2021 Loon Project Final Report

September 25, 2021

Background

Over the years, Lake Kasshabog cottagers have recorded as many as 22 loon pairs raising a maximum of 14 chicks. Although we are fortunate to continue to have several nesting pairs on our lake, we have experienced a decline in our loon chick population over the past few years. The purpose of the ***2021 Loon Project*** was to further investigate the factors that may impact loon nesting, hatching, and rearing of loon chicks on Kosh Lake. This detailed in-depth information about loons and how human activities affect them helps inform, and ultimately shape the impact of human behavior on loon survival. Financial support for the 2021 Loon Project was made possible by *Covia Corporation.*

Methods

Relevant quantitative and qualitative data were collected from May 2021-September 2021. We: 1) mapped the territories of loon pairs; 2) identified the number of loon pairs; 3) documented our observations of the nesting/hatching habits, including habitat selection, the interactions between breeding loons and intruders (human and predators) that visited territories, the chick-rearing behaviour and parent-chick interactions; and chick growth and development; and 4) recorded the number of births and survival rate of the loon chicks. This data were compared to the results from our 2019 loon project to determine if there were any significant changes.

We recruited 15 loon monitors who conducted weekly observations of one nesting pair each between 8-12 weeks, depending on if there is a successful hatch. Based on their suggested changes in 2019, a revised chart (see Appendix A) was used by each monitor to ensure consistency of information and facilitate analysis across time and nesting pairs. Furthermore, the use of general/additional observations at the end of the chart assisted in capturing other relevant information, such as other human activity. The loon observations (see Appendix B) were collected weekly, uploaded and analyzed by the 2021 loon project team. Monthly reports (see Appendix C) were written and distributed to the loon monitors for their information and any revisions/additions.

Three meetings were held during the project. An orientation meeting of all the loon monitors occurred on May 4th , which provided an overview of loon behaviour, answered any questions about their role as monitors, provided examples of the type of observations to be recorded, and stressed the importance of completing charts consistently with as much detail as possible. A second opportunity for the loon monitors to share their observations with one another and discuss any challenges was held on June 24th . Finally, the loon monitors met on August 24th to respond to the preliminary analysis and subsequently to make recommendations for future activities. A task force was struck on September 23rd to follow-up on those recommendations.

Findings

Observations of the loons were collected, recorded, and analyzed using the following categories: *returning loons; territorial traffic; nesting/hatching; chick rearing/parent-chick interactions; and chick growth and development*. Collecting in-depth observations of loon behaviours

revealed patterns and changes that occur over time between and among eleven nesting loon pairs on Kosh Lake.

Returning Loons: Most of the loons returned during the weeks of April 19 and 26 in territories 2, 6, 10,11, 14, 16, 17 and 19. It was noted that a few loons returned fairly late after the ice went out compared to previous years. In another territory (8), the second one returned several weeks later rather than a few days after the first one arrived, which has been the typical pattern in previous years. As of April 30th, a total of 35 loons had returned to Kosh Lake.

Territorial Traffic: Human traffic has emerged as a key concern. Loons respond poorly to noises made by humans, such as fireworks, construction, and boats. Loons also seem to respond to loud and disruptive noises such as gunshots. They are often heard calling throughout the lake to large boats and loud noises. However, the loons seem somewhat desensitized to other human traffic, coming close to docks, kayaks, etc. They used to be more alarmed by advancing boats. Animal traffic such as gulls, snakes, and other loons alarmed the loons, with some suspected predation of nests.

Nesting/Hatching: Loons arrived much earlier this year with some nesting as early as May 3 -22. Starting the week of June 12, we observed the first successful hatch, resulting in two chicks in the north end (Territory 4). In total, we've observed eight successful nesting pairs, resulting in a total of 13 chicks in territories 1, 2, 4, 8, 11, 14, 15 and 16. There were two chicks in Territories 4, 8, 14, 15 and 16, and one chick in each of Territories 1, 2, and 11. We have had four failed nests this June (Territories 5,6,7,19). In the end, there were a total of 11 nesting pairs, with 8 successful hatches. As of September 1, 2021 there are 9 surviving chicks. This data is comparable to last year's information when 9 chicks survived.

Chick Rearing/Interactions: With respect to parent-chick interactions, both parents stay close together to their chicks, especially shortly after they hatch. We observed them riding on their parents' back either together or one at a time while the other one stays close behind. Once the chicks are a little older (approx. 2 weeks), only one parent is present while the other one is fishing nearby. The most common vocalization between parents and chicks is 'hooting" unless they are disturbed by animal or human traffic and a variety of vocalizations are heard. Over time, the parents leave chicks for longer.

Chick interactions depend heavily on number of chicks, age, and size of chicks. Chick behaviour was very similar if chicks hatched at a similar time. If the nesting pair had two chicks, they were inseparable for a couple of weeks. Chicks tended to stay in shallow, protected waters initially but then move into deeper water, expanding their territories. As of September 1, 2021, parents were still feeding chicks, even those that hatched early in the year.

Of the eight territories with chicks, we have observed interesting chick rearing behaviour. In Territory 2, three loons were seen but without their chick. The loons seemed upset and eventually flew away, appearing to abandon the chick, but later, one loon was back with the baby on the other side of 'Indian' Island. Loon researchers have documented this type of protective behaviour, hiding the chick from "floater" loons (single loons).

Chick Growth & Development: Observations of the surviving chicks suggested that their growth and development are similar, with respect to meeting milestones (swimming, diving, fishing, being left alone) and their physical attributes (size, colouring). However, single chicks tend to grow faster and are more independent.

If one of the loon chicks is sick or injured is another example of how chicks grow at different rates. This was the case in one territory (8). The healthy chick swam strongly and dove aggressively remaining under water for long periods of time to time counts in excess of 15 seconds. Chick observed on one occasion surfacing with fish in beak. It was observed on its own, a long distance from any parent and in some cases no parent can be seen close by. Its sibling was injured. The flipper on the right side of its body is missing with only a stump protruding from the abdomen. This chick swam off balance and did not develop swimming, diving or fishing skills. Unfortunately, the injured chick died at the end of the summer.

Conclusion

Two major interrelated issues emerged from our observations: 1) Human traffic and 2) Lake water fluctuations. Human traffic is much more frequent than in the past, with bigger wakes from bigger boats. This has an impact on nests, chicks, and shoreline depletion. Water fluctuation impacts nesting as well. The project findings prompted us to ask the following questions: How can we connect what we've observed with how we can make our lake better for loons?; What can we do differently to really get the message out?; and How can we help to mitigate negative human behaviour to protect loon?

Collecting additional information related to loon territory, habitat settlement, reproduction and chick-rearing assisted us in identifying the threat(s) to the loons and improve our understanding of how to restore and manage loon habitat. To achieve this goal, the *Loon Task Force* met on September 23, 2021 and proposed the following activities: 1) Create and post signage; 2) Publish a clear and consistent message on a variety of mediums (e.g. eblast, LKRA newsletter and website, Kasshabog'er Fackbook); 3) Distribute children's coloring books; and 4) Promote person-to -person conversations. The ultimate aim of these activities and potentially others is to ensure that the loons on Lake Kasshabog not only survive but thrive in the future.

Respectively Submitted,

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