Using Trail Cameras to Study Loon Nesting Success in the Adirondack Park

ADIRONDACK CENTER *for* LOON CONSERVATION

Why care about nesting success?

Starting in 1998, the Adirondack Center for Loon Conservation (ACLC) began conducting the annual Loon Census in order to determine the size of the loon breeding population within the Adirondack Park. Results from the Census reveal populations are increasing, but the carrying capacity for the Adirondack Park has still not been reached (Schoch and Sauer unpubl. data). As a result, the ACLC seeks to determine ways to increase loon populations across the Adirondack Park. Nesting success data has revealed loon productivity (number of chicks per pair) has been decreasing since the 1980s (Parker & Miller 1988; Schoch et al. 2014). To understand some of the factors influencing loon productivity, the ACLC began placing trail cameras active nests across the Park in 2013. Analysis of photos from 2013-2020 reveal climate change, predation, and human disturbance all impact nesting success of loons across the Adirondack Park.

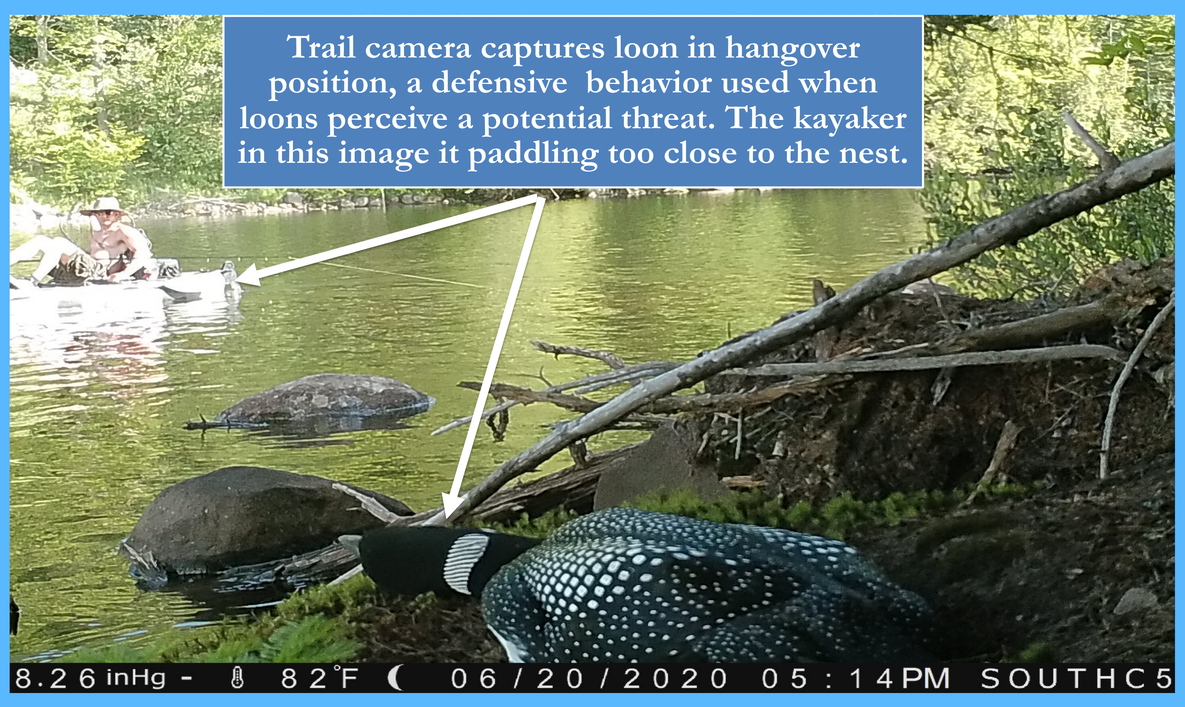
Impact of: Climate Change

Climate change will increase the frequency and intensity of rainfall events, leading to dramatic water level fluctuation in lakes. The loon's inability to walk on land means nests are located in close proximity to shorelines, making them vulnerable to climate-induced flooding events. leading to high risks of nest flooding. To combat increased flooding events, the ACLC constructs manmade floating platform nests.

In 2015, 3 nests were flooded by the same intense rainfall event

Of the 6 platform nests with trail cameras from 2013 to 2020, 3 nests hatched chicks.

The ACLC places trail cameras at most of the nesting platforms they construct. Pictured above is an example of what these platforms look like.



Trail camera captures loon in hangover position, a defensive behavior used when loons perceive a potential threat. The kayaker in this image it paddling too close to the nest.

Impact of: Human Disturbance

When paddling, fishing, or boating, one should always remain 20 to 30 meters away from a loon to prevent unnecessary stress. Loons experiencing frequent human disturbances will abandon their nests. Beyond placing unnecessary stress upon loons, humans passing too closely to nests on motorboats results in eggs being washed into the water.

3 nest abandonments occurred less than 24 hours after a human disturbance

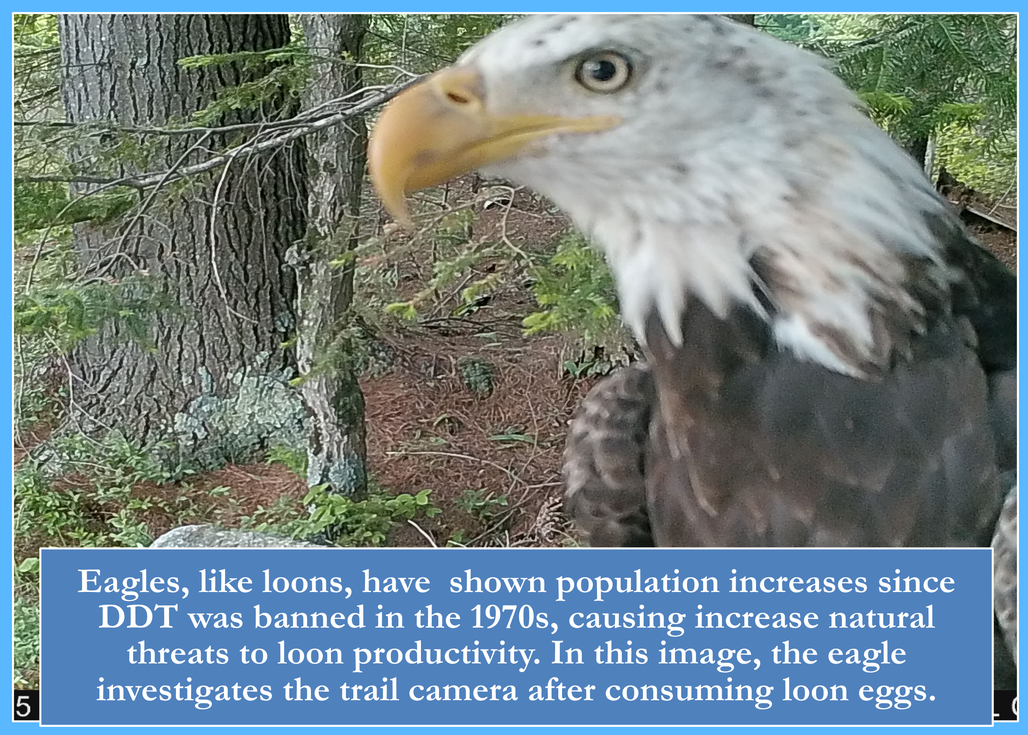
48 different nests were disturbed by humans approaching too closely

Impact of: Predation

Black bears, eagles, ravens, crows, gulls, and raccoons are all known to predate loon nests across the Adirondack Park. Snapping turtles, eagles, large fish, and other loons kill loon chicks.

Cameras recorded 17 predated nests from

Raccoons, black bears, and eagles were all caught on camera consuming eggs



Eagles, like loons, have shown population increases since DDT was banned in the 1970s, causing increase natural threats to loon productivity. In this image, the eagle investigates the trail camera after consuming loon eggs.

Works Cited

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