

MN DNR Final Report on American White Pelicans Cellular Telemetry Project
By Kristin A. L. Hall, Conservation Manager, Audubon MN
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Due to the apparent failure of 9 out of 10 deployed transmitters for this project, the status from report from September 2016 will serve as our final report. Minor updates include:

- One transmitter, #5389, is a confirmed dead bird or lost transmitter as it was sending a stationary signal from a stagnant location for a month prior to going off line.
- The remaining 9 transmitters either failed or fell off, they did not send signals from a stationary location as you would expect from a dead bird or detached functioning transmitter. These transmitters each stopped abruptly yet seemed to have good battery voltage and showed no indication of failure prior to going off line.
- Any conclusion regarding transmitter failure or application error, based on the limited data we have would be speculative at best.

Audubon will continue to work with both the MN DNR and North Dakota State University to write up a summary of all 20 American White Pelicans tracked in phase 1 and phase 2 of this project. Although the transmitters and/or application of the transmitters on this cohort of 10 birds proved problematic, important lessons were learned from the project such as: the response to handling time, modifying the technique for patagial application, following the birds on their breeding ground and following 7 of the 20 birds through a full cycle migration. The unanticipated results from this effort will be compiled and shared amongst the partnership as well. Below is our last update pertaining to the tracking efforts of the 10 transmitters deployed in May of 2016.

MN DNR Status Report on American White Pelicans Cellular Telemetry Project
By Kristin A. L. Hall, Conservation Manager, Audubon MN
14 September 2016

On May 2nd 2016, ten American White Pelicans were trapped in the Marsh Lake (ML) colony. All 10 birds were fitted with a USFWS aluminum band, a patagial color marker and cellular transmitter. Nest abandonment was a concern based on the response of the 5 birds that were captured in 2015 (*see report dated 1 Sept 2015*). In light of these concerns, we maintained a 20 minute maximum handling time on all birds processed in the 2016 capture attempt which appears to have improved the odds of the adult pelicans remaining at the nest. Table 1, below, is a summary of potential nest abandonment for the 2016 cellular tagged American White Pelicans. In general, two of the 10 birds vacated the Marsh Lake area within 5 days of the original capture event. Another bird left the island it was captured on within 4 days of capture but then remained on the larger island colony within Marsh Lake throughout the summer. This bird may have re-nested successfully on the larger island. The remaining 7 birds stayed on the island(s) where they were originally captured, thus displaying no signs of nest abandonment related to the capture event.

Table 1. 2016 cohort of American White Pelican Capture and Nesting Overview

Cellular ID	Capture and nesting Overview	days at nest location
27234465	Remained in Marsh Lake well into June - no abandonment	60
27234580	left Marsh lake area May 8th - possible abandonment	5
27235140	remained at Marsh lake until last transmission date no apparent abandonment	10
27235389	Remained at Marsh Lake until May 11 (8 days post capture) then left area. Assumed failed nest yet not associated with capture.	8
27235603	remained anchored to Marsh Lake through June & into July - went back and forth to Wood Lake area regularly - no abandonment	60
27235785	Remained anchored to Marsh Lake well into June - no abandonment	60
27235900	remained at marsh lake until may 7th then left area - possible abandonment	4
27236171	remained in and around marsh lake until last transmission date no apparent abandonment	21
27236411	Appeared to stay on island of capture for 4 days post capture, then moved to larger island in Marsh Lake - uncertain nest abandonment - may not have established a nest prior to capture	4
27236643	Remained at nest until May 15. Relocated at Dry Wood Lake - Assumed failed nest yet not associated with capture	12

The 2016 capture was conducted by Mark Clark and Alex Rischette from North Dakota State University, John Wallenberg and Carrol Henderson from the MN DNR and Kristin Hall from Audubon MN. John and Mark worked to streamline the transmitter application method in order to reduce handling time and overall the birds appeared to move normally after the capture event. Unfortunately, we appear to be having technological issues with the cellular transmitters. In about mid-June, most of the transmitters stopped transmitting. I have discussed this issue with Cellular Tracking Technologies, the company that manufactures and maintains our data and we are working to find a solution to the problem. Andrew McGann at Cell Tech feels the scheduled time of upload may be too early in the day and not the best for when the pelicans would be in flight and therefore in cellular range. We are hoping to reconnect with the transmitters during migration and have programed a rescheduling of the transmission timing to occur thereafter. All birds appeared to have been moving normally prior to the loss of transmission and most seem to have a good or high battery reading. If there were issues with the birds (i.e. mortality) there would have been stagnant location readings which is not the case. I have also included maps of each bird documenting their last transmissions.

the table below for a summary of activity for the 10 birds tracked between 2 May 2016 and 5 Sept 2016:

Table 2. Summary of Pelican Activity - Summer 2016

Cellular ID	Location As of 9/5/2016	Days since last transmission/ Battery status
27234465	Near Forman S Dakota -	47 days, Battery Low - Last reading 20 July
27234580	Spent most of summer in Sunburg & East of Ortonville	70 days, Battery good - unknown why last transmission was Late June
27235140	13 May 2016 was date of last transmission	115 days, Battery diminishing prior to last transmission, unknown fate of bird or transmitter
27235389	In Ocheda Lake south of Worthington MN	0 days-Battery good - currently still transmitting
27235603	Tyson Lake MN South of Granite Falls MN	19 days, Battery Low prior to last transmission
27235785	N of Cyrus MN in small unnamed lake	38 days, Battery good - last reading 24 July
27235900	Buffalo Lake SE MN	76 days, Battery good, Last reading 22 June
27236171	Outside of Wilmar - still going back and forth to Marsh Lake	102 days, Battery diminishing prior to last transmission, unknown fate of bird or transmitter
27236411	South of Glenwood MN in Lake Emily 4 July 16,	64 days, Battery good - unknown why last transmission was early July
27236643	Des Moines Iowa - Sailorville Lake - appeared to be migration south	31 days, Battery good

Maps appear in the same order as the tables above, each figure includes a brief caption below the image.

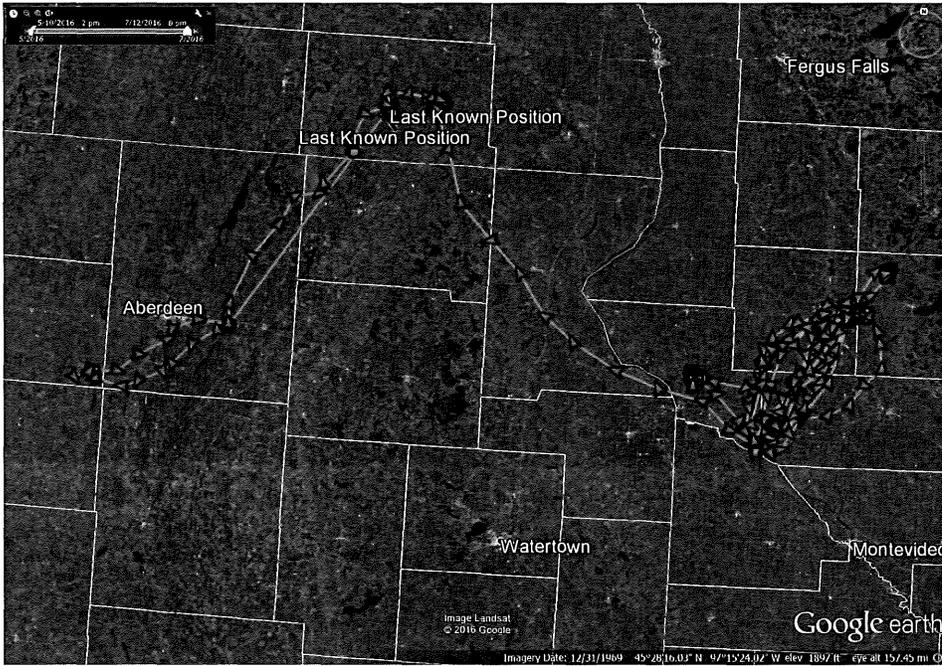


Figure 1 Pelican #4465 - all locations, last Transmission 20 July 2016

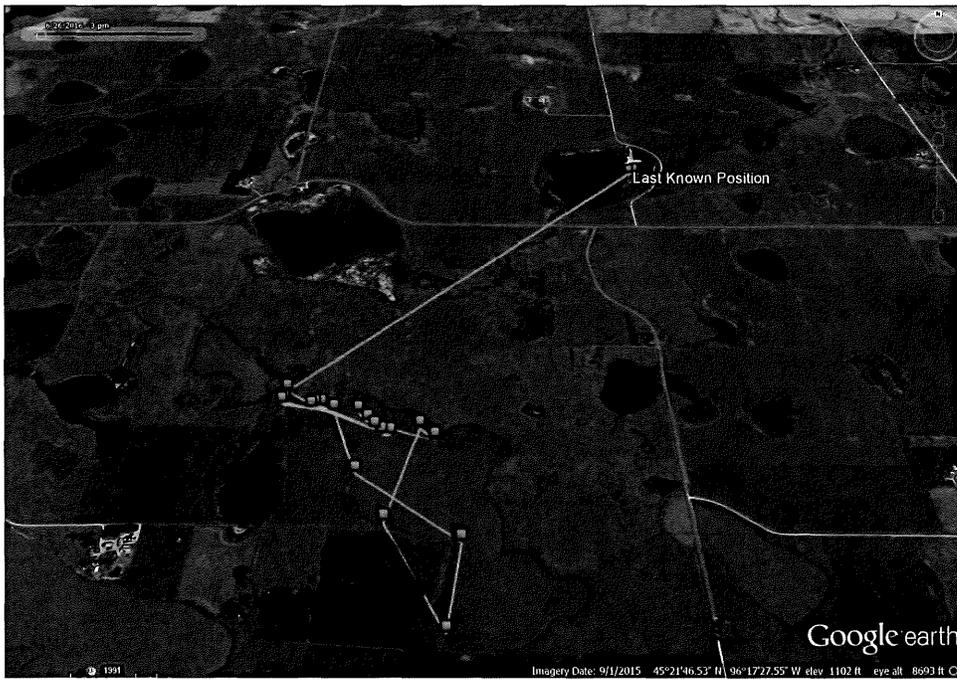


Figure 2 Pelican # 4580 - Last Transmission 26 June 2016



Figure 3 Pelican #5140 - Last Transmission 13 May 2016



Figure 4 Pelican #5389 Still Transmission - Current location Ocheda Lake, MN – UPDATE this bird remained in the same position from Sept 14th 2016 until October 23rd 2016 when we had our last transmission. It appears this bird may have perished or the transmitter fell off and was stationary prior to stopping transmission.



Figure 5 Pelican # 5603 - Last Transmission 17 August 2016

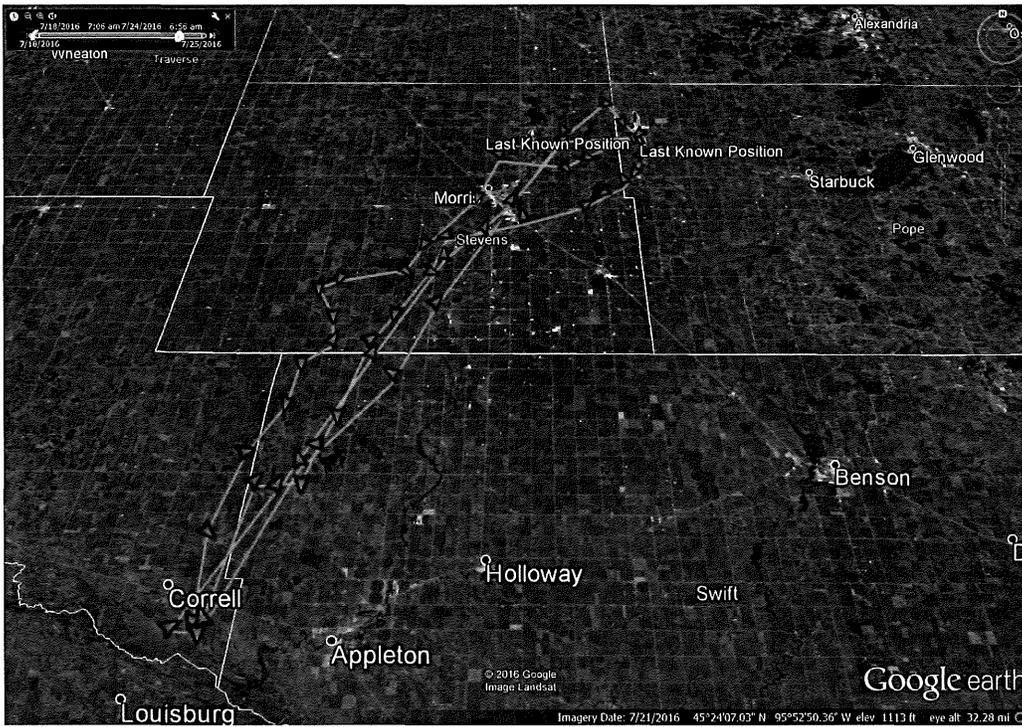


Figure 6 Pelican # 5785 Last Week of Locations -Last Transmission 24 July 2016



Figure 7 # 5900 Last Transmission 22 June 2016

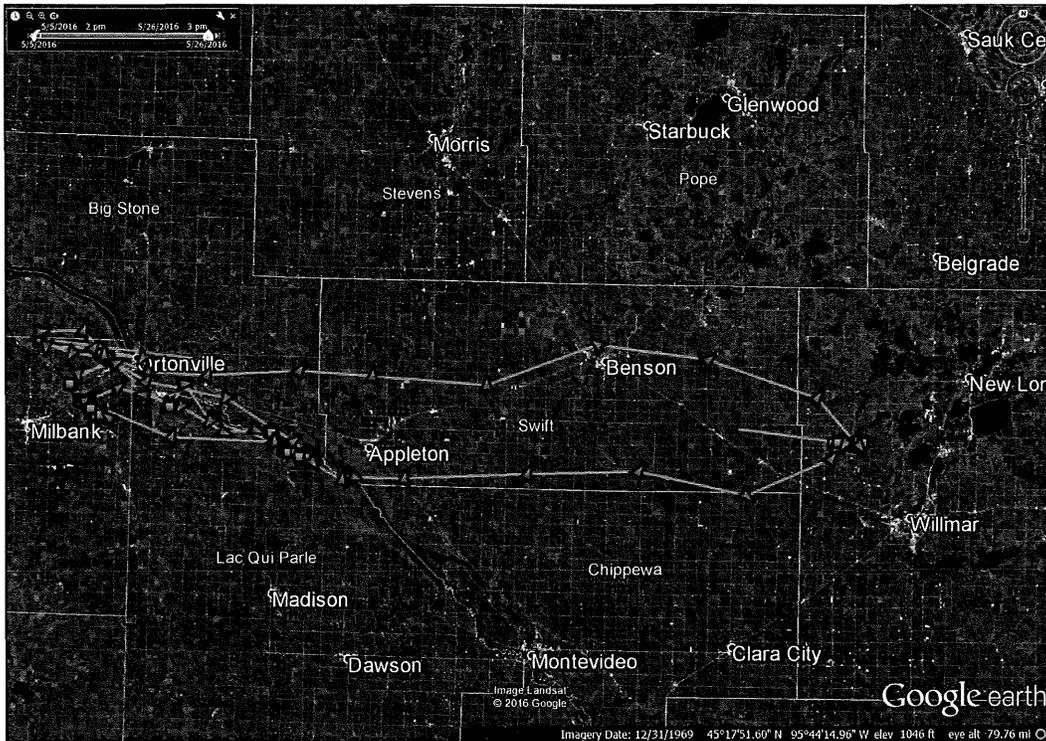


Figure 8 Pelican # 6171 Remained near Marsh Lake until last Transmissions in Late May

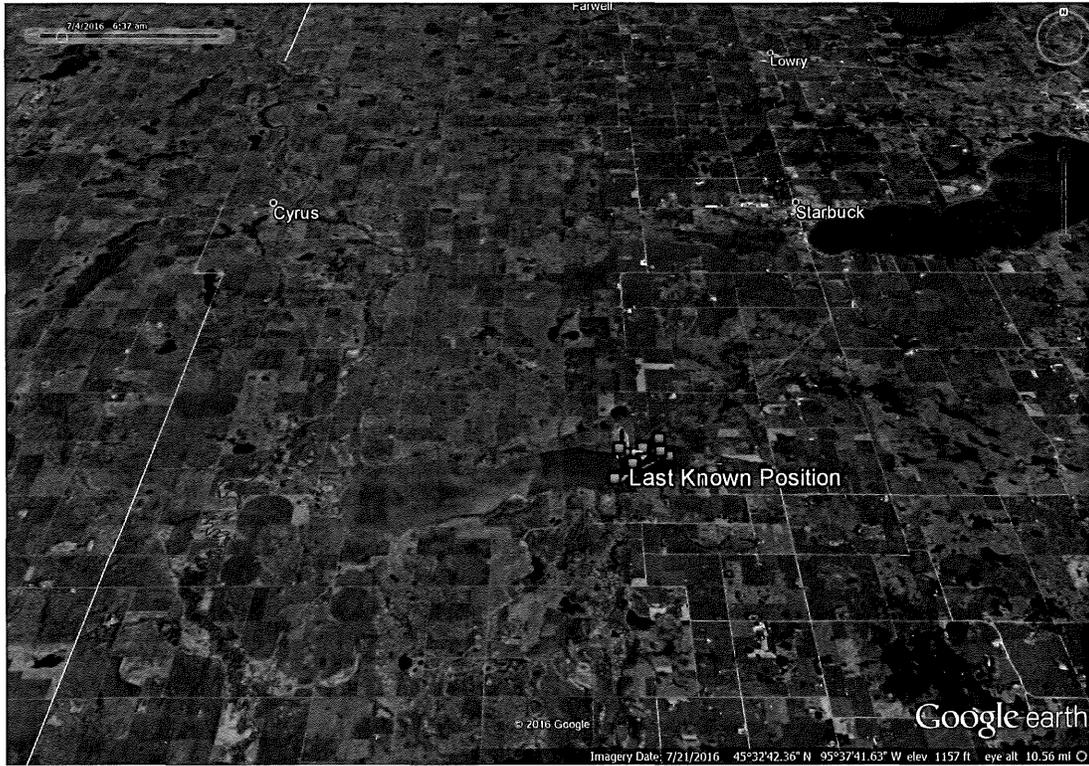


Figure 9 Pelican # 6411 Lake Emily - Last Transmission 16 July 2016



Figure 10 Pelican # 6643 - Starting Migration August 5-6 Last Transmissions Shown