

WHOOPI NG CRANE
EASTERN PARTNERSHIP

TEAM REPORT

JANUARY 2002



WHOOPING CRANE EASTERN PARTNERSHIP TEAM REPORT

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Whooping Crane Eastern Partnership Field Team Report 2001

The Field Team component of the Whooping Crane Eastern Partnership reports to the Bird Team and is responsible for the rearing, imprinting, socializing, flight conditioning and migration of the birds released in Florida.

Report: During the 2001 field season 11 birds were hatched and reared at Patuxent WRC to participate in the first attempt to reintroduce a migratory population of Whooping cranes into Eastern North America. Ten birds were shipped to Necedah NWR including 2 with wing injuries. After extensive flight conditioning and socialization 8 birds began the migration on October 17 2001. The migration included 26 stops, covered 1227.28 miles and lasted 50 days. Six birds completed the migration following the aircraft and a seventh was transported to each stop in a shipping container. It was penned at night with the rest of the flock in order to maintain its social standing. The team hoped this bird would follow its flock mates north in the spring, however, it was taken by a bobcat shortly after arriving at the southern terminus.

Accomplishments:

- A rigid costume rearing protocol was strictly followed throughout the training and migration with no notable violations occurring.
- Training time and human contact time were minimized giving the birds every opportunity to maintain their wildness.
- Improvements were made to the training area in Necedah NWR including a larger pen at Site 1 to accommodate more birds. (The Necedah Refuge and the Friends of Necedah also constructed a blind to allow more access to view the training).
- Several new stopovers were selected for the migration to improve the isolation and reduce the chances for protocol violations. Due to the modifications these birds were subjected to less traffic noise than the Sandhill cranes of last year.
- A predator-proof pen was established at Hiwassee Wildlife Refuge in Tennessee. Due to weather delays we did not make use of this pen to stage the birds this year, however, the option still exists in the future.
- Six birds were led to Chassahowitzka National Wildlife Refuge in Florida.

Areas of Concern:

Problem: During the migration a severe windstorm damaged the travel pen and all the birds escaped. Seven birds were returned safely, however, the next day Number 3 was found dead as a result of power-line impact. It is necessary that the travel pen consist of at least 50% visual barrier panels in order to control what the birds are able to see, however, these panels are susceptible to wind damage.

Solution: A new pen design will include separate visual barrier panels that will attach to the trailer several feet away from the wire panels that actually contain the birds. If, in the event of

heavy winds, the visual barrier panels are damaged the wire panels will allow the wind to pass through and will remain intact.

Problem: Last year we attempted to simplify the pen design by incorporating the shade shelter into the top net. When the top net was attached to the pen it included an area of fabric in the centre that provided shade and negated the need for a separate structure. Unfortunately, this proved to be ineffective as the wind caused it to exert too much stress on the pen.

Solution: The new pen design will include a separate shade shelter structure in the form of an EZ-Up tent. This unit can be quickly set up to provide sun protection but could also be removed to avoid wind damage.

Problem: With the obvious ability of Whooping cranes to fly greater distances than the Sandhill cranes the ground crew often have many miles to cover between stops. During this time the flight team must hold the birds at a pre-selected and isolated area of the destination site and wait. This is a dangerous time for the birds as we may be exposed to predators or curious observers. At some sites we are forced to hold the birds in areas that are undesirable such as too close to trees or near buildings.

Solution: A second travel pen, travel pen trailer and ground crew team will be added to the migration team in 2002. This will allow us to leap frog and at most locations a pen will already be set up when the flight team arrives with the birds. This will also provide us with an optional pen if one is damaged by weather or during transport.

Comparisons between Sandhill cranes 2000 and Whooping cranes 2001

	<u>2000</u>	<u>2001</u>
Distance traveled:	1227.5 miles	1227.28 miles
Number of stopovers:	33	26
Hours of flight:	29 hr. 51 min.	35 hr 46 min.
Flight days:	31	26
Weather days:	7	22
Longest single flight:	83	94.7 miles
Longest flight duration:	1:48	2:09

<u>ID#</u>	<u>OM #</u>	<u>Colour band</u>	<u>SEX</u>	<u>Hatch date</u>	<u>Age at shipping</u>	<u>Cohort</u>	<u>Migration experience</u>	<u>Disposition 01/01/02</u>
02-01016	1	GRG	M	5/7/01	65 days	2	Completed entire migration (most dominant)	Wintering in Florida
02-01017	2	R	F	5/10/01	62 days	2	Completed entire migration	Wintering in Florida
02-01018	3	RWG	M	5/11/01	61 Days	2	Died stop #3	Died (powerline impact) 10/25/01
02-01019	4	RG	M	5/12/01	60 Days	1	Dropped out on 1st leg; trucked to Florida	Died (Bobcat predation) 12/17/01
02-01020	5	RGR	M	5/13/01	59 Days	2	Did not complete leg #23	Wintering in Florida
02-01023	6	WR	M	5/15/01	57 Days	2	Did not complete leg #11	Wintering in Florida
02-01024	7	WGR	F	5/17/01	55 Days	1	Did not compete leg #6 ; 12	Wintering in Florida
02-01025	8		M	5/18/01	not shipped		Did not migrate	Died (Peritonitis) 6/10/01
02-01030	9	RWG	F	5/22/01	50 Days	1	Did not migrate	Removed from study 9/11/01
01-01032	10	WGR	F	5/23/01	49 Days	1	Completed entire migration (often lead bird)	Wintering in Florida
02-01034	11		M	5/24/01	48 Days	1	Did not migrate	Died (myopathy) 9/11/01

Date, 2001:	Day #	Stop #	Location ID	State	Flight Duration	Distance covered	Accumulated Distance	Weather	Notes:
10/17	1	1	Adams Co.	WI	:44	29.3	29.3	SUNNY & CALM	#4 Dropped out. Retrieved early evening near Necedah
10/18	2	1	Adams Co.	WI	0:00	0	29.3	Headwind	Stand down - WEATHER
10/19	3	1	Adams Co.	WI	0:00	0	29.3	Headwind	Flight aborted - Weather
10/20	4	1	Adams Co.	WI	0:00	0	29.3	Headwind	Flight aborted - Weather
10/21	5	2	Sauk Co.	WI	:41	21.4	50.7	Overcast & cold	
10/22	6	3	Green Co.	WI	1:52	48	98.7	Tailwind, Ptly Cloudy	
10/23	7	3	Green Co.	WI	0:00	0	98.7	Headwind, low ceiling	Stand down - WEATHER
10/24	8	3	Green Co.	WI	0:00	0	98.7	Damaging winds, lightning, hail	Stand down - WEATHER
10/25	9	3	Green Co.	WI	0:00	0	98.7	Damaging winds, lightning, hail	Stand down - WEATHER/Pen damaged #3 found dead (power lines)
10/26	10	3	Green Co.	WI	0:00	0	98.7	Strong, gusting winds	Stand down - WEATHER
10/27	11	4	DeKalb Co.	IL	1:55	94.7	193.4	Tailwind, Ptly Cloudy, 34F	
10/28	12	4	DeKalb Co.	IL	0:00	0	193.4	Headwind, Sunny	Stand down - WEATHER
10/29	13	5	Kankakee Co.	IL	1:46	61.6	255	Winds light/variable 54F	Afternoon flight. Heavy thermal activity
10/30	14	5	Kankakee Co.	IL	0:00	0	255	Headwind	Stand down - WEATHER
10/31	15	5	Kankakee Co.	IL	0:00	0	255	Headwind	Stand down - WEATHER
11/1	16	5	Kankakee Co.	IL	0:00	0	255	Headwind	Stand down - WEATHER
11/2	17	5	Kankakee Co.	IL	0:00	0	255	Headwind	Stand down - WEATHER
11/3	18	6	Boone Co.	IN	2:09	91.4	346.4	Sunny, warm, 74F	# 7 Did not complete flight
11/4	19	6	Boone Co.	IN	0:00	0	346.4	Headwind	Stand down - WEATHER

Date, 2001:	Day #	Stop #	Location ID	State	Flight Duration	Distance covered	Accumulated Distance	Weather	Notes:
11/5	20	7	Morgan Co.	IN	2:08	57	403.4	Cool, sunny, frost. Tail then headwind	
11/6	21	8	Jennings Co.	IN	1:40	43	446.4	Headwind, sunny, frost	
11/7	22	9	Wash. Co.	KY	2:02	91.2	537.6	Calm, sunny, cool, frost	
11/8	23	10	Adair Co.	KY	1:37	54.5	592.1	Sunny & calm	
11/9	24	11	Cumbrlnd Co.	TN	1:59	75.3	667.4	Sunny & cold, frost	#6 Dropped out, spent night out. Retrieved 11/10
11/10	25	11	Cumbrlnd Co.	TN	0:00	0	667.4	Clear calm	Stand down, to retrieve #6
11/11	26	11	Cumbrlnd Co.	TN	0:00	0	667.4	Headwind gust factor heavy fog	Stand down - WEATHER
11/12	27	12	Bledsoe Co.	TN	:38	26	693.4	Sunny, frost, 30F	#7 Did not complete flight; retrieved same day
11/13	28	13	Meigs Co.	TN	1:20	17	710.4	Sunny, hazy	Interim stop near Hiwassee to allow local fog to clear
11/14	29	14	Gordon Co.	GA	1:45	67.2	777.6	Sunny, localized fog	
11/15	30	15	Coweta Co.	GA	1:27	65.8	843.4	Sunny, localized fog, 34F	
11/16	31	16	Pike Co.	GA	1:06	40.8	884.2	Sunny, Frost, 40F	
11/17	32	17	Marion Co.	GA	1:28	52.1	936.3	Ptly sunny, haze, 48F	Pres. Carter on site
11/18	33	18	Terrell Co.	GA	1:32	45.7	982	Sunny, warm, 54F	
11/19	34	18	Terrell Co.	GA	0:00	0	982	Warm, Headwind	Stand down - WEATHER
11/20	35	18	Terrell Co.	GA	0:00	0	982	Lg. fog bank. IFR	Stand down - WEATHER
11/21	36	19	Cook Co.	GA	1:34	60.1	1042.1	Sunny, Lt. Frost	
11/22	37	19	Cook Co.	GA	0:00	0	1042.1	Fog/43F	Stand down - WEATHER
11/23	38	19	Cook Co.	GA	0:00	0	1042.1	Rain	Stand down - WEATHER

Date, 2001:	Day #	Stop #	Location ID	State	Flight Duration	Distance covered	Accumulated Distance	Weather	Notes:
11/24	39	20	Hamilton Co.	FL	1:14	38.6	1080.7	Lt. Fog then Hvy Fog	Made temp. stop 10 miles short of destination to allow fog to clear
11/25	40	20	Hamilton Co.	FL	0:00	0	1080.7	Windy	Stand down - WEATHER
11/26	41	21	Suwannee Co.	FL	:46	20.9	1101.6	Early fog, sunny, warm	#5, 6 Dropped out 5 miles early. Flight team retrieved and carried on.
11/27	42	22	Suwannee Co.	FL	:45	20.4	1122	Sunny, warm	
11/28	43	22	Suwannee Co.	FL	0:00	0	1122	Sunny, warm	Flight aborted #5 neck injury
11/29	44	23	Gilchrist Co.	FL	:41	20	1142	Lt. Fog then sun	#5 no fly - wait for vet check results
11/30	45	23	Gilchrist Co.	FL	0:00	0	1142	Headwind	Stand down - WEATHER
12/1	46	23	Gilchrist Co.	FL	0:00	0	1142	Drizzle	Stand down - WEATHER
12/2	47	24	Levy Co.	FL	1:16	55.4	1197.4	Lt. Fog.	Interim stop Dalton to allow fog to clear
12/3	48	25	Citrus Co.	FL	:40	25.1	1222.5	Sunny, warm	Final site on mainland - Homosassa Pen
12/4	49	25	Citrus Co.	FL	0:00	0	1217.8	Windy	Stand down - WEATHER
12/5	50	26	Chass Pen Citrus Co.	FL	:20	4.78	1227.28	Sunny, warm, slight wind	Air pick-up @ Homosassa pen/Air drop @ Chass pen site - FINAL FLIGHT
		26 stops + 3 interim stops				total flight time: 35:46			

22 Stand down - Weather days
 26 Flight days
 2 other down days

Longest Flight Distance: 94.7 miles
 Longest Flight Duration: 2 hr and 9 min.

WCEP ID #	First exposure to aircraft at Patuxent WRC			Total time with aircraft
	Revved engine	Foraged with trike	Circle pen	
WCEP #1	Day 2	Day 6	Day 15	6 hours 23 min
WCEP #2	Day 3	Day 3	Day 12	8 hours 23 min.
WCEP #3	Day 2	Day 2	Day 11	6 hours 24 min.
WCEP #4	Day 10	Day 9	Day 10	7 hours 50 min.
WCEP #5	Day 9	Day 10	Day 11	7 hours 54 min.
WCEP #6	Day 7	Day 13	Day 12	6 hours 20 min.
WCEP #7	Day 5	Day 6	Day 10	7 hours 16 min.
WCEP #9	Day 8	Day 8	Day 12	7 hours 5 min.
WCEP #10	Day 7	Day 14	Day 11	7 hours 20 min.
WCEP #11	Day 13	Day 13	Day 15	5 hours 45 min.
MEAN	5 Days	7.6 Days	10.8 Days	6 hours 25 min.

Whooping Crane Eastern Partnership Annual Report

HEALTH MANAGEMENT, WCEP 2001

Health care and disease monitoring were provided for the 10 whooping cranes in the 2001 WCEP project. The cranes were assessed by observation, physical examination, and laboratory testing from hatching at the Patuxent Wildlife Research Center (PWRC) in Maryland, through flight training in Wisconsin, along the ultralight-led migration and shortly after arrival at their final destination in Florida. Veterinary treatments and management consultations were provided as health problems were identified. Additionally, health care and disease monitoring were provided for the WCEP 2000 project sandhills as needed. A network of veterinary consultants was established along the migration pathway to provide emergency care for WCEP cranes in the future. Bird health care and monitoring protocols were developed for each phase of the project, and a disposition protocol for birds unable to continue with the release was finalized. A WCEP health database was developed as part of the WCEP Bird Team website developed by Barry Hartup to be a central repository of protocols, field summaries, and data from the project.

Summary of Whooping Crane Health Monitoring and Findings

Mortality

Of the 10 whooping cranes transferred to Necedah NWR in July 2001, 4 have died:

- Despite following protocols designed to minimize stress and handling time, #11 died from **acute capture myopathy** after restraint for the pre-migration health check and banding. No major differences were noted between this and other birds in handling time, style or the bird's reactions while being handled.
- Early in migration, when a wind storm knocked down the night pen and allowed most of the cranes to escape, #3 died with massive intra-thoracic hemorrhage from **hitting a powerline**.
- Within 2 weeks of arrival in Florida, #4 was **killed by a bobcat**. This bird had arrived at Necedah with a minor developmental wing problem. Though he was capable of long flights, his performance following the ultralight was inconsistent, and he was transported in a van for essentially the whole migration.
- On January 10, #10 was missing from the cohort in Florida. Its carcass was found 9 days later on the bank of a tidal creek (approximately 300 m. from the pen) where the cohort was thought to have roosted the evening of January 9. The remains and appearance of the site suggest this bird was also **likely killed by a bobcat**.

Morbidity

- Another bird, #9, also arrived at Necedah with a developmental wing problem, presenting as a drooping wing. The wing condition improved during the summer and the bird was able to fly. However, at the pre-migration examination, significant growth abnormalities of the primary feathers of that wing were found which precluded the sustained flight needed for migration. This bird was transferred to Audubon Zoo, New Orleans.
- There were several minor beak injuries that required management. Number 4 suffered a puncture wound from a metal tine associated with a Necedah pen feeder. Number 2 sustained a minor beak fracture while at Necedah resulting in malocclusion of the beak tips. Late in migration this bird was observed with its beak caught in its FWS leg band, was rescued when it fell over into water, but was subsequently reluctant to use its beak, probably due to bruising and exacerbation of the previous beak damage.
- Minor feather damage was noted on 4 birds on arrival at Necedah, probably the result of shipment crates slightly too small for this species at this age. The Bird Team has already made plans to construct new shipment crates for 2002.
- Three birds were examined during the migration because of behavioral or postural changes suggesting illness. Because there was possible exposure at one of the Illinois migration stop-over sites to metal foreign bodies, blood work, and in one case, radiography were used to rule-out metal foreign-body

ingestion in these 3 cases. There were no significant findings in any of the cases, and, after symptomatic therapy, the birds returned to normal within 24-48 hours.

Parasite Issues

- **Gapeworm** was detected in the whooping cranes within 2 weeks of arrival at Necedah, and probably was acquired in the wetland pens. Despite regular, apparently successful, treatment in food items, some birds had persistent or recurrent mild wheezing associated with this airway parasite. Bird #1 was treated several times with an oral steroid, prednisone, to alleviate exercise-associated wheezing.
- **Coccidia** were also detected in the birds within 2 weeks of arrival at Necedah, but not associated with disease. The coccidia may have been acquired at Necedah, or may have come in small numbers with the birds from Patuxent, but become more apparent at Necedah as the result of decreased consumption of the coccidiostat-containing feed.
- A flagellated protozoa, probably **Hexamita**, was detected in one clinically normal bird (#2) at the arrival exam in Florida. This parasite was previously associated with fatalities in a sandhill crane release project in Florida. Follow-up fecal parasite examinations are planned for #2 and the rest of the cohort. Additionally, low numbers of *Capillaria* sp. eggs were found in some fecal samples on Florida arrival.

Bacterial Disease Issues

- High levels of **E. coli** and other coliform bacteria were found in water samples taken from some areas of the pens at Necedah. Though no associated health problems were detected, there was concern about the water quality, since the birds spent significant time probing in these wet areas and drank this water. Project team members and Refuge staff worked together to change to flow-through water systems to improve water quality.
- **Salmonella** bacteria of a variety of apparently non-pathogenic strains were detected during the routine exams before shipment from Patuxent, on arrival at Necedah, before migration, and on arrival in Florida. There was no associated disease detected and no obvious pattern to which birds were infected or which strains of *Salmonella* were involved. The Health Team will re-evaluate the usefulness of *Salmonella* screening for 2002.

Viral Disease Issues

- Because of an unusual outbreak of Eastern Equine Encephalitis (**EEE**) in horses in Wisconsin and the known susceptibility of whooping cranes to this virus, the birds were vaccinated for EEE while at Necedah. EEE titers were negative on arrival in Florida.
- As West Nile Virus was detected in 2001 in many eastern states, including Florida and Wisconsin, the risks for the whooping cranes associated with **West Nile Virus** were extensively discussed. The birds were tested four times for evidence of exposure, but no antibody titers have been found. After much discussion, it was decided to wait for results of the sandhill crane WNV vaccination/challenge research currently underway, before a decision is made about vaccinating WCEP project birds.

Additional Monitoring Results

- Results from routine hematology done at the pre-migration evaluation showed four birds with unusually **high white blood cell counts**. Similar results from apparently normal whooping cranes have been reported by captive centers and other release projects, but the cause and significance are not clear. The Whooping Crane Health Advisory Team will be discussing how to investigate this issue.
- Results are pending for the **fecal corticosterone/stress indicator study** done with the 2001 WCEP whooping cranes. Barry Hartup has summarized the fecal corticosterone findings from the 2000 sandhill cohort and will make these available.

Summary of 2000 WCEP Sandhill Crane Monitoring and Findings

Sandhill Crane #13, who left Florida in the spring significantly later than the rest of the 2000 cohort, was rescued in poor condition in North Carolina in June. After a NC wildlife rehabilitator /vet team stabilized

the bird, it was transferred to Wisconsin for evaluation. Physical examination and diagnostic testing showed evidence of malnutrition and chronic inflammatory disease (including severe edema of the head, an unusual sign). The bird was euthanized, but despite an intensive investigation, no specific cause has been identified for the severe granulomatous disease found at necropsy.

Disease monitoring samples were collected opportunistically from Sandhill #11 when the bird was handled for a routine band/radio change in August; nothing significant was found.

Health Team Issues for 2002

- The Health Team plans to **re-evaluate and update for 2002 all the project health monitoring protocols**, including the schedule of health exams and testing done. In light of the health and behavioral impacts of handling for health exams and banding that were seen in 2001, we will look carefully at the disease data gathered to date, and make recommendations to streamline the health monitoring program as much as possible.
- This year's Necedah health monitoring results of recurrent parasite infections, Salmonella isolates, and water quality questions all suggest that we need to continue to work with the Necedah team on **crane pen management**. Patterns of health monitoring results, pen use, and pen husbandry in 2001 should be evaluated and monitoring and management plans worked out for 2002.
- Several episodes were observed this year where project whoopers got their beaks stuck in their FWS metal leg bands (placed on the tarsometatarsus, below the hock). Beak injuries resulted from this in at least one case, and one bird (#2) was at risk of drowning during one of these episodes. To avoid similar problems in the future, the Health Team will continue to work with the Bird Team to refine the banding schemes.
- As more whooping cranes are introduced into the WCEP flock, there will be an increasing need for **hospitalization, rehabilitation, and short-term housing facilities in Wisconsin**. We need to identify other partners in the state who can help with these needs; Milwaukee Zoo and the Raptor Education Group, Inc. (Antigo) are 2 possibilities.
- Now that we have identified a **migration vet network** for the project, we need to establish the communication and oversight system to make the network work. We need to provide additional information about the project and crane health issues to the vets (including exposing them to the unique costume techniques used), incorporate the network list/locations into the migration handbooks, and figure out how to make the WCEP Health Team vets accessible for consultations to the migration team and network on an emergency basis. Additionally, the Health Team will provide some basic medical training to migration staff, so they can provide immediate emergency care to birds while the migration vet network is contacted.

(over)

The WCEP Migration Veterinary Network

The following veterinarians have offered to provide emergency services for the WCEP whooping cranes. All of these clinics can provide diagnostic and therapeutic management and short term care for cranes in their facilities, and some would be willing to come to a migration stopover site to provide care. The WCEP Health Team (Hartup, Langenberg, Miller, Olsen, Spalding) will provide consultation and oversight to these veterinary partners.

ILLINOIS

Chicago

Tom Meehan/Jennifer Langan
Brookfield Zoo

Westchester (Chicago area)

Rich Nye/Bob Ness
Midwest Bird/Exotic Animal Hospital

Champaign/Urbana

Ken Welle
All Creatures Animal Hospital
Urbana
Julia Whittington
University of Illinois College of Vet Medicine
Urbana

INDIANA

West Lafayette

Steve Thompson/Lori Corriveau
Purdue University School of Veterinary Medicine

Indianapolis

Jan Ramer
Jeff Proudfoot
Indianapolis Zoo
Beth Ann Breitweiser
All Wild Things Exotic Animal Hospital
Angela Lennox
Avian and Exotic Animal Clinic

KENTUCKY

Louisville

Roy Burns
Louisville Zoo

TENNESSEE

Nashville

Michael Lutz
West Meade Veterinary Clinic

Crossville

Russell Lewis
Highland Vet Clinic

Knoxville

Ed Ramsay/Cheryl Greenacre/Mike Jones
University of Tennessee College of Vet Medicine

GEORGIA

Atlanta

Rita McManamon/Maria Crane
Zoo Atlanta

Albany

Jimmy Lee
Gillionville Rd Hospital

Whooping Crane Eastern Partnership Outreach Activities Migration 2001

Members and Responsibilities

The Outreach Team is comprised of public affairs, outreach, environmental education, information and communication specialists from the founding WCEP partners with the exception of the Florida Department of Environmental Protection and the National Fish and Wildlife Foundation. This team brings to the project literally hundreds of years of combined outreach experience in government and private nonprofit organizations. Our purpose is to coordinate, plan and create educational and informational materials promoting and informing the public and project partners on developments and progress toward the WCEP goal of establishing an eastern North American migrating flock of whooping cranes. Our emphasis is to provide accurate and current information to interested parties on project developments and educational opportunities, and to give visibility to this partnership as a model for future reintroduction attempts.

Accomplishments for 2001

General

- Redesigned the project website www.bringbackthecranes.org and moved the website from its former Fish and Wildlife Service server location to a private server to give project a unique identity. This also fostered a better "web presence" that reflected the partnership nature of this historic effort. During this year's migration, the partnership web site received an average of **500-1,500** visits per day; unique visitor addresses - daily repeat visitors were not counted. This resulted in weekly totals that averaged over **4,000** visitors.
- Developed updated materials for and staffed WCEP exhibit at Midwest Birding Symposium
- Designed and developed a wallet-size crane identification cards. Cards were distributed at various events, educational presentations and during the migration itself. This tool provided an inexpensive memento that help foster identification of the species, as well as promote the project website as a place to learn more on the project and whooping cranes in general.
- Developed landowner appreciation materials.
- Planned and hosted a donor appreciation dinner at the Necedah National Wildlife Refuge.

Media Relations

Media interest in this year's project was extremely high. Media outlets from every major network and around the world covered this historic event at a time when the public in the U.S. and much the world was hungry for good news. Exactly how many broadcast reports and print stories were produced was still being calculated at the time this report was written, but it is not an under-estimate to say there were hundreds of reports and stories. These reports reached well beyond the major metropolitan areas into small towns, rural areas, and classrooms all over the world.

- During the 2001 project year, over **120** individual media representatives were accommodated with the number of interviews (including follow-ups) conservatively estimated in excess of **500**.

- In order to reduce overall costs and reduce production time, the team created and produced the migration press kits in a CD-ROM format allowing project documents and fact sheets, photos and sound clips to be distributed in a cost-effective, yet, professional medium. The reduced cost and assembly time allowed for broader distribution to project partners, including the state natural resource agencies along the migration fly-way.
- Increased quality and usability of broadcast-grade "B-roll" footage and images for media use worldwide.
- Utilized new permanent observation blind at the Necedah training to give project partners and media increased opportunity to view crane training. Necedah NWR staff served as the key point of contact and scheduler for these viewing opportunities. Over **105** visits were made during the pre- migration period.
- Coordinated British Broadcasting Company (BBC) filming of whooping crane migration project for a BBC Natural History Unit production featuring North American cranes scheduled for worldwide broadcast in late 2002
- Planned and produced a video report on project for *Into the Outdoors*, a children's television program broadcast statewide in Wisconsin on Saturday mornings.
- Provided full-time onsite media relations management during entire 2001 migration; October 14 through December 7.
- Conceived, planned and executed three separate site Florida arrival day events for public, VIPs and media. The media event included a press conference with a live phone hook up to the acting Director, US Fish and Wildlife Service. Over **40** media outlets attended the press conference.

Environmental Education

- WCEP Outreach team members provided environmental education programs for children and adults throughout the Eastern Flyway. These programs were given during and prior to migration to civic organizations, government agency staff, conservation clubs, museum visitors, home school groups, library reading groups, students and teachers in school assemblies and classroom programs.
- Programs in Wisconsin reached an estimated **750** children and **850** adults
- Programs in the greater Chicago area reached an estimated **115** children and **85** adults
- Programs in the Crystal River area of Florida reached approximately **800** children and their teachers during the week leading up to arrival.
- A conservative estimate of **2,000** people assembled for the arrival-day fly-by heard a brief project summary and crane information talk given by Chassahowitzka staff.
- One other key Environmental Ed accomplishment in 2001 involved establishing a partnership with Journey North (JN) to extend educational outreach efforts into schools throughout North America. JN's internet- based program reaches over **7,000** schools and an estimated **300,000** students each week. Through JN's website, students and teachers will continue to track the project birds' status and general locations as they winter over in Florida and the return to Wisconsin next spring.

Current Activities for Migration 2002 and Beyond

- Refine budget for 2002 outreach activities, and out years.
- Complete production, duplication and distribution of a packaged project presentation for use in educational and fund-raising efforts.
- Complete development of partnership project video
- Archive media stories from 2001 migration (print, video and audio)
- Plan for future migrations with look to more involvement from flyway states' outreach and media staff
- Develop strategy for maintaining media interest in subsequent migration years.
- Evaluate what worked and what didn't from the 2001 migration.
- Continue to work with refuge staffs at Necedah and Chassahowitzka with a focus on strengthening community interest and knowledge of project.
- Designate new co-leaders for outreach team

Whooping Crane Eastern Partnership Migration 2001 – Media Contacts

Media Outlet	City, State or Country
60 Minutes-Australia	Melbourne, Australia
ABC-7	Ft. Meyers FL
Albany Herald	Albany, GA
American Birding Conservancy	The Plains, VA
Arkansas Creative Sports Radio	
Associated Press	Chicago, IL
Associated Press	Milwaukee, WI
Associated Press	Madison, WI
Associated Press	Miami, FL
Baraboo News Republic	Baraboo, WI
Beacon News	Aurora, IL
Birder's World Magazine	Waukesha, WI
Birdsight TV	Dobbs Ferry, NY
Bloomington Pantograph	Bloomington, IL
Boon Today	Boon, IO
Bradenton Herald	Bradenton, FL
British Broadcasting Corporation (BBC)	London, England
Canadian Broadcasting Corp. Radio	
CARE TV-11	Minneapolis, MN
Cartersville Daily Tribune	Cartersville, GA
CBS	Milwaukee, MN
Chicago Wilderness Magazine	Chicago, IL
Chicago Tribune	Chicago, IL
Christian Science Monitor	Boston, MA
Chrysler Magazine	
Citrus County Chronicle	Crystal River, FL
Clear Channel Radio	Cookeville, TN
Columbus Ledger	Columbus, GA
Cookville Herald Citizen	Cookville, TN
Crossville Chronicle	Crossville, TN
Daily Times	Mabeelles, IL
Daily News-Journal	Murfreesboro, TN
Daily Register	Illinois
Daily Cardinal	
Daily Tribune	Rapids, WI
Dept of Interior Radio Actualities	Washington, DC
Discovery Channel - Canada	
Discovery Channel - US	
Experimental Aircraft Associate Magazine	Oshkosh, WI
Earth and Sky Radio	
Eau Claire Leader Telegram	Eau Claire, WI
Elroy Messenger	
Florida Public Radio	Tampa, FL
Florida Gulf Coast University	St. Petersburg, FL
Florida Museum of Natural History	Gainesville, FL
Fur, Fish and Game Magazine	Columbus, OH
Gainesville Sun	Gainesville, FL
Game Warden TV Journal	Indianapolis, IN
Georgia Public Radio	Atlanta, GA

**Whooping Crane Reintroduction Program
Finance & Budget Committee**

The mission of the Finance & Budget Committee is to: A) raise funds to meet project needs as determined by each partner and agreed to by the Committee, B) coordinate the development of and reporting against budget of both the total project and grants specified by the project team, and C) coordinate fund raising requests from non-governmental partners to avoid duplicate grant requests to the same potential donors. In addition, the Finance and Budget Committee works closely with the Outreach Committee to plan and implement donor recognition programs.

Included on the Committee are Peter Murray (ICF) - chair, John Christian (USFWS), Robert Russell (USFWS), Laurie Osterndorf (WNRF), Joe Duff (OM), Heather Ray (OM), Beth Goodman (WDNR), Tracy Allen (Friends of Necedah), Cheree Peterson (NFWF), Erin Barclay (NFWF), and Jim Kraus, (USFWS). The Committee meets twice a month via conference call.

A) Budget

The total direct costs budget for 2001 (new funds required by the various partners) was \$806,000, of which 62.9% or \$507,400 was required by private organizations. In addition, capital equipment requirements for the project totaled almost \$193,800 in 2001. Early in the year it appeared there would be difficulty raising the required funds, but by year-end, all necessary funding requirements had been met. Please see attachment A for a summary of the total budget.

We anticipate the budget for 2002 will be greater than in 2001, as more birds are part of the flock, and as needs for capital equipment will be increased.

Including funds raised in 1999, 2000 and 2001, more than \$840,000 has been raised by private organizations for the project. In addition, two grants from the National Fish and Wildlife Foundation contributed \$175,000 to the project. Finally, there were several "in-kind" contributions from individuals and corporations. Most notably are flight time from Windway Capital Corporation assisting in gathering eggs and transporting eggs and chicks between Necedah and Patuxent, use of three vehicles for four months donated by DaimlerChrysler Corporation, optical equipment donated by Svarvoski Corporation, and more than \$84,000 of donated labor from Necedah National Refuge volunteer staff, the Wisconsin Conservation Corps, interns, Necedah staff and staff from other partners.

B) Non-governmental Partner Fund Raising Coordination

We continued in 2001 to follow the procedure established in 2000 to coordinate fundraising efforts. Before communicating with a new potential donor a partner requests "clearance" from the Budget team. Where more than one partner has a previous relationship with a potential donor, or where the donor may have multiple interests in the project, interested partners determined together which partner should make the request, or if there should be a joint request. With a promised 24-hour turnaround between inquiry and decision, the procedure continues to work very well.

Another responsibility of the Committee is to identify and pursue grant opportunities that the Partnership should pursue as a group and not as separate entities. One major grant was written in 2001, but it was not approved.

C) Donor Recognition

A donor recognition board was purchased and erected at the Necedah National Wildlife Refuge and includes names of all donors contributing at least \$10,000 to the project. At last count there were 35 names on the donor board.

In September, the Outreach and Budget teams co-sponsored a "donor recognition" event at the Necedah National Wildlife Refuge. This event to which major donors, Fish and Wildlife Service personnel, Department of Natural Resources personnel, and the media were invited included a "fly-over" of the cranes by Operation Migration, public recognition by project team leaders, and a wonderful buffet supper. More than 150 people attended.

D) Next Year Issues

A major concern is the lack of specific non-governmental fundraising efforts benefiting from the actual migration. At the February WCEP meeting, the Budget and Outreach teams will have a joint meeting to discuss ways to take advantage of the tremendous publicity generated from the migration to raise funds for the project.

Budget - 2001

	<u>Total Project</u>	<u>Private Organizations</u>	<u>State Government Organizations</u>	<u>Federal Government Organizations</u>
Direct Costs	\$575,143	\$367,043	\$93,200	\$114,900
Direct Support Costs	\$231,130	\$140,350	\$19,500	\$71,280
Indirect Costs	<u>\$513,750</u>	<u>\$35,300</u>	<u>\$42,150</u>	<u>\$436,300</u>
Total Operating Costs	\$1,320,023	\$542,693	\$154,850	\$622,480
Equipment Costs	<u>\$193,835</u>	<u>\$46,835</u>	<u>\$28,000</u>	<u>\$119,000</u>
Total Costs	<u><u>\$1,513,858</u></u>	<u><u>\$589,528</u></u>	<u><u>\$182,850</u></u>	<u><u>\$741,480</u></u>

Direct Costs are new costs because of the project, and incurred to raise and care for the birds, lead them on the migration, and monitor their progress during the winter. If the project were cancelled, these costs would not be incurred.

Direct Support Costs are new costs because of the project, but related primarily to education and outreach.

Indirect Costs are costs related to the project, but shared with other programs of the partnership organizations. If the project were cancelled, these costs would still be incurred.

Equipment Costs are costs for major capital items that will last more than one year and/or may have uses in addition to the project (New Funding)

Income	<u>Share of Direct & Direct Support Budget</u>	<u>Total Direct & Direct Support Budget</u>	<u>Equipment Budget</u>	<u>Total Indirect Budget</u>	<u>Total Budget</u>
Private Support	62.9%	\$507,393	\$46,835	\$35,300	\$589,528
USFWS Operating Budget	17.4%	\$140,400	\$119,000	\$259,000	\$518,400
WI DNR Operating Budget	14.0%	\$112,700	\$28,000	\$42,150	\$182,850
Patuxent NRC Operating Budget	<u>5.7%</u>	<u>\$45,780</u>	<u>\$0</u>	<u>\$177,300</u>	<u>\$223,080</u>
Total Income	<u><u>100.0%</u></u>	<u><u>\$806,273</u></u>	<u><u>\$193,835</u></u>	<u><u>\$513,750</u></u>	<u><u>\$1,513,858</u></u>

WHOOPING CRANE EASTERN PARTNERSHIP
REGULATORY AND PERMITS TEAM

Accomplishments

The regulatory and permits team includes environmental review personnel in four regions and the Washington Office of the U.S. Fish and Wildlife Service (Service) as well as representatives from the Wisconsin Department of Natural Resources and the WCEP outreach team. In 2000, this team developed an Environmental Assessment for the sandhill crane migration experiment and ensured that all applicable wildlife permits from Federal and State agencies were obtained for that project. This paved the way for the sandhill crane experiment in compliance with all applicable State and Federal laws.

During 2001, the regulatory/permits team developed a proposed Federal rule in accordance with section 10(j) of the Endangered Species Act of 1973, as amended, to designate an eastern U.S. migratory, nonessential experimental population (NEP) of whooping cranes which would comprise the whooping crane population proposed for reintroduction. This proposed rule was published in the *Federal Register* on March 9, 2001. In addition to the proposed regulation, the team also developed a draft Environmental Assessment (EA) on the proposed reintroduction action, to satisfy the requirements of the National Environmental Policy Act. A Notice of Availability of the draft EA was published concurrently with the proposed rule to allow the public to comment on the alternatives presented.

The Service provided a 45-day public comment period on both the proposed rule and draft EA, during which time public hearings were held at four locations spaced along the proposed migratory corridor. After considering all public comments, a final rule and final EA were prepared for publication. Everyone's hard work and dedication culminated in the June 26, 2001 publication of the final rule in the *Federal Register*, officially designating an eastern U.S. NEP of whooping cranes, and announcing the availability of the final EA. This designation gave the U.S. Fish and Wildlife Service (Service) the authority to proceed with the reintroduction of whooping cranes in the NEP area.

In addition to publication requirements and procedures, during the process of developing the proposed rule and final rule, the regulatory/permits team conducted extensive outreach to ensure that all potentially affected parties were informed of the project. Correspondence, including news releases, project summaries and fact sheets, were sent out to hundreds of groups and individuals, including Federal and State elected representatives, Federal, State, and County agencies, Tribes, Flyway Councils, industry and business groups, environmental and hunting organizations, and numerous private individuals. Copies of the final rule and final EA were provided to involved and required entities, and were available upon request or on the Service's web site.

Lessons Learned

While it took longer than anticipated to develop the proposed rule and draft EA, the team managed to complete the finalizing and approval processes in a relatively short time. This is especially significant considering the change in Federal Administrations that occurred shortly before publication of the proposed rule, the moratorium on rulemaking that was in effect at the time, and the need to coordinate with four Service regions and at least twenty States. Completion of the rulemaking and approval processes as it occurred is a tribute to the dedication and perseverance of the many project partners.

Future Activities

The regulatory/permit team's future involvement with the project will consist of continued coordination and monitoring relative to provisions of the Endangered Species Act, and ensuring that any further regulatory requirements, such as permits, are in place. Consistent with assurances given to the States and Flyway Councils, another priority will be to work to ensure that no adverse effects to agriculture, hunting, or other forms of recreation result from the reintroduction of whooping cranes. Consistent with the special rule, movements of migrating and wandering whooping cranes will be monitored closely to determine the need to capture and/or haze any individual birds to avoid adverse impacts to ongoing human activities, and any necessary response actions will be taken by authorized agency personnel or approved agents.

**EASTERN MIGRATORY WHOOPING CRANE PARTNERSHIP
FLYWAY COUNCIL AND STATE COORDINATION REPORT
FLYWAY COORDINATION TEAM**

January 3, 2002

Summary of Activities

The Flyway Coordination Team and partners have been actively involved since December of 1998 in communicating with the Fish and Wildlife Service, involved states, tribes and the Atlantic and Mississippi Flyway Council concerning the Eastern Whooping Crane Reintroduction Proposal to obtain input, advice and support. This communication has been through formal letters, email, telephone, group presentations and face to face meetings. It has been extensive and focused on the 7 migratory route states, the 13 adjacent states and the involved Flyway Councils and their technical sections.

In addition, two briefings were conducted by the partners in Washington, D.C. to diverse audiences including the FWS, conservation groups and congressional offices. Numerous other briefings have been given to hunting groups, conservation groups, local community groups and at conferences such as the Midwest and Southeast Fish and Wildlife Agency Conferences. Letters were sent to the tribes and tribal organizations within and adjacent to the migratory route to describe the project and invite their support and participation.

While there have been many questions, the overall reaction has been very positive and enthusiastic with some conditions/qualifications from the Flyway Councils and states. A primary condition of the Flyway Councils and states was that the reintroduced population be designated as Experimental nonessential^e under Section 10(j) of the Endangered Species Act to avoid conflicts with other lawful human activities, particularly hunting. Another condition was that the Service obtain the approval/support of the migratory and adjacent states and Canadian provinces of Manitoba and Ontario prior to proceeding with the project. A separate set of conditions were provided by Florida, which included preparation of a Memorandum of Understanding, continued priority for the Florida nonmigratory whooping crane flock and no impact on current funding or supply of chicks for this flock. No formal responses were received from the tribes or tribal organizations contacted.

The partners met all conditions expressed by the Flyway Councils and states prior to proceeding with the project in the early summer of 2001.

Chronology of Formal Contacts with Flyway Councils and States

December, 1998	Letter to migratory route states informing them of site feasibility study
August, 26, 1999	Letter to migratory route states (cc to IAFWA and Flyway Councils) informing them of progress on Wisconsin release sites
September 8-10, 1999	Washington, DC congressional briefings on project
September 23, 1999	Recovery team decision on release site and approval to proceed with project planning

October 4, 1999	Letter to Wisconsin DNR requesting formal endorsement to proceed with planning for Necedah NWR/Sandhills WMA release site.
February 8, 2000	Letter to migratory route states (cc to IAFWA and Flyway Councils) requesting approval to proceed with detailed planning, including the sandhill experiment and submitting detailed project proposal.
February 9, 2000	Letter to the Atlantic and Mississippi Flyway Councils (cc States and the IAFWA) requesting approval to proceed with detailed planning, including the sandhill experiment and submitting detailed project proposal.
February 11, 2000	Letter to states adjacent to migratory route enclosing above letters and requesting response regarding participation/involvement.
February 20-24, 2000	Partner presentations to the Technical Sections of the Atlantic and Mississippi Flyway Councils.
March 2, 2000	Letter to migratory route and adjacent states informing them of the Technical section recommendations and inviting them to the next partner planning meeting on March 15 in Madison, Wisconsin
March 15, 2000	Partner planning meeting in Madison, WI hosted by WI DNR
March 23, 2000	Partner presentations to the National Flyway Council and Council adoption of resolutions of conditional support for project
March 24, 2000	Conditional approval from the Mississippi Flyway Council
March 29, 2000	Conditional approval from the Atlantic Flyway Council
April 6, 2000	Letter to involved states (cc Flyway councils) informing them of Flyway council resolutions and positive status of State approvals for detailed planning and the sandhill experiment
April 12-14, 2000	Washington, DC congressional briefings on project
July 17, 2000	Progress update to Atlantic and Mississippi Flyway Councils
August 30, 2000	Letter to the Flyway Councils requesting input for the experimental nonessential regulation and environmental assessment and outlining key recommended provisions.
September 13, 2000	Letter to tribes outlining project proposal and soliciting support.
November, 2000	Sandhill experiment successfully completed. Informal request to Atlantic and Mississippi Flyway councils and technical sections for time on winter meeting agenda to outline progress and make recommendations.
January 19, 2001	Letter to the Province of Ontario and Manitoba requesting support/concurrence for the project.
January 25, 2001	Letter to Flyway Councils and technical sections requesting conditional approval to proceed with whooping crane reintroduction.
February 14, 2001	Letter to the 20 involved States requesting conditional approval to proceed with the whooping crane reintroduction.
February 20-22, 2001	Presentation on project progress to the Atlantic and Mississippi Flyway Council technical sections. Recommendation to continue prior conditional approval.
March 9, 2001	Proposed rulemaking published for Experimental Nonessential designation. 4 public hearings held during spring.

March 16, 2001	Presentation on project to the Atlantic Flyway council and Mississippi Flyway Council. Council support to continue to whooper phase consistent with prior conditional approvals.
April, 2001	Letters of conditional approval received from 19 States, the Provinces of Manitoba and Ontario and 2 Canadian Wildlife Service Regional Offices.
May 1, 2001	Memorandum of Understanding with Florida signed.
June 18, 2001	Environmental Assessment and Finding of No Significant Impact signed. This was a primary Council and State condition to proceed with the whooper reintroduction.
June 26, 2001	Final Experimental Nonessential regulation published in the Federal Register. This was also a primary Council and State condition to proceed with the whooper reintroduction.
July 10, 2001	10 whooping cranes transferred from Patuxent Wildlife Research Center to Nededah National Wildlife Refuge to begin migration training and initiate project.
July 20, 2001	Letter to the Central Flyway responding to comments and offering to develop a contingency plan for possible wandering NEP whoopers.
July 23, 2001	Letter to the States of North Dakota and South Dakota responding to comments and offering to develop a contingency plan as above.
December 6, 2001	Presentation to the Central Flyway Council technical section on draft wandering whooper contingency plan. Request for review, input and concurrence. Initial reaction positive subject to more detailed review.

Lessons Learned/Future Activities

Despite our collective efforts as outlined above, there were a few instances where people were concerned about not being informed of the project and its progress. We continue to expand our network of both formal and informal contacts at all levels within agencies, and between the private partners and conservation groups. The outreach committee has assisted greatly in this regard, both in terms of expanding state and private contacts as well as media coverage of activities.

A report on our progress and future activities will be sent to the states, tribes and Flyway Councils in 2002. We will continue to actively seek the input of our many partners as we work together to restore the endangered whooping crane to the Eastern United States.

RETURN AND SUMMERING OF EXPERIMENTAL SANDHILL CRANES USED TO TEST REINTRODUCTION TECHNIQUES FOR REESTABLISHMENT OF AN EASTERN MIGRATORY POPULATION OF WHOOPING CRANES

As part of an effort to develop reintroduction techniques for the endangered whooping crane, the Whooping Crane Eastern Partnership conducted two research studies using costume/isolation-reared greater sandhill cranes reared and released in 2000: One involved leading sandhill cranes with ultralight aircraft to a predetermined wintering area. The other involved testing a variant of releasing captive-reared sandhill cranes into wild sandhill crane flocks. Locations of returning cranes appear in Fig. 1 and Table 1.

Sandhill Cranes Flying with Ultralight Aircraft

Of 14 sandhill cranes flying with ultralight aircraft, 12 survived to winter in Florida: 11 were led to Chassahowitzka NWR/St. Martins Marsh Aquatic Preserve on the west-central Gulf Coast. One male disassociated from the flock on the first day of migration, joined wild sandhill cranes, and wintered in Volusia County in northeastern Florida. On 25 February, 10 of the cranes (5 males, 5 females) departed on spring migration. On 17 March the remaining female departed alone.

Nine of the group of 10 cranes returned as a group to their rearing area on Necedah NWR for overnight stops on 27 April and 18 May. The group returned to the refuge again on 18 June with 8 members. For the most part they were in Marquette County during the interim, where 1 of the original 9 returning birds remained behind. The group remained on the refuge 34 days, and then all but 1 male (# 14) departed on 23 July. The group of 7 birds then inhabited sites in eastern Adams County until 21 September. On that date the group moved to western Adams Co., just east of Necedah NWR. On 6 October they returned to the refuge, where the group of 7 rejoined with # 14 and again became a group of 8. The group then spent most of its time in Monroe Co., 13 miles westsouthwest of the original rearing area, with frequent visits to the refuge, until it departed from the refuge with more than 1,000 wild, staging cranes on 19 November. The 5 birds with functional transmitters were tracked to Jasper-Pulaski State Fish and Wildlife Area in northwestern Indiana on that day, where the group disbanded among the more than 20,000 wild migrating cranes present.

One male (# 8) of the 12 cranes that arrived in Florida (1 of the group of 10 that departed on 25 February) has not been recorded on the target summering area or elsewhere. The female (# 13) that began spring migration alone on 17 March was reported near Old Fort, western North Carolina, on 21 June, having not completed the migration, apparently without fear of humans, and showing symptoms of chronic illness. She was removed from the study. The female (# 5) that remained behind in Marquette County on 18 June spent most of the summer with wild cranes in southern Adams or Marquette Counties. She returned to the refuge on 17 November and migrated to Jasper-Pulaski on 19 November. The male (# 2) that joined wild sandhill cranes on the first day of fall 2000 migration spent most of the summer with wild cranes in the vicinity of Necedah NWR.

Sandhill Cranes Released into Wild Sandhill Crane Flocks

Eight sandhill cranes reared from hatching at a facility on Necedah NWR were individually released at 4 major sandhill crane staging areas in Central Wisconsin in mid-October. All migrated with wild flocks in mid-November. Six of the 8 cranes were confirmed wintering within large wild flocks on major sandhill crane wintering areas in Tennessee, Georgia, and Florida. One female and 1 male with malfunctioning transmitters were not found during the winter.

All 8 of the cranes returned to Central Wisconsin in spring 2001 as integral members of the wild population. Four males and 1 female summered in the immediate rearing/release areas. One male returned to his release site in spring, spent most of the summer in northeastern Adams County, and later staged at a release site in the

northern part of the primary study area. Another male, who appeared on the refuge in late spring, and a female, observed 6 times in April at a large crane area 34 miles southeast of the rearing site, could not be monitored further because of nonfunctional transmitters. The 6 birds still being monitored in late fall (5 remaining with functioning transmitters but broken antennae) began their second fall migration either on or shortly before 19 November 2001. Three were found at Jasper-Pulaski on that evening and another at Hiwassee State Wildlife Refuge in eastern Tennessee on 25 November.

Conclusion and Prospectus

The high survival, high return rate, and appropriate human avoidance behavior demonstrated by these techniques indicate that both may be useful in reintroducing whooping cranes to Central Wisconsin. The experimental sandhill cranes will continue to be monitored as functioning of their radiotransmitters permits.

Richard P. Urbanek, U.S. Fish and Wildlife Service and International Crane Foundation, on behalf of Whooping Crane Eastern Partnership
14 January 2002

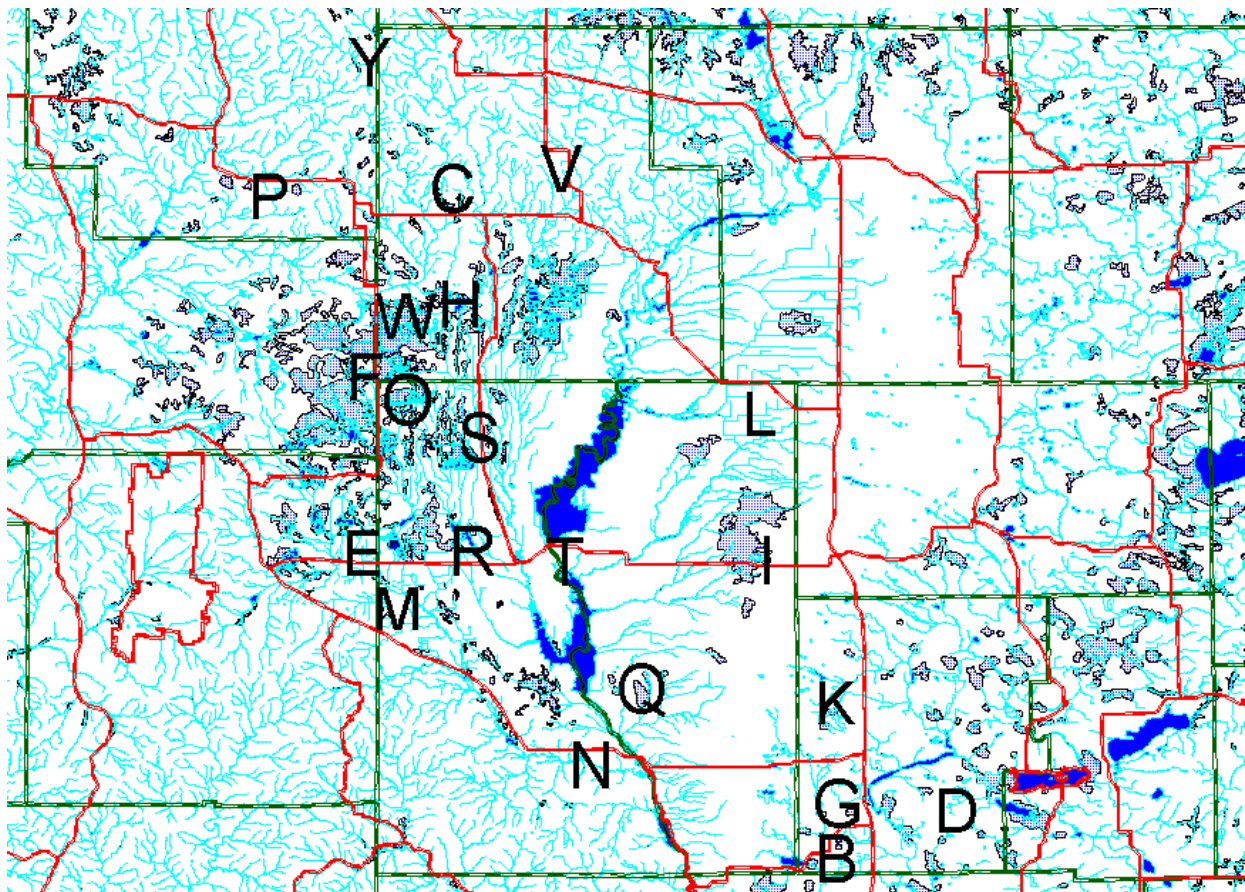


Fig. 1. Locations of experimental HY2000 cranes in Central Wisconsin during spring, summer, and fall 2001.

Table 1. Weekly summary of locations of experimental HY2000 cranes during spring, summer, and fall 2001.

Cranes trained to fly behind ultralight aircraft																															
Bird no.	Sex	8-14 April	15-21 April	22-28 April	29 April-5 May	6-12 May	13-19 May	20-26 May	27 May-2 June	3-9 June	10-16 June	17-23 June	24-30 June	1-7 July	8-14 July	15-21 July	22-28 July	29 July-4 Aug	5-11 Aug	12-18 Aug	19-25 Aug	26 Aug-1 Sep	2-8 Sep	9-15 Sep	16-22 Sep	23-29 Sep	30 Sep-6 Oct	7-13 Oct	14-20 Oct	21-27 Oct 28 Oct-3 Nov 4-10 Nov 1-18 Nov	
1	M			R				D	DK	K	K	R	R	RE	R	R	R	I	I	L	L	L	L	L	L	LT	T	T	R	M	ME ER ER ER
2	M			f M R	R	f _(ref)	R							R	R	R	R		T	T	T	T		T	T	T	TR	S	SR	R M RR M	
3	F			R			R	D	DK	K	K	R	R	RE	R	R	R	I	I	L	L	L	L	L	L	LT	T	TR	R	ME	R ME ER RE ER
4	M			R			R	D	DK	K	K	R	R	RE	R	R	R	I	I	L	L	L	L	L	L	LT	T	TR	R	ME	M RE RE RE ER
5	F			R			G			f	N	N						Q	Q	Q							B	B			QQ R
6	F			R			R	D	DK	K	K	R	R	RE	R	R	R	I	I	L	L	L	L	L	L	LT	T	T	R	M	ME ER

F = Bear Bluff, Jackson Co.
G = Gale Road, Marquette Co.
H = Sandhill State Wildlife Area, Wood Co.
I = Ship Rock, Adams Co.
J = Rush Lake, Winnebago Co. (migratory stop, not shown)
K = Klawitter Creek, Marquette Co.
L = Leola Grasslands, Adams Co.
M = Mill Bluff State Park/Lemonweir River/Oakdale, Juneau and Monroe Cos.
N = Lemonweir River/Wisconsin River, Juneau Co.
O = Meadow Valley Flowage, Juneau Co.
P = Pray Ave. Pond, Clark Co.
Q = Quincy Bluff, Adams Co.
R = Rynearson Pools/southeastern Necedah NWR, Juneau Co.
S = Sprague-Mather Pool/Finley, Juneau Co.
T = Petenwell Dam/ upper Castle Rock Lake, Adams. Co.
V = Vesper, Wood Co.
W = Wood County State Wildlife Area, Wood Co.
Y = Upper and South Branch Yellow River, Wood and Clark Cos.

f = flying outside reintroduction area.

f(ref) = flying near Necedah NWR or adjacent State Wildlife Areas

In italics = One overnight use only

Cohort 3 Release Sites:

Nos. 2, 4, 6, and 8 at H

Nos. 1 and 5 at S

No. 7 at R

No. 3 at Q