the cranes are all abandoning the nests due to a huge hatch of black flies correlated with warm, spring weather late in the incubation period. He noticed hundreds of black flies on the abandoned eggs, photographed one crane with numerous flies on it, and noted one crane pair leaving their nest and running into thick brushy vegetation presumably to find relief from the biting flies. Efforts in 2009 will focus on getting additional evidence for this theory and attempting to control the black fly hatch.

Two substantial changes in the Whooping Crane Eastern Partnership (WCEP) are planned for fall, 2008. Operation Migration has laid out a new migration route west of the Appalachians to try to avoid the rough mountain weather and reduce the number of days they are unable to fly. Also, plans have been formulated to split the flock upon arriving in Florida between St. Marks and Chassahowitzka NWRs. The main reason for this split is to avoid one disastrous event happening to all the birds at once as happened in February 2007 with the loss of 17 cranes from a lightning strike at Chassahowitzka.

WCEP held meetings in February and September, 2008 to plan operations for the reintroduction. With so many partners involved in the eastern reintroduction, including agencies and non-profits, the semiannual meetings are important to handle the many issues that arise. The Recovery Team endorsed continued UL and DAR releases in 2009, but urged WCEP to focus on determining the reason for nest abandonment.

\*\*\*\* *Tom Stehn, USFWS Whooping Crane Coordinator*\*\*\*\*

### Florida Resident Flock

From previous newsletters you've probably read about the challenges for this reintroduction project. Drought and the resulting lack of water in marshes is probably the greatest challenge; low water levels affect both survival and productivity and it is difficult to "fix" the weather. Other challenges for this flock include differential survival of the sexes; males have not lived past 10 years of age, while the oldest females in the flock are now 15 years of age. Longevity for whooping cranes of the only self-sustaining flock is estimated to be 22-30+ years and captive male whooping cranes have lived to 40 years of age. Another challenge is that results from necropsy show that 12% of females and 6% of males of the Florida flock have dysfunctional reproductive tracts that may prevent them from ever reproducing. We don't know the cause of this, but it may be from

inbreeding due to low genetic diversity. Finally, the future of whooping cranes in Florida is also threatened by loss of habitat from development.

The last releases into the Florida flock were in winter 2004-2005. By that time we had concerns about the future of the flock, but felt the population was large enough that we could study it to learn more about the potential of the flock before investing more birds for release.

This past year in a series of meetings we have been deliberating the prospects for future releases into the non-migratory flock of whooping cranes in Florida. Eight experts representing major project partners and 2 facilitators (Clint Moore and Sarah Converse, USGS Patuxent Wildlife Research Center) participated in a workshop for this purpose in Gainesville on 25 and 26 August. Major considerations weighed in the decision process included 1) likelihood of attaining a successful population, 2) project costs, 3) the ability of the captive facilities to provide birds for other releases, 4) information gain, and 5) public relations. The resulting report was presented to the International Whooping Crane Recovery Team on 24 September 2008. At that meeting, the Team used the report and other considerations to formulate a statement of recommendations regarding the Florida flock of whooping cranes:

“The Whooping Crane Recovery Team (Team) wishes to express our appreciation to the Florida Fish and Wildlife Conservation Commission (FWC) for all they have done and will continue to do in the coming years to support whooping crane recovery. The Team acknowledges the outstanding expertise and professionalism of the FLFWCC and values our partnership. The Team wishes to thank the Patuxent Wildlife Research Center for their report entitled “Releases of Whooping Cranes to the Florida Non-Migratory Flock: a Structured Decision-Making Approach”. The decision process focused on the probabilities of success for the Florida non-migratory whooping crane flock given different assumptions and different levels of continued releases. Although the Team recognizes the difficulties of reintroducing avian species, even the most optimistic assumptions in the study provided no more than a 41% chance of achieving a self-sustaining population, and most values were around 20 % or less. The Team feels that 24 whooping crane chicks per year are not available for continued releases in Florida. Releasing fewer than 24 birds annually lowers the probability for success even further. The Team feels that the water regimes produced by periodic droughts in Florida make it extremely unlikely that reproduction in wild-hatched Florida whooping cranes will ever achieve production rates adequate for success. In addition, crane habitat in Florida is faced with tremendous pressure from developers and is expected to decline in the coming decades. **Therefore, the Team recommends that no further releases of captive-reared whooping cranes be made into the Florida non-migratory population.** The Team recommends that the FLFWCC continue to study the remaining non-migratory whooping cranes to maximize learning. The Team hopes that FLFWCC will continue to make valuable contributions to the Whooping Crane Eastern Partnership and consider an expanded involvement with the wild migratory whooping cranes wintering in Florida.”

The FWC accepted the Team’s recommendations and will continue studying the surviving members of this flock (30 birds, which includes 12 pairs). Low productivity of released whooping cranes has been associated in part with wetland water levels, but inappropriate behavior could also be a factor. A subset of whooping cranes that were captive-reared and released into the wilds of Florida have demonstrated that they are capable of doing everything necessary to pair, nest, lay eggs, hatch chicks, and raise chicks up to independence. However, some pairs were unable to hatch their eggs, even after multiple attempts. We will analyze behavioral data collected at nests to describe the incubation behavior of successful pairs vs. unsuccessful pairs. The behavioral data from successful nests will allow us to describe basic biology of the whooping cranes; this benchmark information can then be applied in the analysis of behaviors of other flocks.

\*\*\*\*Marty Folk, Florida Fish and Wildlife Conservation Commission\*\*\*\*



## A Future Reintroduction to Louisiana?

At their meeting held in September 2008, the Recovery Team recommended that multiple partners carry out actions working towards a potential future release of non-migratory whooping cranes in Louisiana. Recommended actions include;

- Continue ongoing habitat studies led by Dr. Sammy King in an effort to evaluate potential release sites.
- In consultation with the Whooping Crane Health Advisory Team, initiate studies to evaluate the presence/absence of infectious bursal disease (IBD) in the migration corridor of the Aransas Wood Buffalo Population (AWBP). Study results must demonstrate that the AWBP would not be threatened by IBD by the reintroduction of whooping cranes into Louisiana before the Team will support a reintroduction.
- Evaluate the regulatory actions needed to reintroduce nonmigratory whooping cranes into Louisiana.
- Fully coordinate and partner with the Louisiana Department of Wildlife and Fisheries on all actions as appropriate.

Due to uncertainties with the lack of production in the Wisconsin whooping crane population, it is not possible to say when a reintroduction might take place in Louisiana. The Recovery Team hopes that in the next 1-2 years, these questions in Wisconsin can be resolved and that the population of whooping cranes in the eastern U.S. will be close to the target of 125 birds and be reproducing. At that time, assuming the IBD study provides the reassurances needed and that regulatory actions have been completed, it is suggested that a small initial experimental reintroduction could be carried out in Louisiana. This reintroduction could possibly use cranes that are genetically surplus to the eastern migratory population and would test the habitat before a larger reintroduction would be recommended.

\*\*\*\* Tom Stehn, USFWS Whooping Crane Coordinator\*\*\*\*

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***On the Wings of Cranes: Larry Walkinshaw's Life Story*** extends an invitation to America's 85 million amateur birders to discover another in the ranks of John James Audubon, Roger Tory Peterson, and Alexander Wilson. Lawrence H. Walkinshaw's (1904-1993) first ever biography reveals how cranes and Walkinshaw became synonymous. Recognized as "The Father of International Studies of Gruiformes," he did more for longer than any leading to the salvation of endangered Whooping Cranes, Greater Sandhill Cranes, and Kirtland's Warblers. His exploits further established him as "...the greatest bird-nest-finder of all time" and the "model" life history scholar on cranes, warblers and sparrows.

Join Larry in the global wilderness. Study his field techniques, marvel at his species saving accomplishments and establishment of sanctuaries. When taken together, they expose a unique style of leadership seldom encountered on behalf of nature. Always birding with family and friends, Walkinshaw considered it "recreation, for both mind and body ...a stimulus." The Michigan dentist explained, "I had a sight of cranes which completely changed my life." The author explains in his latest "delicately crafted, absorbing... meticulously researched" book how the theme of ***Larry Walkinshaw's Life Story*** is birding... inspiration its message. (Kirkus Discoveries, 2005).

### Advance Praise for *On the Wings of Cranes*

"Ornithology has always benefited from substantial contributions by non-professionals. In the pantheon of respected contributors, Larry Walkinshaw stands shoulder-to-shoulder with other giants such as Alexander Wilson, John James Audubon... Harold Mayfield and Roger Tory Peterson. His legendary passion for birds, especially cranes, is revealed in this shining testament to what a dedicated non-professional can accomplish." *Dr. Stanley A. Temple, Beers-Bascom Professor Emeritus in Endangered Species-Conservation, University Wisconsin-Madison.*

"At last, the true story of Larry's contributions to... the recovery of the Whooping Crane is exposed" in this "thoroughly researched, well written, and compelling account of the world's pioneer crane biologist." *Operation Migration Board Member, Walter Sturgeon, Spring Hope, NC and Past President of Whooping Crane Conservation Association and International Wild Waterfowl Association.*

An ornithological biography published by iUniverse, Inc. 2008 as ISBN: 978-0-595-48497-3 (pbk), \$24.95; ISBN: 978-0-595-71999-0 (cloth) \$34.95 and ISBN: 978-0-595-60589-7 (ebk) \$6.00. Now available through Barnes & Noble, Amazon.com, various wholesalers or by calling the publisher at 1-800-288-4677. Follow their menu prompts. When purchasing twenty or more copies proceed to Extension 5423 and speak with Kyle Burkett, my book sales consultant to arrange for discounts of 40% or more. Contact the author at 361-749-2315 or [wschake1@centurytel.net](mailto:wschake1@centurytel.net) to discuss presentations or signings.

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**Honor Roll of Donors**

Thanks to the following individuals who contributed extra money over and above their annual dues; all contributions will be used toward conservation of the whooping crane: **George Archibald, Nathaniel Reed, Walter Sturgeon.**

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**New Membership Secretary for WCCA**

Due to health issues, our secretary Judith Buhrman has stepped down from her volunteer position with the WCCA. We appreciate Judith's dedication to the cause. She has updated and improved our ability to track membership. Judith's responsibilities will be taken over by Jeannette Parker. Jeannette Parker has worked with whooping cranes, red-cockaded woodpeckers, and other birds of interest.

**From now on, for all your membership needs (renewing, giving gift memberships, providing updates to your address and other contact information, etc.), please contact Jeannette Parker\*. Please start by RENEWING YOUR MEMBERSHIP FOR 2009 (and saving your organization the expense for a separate mailing)! Thanks!**

Life members-feel free to use the same form for donations. Dues money and donations are used toward the costs of printing and mailing the biannual newsletter. In addition, the Association awards grants for efforts that directly benefit the whooping crane. These awards often are for research, management, or educational needs.

<b>Please Join (or renew your membership in) the Whooping Crane Conservation Association</b>			
<b>New membership</b> ____ <b>Renewal membership</b> ____ <b>Gift membership</b> ____ <b>Donation</b> ____ Dues: Annual \$10.00 ____; Sustaining Member (annual) \$30.00 ____; Life Member \$300.00 ____; Other \$ ____			
Name: _____			
Address: _____			
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Mail completed form and check, payable to "Whooping Crane Conservation Association" to: Jeannette Parker 5840 Forrests Edge Lane Gloucester, VA 23061			
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