

MASHKIZIIBII NATURAL RESOURCES DEPARTMENT CHEQUAMEGON POINT PIPING PLOVER

2023 SEASON REPORT

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2023 was the 50th year of monitoring the Great Lakes Piping Plover on Chequamegon Point on the south shore of Lake Superior, the 37th year since the species received endangered status, and the 25th year of partnership in restorative efforts with the Mashkiziibii Tribe. The monitors for this field season were Ava Pasma and Rick Passaro.

Between May 30 and August 5, the monitors conducted daily surveys on Chequamegon Point, weather permitting. Six Piping Plover (*Charadrius melodus*) nests were documented and monitored; however, one nest was abandoned for unknown reasons, while another was predated. This season, 12 eggs hatched on Chequamegon Point and 9 chicks fledged, while 4 other eggs were raised at the University of Michigan Biological Station, where all 4 fledged and were then released into the wild.

This season, there were no nests observed on Chequamegon Point's North beach. The National Park Service reported that there was an additional nest on Outer Island, where 3 chicks fledged.



Figure 1. Chequamegon Point's North beach surrounding the Long Island lighthouse.

Location: N 46.70911°, W 090.76096°

Female: X,G:O,G/O/G (G410, Ydot)

Male: X,G:-,-

Nest Found: 5/31 – 4 eggs

Hatch date: 6/25 - 3 chicks

Banding date: 7/6

Fledge date: 7/18

Chicks fledged: 2

Chick band combinations and weight:

- X,G:O,G (Ydot, G391) [2651-63491], 21g "Lilo"
- X,G:O,G (Bdot, G441) [8101-36787], 17g "Clover"

Exclosure installed: 5/31

Psychological fencing installed: 5/31

Nest overview



Figure 3. A view of the Nest 1 site.



Figure 2. Nest 1 male. Photo taken through a spotting scope.

Due to the proximity of this nest to Nest 2, the parents would often get involved in territorial disputes with their neighbors, including parallel walk displays, but were still able to put significant effort into incubation. After the chicks from Nest 4 hatched and were pushed out of their territory, the plovers from this nest also got involved in territorial disputes with them.

Three chicks were observed during the hatching event (6/25), however, only two were observed the next day. When the nest was observed a few days later, there were no eggs present. We predict that four chicks hatched on the hatch date but two were predated. Two chicks were banded on 7/6 and both fledged on 7/18.

Nest 1 was the first nest discovered this season. Records show that the female was hatched on Outer

Island in 2022, making this her first nesting season. We are unsure of the male's history.

Site Description

Nest 1 was located directly in between the open beach and the grass from the foredune. The beach surrounding the nest contained cobble and driftwood debris. Piping Plover chicks from nests 1 and 4 were often observed using a nearby bush for shelter. After storms or heavy rainfall, the shoreline would see an increase of cobble and occasionally long pools of water would form parallel to the lake.



Figure 4. A view of the beach surrounding Nest 1.

Location: N 46.70839°, W 090.76006°

Female: X,-:O,G (Ydot)

Male: X,G:Of,- [2651-63531]

Nest Found: 5/31 – 4 eggs

Hatch date: 6/18 - 2 chicks (2 eggs unhatched)

Banding date: 6/27 - 1 chick

Fledge date: 7/11

Chicks fledged: 1

Chick band combinations and weight:

• X,G:-,O (Rdot) [2651-63500], 21g – "Frankie"

Exclosure installed: 5/31

Psychological fencing installed: 5/31



Figure 5. A view of the Nest 2 site.



Figure 6. A view of the beach surrounding Nest 2.

Nest overview

Nest 2 was the second nest discovered this season. The male nested on Chequamegon Point in 2022 with X,R:Of,YV, the female from this season's Nest 4. He started off the 2022 season unbanded, so we do not know his history prior to that. We are unsure of the history of the female.

Due to the proximity of this nest to Nests 1 and 5, the parents would often get involved in territorial disputes with their neighbors, including parallel walk displays. Despite how often they defended their territory, they were still able to put significant effort into incubation.

Two chicks were observed on the hatch date and two eggs remained unhatched. One chick was last seen on 6/24, while the last remaining chick was banded on 6/27 and fledged on 7/11.

Site Description

This nest was no more than 200 yards from Nest 1. It was positioned on open beach, slightly closer to the foredune than to the lake. The nest site was surrounded by cobble with little to no vegetation nearby. Small pieces of driftwood debris were scattered throughout the cobble along with a few larger pieces. After storms or heavy rainfall, the shoreline would see an increase of cobble and occasionally long pools of water would form parallel to the lake.

Nest 3 – Abandoned & Salvaged

Location: N 46.58044°, W 90.92104° Female: X,B:Y,V (Bdot, Y123) Male: X,-:O,- [1841-67224] - "XO" Nest Found: 5/31 – 4 eggs Exclosure installed: 5/31 Psychological fencing installed: 5/31



Figure 7. Nest 3 eggs during the installation of the exclosure, 3 days prior to the abandonment.

Nest overview

Nest 3 was the third nest discovered this season.

On 6/3, the monitor on duty observed the male plover leave the nest. While the plover remained in the area, he never returned to the nest, leaving it unincubated. After 2 hours of the nest being unincubated, the monitor contacted her supervisor and, with the permission of the USFWS, the eggs were collected. By the time the eggs were collected, they had gone unincubated for 4+ hours.

We predict that the male was a part of an extra-pair copulation with thee female from this nest and the female from Nest 5. The Nest 3 female was never observed on the day of the nest abandonment or any day after, so it is most likely the case that the female was predated, however no evidence was found that she was predated.

The collected eggs were safely transported via incubator to the University of Michigan Biological Station, where all four eggs hatched. The chicks that hatched were raised at the station and all four were later released at Cat Island in Green Bay, Wisconsin. This was the first time captive-reared Piping Plover chicks were released outside of Michigan!

Site Description

During the brief time this nest existed, it was on the open beach not far (less than 100 yards) from where Nest 5 would eventually be. The beach surrounding the nest was littered with driftwood debris and cobble. The nest was located no more than 10 feet from the foredune and was positioned in between three pieces of driftwood.

Location: N 46.71201°, W 090.76440°

Female: X,R:Of,YV [0831-83588]

Male: unbanded

Nest Found: 6/3 – 3 eggs; 4th egg 6/5

Hatch date: 6/30 – 4 chicks

Banding date: 7/6 – 4 chicks

Fledge date: 7/23

Chicks fledged: 3

Chick band combinations and weight:

- X,-:O,G(Gdot, G449) [8101-36797], 10g "Ollie"
- X,-:O,G (Bdot, G448) [8101-36788], 9g "Dipper"
- X,-:O,G (Ydot, G447) [8101-36789], 7g "Echo"
- X,G:O,G(Gdot, G408) [2651-63499], 6g

Exclosure installed: 06/03

Psychological fencing installed: 06/06

Nest overview

Nest 4 was the 4th nest discovered this season. The female hatched in 2021 on Chequamegon Point and has nested there for both the 2022 and 2023 season. In 2022, she started the season as X,G:O,G (Gdot, G358) but was re-banded to X,R:Of,YV. Additionally in 2022, she had nested with X,G:Of,-, the male from this season's Nest 2.

During the incubation period, we had low hopes for the success of the nest. The male plover was extremely cautious of people and would leave the nest the moment he saw them, which was worrisome given the nest was the farthest north where human activity was most common. The female plover would rarely incubate the nest and would spend most of her time foraging around the other nests. At one point, she was even observed attempting to copulate with the male plover from nest 6. However, she picked up her duties leading up to the hatch date and all four eggs hatched.

Figure 9. A view of the Nest 4 site.





Figure 8. One of the Nest 4 chicks prior to getting banded.

After the chicks hatched, the plover family was pushed out of their original territory by a family of Killdeer and visiting humans. They moved down the beach and next to the plovers from Nest 1, causing regular territorial disputes to occur between the parents of each family.

While all four chicks were banded one 07/06, one chick was last seen on 07/18, 5 days before the fledge date. While we are not certain on the cause of the chick's disappearance, we suspect it was predated by gulls due to a large flock of gulls occupying the area where the family would forage around the time it disappeared. The other three chicks fledged on 07/23

Site Description

Nest 4 was nicely situated at the foot of the dunes against a small piece of driftwood. The nest was surrounded by scattered tufts of beach grass, which made it difficult for monitors to count eggs and newly hatched chicks. The surrounding beach had less cobble compared to that of the other nests, however driftwood debris was still common in the area. Being the farthest north, this nest had the most foot traffic as the beach surrounding it was popular with beachgoers.



Figure 10. A view of the beach surrounding Nest 4.

Location: N 46.70779°, W 090.75919°

Female: X,B:O,B (Bdot, B128) [2651-15371] - "Bingwi"

Male: X,-:O,- [1841-67224] - "XO"

Nest Found: 6/4 - 2 eggs; $4^{\text{th}} \text{ egg } 6/11$

Hatch date: 7/6 - 3 chicks (1 egg unhatched)

Banding date: 7/19

Fledge Date: 7/29

Chicks fledged: 3

Chick band combinations and weight:

- X,G:O,- (G442, Rdot) [8101-36793], 26g "Peanut"
- X,G:O,- (G443, Bdot) [8101-36782], 31g "Pistachio"
- X,G:O,- (G445, Ydot) [8101-36798], 27g "Pecan"

Exclosure installed: 6/6

Psychological fencing installed: 6/6

Nest overview

Nest 5 was the fifth nest discovered this season. The nest was found the day after the abandonment of Nest 3 and belonged to the male plover that originally incubated the abandoned nest. Due to the abandonment occurring so early in the season, we are unsure if the female plover from this nest was also the other parent for Nest 3.

Figure 12. A view of the beach surrounding Nest 5.

The male hatched on Chequamegon Point in 2015 and had been named "XO" by the monitors in 2020. He has nested on Chequamegon Point since at least 2017. The adult female hatched in 2016 at Whitefish Point, MI and had been named "Bingwi" ("sand" in Anishinaabemowin) by the monitors in 2020. Bingwi nested on Chequamegon Point in 2020 and 2021, so this is her fourth year occupying the Point. It should be noted that this same breeding pair mated in 2020 and 2022.

The nest was discovered with four eggs, however only three chicks hatched on 07/06. After the three chicks hatched, the parents stopped incubating and defending the fourth egg. After waiting a few days out of caution, the unhatched egg was collected and delivered to a lab at the University of Minnesota – Twin Cities for use in the Great Lakes Piping Plover genetics study.

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Figure 11. A view of the Nest 5 site.





We were worried about these chicks due to their proximity to a large flock of gulls that would often flock close to their territory. The chicks were observed on either side of the flock and would sometimes forage dangerously close. Despite this, all three chicks were banded on 07/19 and fledged on 7/29.

Site Description

Nest 5 was very much out on open beach surrounded by cobble and driftwood debris. There was no vegetation near the nest as it was located almost directly in between the foredune and the lake. It was the furthest south on Plover Beach, placing it dangerously close to the large flock of gulls commonly sitting nearby. The nest was nicely decorated with pebbles and shells.

Nest 6 - Predated

Location: N 46.68633°, W 90.72845°

Female: X,G:O,G (Rdot)

Male: X,O/G:O,G (Bdot)

Nest Found: 6/9 – 3 eggs



Figure 13. The first broken egg found near the nest site.

Nest overview

Nest 6 was the sixth nest discovered this season. The pair was discovered when Sumner Matteson travelled a few miles south of plover beach, however no nest was observed at that time.

When the monitor on duty arrived at the nest site on 6/12, no plovers were in sight and the nest, which had 3 eggs the day before, was empty. Two broken PIPL eggs were found along the shoreline around 40 and 50ft from the nest. We suspect the nest was predated by gulls due to the eggshells that remained and a large flock of gulls that would often spend time in the area. The day prior, the plan to install an exclosure was cancelled due to lake conditions making it extremely difficult to travel by boat, which is the only way to access the site.

The few days following the nest predation, the pair showed some signs of renesting. However, another nest was never made. The pair would spend most of their time in the area around their old nest but would occasionally move north and forage around the other nest sites.

Site Description

This nest was the furthest south of all the nests for the season, located around 2.7 miles south of Nest 5. It was also a bit unusual because it was in an area with a large amount of driftwood, and it butted right up against the dunes. Additionally, the beach was much narrower than the beach surrounding the other nests.



Figure 14. The second broken egg found near the nest site.

Plover Behavior

Throughout the season, the plovers were commonly seen defending and marking their territories from the other breeding pairs, rogue plovers, killdeer, and other shorebird species.

On 6/8 the only plover encountered up on Chequamegon Point was a female **X.G:O,G (dot).** She was never observed again after this initial sighting nor were any other plovers encountered or nests discovered.

On 6/22, a rogue plover pair appeared on plover beach just south of nest 5. They were foraging for most of the time, except for when they went through the nest 5 territory, where one of them ran right through nest 5 and got chased away by the incubating female. The band combos for the female were -,G/O:O,G (Rdot) while the male was X,G:O,G (Bdot). The pair showed up multiple time throughout the following week or so but was never observed to have a nest.

On 7/7, a rogue female appeared momentarily on plover beach, but she didn't cause any trouble. Her band combos were **X,G:O,G (Ydot)**.

On 7/14, a rogue pair of plovers were causing drama on Plover Beach. They were constantly chased away by the plover parents from all nests. Due to the pair moving around without stopping, it was impossible to get their full band combinations (dot colors and 3-digit numbers), however it was observed that the female was **X,G:O,G** and the male was **X,G:O,-**.

On 7/24, a rogue female was foraging alongside the female from Nest 5, a Semipalmated Plover, and some Sanderlings. Due to her moving around a lot and the poor lighting, it was hard to tell if there was a 3-digit number on one of her bands. Her bands read **X,G:-,O (Ydot)**.

Predators

A complete list of potential Piping Plover predators observed on Chequamegon point this year include:

Common Name	Ojibwe Name	Scientific Name
American Crow	Aandeg	Corvus brachyrhynchos
Common Raven	Gaagaagi	Corvus corax
Bonaparte's Gull	Gayaashk	Chroicocephalus Philadelphia
Herring Gull	Gayaashk	Larus argentatus
Ring-billed Gull	Gayaashk	Larus delawarensis
Caspian Tern		Hydroprogne caspia
Common Tern		Sterna forsteri
Great Blue Heron	Zhashagi	Ardea herodias
Merlin		Falco columbarius
Turkey Vulture	Wiinaange	Cathartes aura
Northern Harrier	Gekek	Circus cyaneus
Cooper's Hawk	Gekek	Accipiter cooperii
Broad-winged Hawk	Gekek	Buteo platypterus
Coyote	Waasagi-Ma'iingan	Canis latrans
Domestic Dog	Animosh	Canis lupus familiaris
Raccoon	Esiban	Procyon lotor
American River Otter	Nigig	Lontra canadensis
American Black Bear	Makwa	Ursus americanus

Almost every day this season, a large flock of gulls (mostly Ring-billed and Herring) was observed on Plover Beach. They would usually flock just south of Nest 5 and were a big concern when the Nest 5 chicks hatched. **5/30-6/2**: Gulls present on the beach, along with otter tracks/scat and fresh coyote tracks. Additionally, a juvenile bear snuffled around the tent one night.

6/3-6/6: Gull tracks were common around along the beach. Coyote tracks were also present around 50 feet from Nest 4. A dead bird, which appeared to be the work of a Merlin, was also found near Nest 4.

6/7-6/10: In addition to the usual gulls, crows, otter and coyote tracks, a merlin was observed flying over the nesting beach.

6/11-6/14: Some gull tracks were present around all nests, along with coyote tracks that ran past Nests 1, 2, 5, and 4. Additionally, there were American Crow tracks and a dead bird (Merlin kill) near Nest 4.

6/15-6/18: Tracks of gulls, crows, and coyotes on the beach.

6/19-6/22: Many gull tracks were observed, especially around Nest 4. Additionally, coyote tracks were seen around 100-150 feet from Nest 5. Most notably, the monitor found at least five dead birds of prey along the beach throughout Chequamegon Point. The carcasses seemed to be the work of a Merlin; however, it was strange that they were birds of prey and that there were so many.

6/23-6/26: Many more gulls than usual and fresh coyote tracks were observed in the dunes behind the nesting beach.

6/27-6/30: Gulls were occasionally observed flying overhead. Two dead birds (Merlin kills) were observed, one near Nest 2 and the other near Nest 5. Coyote tracks were also found near Nest 5.

7/1-7/4: Tracks of gulls, crows, and coyotes on the beach.

7/5-7/8: Gull tracks were common along the beach and gulls were often sighted flying overhead. The wings of a dead bird (Merlin kill) were found along the shoreline near nest 5.

7/9-7/12: Crows and gulls were spotted hanging around and unnerving some of the plovers.

7/13-7/16: Gull tracks were common along the beach and gulls were often sighted flying overhead. Additionally, coyote and Common Raven tracks were observed near Nests 2 and 5.

7/17-7/20: The gulls were seen moving in and out of psychological fencing as well as in between nest sites.

7/21-7/24: Gull tracks were common along the beach and gulls were often sighted flying overhead. Additionally, a Great Blue Heron was spotted among the large flock of gulls that spent time near Nest 5.

7/25-7/28: Tracks of gulls, crows, and coyotes on the beach.

7/29-8/1: The only evidence of predators were gull tracks, which were abundant along the beach, and gulls that often flew overhead.

8/2-8/5: One Merlin and one Northern Harrier observed flying over thee nesting beach and the back dunes.



Figures 15 & 16. Dead birds (the remains of a Merlin kill) found on Plover Beach.



Figures 17 & 18. Tracks of two predators to Piping Plovers: Coyote (left) and Raccoon (right).

Visitation and Human Impact

This season, Chequamegon Point was visited by at least 161 boats and 519 visitors. Of these visitors, there were a documented 25 dogs. Most of the visitors visited the northern end of Plover Beach (north of Nest 4) where they would crossover from bayside. Visitor activity increased after the Fourth of July and stayed consistent most of the season thereafter. Weekends (Friday through Sunday) would have significantly more visitors than weekdays. As one might expect, there were more visitors on days with better weather (>70°F) than those with rain or lower temperatures. Wave conditions on both the lakeside and bayside also played a role in visitation numbers.

During each shift, a monitor would find a few pieces of trash (most were plastic bottles, cans, and fishing lures). Among the trash, a few beach toys, fishing lures, and a wooden duck (named "Frederick" by Sumner) were kept as decorations to adorn Plover Camp.

There were a few occasions where low flying planes flew below the legal altitude. All observations were immediately reported to the National Park Service. The documented plane information is as follows:

- On 6/20, two low flying planes were observed together. One was yellow with tail numbers **N4159A**. The other was red and white, but the tail numbers were not recorded due to the planes being on each side of the monitor.
- One low flying plane was observed on 6/30, however the monitor on duty was not able to read the tail numbers in time.
- On 7/2 a very reckless low flying plane (red and white) barnstorming over land and bayside numbers N1144L.
- On 7/29, a low flying plane passed almost directly over the monitor. The plane's tail number was N9916Z.

Of the dogs that were unleashed, most of the dog owners would comply to the leash laws after being informed about the fines and the status of the plovers. However, there were a few instances where the monitors were not so lucky. On one occasion, a group of visitors with two unleashed dogs were spending time on the beach very close to where the plover family from Nest 4 was foraging. After the owners were contacted and agreed to leash the dogs, the monitor on duty noticed that they removed the leashes. The owners noticed the monitor walking toward them again and leashed the dogs but removed them again after she left. The visitors left soon after, and the dogs luckily didn't cause any harm to the plovers.



Figure 19. A busy day on Plover Beach! Photo taken from the shoreline directly in front of Nest 4.

Banding

This year, there were three banding days for the Chequamegon Point population on 6/27, 7/6, and 7/19. Additionally, it was decided that the male plover from Nest 4 would remain unbanded as it is extremely difficult to capture and band adult plovers.

To capture the plover chicks, the banding crew spread out and lined up along the dune crest so the Piping Plover chicks would be positioned in between them and the lake. They then walked toward the shoreline and formed a Ushape, trapping the chicks in between the crew and the lake. The crew members closest to a chick would capture the chick by gently covering them with their hands with their fingers acting as a cage. The chicks were then carefully placed into a lightweight bag for weighing and banding. Each brood and chick were banded separately; however, all chicks from a single brood were released toward their parents together.

Only one chick was banded on 6/27—the chick from Nest 2. That morning, the banding crew met up on the North end of Plover Beach and walked behind the dunes toward the site where the two monitors were watching the chick. The chick was easy to find as it spent most of its time foraging near its home nest site. After being banded and weighed, the chick was successfully released and returned to its parents.

On 7/6, the banding crew arrived expecting to band 4 chicks: one from Nest 1 and three from Nest 4. The day before, the monitor on duty only observed one chick from Nest 1 after watching carefully for at least two hours. Meanwhile, only three chicks had been observed (by both monitors and the volunteer monitor) for three days prior to the banding day. The banding crew captured four chicks right away and assumed that they were the one from Nest 1 and the three from Nest 4. After they were banded as two different broods, two more chicks were spotted down the beach and it was determined that each brood had an additional chick that had gone unseen the days prior. Later, it was observed that one chick from both nests would spend significant time in the dunes. All six chicks from both nests were successfully banded and released, then returned to their parents.



Figure 20. An improvised Piping Plover banding station.



Figure 21. A Piping Plover chick receiving its bands.



Figure 22. A Piping Plover chick waiting to be banded.



Figure 23. Three Piping Plover chicks about to be released after receiving their bands.

On 7/19, the chicks from Nest 5 were banded. They were slightly more challenging to find compared to the previous broods and it took two tries to catch all three chicks. While they were being banded, the male parent was very defensive and constantly put on a broken wing display. The female had already begun migrating, so she was not present. The chicks were all successfully released and returned to their parent.

Weather

This season on Chequamegon Point, there were 9 rain events and a seasonal precipitation adding up to 8.95 inches. The hottest recorded temperature was 85.8°F on July 27th, with 32.0°F on June 8th as the lowest. The average temperature throughout the season was 61.8°F. It should be noted that the lowest and average temperatures include nighttime measurements. Although, most days, excluding rain event days usually reached low to mid 70's. The highest wind speed was 18.4 mph, maximum gusts were 29.9 mph, and the average wind speed was 3.1 mph.

Most of the rain events occurred during the evening, and heavier rainfall would impact the beach conditions where effects could be seen up to a day or two after the storm. After these events, large, temporary pools of water would form along the beach. This was especially evident near nests 1, 2, and 5.

Overall, the season was relatively mild, but had a few thunderstorms and few very high temperature days. There were several high wind events-one of which prevented field work for the day. The cloud cover was variable with no overarching trend. While some of the high impact events changed the beach conditions, there are no reports of the plovers, or their nests being negatively affected by the weather other than adjustments made to psychological fencing.

Special Thanks

We would like to acknowledge everyone supported us this season! Thanks to Louis Lozinski for supporting the plover monitors and transporting them to and from the island. Thanks to Sumner Matteson for travelling north to Chequamegon Point three times to lead the banding days. Thanks to Peggy Burkman for coordinating with and assisting the plover monitors on the island and for helping band the plover chicks. Thanks to Kacey Arts, Izzy Vetterman, Fen Sego, Abby Kostiuk, Ellie Kracht, Ryan Brady, Dawn Marsh, Tyrease James, and everyone else who assisted on banding days. Finally, thanks to our partner organizations: The National Park Service, U.S. Fish & Wildlife Service, Wisconsin DNR, the Mashkiziibii Tribe and Mashkiziibii Natural Resources Department, the Nature Conservancy, and the WISKERT Corporation.

The 2023 season would not have been possible without each one of these individuals and organizations. Thank you!



