

Winter 2013 Whooping Crane Monitoring Project



SUMMARY REPORT

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Assessment Impact Monitoring Environmental Consultants (AIM) was awarded a contract to assist the *Platte River Recovery Implementation Program (Program)* to implement aspects of the protocol developed by the Technical Advisory Committee entitled *Whooping Crane Monitoring Protocol - Migrational Habitat Use in the Central Platte River Valley* dated 31 May 2011. I present the results of winter 2013 Whooping Crane migration pursuant to the *Contract for Services Agreement between Nebraska Community Foundation, Inc., Platte River Recovery Implementation Program, and AIM Environmental Consultants* dated March 8, 2013.

Study Area and Methods

The study area was the Platte River reach between U.S. Highway 283 (near Lexington) and Chapman, Nebraska. This reach was about 90 miles long and included an area extending 3.5 miles either side of the outermost banks of the Platte River. Field work and aerial surveys were conducted November 11-16, 2012, November 20-21, 2012, and March 9-20, 2013. Data sheets were provided by the Program's Executive Director's Office and all data were entered into the Program's web-based Microsoft SharePoint database.

Given several radio-marked Whooping Cranes were still known to be north of the Platte River on November 10, 2012, systematic flights were extended in the fall from November 11-16 and one opportunistic flight was conducted mid-morning on November 21, 2012 to locate a Whooping Crane. With the early arrival of Whooping Cranes in early March, periodic aerial surveys were scheduled to be conducted along specified routes and targeted, daily ground searches were conducted near known roosting areas around sunrise as weather permitted. The river between Lexington and Chapman and off-channel wetland areas between Lexington and Kearney were the focus of our winter flights in March. Surveys were initiated no earlier than 30 minutes before sunrise and typically were completed within 2 hours. Start time was delayed when weather/visibility conditions dictated and flights were cancelled due to unsafe weather. A Cessna 172 was equipped with a GPS unit and generally one observer conducted the surveys. Surveys were flown at an altitude of 750' and at a speed of about 100 mph.

Beginning March 9, the Program scheduled targeted, daily ground surveys and 2 aerial surveys between Lexington and Chapman per week. The Crane Trust also conducted weekly sandhill crane surveys between Overton and Highway 34 Bridge near Grand Island and offered to notify us if they observed Whooping Cranes during their flights. The Program scheduled daily aerial surveys beginning March 17 as 2 Whooping Cranes were observed in the area on March 16. All river surveys were flown upstream (east to west) along the south side of the main river

channel with the observer looking out the passenger side of the aircraft. Targeted wetland surveys were the focus of the return flight between Lexington and Kearney and no return flights were conducted between Kearney and Chapman as all flights originated in Kearney.

Prior to sunrise, 2-4 ground crew members positioned themselves south of the channel in areas Whooping Crane(s) were known to be roosting in an attempt to observe them leave the roost. Targeted ground searches were conducted near known day-use areas when Whooping Cranes were not observed leaving the roost in the morning. In the event a Whooping Crane was sighted by the air crew, the ground person nearest the sighting was notified so they could position themselves to observe and follow it to its day-use area(s). Communication between the ground observers and the aircraft was accomplished through the use of cellular phones. Efforts were made to photograph Whooping Cranes from the air and a GPS reading of the location was taken by air crew.

Whooping Crane movements, behavior, and diurnal habitat use were recorded during daily monitoring efforts and river profiles and use site characteristic measurements were collected at known roost areas as outlined in the Program's Whooping Crane monitoring protocol. All monitoring activities followed USFWS and Nebraska Game & Parks Commission guidelines to avoid disturbing the cranes. Landowner permission was obtained prior to entering any property.

Results

CONFIRMED WHOOPING CRANE SIGHTINGS-

Systematic surveys were extended for 6 days (Nov 11-16) past the end of the fall 2012 monitoring season due to the number of radio-marked Whooping Cranes that were still north of Nebraska. No Whooping Cranes were detected during these surveys and all radio-marked Whooping Cranes had migrated south of the study area so monitoring efforts ceased. A radio-marked juvenile Whooping Crane, however, returned to the Platte River the evening of November 16, 2012 after it had spent 10 days in central Kansas at or near Quivira NWR. Reports indicate a strong storm with large hail hit the Quivira NWR area on November 10 and this radio-marked juvenile that was observed as a 1:1 family group on November 9 was observed alone on November 14-15. Targeted ground searches were conducted near the known roosting area on November 20-21, 2012 to confirm the condition of the radio-marked Whooping Crane and to monitor diurnal movement, habitat use, and behavioral activities.

OPPORTUNISTIC FLIGHTS-

One opportunistic flight was conducted on November 21 and resulted in a sighting of 1 individual (radioed) Whooping Crane. This opportunistic flight was targeted on a known roost area after ground crews were unable to locate the radioed bird after 2 hours of searching on the morning of November 21.

No systematic surveys of the study area were conducted in March 2013 and all flights were considered opportunistic as they were conducted as a result of public sightings of

Whooping Cranes in the area. River flights were generally conducted between Chapman and Lexington and targeted, wetland flights were conducted between Lexington and Kearney during the return flight. No return flights were flown between Chapman and Minden as all flights originated in Kearney. Two scheduled flights were cancelled due to weather and the flight on March 9 was delayed for an hour, but was cancelled when it became clear the fog wasn't going to lift in time to conduct the flight within 2 hours of sunrise. Information on scheduled flights and targeted ground search efforts to locate Whooping Cranes are included in Table 1.

Table 1. Monitoring effort.

Date	Survey Method	Survey Area	WC Observed	Crane Group ID	Landcover Class When First Observed
11/20/2012	Ground	Binfield	Yes	2013WI18	Grassland - Lowland
11/21/2012	Ground	Wood River-Alda	No	NA	NA
11/21/2012	Aerial	Wood River-Alda	Yes	2013WI18	Wetted Channel
3/8/2013	Public	No Survey Scheduled	Yes	2013WI01	Wetted Channel
3/9/2013	Aerial	Flights Delayed/Cancelled	NA	NA	NA
3/9/2013	Ground	Crane Trust	Yes	2013WI01	Ag - Corn
3/10/2013	Aerial	No Flight Scheduled	NA	NA	NA
3/10/2013	Ground	Crane Trust	No	NA	NA
3/11/2013	Aerial	Chapman – Overton (Trust)	Yes	2013WI02	Wetted Channel
3/11/2013	Ground	Crane Trust	Yes	2013WI02	Wetted Channel
3/12/2013	Aerial	No Flight Scheduled	NA	NA	NA
3/12/2013	Ground	Crane Trust	Yes	2013WI03	Ag -Corn
3/13/2013	Aerial	Chapman - Lexington	Yes	2013WI04	Wetted Channel
3/14/2013	Aerial	HWY 34 - Lexington	Yes	2013WI05	Wetted Channel
3/15/2013	Aerial	No Flight Scheduled	NA	NA	NA
3/15/2013	Ground	Crane Trust	Yes	2013WI06	Wetted Channel
3/16/2013	Aerial	Chapman - Lexington	Yes	2013WI07	Wetted Channel
3/16/2013	Ground	South of Crane Trust	Yes	2013WI08	Ag -Corn
3/17/2013	Aerial	Flights Cancelled	NA	NA	NA
3/17/2013	Ground	Crane Trust	Yes	2013WI09	Wetted Channel
3/17/2013	Ground	Binfield	Yes	2013WI10	Wetted Channel
3/18/2013	Aerial	Chapman – Overton (Trust)	Yes	2013WI11	Wetted Channel
3/19/2013	Aerial	Chapman - Lexington	Yes	2013WI12	Wetted Channel
3/19/2013	Aerial	Chapman - Lexington	Yes	2013WI13	Wetted Channel
3/20/2013	Aerial	Chapman - Lexington	Yes	2013WI14	Wetted Channel
3/20/2013	Aerial	Chapman - Lexington	Yes	2013WI15	Wetted Channel

Diurnal Movements, and Activity.--

Diurnal movements and activity data was collected when possible. We documented 42 locations during 13 days of observation (Figures 1-3, Table 2). Whooping Cranes were observed 0 – 5.2 miles from their roost locations.

Table 2. Whooping Crane use locations and habitat type.

Use Date	Crane Group ID	Location ID	Use		UTMx	UTMy	Habitat
			Site ID	County			
11/20/2012	2013WI18	A	NA	Hall	540040	4512713	Grassland - Lowland
11/20/2012	2013WI18	B	NA	Hall	539898	4512662	Grassland - Lowland
11/20/2012	2013WI18	C	NA	Hall	539632	4512108	Grassland - Lowland
11/20/2012	2013WI18	D	NA	Hall	538761	4511982	Grassland - Lowland Mown
11/21/2012	2013WI18	A	NA	Hall	539104	4511187	Wetted Channel
3/9/2013	2013WI01	A	NA	Hall	546852	4512056	Ag - Corn
3/11/2013	2013WI02	A	NA	Hall	547534	4508502	Ag - Corn
3/11/2013	2013WI02	B	NA	Hall	547569	4508730	Ag - Corn
3/11/2013	2013WI02	C	16	Hall	544828	4514503	Wetted Channel
3/12/2013	2013WI03	A	NA	Hall	540304	4508011	Ag - Corn
3/13/2013	2013WI04	A	11	Hall	539857	4511829	Wetted Channel
3/13/2013	2013WI04	B	NA	Hall	534780	4507707	Ag - Corn
3/14/2013	2013WI05	A	NA	Adams	536412	4504997	Ag - Corn
3/14/2013	2013WI05	B	NA	Adams	536694	4505104	Ag - Soy Bean
3/14/2013	2013WI05	C	NA	Adams	536332	4505113	Ag - Corn
3/14/2013	2013WI05	D	NA	Hall	541493	4511609	Ag - Soy Bean
3/14/2013	2013WI05	E	10	Hall	539678	4511620	Wetted Channel
3/15/2013	2013WI06	A	12	Hall	542007	4513052	Wetted Channel
3/15/2013	2013WI06	B	NA	Hall	545613	4506633	Ag - Corn
3/15/2013	2013WI06	C	NA	Hall	545667	4506654	Ag - Soy Bean
3/16/2013	2013WI07	A	14	Hall	544017	4514043	Wetted Channel
3/16/2013	2013WI07	B	NA	Hall	545530	4505840	Ag - Corn
3/16/2013	2013WI08	A	NA	Hall	545530	4505840	Ag - Corn
3/17/2013	2013WI09	A	NA	Hall	543771	4506063	Ag - Corn
3/17/2013	2013WI09	B	NA	Adams	544879	4505060	Ag - Corn
3/17/2013	2013WI09	C	NA	Hall	545869	4505940	Ag - Corn
3/17/2013	2013WI09	D	NA	Hall	545772	4506761	Ag - Corn
3/17/2013	2013WI10	A	NA	Hall	545772	4506761	Ag - Corn
3/18/2013	2013WI11	A	16	Hall	544518	4514466	Wetted Channel
3/18/2013	2013WI11	B	NA	Hall	545677	4506260	Grassland - Lowland
3/18/2013	2013WI11	C	NA	Hall	545641	4506273	Ag - Soy Bean
3/18/2013	2013WI11	D	NA	Hall	545661	4506202	Ag - Corn
3/19/2013	2013WI12	A	15	Hall	544657	4514439	Wetted Channel
3/19/2013	2013WI12	B	NA	Hall	545759	4506086	Ag - Corn

3/19/2013	2013WI12	D	NA	Hall	546609	4505607	Ag - Soy Bean
3/19/2013	2013WI12	E	NA	Adams	545405	4505288	Ag - Corn
3/19/2013	2013WI13	A	13	Hall	543201	4513668	Wetted Channel
3/19/2013	2013WI13	B	NA	Hall	547255	4505877	Ag - Corn
3/19/2013	2013WI13	C	NA	Hall	548389	4507407	Ag - Corn
3/20/2013	2013WI14	A	15	Hall	544212	4514298	Wetted Channel
3/20/2013	2013WI15	A	NA	Adams	539959	4504093	Ag - Corn
3/20/2013	2013WI15	B	9	Hall	538383	4511332	Wetted Channel

All observations of the telemetry marked juvenile on November 20, 2012 occurred in lowland grassland that conforms to the Program's whooping crane wet meadow minimum habitat criteria. Telemetry data; however, places the whooping crane in Wetted Channel at 11:56AM and Ag - Corn on the opposite side of the channel at 4:44PM. No telemetry locations were recorded during the period the whooping crane was in lowland grass; however, EDO staff and AIM personnel confirmed the use of 4 separate locations within the wet meadow habitat.

LAND-COVER CLASS-

Ag-Corn, Ag-Soybean, Wetted Channel, and Lowland Grassland were the cover-types Whooping Cranes used during the day. Twenty-one locations were AG-Corn, 5 were in Ag-Soybean, 13 were in Wetted Channel, and 5 were in Lowland Grassland. Some locations were used on more than one occasion. All nocturnal roost locations observed were in Wetted Channel.

ACTIVITY-

About 116 hours of Whooping Crane continuous and instantaneous use (time budget) data was collected by ground personnel during 13 days (2 days in November and 11 days in March) of observation. We recorded 439 data points of activity (time budget). Most of the diurnal activity recorded occurred in corn (66%) followed by wetted channel (19%), lowland grassland (9%), and soybeans (6%; Table 3). The breakdown of activity versus habitat is depicted in Table 4. Feeding was the most frequently observed activity in all of the habitats combined.

Table 3. Count of instant points by habitat.

	N	Percent	Hours
Ag - Corn	291	66%	73.7
Ag - Soy Bean	27	6%	13.4
Grassland - Lowland	38	9%	11.5
Grassland – Lowland Mown	1	0%	0.00
Wetted Channel	82	19%	17.1

Table 4. Whooping Crane activity by habitat.

Habitat	Activity	# of Instant Points	Total Instant Points	Total Percent
Ag - Corn	Alert	31	291	11%
Ag - Corn	Courtship	1	291	0%
Ag - Corn	Defensive	3	291	1%
Ag - Corn	Feeding	216	291	74%
Ag - Corn	NA	24	291	8%
Ag - Corn	Preening	7	291	2%
Ag - Corn	Resting	9	291	3%
Ag - Soy Bean	Feeding	20	27	74%
Ag - Soy Bean	NA	6	27	22%
Ag - Soy Bean	Resting	1	27	4%
Grassland - Lowland	Alert	2	38	5%
Grassland - Lowland	Defensive	1	38	3%
Grassland - Lowland	Feeding	23	38	61%
Grassland - Lowland	NA	7	38	18%
Grassland - Lowland	Preening	3	38	8%
Grassland - Lowland	Resting	2	38	5%
Grassland - Lowland Mown	NA	1	1	100%
Wetted Channel	Alert	16	82	20%
Wetted Channel	Feeding	28	82	34%
Wetted Channel	NA	11	82	13%
Wetted Channel	Preening	18	82	22%
Wetted Channel	Resting	9	82	11%

Search Effort.--

Ground searches were initiated on 15 occasions. A total of 22 hours was expended on this effort and 517 miles were driven. Search duration extended from 0.3 to 2.75 hours. Whooping Cranes were found on 8 (53%) searches.

Program ID and U.S. Fish & Wildlife Service ID Comparisons.--

Table 5 compares the Program numbering system with the USFWS database (Martha Tacha, personal communication). A total of 16 groups of Whooping Cranes consisting of 8 individuals were confirmed or believe to have used the study area during winter surveys; however, Program crane group ID 16 was not observed while on the Platte River.

Table 5. Comparison of Program Crane ID and USFWS Crane ID.

Program Crane ID (Prefix 2013WI)	Program Name	USFWS Crane ID	Dates of Occurrence	# of cranes (Ad:Juv)
18	Shoemaker Island radioed	NA	Nov 16-22	0:1
01-07,09,11-12,14	Wild Rose single	13A-05	Mar 7-20	1:0
08, 10, 13, 15	Shoemaker Island single	13A-09	Mar 16-20	1:0
16	Rowe-Hempleman radioed*	13A-04	Mar 6-8	4:1

* The radio-marked Whooping Crane group was reported as a 4:1 group at Quivira NWR on March 6 (FWS 13A-03). Telemetry data places the Whooping Crane group on Rowe March 6-7 and on the Hempleman property March 7-8. The next stopover site placed the bird north of Cairo, Nebraska on March 8 and it was reported to be a 4:1 group on March 13 (FWS 13A-06) so it was assumed to be a 4:1 group when it used the Platte River March 6-8 as well.

Incidental Take.—

The USFWS requested information and documentation of any human activity that occurred in the proximity of Whooping Cranes that could constitute “take” as defined by the Endangered Species Act i.e. “*...to harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect, or attempt to engage in any such conduct*”.

LETHAL OR CRIPPLING TAKE-

AIM’s and the Program’s monitoring effort did not result in any crippling or lethal take of Whooping Cranes this season.

HARASSMENT-

AIM and Program personnel did not observe or engage in any activity that could be construed as “harassment” as defined by USFWS.

PUBLIC DISTURBANCE-

AIM and Program personnel did not observe any public activity that would be viewed as a “Disturbance” by the USFWS.

Supplements

With the exception of profile data, QA/QC of the Program database has been completed by AIM and EDO staff. Once the profile data is uploaded to the Program database, AIM and EDO staff will complete the QA/QC process of that data as well.

Original Data Sheets

Figure 1. Whooping Crane use sites near the Wood River to Alda bridge reach. A total of 3 crane groups consisting of 1 bird each used these locations.

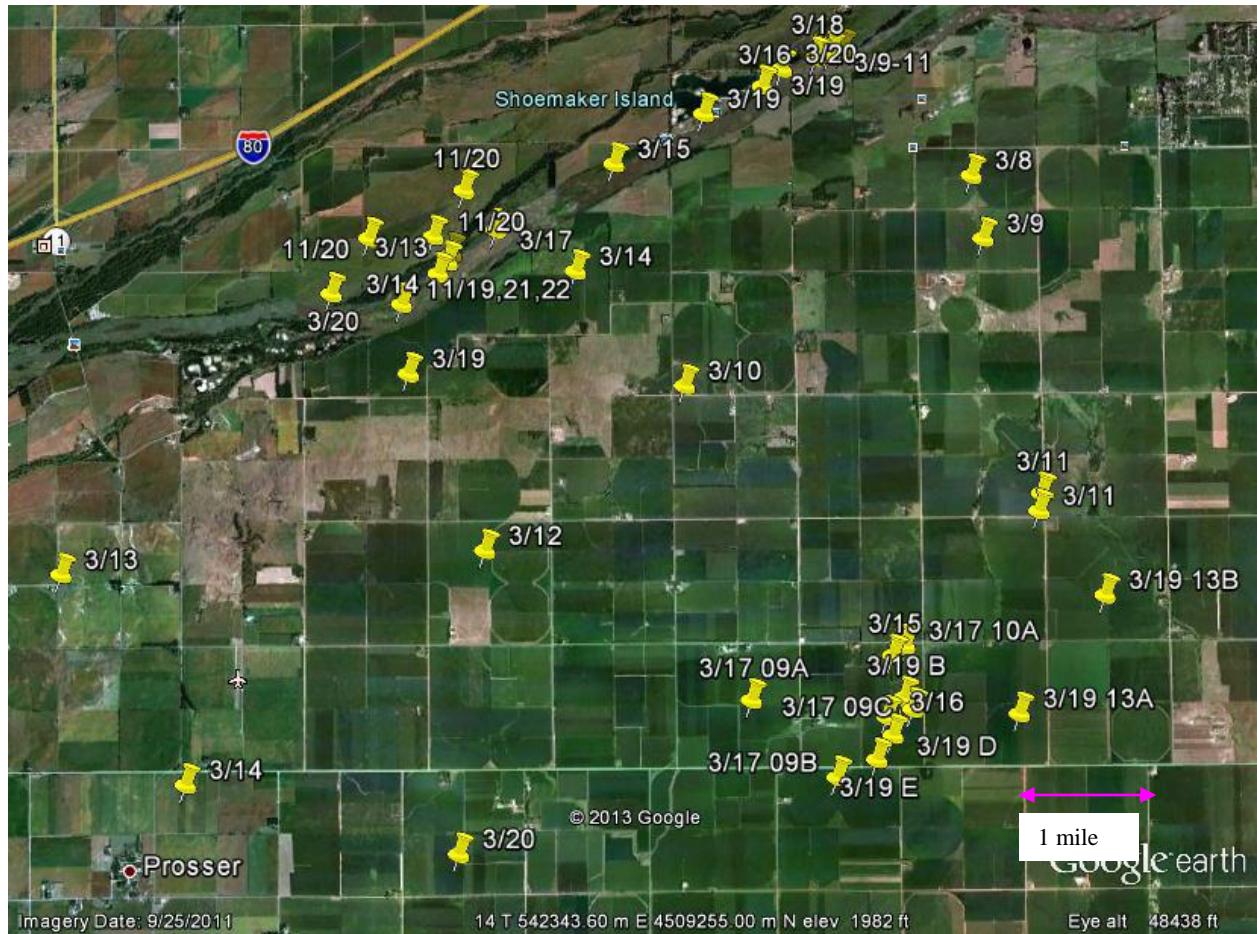


Figure 2. Enlarged view near the river of Whooping Crane use locations east of the Alda bridge along the Crane Trust's Wild Rose property (above) and west of the Alda bridge along Shoemaker Island (below).

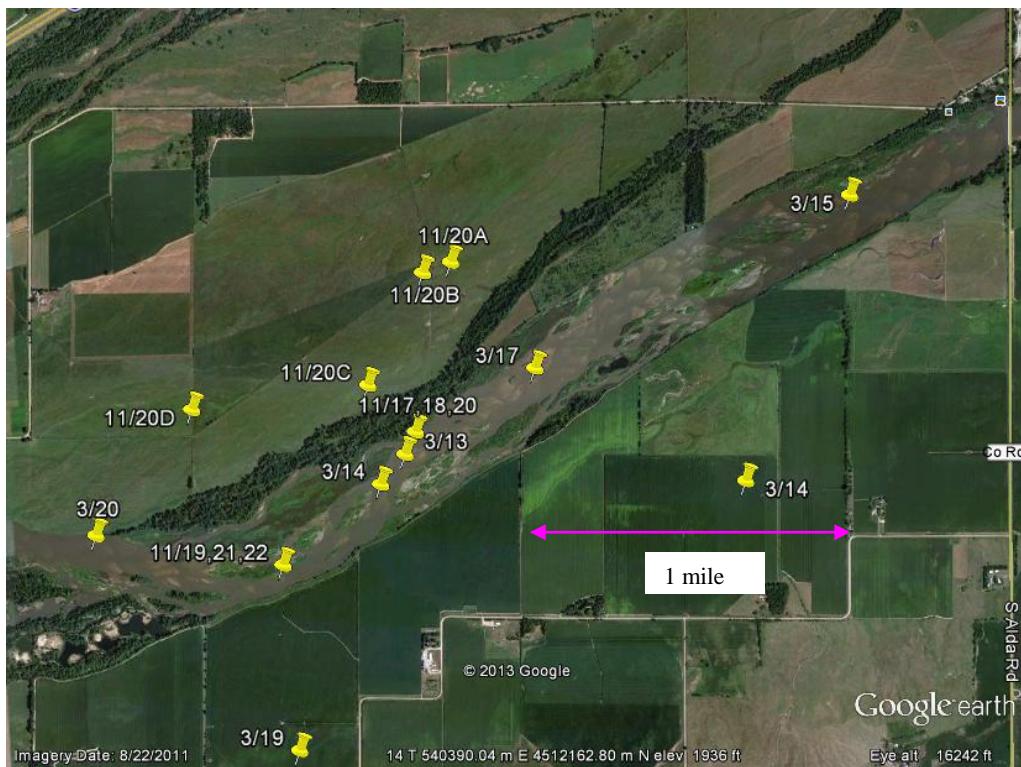
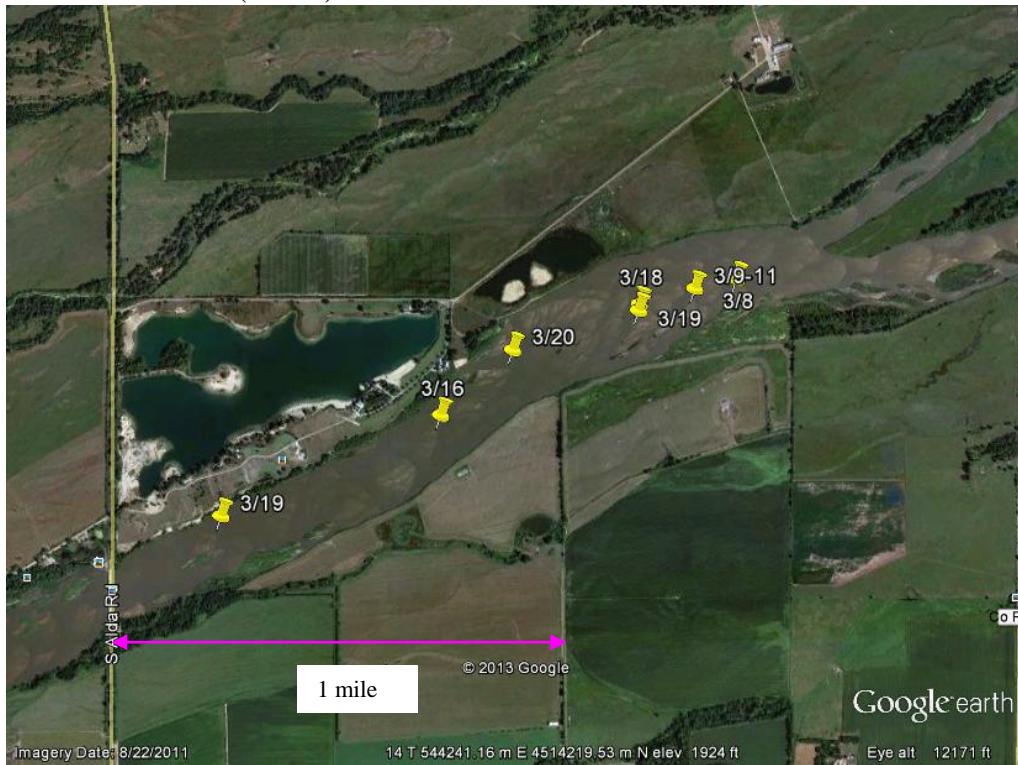


Figure 3. Radioed group (2013WI16) at Rowe Sanctuary (above) and about 2 mi west of the Shelton bridge (below) in early March based on GPS locations. The roosts were about 9 miles apart. On March 9, this group was near the Loup River north of Cairo.

