

2020 Lake Puckaway Endangered and Threatened Species Monitoring Project Final Report to the Lake Puckaway Protection and Rehabilitation District

For the 11th consecutive year, endangered and threatened water-bird species were monitored from spring arrival dates to fledging dates for those nesting in the Lake Puckaway proper. Endangered species monitored included Black, Caspian, Common and Forster's Terns. Threatened species included Great Egrets. Because of on-going management programs for Common and Forster's Terns, the emphasis was directed to these two endangered species. Black Terns were also intensively monitored in 2017, with site checks for the several colonies discovered that year and continuing from 2018-2020. Nesting site protocols were changed in 2016 and modified in 2020 due to the increasing numbers of nesting pairs of Common Terns and the wildly fluctuation numbers of Forster's Terns, to minimize human disturbance at the two sites.

May 1: With rainy springs three years in a row and wet winters, water levels were very high. As in 2019, returning Forster's Terns found their nesting site at Pancake Island totally under water. Great Egrets found their nesting trees totally submerged. Both the terns and egrets began early dispersal from their traditional sites. Both Common Tern rafts were installed just prior to the birds' arrival, with the new raft hopefully alleviating the nest-crowding from last year. 6 adult Forster's Terns observed hovered over the flooded island. Common Terns had yet to arrive.

May 9: A check of the Common Tern rafts revealed 15 adults on the Old Raft and 5 adults on the New Raft. No nests on either. Pancake Island remained mostly submerged and 16 Forster's Terns were observed clinging to small areas of windrowed phragmites and river bulrush roots with 0 nests. The eastern and western Black Tern colonies remained intact in spite of the extreme flooding, nesting on old muskrat huts. Unfortunately, as in 2019, Great Egrets had completely abandoned any nesting attempts on the lake due to the high water levels.

May 30: 28 adult Common Terns with 35 nests and 39 eggs were counted on the Old Raft. The New Raft had 13 adults with 18 nests and 27 eggs. 31 Forster's Terns were observed on Pancake Island, but the water was still too high for nesting.

June: 14: The Old Raft now has 45 adults with 33 nests, 51 eggs and 19 chicks. The New Raft has 30 adults, 23 nests, 44 eggs and 4 chicks. I contacted DNR avian ecologist Sumner Matteson to set up a banding date within the next week. Pancake Island was not surveyed today to avoid disturbing the Common Tern rafts any further as the adults were very aggressive with their eggs in various stages of hatching. But an estimated 50 Forster's Terns were seen flying in and out of the island.

June 15: I decided to focus on Pancake Island and avoid any more disturbance to the tern rafts today. A total of 60 adults were observed and I saw one nest on some overturned river bulrush roots. When I arrived home, I contacted Paul Gettelman who gave his blessing to place Forster's Tern artificial nesting platforms on the island to supplement natural nesting substrate.

June 16: A total of 26 nesting platforms were placed on Pancake Island today by Ian Christensen and myself. We counted a total of 15 nests with 9 eggs on cattail and bulrush roots that were only 1-2 inches above flooding out. We had high hopes for the platforms, since they float up when water levels rise.

June 19: Sumner and I with Ian's assistance banded 24 chicks on the Old Raft. A total of 20 nests with 33 eggs remained, so more hatching and banding would be occurring in the future. The New Raft had 15 chicks which we banded. 21 nests with 43 eggs remained. A quick check of Pancake Island revealed that one egg each on 6 nests were already built on the artificial platforms only 3 days after placement, which was very encouraging - as was the receding water levels exposing new, natural nesting sites for Forster's Terns.

July 7: 26 chicks were banded on the Old Raft today. Only 4 nests with 9 eggs remained. The New Raft still sported 14 nests with 30 eggs. 17 chicks were banded. Water levels have now dropped 12 inches since the June 19 survey of Pancake Island and vegetation is too high to count nests without causing too much disturbance to the Forster's Tern colony. However, 40 adults were observed with none carrying minnows, so eggs have not hatched yet.

July 20: We banded 5 chicks on the Old Raft today while 2 nests with 3 eggs remained. The New Raft also had only 2 nests and 4 eggs, but we banded 10 chicks. Our final banding date was set for August 8th. At Pancake Island, we observed 35 adults, all carrying minnows into the colony site to feed nestlings. 4 fledglings were also seen - all in flight over the island.

August 5: Sumner and I banded 1 chick on the New Raft and 2 chicks on the Old Raft. No nests remained. At Pancake Island, 19 adult and 31 fledged Forster's Tern chicks were observed. Caspian Terns have begun to arrive with 16 adults observed on the Dredgebank rocks.

August 12: Ian and I removed the 26 artificial nesting platforms from Pancake Island. Most of the platforms had indicators of nesting including hatched eggs, nest remnants, etc.

August 21: A final check of the Common Tern rafts revealed that all chicks had fledged. The rafts were removed by lake district volunteers.

Summary:

With the exception of the Common Tern project and Black Terns once again being able to adapt to habitat changes, it was a disastrous year for some waterbirds nesting on Lake Puckaway due to the high water levels most of the nesting season. Only an estimated 40-50 Forster's Terns fledged this year, compared to more than 700 three years ago but a substantial increase from the 10 fledglings of 2019. For the second year in a row, no egret nesting was observed. The flooding has caused long-term and probably permanent

damage to the phragmites beds. Although severely damaged, the lotus beds should recover, but it may take years. Nesting platform placement helped at Pancake Island. The 102 fledged Common Tern chicks was a record high, thanks to the addition of the second raft. 442 chicks have been banded the past 7 years, which is a substantial number for this critically endangered species. Many fledged Black Terns were observed in August - indicating good nesting success once again from the marshes west and east of the lake. Caspian Tern numbers were continuing to increase at the close of the project date, showing that Lake Puckaway remains to be an important loafing and feeding area for this endangered tern during post-fledging dispersal and fall migration.

Recommendations:

Due to the great success of the Common Tern Raft project, continuation of the program is highly recommended.

It is my hope that the Lake District will approve the continuation of the existing waterbird monitoring projects that have been done over the past decade including my role. 2020 was the final year of my contract in this regard, so I am requesting that the existing contract be continued at the pleasure of the District.

I would like to thank the Lake District for supporting this work with the terns, both financially and with those who volunteer each year to place, remove and repair the tern rafts.

Acknowledgements:

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Respectfully submitted by:

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