Overflowing Great Lakes pose new threat for endangered bird

June 17 2019, by John Flesher

Peering through a spotting scope mounted on a tripod, researcher Alice Van Zoeren notices a piping plover skittering across a sandy, pebble-strewn Lake Michigan beach and hopping into a nest, swapping places with its mate.

"Nest exchange! Did you see it?" Van Zoeren calls to colleagues. Male and female plovers take turns incubating their eggs, and this pair's flawless changing of the guard is a healthy sign.

Yet trouble is brewing for them—and for other piping plovers, already one of the Great Lakes region's most endangered species—as water levels surge during a rain-soaked spring that has flooded large areas of the Midwest.

Pools are forming behind several nests along this beach at Michigan's Sleeping Bear Dunes National Lakeshore. And the big lake—gray and slightly rippling on an overcast, breezy morning—has crept within a few yards of the plovers' nesting zone.

Their home could be one storm away from destruction. And this is one of the most hospitable spots for the plump, sparrow-sized shorebirds. Conditions are worse in some places.

The Great Lakes are reaching some of their highest levels since the U.S. Army Corps of Engineers began keeping records 101 years ago. Streets, businesses and houses have flooded.

Many beaches are shrinking or submerged. For tourist-oriented businesses and waterfront homeowners accustomed to wide expanses of sand, that's a worrisome development.

For piping plovers, it's a mortal threat. Squeezed out of familiar turf, they move closer to places with trees and underbrush, where predators lurk, or even flee to urban areas. A pair recently took up residence on one of Chicago's busiest Lake Michigan beaches.

"The high water levels really put them in danger more than most other species because their habitat has been greatly diminished," said Vince Cavalieri, piping plover coordinator for the U.S. Fish and Wildlife Service. Some nests on the Canadian side of the lakes have been swept away, he said.

The Great Lakes generally rise with the snowmelt and rainstorms of spring and dip during later dry spells. Those minor fluctuations happen within larger high and low periods that can last years.

But some scientists believe climate change is causing more frequent and intense shifts. Lakes Huron and Michigan hit record low levels in 2013 amid a lengthy slump. An abrupt turnaround followed. Bitter winters froze lake surfaces and limited evaporation, while snowfall and spring downpours got heavier. As parts of the nation's midsection flooded this year, the lakes filled to the brim.

University of Michigan hydrologist Drew Gronewold and climate scientist Richard Rood concluded in a recent article that "rapid transitions between extreme high and low water levels in the Great Lakes represent the 'new normal.'"

If so, the piping plovers' situation could become more precarious. Their numbers already have plummeted with shoreline development. The

federal government lists them as threatened in the northern Great Plains and along the Atlantic coast, where rising sea levels imperil their wintering grounds. But the Great Lakes population is endangered, hitting a low of just 12 breeding pairs in 1990.

Recovery projects are helping; 76 pairs were counted in 2017 and 67 last year. This year's census is still underway but expected to yield similar results, said Cavalieri of the fish and wildlife service.

The next few weeks are crucial. Most of this year's eggs will hatch by the end of June. If additional storms don't wash away nests, a new batch of youngsters may survive.

But long-term prospects will be dicey until the waters recede.

Piping plovers are a migratory species, breeding during summers in the northern U.S. and Canada and heading south to winter in coastal areas from the Carolinas to Texas.

Once settled in, they spend lots of time on the ground—building nests, guarding eggs, darting about in search of food such as insects, spiders and crustaceans. Their plumage, a mixture of light browns and grays with a black collar, provides camouflage.

At Sleeping Bear Dunes, home to nearly half of the Great Lakes plovers during spring and summer, breeding grounds are roped off and posted with keep-out signs. Nests are topped with cage-like enclosures that bar entry to predatory merlins, gulls, raccoons, foxes and coyotes but leave enough space between the wires for the plovers to enter and exit.

Unleashed dogs are the biggest problem, said Erica Adams, a National Park Service plover specialist. They've been known to spook the birds so badly that they abandon their nests.

In addition to serving as security guards, professionals and volunteers can perform emergency rescues if flooding is imminent.

Van Zoeren, a research assistant with a University of Minnesota team that bands plovers, recently removed eggs from a nearby island as a storm rolled in. They were stored in an incubation machine at the Sleeping Bear Dunes headquarters and returned to the nest after the lake calmed.

Even if the birds aren't flooded out, the rising waters make their lives harder.

"It's forcing them to use the same areas as birds they might not be used to neighboring with," Adams said. "That increases competition, especially for the chicks that hatch this year. If they don't have enough food, enough space to forage, they won't have enough calories to make the journey down south."