Mashkiziibii Natural Resources Department
Chequamegon Point Piping Plover Monitoring

2019 Season Report

Prepared by Royce Galindo and Katie Drozd

This year plover monitors conducted daily surveys, weather permitting, between 5/24 and 7/30. Three plover nests were confirmed, two were abandoned, and four chicks hatched from the remaining nest. On 7/15, four chicks were banded on Chequamegon Point, two on Outer Island, and three on Stockton Island. Three plover chicks successfully fledged from Chequamegon Point.

While reading nest descriptions, consult the glossary and maps at the end of the summary.

Nest 1

Lat/Long: N 46.70599°, W 090. 75761°
Female: X,-:O,Y
Male: X,-:O,- (last seen 7/15)
Found: 6/1 (with 2 eggs)
Exclosure Installed: 6/5
Total Eggs Laid: 4
Start of Incubation: 6/5
Chicks Hatched: 4
Chicks Fledged: 3 on 7/27
Hatch Dates: 7/1 and 7/3
Banding Date: 7/15
Chick Band Combinations:

- X,-:O^{R},G^{321}
- X,-:O^{G},G^{322}
- X,-:O^{B},G^{323}
- X,-:O^{Y},G^{320} (Last seen 7/15)

This pair of plovers was the first observed on the nesting beach this year (seen 5/25). These same birds nested in this territory in 2018; notably, last year their nest was located in the center of the beach between the foredune and the wash zone—a mere 35 feet from the water— and their nest was washed away by wave action twice. This year, the nest was 172 feet away from the wash zone.

The male pair member disappeared between the evening of 7/15 and the morning of 7/16, along with one of the newly-banded chicks (this chick was also the smallest of the brood at just 12 grams). No evidence of predation was observed, but it is not common that a male would abandon a sizeable brood in which he was invested several weeks before they would fledge. Typically, the female plover is first to leave her chicks and partner to begin her journey south, and male plovers stay later into the season to watch over the chicks. This female pair member remained with the three chicks until the final day of observation.

Visitation

Visitors and their boats most often settled on the stretch of beach far to the north of this site, but they would also pop up to the south of the territory by crossing through the dunes from the bayside beach. Visitors rarely crossed in front of the nest site, and only two dogs were encountered near or passing through the territory (one of them was off leash).

Site Description

This nest was tucked far back into the dunes among dense vegetation. No cobbles or driftwood were in or near the nest cup. Large driftwood logs were sparsely scattered about the territory, and the percentage of cobble was low to nil. The wrackline was thick with debris in some spots, but the beach appeared largely navigable by the chicks. Later in the season, close to fledging, the chicks moved far to the south of their typical range, where the driftwood was considerably denser.

Figure 1. A trail cam image of nest 1 and exclosure shows the density of the dune grass surrounding the nest and its distance from the water.

Figure 2. Three chicks forage under mom's watchful eye. After the hatching date, the psychological fencing was reconfigured around the territory to accommodate the birds' preferred stretch of shore.

Table 1 describes this nesting area in measurements from the nest cup to surrounding features.

Attribute*	Wash zone	Wrack line	Cobble Pan	Foredune	Backwater	Treeline
Distance from nest in feet	172	159	132	89	N/A	438

*All attribute definitions can be found in the glossary on p. 23. Measurements were taken at the end of the season at all nest sites. It should be noted that beach conditions change constantly over the course of the season and some of these numbers should not be considered exact.

Figures 3-5. This pair of plovers (female far left, male left) reunited after successfully raising one chick in 2018. Two out of the four of their 2019 chicks are pictured below.

Nest 2 - Salvaged

Lat/Long: N 46.71172°, W 090.76418°
Female: Unbanded
Male: X,G:O^{Y},G/O
Found: Observed as scrape on 6/1
Exclosure Installed: 6/7
Total Eggs Laid: 3
Start of Incubation: 6/9
Chicks Hatched: 3 (successfully hatched at the captive rearing facility)
Eggs Salvaged: 6/24
Female last seen: 6/25
Male last seen: 7/20

The male pair member is a six-year-old returner from 2018. He was observed interacting with two unbanded females early in the season. At first, he was hostile towards both, but eventually he paired with one of them.

Site Description

This nest was located just north of where the nesting beach begins to narrow considerably, and was between nest 1 and 3. The cup was slightly elevated on a micro dune surrounded by small driftwood and no cobbles. All around there were larger driftwood sticks and fewer driftwood logs. There was no vegetation immediately surrounding the nest. Nest 3 was in close proximity. Most days large numbers of gulls congregated by the shore just north on the beach from nest 2 and 3. After the nest was abandoned, the spot was more frequented by visitors, some of which were captured on trail camera passing by or anchoring within view. The psychological fencing was removed 7/20.

Salvage

The days leading up to the abandonment on 6/24 were not unusual; normal foraging and incubating was underway. Due to rain storms in the morning, monitoring began later than normal. The pair was not observed incubating or even in their territory, and the trail camera revealed that no one had been sitting on the nest since 1 p.m. There were no fresh plover tracks in the sand around the nest after the rains of late morning. As monitoring continued, no obvious signs of predator activity were discovered, and no weather more intense than mild-to-moderate rain and wind speed occurred at the beach. The guidelines for determining nest abandonment were utilized. The criteria states that egg retrieval is warranted when adults are not incubating for more than 2 hours and are completely absent from their territory for more than 30 minutes. After contacting and consulting with the off-duty plover monitor as well as NPS authorities, the nest was determined to be abandoned and the eggs were to be pulled and transported off Chequamegon Point.

Around 8:15 p.m. monitor Katie Drozd arrived back at the nest to swap out the three eggs for decoys. The pair was still not observed in the territory during the entire day leading up to the evening salvage. There was no evidence that the pair was defending the eggs from human presence; the nest was approached multiple times to check for tracks, and finally to swap out the eggs.

The eggs arrived back at camp and were set in the incubator by 8:45 p.m. At 1:30 a.m., the generator ran empty of gas and the eggs were brought into the tent to be kept warm via body heat. The trail cameras were checked at this time, and photos had captured the plovers' return to the nest upon nightfall. The off-duty monitor and NPS were once again contacted; however, it was decided to follow through with the transportation of the eggs to the captive rearing facility. NPS authorities were reassuring in the decision: the pair should not have been away from the nest for so long after nearly 2 weeks of consistent incubation. The decision was the best choice for the survival of the eggs.

On 6/25, the false eggs were withdrawn from the nest to relieve the pair from expending their energy incubating. The female was incubating at the time, and put on a broken wing display as the nest was approached and eggs removed.

All three eggs reached the Pellston Captive Rearing station unharmed, and later all eggs hatched successfully, around 7/7. The chicks were released on 8/7—not at Chequamegon Point, but at Whitefish Point (in Michigan's Upper Peninsula).

Figure 6 & 7. Male pair member X,G:O^{Y},G/O, aka "Gelato" incubating on a normal day (above). Eggs midday on 6/24, no fresh tracks after late morning rain (right).

Figure 8. The time this image was taken was actually 7:30 p.m (please note the camera is set an hour ahead). At this point it had been about 6.5 hours since plovers were seen on or around this nest.

Figures 9 & 10. The three eggs from nest 2 after swapping them out for the decoy eggs (left). Eggs nestled in a small container filled with sand, left uncovered for fresh air, about to be taken back to camp from the beach.

Figure 11. Monitor Drozd swapping out eggs.

Figure 12. At 9:30 p.m, an hour after swapping out the eggs. No activity was captured around the nest. There was little time to observe much after having swapped the eggs due to the urgency of incubation.

Figure 13 & 14. The incubator heating up to temperature (99°F) as night falls. Eggs were partially uncovered and the incubator propped open a crack with a stick before being left for the evening.

Figure 15. The eggs warming in the residual heat of a sleeping bag. At 1:30 a.m. the generator ran out of gas. The eggs were incubated by monitor Drozd for the rest of the night.

Figure 16. Upon waking around 1:30 a.m. (after the generator had quit and the eggs were brought in to be warmed) the trail camera was checked and it was noticed that the plovers had returned to the nest once it was dark.

Table 2 describes this nesting area in measurements from the nest cup to surrounding features.

Attribute	Wash zone	Wrack line	Cobble Pan	Foredune	Backwater	Treeline
Distance from nest in feet	57	50	37	50	86	427

Nest 3 - Abandoned

Lat/Long: N 46.71258°, W 090.76514°
Female: Unbanded
Male: Unconfirmed
Found: Observed as scrape 6/1
Exclosure Installed: Not installed
Total Eggs Laid: 1 on 6/11
Start of Incubation: n/a
Chicks Hatched: 0
Abandoned: Estimated 6/13

The only bird associated for certain with this nest was the unbanded female that the nest 2 male did not pair with. It can be speculated that the nest 2 male seized the opportunity to mate with this “extra” female plover since more male plovers failed to settle in the area, but the nest 2 male was never seen courting, copulating with, or sharing incubation responsibilities with this unbanded female.

Site Description

This nest was in close proximity to nest 2. It was farther north on the wide stretch of beach near the northern end of the Chequamegon Point beach. The nest was only 4 feet from the edge of the dune vegetation. There were a few pieces of driftwood around the nest, three tufts of dune grass, and some large driftwood logs nearby; it was not particularly elevated or distinguishable otherwise. There was often gull tracks and scat nearby.

Table 3 describes the nesting area in measurements from the nest cup to surrounding features.

Attribute	Wash zone	Wrack line	Cobble Pan	Foredune	Backwater	Treeline
Distance from nest in feet	72	64	51	4	N/A	340

Figure 17. Nest 3 was abandoned after 6/12. This image from 6/15 shows the lack of presence at the nest after an evening of wind and waves that partially buried the one egg.

Plover Behavior

Early in the season, the plovers of nest 2 were often seen chasing off an unbanded female that had been spending most of her time in or near their territory since the season began (she was later connected to nest 3). On 6/6 the plover pair at nest 2 were witnessed copulating twice during the day. On 6/24 the nest 2 pair was not observed on their nest or within their territory after noon, which led to the nest being declared abandoned (abandonment protocol criteria that was met: adults not incubating for more than 2 hours and adults absent from territory for more than 30 minutes) and the eggs subsequently removed.

The nest 2 female confronted the nest 1 female at the north end of her territory on 6/18 and the nest 1 male at the south end of her territory on 7/20. Both were very short interactions.

Rogue plover X,G/O:O^{R},G appeared once on the beach, but no interactions were observed.

Predators

Predator species with a presence on the beaches this year include aandeg and gaagaagi (crow and raven), waasagi-ma'iingan (coyote), animosh (dog), gayaashk (gull), gookooko'oo (Great Horned Owl), migizi (Bald Eagle), gekek (Sharp-shinned Hawk), and Merlin (seen from the very first day of observations).

Large contingents of gulls and terns, sometimes reaching 200 birds or more, as well as smaller groups of Herring and Ring-billed Gulls were observed daily on both nesting beaches.

Corvids were often seen flying over the dunes or near the bayside of the island. From 7/23 on, there were many corvid tracks littering the area between nest 1 and the shore, as well as south on the beach where the chicks and adult female had taken to spending most of their time the week or so before fledging. On 7/17, there were 4 corvids on that same area of beach south of nest 1 when the chicks were around 2 weeks old. The corvids flew off as monitor Drozd approached. On 7/5, the nest 1 adults were seen driving a raven away from where their chicks were foraging by heckling it in mid-air. The raven did not return.

Merlin were present throughout the season; sometimes their feathers would show up on the beach, but the most notable encounter occurred on 7/22 while monitor Galindo was counting the nest 1 chicks. A Merlin appeared at about 10:30 a.m. from behind the dunes and swooped over the beach where the chicks were foraging. The adult female successfully held the Merlin's attention, drawing it away from the chicks and out over the water before outmaneuvering it. When the Merlin prepared for a second pass, monitor Galindo stepped in with an airhorn to drive the falcon away from the plovers. The Merlin was seen attacking a sparrow soon after. There were no more encounters that day.

Although neither owls nor tracks were observed on the beach (there were, however, tracks and a great deal of pellets found between the LaPointe Lighthouse and the tip—see figure 19), on 7/20 a large amount of Great Horned Owl flight, tail, and body feathers were found scattered about the nest 2 territory, concentrated near the abandoned nest (a selection of feathers was collected and brought to camp to be identified). The sheer amount of feathers strongly suggest this bird was deceased, but the exact cause of death could not be determined. It was troubling to find the evidence of Great Horned Owl so soon after the disappearance of an adult male plover and one chick, for in 2018, the discovery of Great Horned Owl tracks and pellets also occurred in conjunction with the disappearance of an adult male plover and one chick.

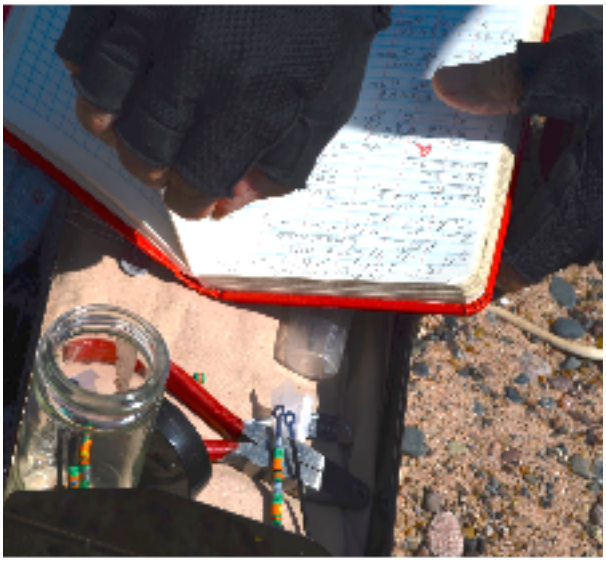
The location at which the feathers were found also causes one to pause and speculate that perhaps the owl had returned to that specific spot because it knew plovers had been nesting there. Further, the presence of an owl could have been enough to drive the nest 2 pair away from their clutch of eggs for a good part of a day just over a month prior.

Figure 18 & 19. A clump of Great Horned Owl body feathers rests next to a log near nest 2 (left). Great Horned Owl tracks on the foredune at the tip of Chequamegon Point, over three miles from the nesting plovers (right).

Banding

Banding took place on 7/15, nearly two weeks after the only brood of Chequamegon Point chicks hatched. The crew consisted of Sumner Matteson of the WDNR; the two current plover monitors, Royce Galindo and Katie Drozd; Eric Andrews, the BRNRD Climate Change Coordinator and former Piping Plover Monitor; and Lacey Hill-Kastern, former head of BRNRD Wildlife Office and former Piping Plover Monitor; and Peggy Burkman, Julie Van Stappen, Steve Ballou, Alice Ahlfield, and Shelby Herring of Apostle Islands National Lakeshore. The banding team began on Chequamegon Point, then headed to Outer Island and later Stockton Island.

Banding on Chequamegon Point occurred just south of the nest 1 site. Both adult plovers were present. All four chicks were caught and successfully banded with no injuries. On Outer Island, only one adult plover (a male) was observed; two chicks were caught and successfully banded. On Stockton Island, both adults were observed and three chicks were caught and successfully banded. That's a total of 9 chicks! According to NPS, there are no records of Piping Plovers successfully nesting on Stockton Island or Outer Island before 2019.



Figures 20-23. Sumner Matteson of WDNR and Peggy Burkman of NPS banding one of the four chicks on Chequamegon Point (above left).
Sumner's impressive box of banding tools (above right).
The crew prepares to release the brood of four Chequamegon Point chicks (left).
The Outer Island male, bands X,G:-,O (below).

Figures 24-26. One of two Outer Island chicks, bands X,G:O^{Y},G/O/G (right).

The Outer Island territory and nest, indicated by the white arrow (below).

The Stockton Island territory and nest, indicated by the white arrow (far below).

Figure 27. The 2019 banding crew (upper left to lower right): Peggy Burkman, Steve Ballou, Julie Van Stappen, Eric Andrews, Lacy Hill-Kastern, Sumner Matteson, Shelby Herring, Katie Drozd, and Royce Galindo. (Photo credit: Alice Ahlfield of NPS)

Trail Cameras

Thanks to the assistance of USDA APHIS Wildlife Services and Wyatt Puent, the Piping Plover project was able to install two trail cameras to help monitor the nests this year. The cameras were installed on 6/13 at nest 1 and nest 2. These cameras were motion activated, and when triggered, sent images day or night to an app (Spartan Camera) so the monitors would receive semi-real time updates on the status of nests. These cameras remained aimed at the nest enclosures while the pairs were incubating. On 6/24 having trail cameras once again proved instrumental, when the pair of plovers at nest 2 were believed to have been absent for an unusually long period. Referring to the trail camera photos from earlier in the day when the monitor could not be present helped determine that the pair had not been on the nest for 9 hours and that they were absent long enough to deem the nest abandoned.

Figure 28. A coyote captured on 7/8 at 2:08 a.m. near nest 2.

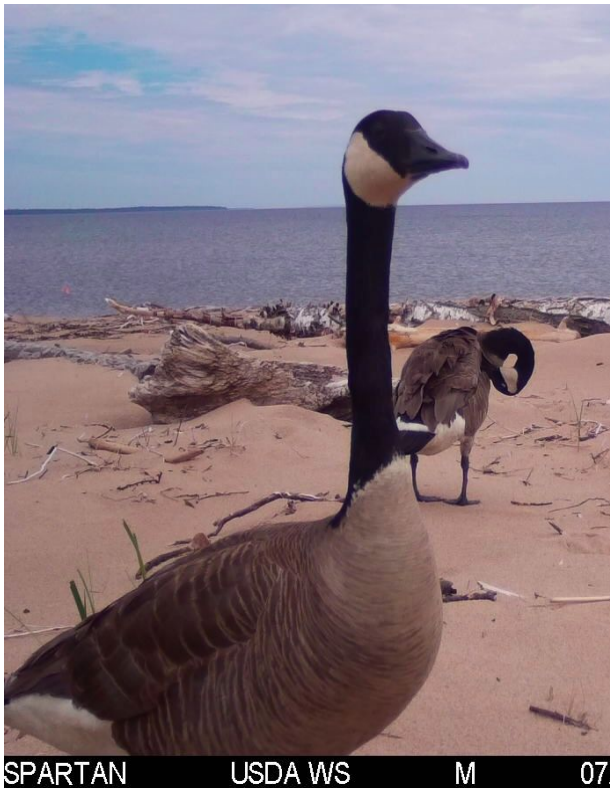


Figure 29 & 30. Captured near abandoned nest 2 on 7/1, Canada Geese and their tracks were seen much more frequently on the beach later in the season.

Figure 31-33. Monitor Drozd and Wyatt Puent train a trail camera on nest 2 (left). Monitor Galindo comes upon a group of humans near the abandoned nest 2 site (upper right). A snapshot of the presence of sand flies on the beach (lower right).

Visitation and Human Impact

Over the course of the season, 93 boats were observed visiting Chequamegon Point with a total of 388 visitors. Of the visitors observed, 84 were contacted by the attending monitors. A total of 20 dogs were observed, 19 which were off leash.

When a dog was seen off leash, the monitor would contact the owner of the dog, who usually either immediately leashed the dog or left the beach. In 5 cases the visitors leashed their dogs after noticing an approaching monitor but before making verbal contact. Most of the time visitors were not in immediate proximity of the plovers or active nests (though there was visitor traffic near nest 2 after it had been abandoned). There was one case of an unleashed dog somewhat near the 3 week old foraging chicks, but the dog remained well behaved and near its owners until they were notified and the dog was leashed. There were no observed instances of close contact between visitors, dogs, and plovers.

During the week of Independence Day there were higher than usual numbers of visitors to the island. From 6/29-7/5 there were a total of 20 boats and 108 visitors. Fortunately for the plovers, the weather on and around Independence Day (that is, rain and scattered thunderstorms) likely deterred many visitors during that time frame. This 7-day period accounted for 28% of the total visitor traffic observed during the plover nesting season.

Low flying planes passed over the beach a few times. Tail numbers of low flying planes were recorded on two occasions. On 6/28 the tail number of a low flying plane was recorded. On 6/22 a dispersed wave of 9 planes flew over the beach with one plane in particular very low to the ground; their tail number was recorded.

Weather

There were 15 rain events in the area between 5/24 and 7/30 with approximately 8 of those reaching thunderstorm status. The most precipitation accumulated on 7/15 with 2 inches of rain. The hottest day reached 89°F on 7/3. The coldest day reached 30°F on 6/3. The average temperature between June and July was around 64°F. The windiest day was 7/15, with a max wind speed of 25 mph. [1]

Figure 34 & 35. A view of the point. Monitors visited the point no more than 3 times early in the season to look for signs of plover activity (no signs of plovers were observed). The beach had large stretches of black sand as well as driftwood scattered about. It was determined that this was not conducive to plover nesting. After 6/14 the monitors ceased putting effort into visiting the tip.

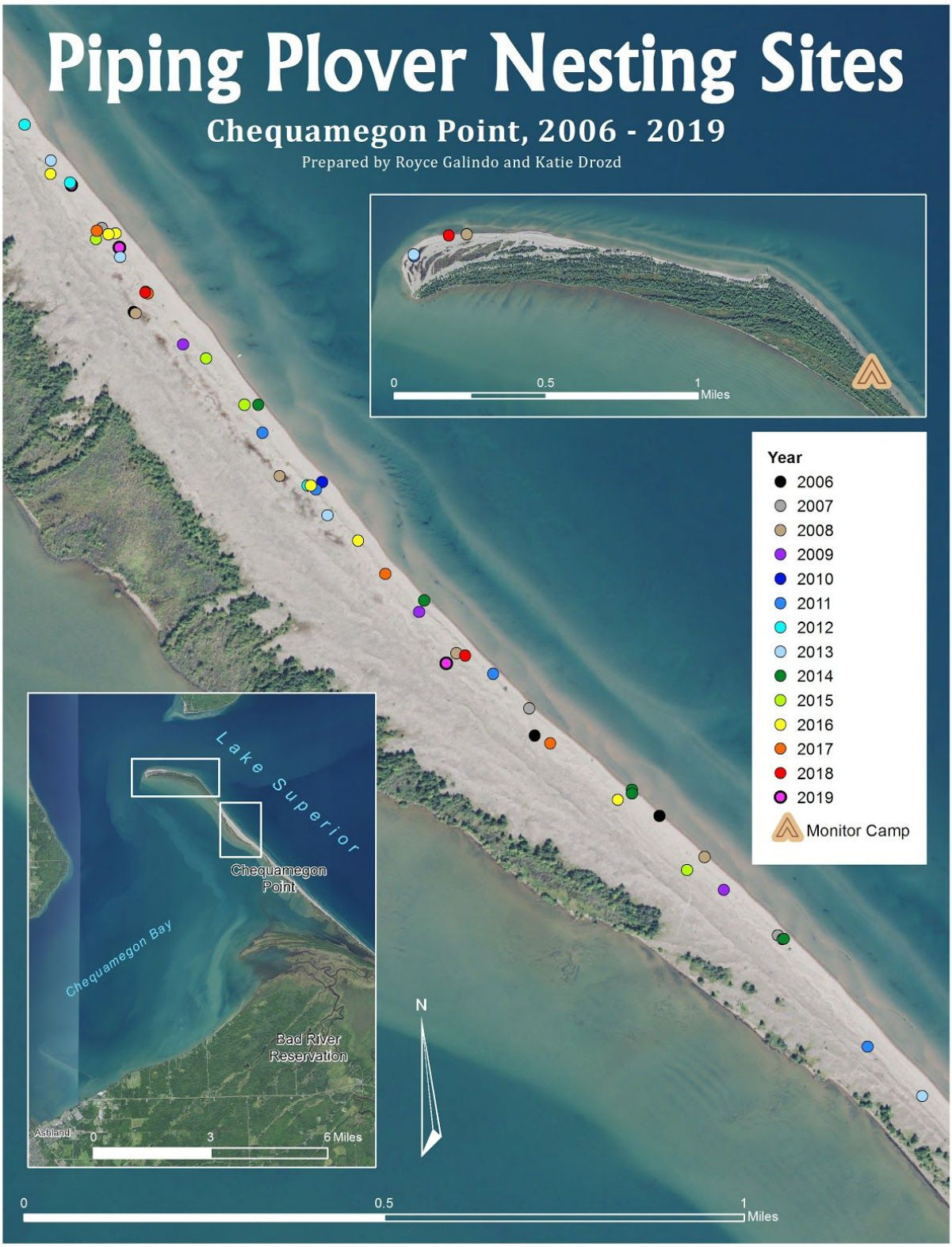
[1] Weather history provided by La Pointe, WI weather station (KWILAPOI6) and Ashland Kennedy Memorial station (KASX). Accessed via Wunderground.com.

Special Thanks

We would like to acknowledge everyone involved with this season! Thanks to Sumner Matteson for venturing north to Chequamegon Point from Madison to make banding happen. Thanks to Peggy Burkman for coordinating with and assisting the Plover Monitors on the island. Thanks to everyone who came out with NPS and Bad River NRD to assist in banding chicks on Chequamegon Point, Outer Island, and Stockton Island. Thanks to Reena Bowman of the U.S. Fish and Wildlife Service for assisting from afar with the nest abandonment and egg incubation and transportation. Thanks to the members of the Bad River Natural Resources Department and the National Parks Service. And finally, thanks to our partners: The National Park Service, U.S. Fish & Wildlife Service, the Bad River Tribe, Wisconsin DNR, the Nature Conservancy, the Johnson Family, and the WISKERT Corporation. See you next year!

Maps of Plover Nests on Chequamegon Point

Map 1. Locations of the three PIPL nests on Chequamegon Point in 2019. Nests are numbered in order of discovery.



Map 2. Locations of PIPL nests on Chequamegon Point between 2006 and 2019..

Glossary

Backwater A stagnant body of water lying within the dune system, isolated from the lake by the beach and foredune. Usually contains different vegetation than the surrounding dunes.

Cobble Pan The strip of beach parallel to the shore where cobblestones have been most densely deposited by the tide.

Fledged The point reached in a juvenile plover's life when its flight feather growth allows for the ability to fly.

Foredune The dune ridge in a system of dunes that is closest to the shoreline.

Treeline The belt where the dune system transitions into forest habitat; the edge of the dunes where trees begin to grow.

Wash Zone The region of the shore line within which waves break.

Wrack Line The impermanent line of debris, usually dark organic material, that is deposited on the beach by the tide.