MASHKIZIIBII NATURAL RESOURCES DEPARTMENT

CHEQUAMEGON POINT PIPING PLOVER

2022 SEASON REPORT

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2022 was the 49th year of monitoring the Great Lakes Piping Plover on Chequamegon Point on the south shore of Lake Superior, the 36th year since the species received endangered status, and the 24th year of partnership in restorative efforts with the Mashkiziibii Tribe. The monitors for this field season were Destiney Elder-Hall and Nolan Kerr.

Between June 6th and August 2nd, the Monitors conducted daily surveys on Chequamegon Point, weather permitting. Six nesting pairs of Piping Plovers (*Charadrius melodus*) were documented and monitored with each pair laying a full clutch of four eggs; however, two of the 24 eggs did not hatch. All 22 of the remaining chicks fledged making for a record breaking year for Chequamegon Point.

Chequamegon Point was the most productive site in the state of Wisconsin and the most productive site outside of Michigan. There was an additional nest on Outer Island, but only one chick fledged from that nest.

Figure 1. Nest 2 breeding female foraging along the shoreline (above)

Nest 1

Location: 46°42'40.9"N 90°45'49.6"W
Female: **X,-:O,Y (Y124)** [2651-15255]
"Mellow"
Male: **X,O/G:-,O** [1841-67232]
"George"
Nest Found: 6/6
Egg 1-4: 6/6
Chick 1-4: 6/22
Banding Date: 7/1
Chicks Fledged: 4
Chick Band Combinations and Weight:

- **X,G:O,G (Rdot, G384)** [0831-83591], 28.5g
- **X,G:O,G (Ydot, G359)** [0831-83584], 28.5g
- **X,G:O,G (Bdot, G385)** [0831-83590], 27.5g
- **X,G:O,G (Gdot, G387)** [0831-83592], 29.0g

Mini exclosure Installed: 6/7
Full-sized exclosure Installed: 6/9
Psychological Fencing Installed: 6/9
Trail Camera Installed: 6/17

Figure 2. Nest 1 breeding male "George" is seen incubating the four eggs (above).

Nest Overview

The first nest discovered this season, and this nest's northern position meant that it was one of the more frequently visited sites by monitors and visitors alike.

The male hatched on Chequamegon Point in 2015, and the female (named "Mellow" by the monitors in 2020) hatched in 2014 in Vermillion, MI. The female has nested on Chequamegon Point since 2017, and three of those years (2018, 2019, and 2021) was with X,-:O,- , the Nest 3 male this year. One of her chicks from 2020 is the female on the "Caspian Nest" this year [X,-:O,G (Bd, G347)]. This year, she was once again successful in producing offspring with all four eggs hatching on 6/22. Possibly due to the high volume of human activity to the north, the family spent most of their time foraging further southeast on the beach once the chicks hatched. This did mean that they were closer to Nest 2, and the Nest 2 parents did not appreciate having their territory encroached upon and were often seen chasing off the Nest 2 chicks and adults. This seemed to only be a minor inconvenience for both families and the Nest 2 chicks were banded on 7/1 and all four fledged on 7/15.

Site Description

The nest was located 1.2 miles (1.93 km) southeast of Plover camp and north .3 miles of nest 2 on Plover Beach. The nest was hidden amongst small woody debris with sparsely scattered pebbles nearby. The nest was 15 ft. away from the foredune and 40 ft. from the shoreline. During high impact wind or rain events, a shallow pond would form within the psychological fencing border but never directly interfering with the nest (figure 42). While there were a few close calls, the monitors never observed the pooling water get more than 10 ft. from the nest. With these weather events, there would also be shifts in the shoreline where 'miniature bays' would form just north of Nest 1. Within the water, long sandbars made boat landing challenging for the larger NPS vessels, but there were no major issues or changes to beach. The tree line perpendicular to the shoreline was not visible from the nest due to the steep incline of the foredune between the nest and the trees. Some vegetation like beach pea (*Lathyrus japonicus*), poison ivy (*Toxicodendron radicans*), wormwood (*Artemisia absinthium*), common milkweed (*Asclepias syriaca*), and tufts of beach grass (*Ammophilia breviligulata*) grass were scattered along the edge of the foredune, but this was rather consistent with the other nests this season. Overall, the beach was sandy with some smaller pebbles, smaller pieces of driftwood, with no outstanding features other than the occasional small willow that stood atop of the dune barrier.

Figure 3. Nest 1 chicks (day 1) foraging on 6/22 (above).

Nest 2 – “Duplex A”

Location: 46°42'28.1"N 90°45'34.4"W
Female: **X,R:Of,YV** [0831-83588]
Male: **X,G:Of,-** [2651-63531]
Found: 6/6
Egg 1-3: 6/6
Egg 4: 6/8
Chick 1: 7/3
Chick 2-3: 7/4
Chick 4: 7/5
Banding Date: 7/14
Chicks Fledged: 4
Chick Band Combinations and Weight:

- **X,G/O:O,G (Ydot, G413)** [2651-63634], 20.5g
- **X,G/O:O,G (Gdot, G414)** [2651-63635], 20.0g
- **X,G/O:O,G (Bdot, G411)** [2651-63636], 17.0g
- **X,G/O:O,G (Rdot, G412)** [2651-63637], 19.5g

Mini exclosure Installed: 6/7
Full-sized exclosure Installed: 6/9
Psychological Fencing Installed: 6/9
Trail Camera Installed: 6/17

Figure 4. Nest 2 breeding male trapped for banding (above).

Nest Overview

Located 0.3 mi SE from Nest 1, Nest 2 was the first nest of “The Duplex” to be discovered and easily the most problematic nest of the season. The monitors called Nests 2 and 3 “The Duplex” because of their proximity to one another. The eggs in Nest 2 were less than 150ft from the eggs in Nest 3; so close that the psychological fencing for both nests was combined into one large rectangle. The male started the season unbanded, so no further data is available before inhabiting the Point this season. On 6/23, he was captured and banded with the combination X,G:Of,Lb [USGS: 2651-63531]. The female started the season as X,G:O,G (Gdot, G358), but she was rebanded on 6/23 as X,R:Of,YV. She hatched in 2021 on Chequamegon Point and was offspring of 2021 Female X,B:O,B/O (B128, Bd), which also happened to be the female in “Duplex B” making her neighbors with her mother.

Despite the family ties with the neighbors, there was a lot of conflict observed between the two duplex nests. Parallel walk displays were often observed where two or more of the adults would walk side-by-side between their respective nests to establish where the territory boundary was. The conflict for Nest 2 increased after 6/22 when both Nest 1 and Duplex B's eggs hatched, and their chicks started foraging. Duplex A was sandwiched between two separate families which meant they had to spend more time defending their territory and less time incubating and foraging. Despite these setbacks, all four of the Duplex A chicks hatched on 7/4.

Figure 5. Nest 2 chick (26 days old) foraging on the beach on 8/1 (above).

Soon after, on 7/6, the male was seen only using one of his legs. The light blue plastic band on the lower part of his right leg had come loose and had slipped on to his foot, pinching one of his toes. Although he could now only hop or fly, he continued to eat, watch over, and defend his newly hatched chicks. His condition was closely monitored in hopes what the band would slip and/or his condition would not worsen. The band never slipped off, and on 7/14, a team consisting of Steph Schubel, Rachel Fields, Francie Cuthbert, Jillian Farkas, and Demetri Lafkas, Peggy Burkman, and Nolan Kerr successfully captured the male using a mist net and removed the slipped band along with the black plastic band on the same section of leg, leaving him with the combination X,G:Of,-. The four chicks from the nest were captured and banded on the same day as the male. In the following days, the male was seen walking on both legs again with full mobility, and on 7/27, all four of the Nest 2 chicks fledged.

Site Description

This nest was 1.5 miles (2.4 km) south of Plover Camp and about midway down Plover Beach. The shoreline here was comparable to the Nest 1 site, where there was a slightly higher increase in elevation between the shoreline and the beach. This made spotting the foraging parents and chicks slightly more challenging as the plovers darted in and out of view. There were a few pieces of medium sized woody debris with one or two larger pieces that rested near the shore and one notably larger piece 15 ft. north of the fencing perimeter. After the incline from the wrack line, the rest of the beach leading up to the foredune was fairly flat. There were long stretches of damp compacted sand with deposits of small and medium sized pebbles where most were <3in. In between these sections of rocky deposits and the foredune were Nests 2 and 3. Small groups of Sanderlings or sandpipers would typically be seen accompanying the same spaces as the plovers for foraging, but they rarely, if ever, ventured close to the nest.

Figure 6. Nest 2 breeding female foraging on the beach on 6/14 (above).

Nest 3 – “Duplex B”

Location: 46°42'26.7"N 90°45'32.5"W
Female: **X,B:O,B (Bdot, B128)** [2651-15371]
“Bingwi”
Male: **X,-:O,-** [1841-67224]
“XO”
Found: 6/6
Egg 1-4: 6/6
Chick 1-3: 6/22
Banding Date: 7/1
Chicks Fledged: 3
Chick Band Combinations and Weight:

- **X,-:O,G (Ydot, G389)** [0831-83595], 20.0g
- **X,-:O,G (Rdot, G388)** [0831-83596], 19.0g
- **X,-:O,G (Bdot, G390)** [2651-83590], 23.0g

Mini exclosure Installed: 6/8
Full-sized exclosure Installed: 6/9
Psychological Fencing Installed: 6/9
Trail Camera Installed: 6/17

Figure 7. Nest 3 clutch (4 eggs) amongst the pebbles on the day the nest was discovered 6/6 (above).

Nest Overview

Nest 3 or “Duplex B” was located less than 150ft SE from “Duplex A.” As stated above, there was a substantial amount of conflict between the residents of both Duplex nests, but never enough to push either of the pairs off of their territory permanently.

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 with three of those years (2018, 2019, and 2021) being spent with X,-:O,Y (Y124) the female from Nest 1 this year. One of his chicks from 2020 is the female on the Caspian Nest this year [X,-:O,G (Bd, G347)]. 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 third year occupying the Point. It should be noted that this same breeding pair mated in 2020.

The nest was discovered with four eggs (figure 7), but it was found that only three chicks hatched on 6/22. 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. It uncertain as to why it never hatched.

The remaining three chicks were banded on 7/1 and all fledged on 7/15.

Site Description

Figure 8. Nest 3 chick on the day it hatched on 6/22 (above).

Since both Nest 2 and 3 shared the same area, as observed by the psychological fencing borders, their nesting habitats were identical, for description purposes. The steep foredune sat 30 ft. behind the nest, and the area between the shoreline and the nest was ~15 ft., excluding days where the wrack line push close to the nests due to weather. Like Nest 2, a thin, elongated cobble pan intercepted the beach area between the nests and the shoreline. While it was hardened by the damp sand, it never held pools of water, like those at Nest 1. The only major difference between Nests 2 and 3, was the group of 80 to 300+ gulls that sat about 150 yards south of Nest 3 on a sandy outcrop. While the gulls were never seen seriously interfering with the plovers, the plovers would avoid the gulls, and move if the gulls ventured to closely to the plover territories. When the chicks hatched the territory slowly shifted south, likely because of the close quarters with the other plover families and various shorebird species. At some point, the gulls edged northward, and the Nest 3 family moved south of the gull resting spot along an area named 'The Boneyard' for the large driftwood logs densely spread along the southern stretch of Plover Beach. Arguably, the various famliy territories shifted a great amount after the chicks at Nests 1, 2, and 3 hatched, and even more so after they had fledged.

Nest 4 – “Joe’s Nest”

In memory of Ojibwe elder, Joseph Rose

Location: 46°41'09.3"N 90°43'39.9"W

Female: **X,G:O,G/O/G (Ydot, G325)** [0831-83452]

Male: Unbanded

Found: 6/9

Egg 1-4: 6/9

Chick 1-4: 6/22

Banding Date: 7/1

Chicks Fledged: 4

Chick Band Combinations and Weight:

- **X,G:-,O (Rdot, G369)** [2331-95853], 19.5g
- **X,G:-,O (Ydot, G368)** [2331-95854], 20.5g
- **X,G:-,O (Gdot, G349)** [2651-63501], 20.0g
- **X,G:-,O (Bdot, G370)** [2651-63502], 23.5g

Full-sized exclosure Installed: 6/9

Psychological Fencing Installed: 6/10

Trail Camera Installed: 6/17

Figure 9. Nest 4 “Joe’s Nest” breeding female is incubating four eggs the day the nest was discovered on 6/9, before exclosure and psychological fencing installation (above).

Nest Overview

Nest 4, named in memory of Joseph Rose, late Bad River Band tribal elder, was discovered when Sumner Matteson walked an additional 2.1 miles down the beach from Nest 3. This was the furthest south a nest had ever been recorded on Chequamegon Point (until Nest 6 was discovered five days later). Previously, this beach, where Joe’s Nest and Nest 6 were located, had not provided suitable habitat for piping plovers. However, over the past few years, the beach increased in width and had become more suitable habitat for nesting.

Figure 10. Nest 4 clutch of eggs (4) on the day the nest was discovered and the surrounding habitat facing north on 6/14 (above).

The breeding male was unbanded, and efforts to band him before the chicks hatched were unsuccessful, so data prior to this season is not available. The adult female hatched in 2019 on Outer Island, and she nested on Outer Island last year. Joe's Nest was discovered with four eggs, all of which hatched on 6/22. All four chicks were banded on 7/1 and fledged on 7/15.

Site Description

This nest was 3.6 miles (5.79 km.) south of Plover Camp. Unlike the previous nests, this nest was located on the beach area south of Plover Beach and the National Park Service boundary. These two beaches were separated by a mile of narrow beach not more than 10 ft. (which was sometimes nonexistent) of sand between the shoreline and the foredune. During wind or heavy rain events, there was no beach between the water and the steep foredune 'cliffs' that reached up to 8 ft. high.

The nesting area was very flat with scattered pebbles and small pieces of debris. The beach here was much wider compared to the other nests (excluding Nest 6) measuring about 50 yards in width, with the nest just west of the midway point between the shoreline and the foredune (figure 10). The slope of the foredune was less dramatic but the vegetation cut off was closer to the upper edge of the dune.

It should be noted that this beach was not as frequently visited by the monitors and general visitors, so human caused changes to this beach were minimal.

Figure 11. Nest 4 chick (17 days old) on 7/9/ (above).

Figure 12. Nest 4 breeding pair female (left) and male (right) interacting with each other (above).

Nest 5 – “Caspian Nest”

Location: 46°43'52.7"N 90°48'28.7"W
Female: **X,-:O,G (Bdot, G347)** [0831-83458]
“Nishiime”
Male: **Of,bL:X,Y/O** [2651-63315]
“Charlie”
Found: 6/10
Egg 1-3: 6/10
Egg 4: 6/14
Chick 1-3: 7/8
Banding Date: 7/14
Chicks Fledged: 3
Chick Band Combinations and Weight:

- **X,G:O,O/G (Rdot, G409)** [2651-63488], 11.0g
- **X,G:O,O/G (Bdot, G407)** [2651-63489], 14.0g
- **X,G:O,O/G (Gdot, G406)** [2651-63490], 12.0g

Full-sized exclosure Installed: 6/10
Psychological Fencing Installed: 6/10
Trail Camera Installed: 6/17

Figure 13. Nest 4 clutch of eggs (before the 4th egg was laid) on the day the nest was discovered 6/10 (above).

Nest Overview

Named for the flock of Caspian Terns that were often seen flying overhead, this nest was located at the northern end of Chequamegon Point, about 1.5 miles WNW of Plover Camp. The male was captive bred in 2020 from an egg collected in Sleeping Bear Dunes National Park in Michigan. The female hatched on Chequamegon Point in 2020 and is the offspring of this year’s Nest 1 female [X,-:O,Y (Y124)]. The monitors for the 2020 season named her “Nishiime” which means “Little Sibling” in Anishinaabemowin.

Figure 14. Nest 5 breeding male defending the nest as the monitors installed the exclosure and psychological fencing on 6/10 (above).

The monitors had low expectations for this nest due to problems with the breeding pair and high visitor traffic. This nest was on the north end of the point that was closest to Bayfield and La Pointe making it an extremely high traffic area for visitors, many of whom would land their boats near the psychological fencing area and walk near it. Many would also have dogs with them which were often unleashed.

Secondly, the width of the beach, between the shoreline and the foredune was much thinner than the other nest locations. The nest was much closer to the water, so there was less space for the psychological fencing, and there was much less room for the birds to forage and hide from humans and predators.

In addition, the adult pair did not seem to get along and were seen fighting each other multiple times. The male was also frequently seen up to three miles away at other nests (1, 2, and 3) fighting for territory with other nests while the female was left alone on the eggs. There were also instances where one parent would be foraging while the other would be nowhere in sight for at least 10 minutes at a time. This behavior made the monitors fear that abandonment had occurred at one point, only to find the eggs still being incubated.

The parents' behavior towards humans also lowered our confidence, as the female was extremely flighty and would leave her eggs if humans got anywhere near the psychological fencing. The male was almost the opposite, allowing humans to get within a few yards of him before moving away (probably because he was captive bred), but he always managed to keep himself between any human threat and his eggs.

Despite the concern, on 7/8, three of the eggs hatched around noon. When the monitor arrived that day, it was evident that the chicks had hatched very recently as their feathers were still wet and the parents were still in the process of clearing the nest of shell fragments. The fourth egg did not hatch, and it was collected after carefully deciding it wasn't going to. It was concluded that the egg was likely never fertilized, and it was delivered to a lab at the University of Minnesota – Twin Cities, so it could be used in the Great Lakes Piping Plover genetics study. The remaining three chicks survived, were banded on 7/14, and fledged on 7/31. The last few days before they fledged, they moved westward to the edge of the beach where there was less traffic. Almost as soon as the chicks could fly, they abandoned the busy territory that they called home for beaches with less traffic.

Figure 15. Nest 5 territory and surrounding habitat with Madeline Island to the left and a large man-made driftwood structure in behind and to the right of the psychological fencing area facing west (above).

Site Description

Figure 16. Nest 5 breeding female successfully catches an arthropod while foraging (above).

This nest was 1.5 miles (2.41 km.) north of Plover camp, and 2.7 miles north of the nearest nest (nest 1) on the northern tip of the Point. The nest is situated 12 ft. from the foredune, which raised gradually about 2 ft. in height. The distance from the shoreline to the nest was 20 ft. of flat compacted sand with a lot of small woody debris dense with small to medium-sized pebbles (figure 15). To the north of the point is Madeline Island and to the west is the city of Bayfield. The dunes beyond the nest were heavily covered with herbaceous vegetation up to the tree line, about a half mile south. The winds would often shift at this location, but there were no documented changes to the shoreline due to win or rain. Westward of the nest 5 territory, was a shallow pond sheltered amongst some taller grasses providing shelter to the other bird species often seen there. Some including gulls (*Laridae sp*.), Caspian terns (*Hydroprogne caspia),* Canada geese (*Branta canadensis*), Common mergansers (*Mergus merganser*), sandpipers (*Scolopacidae sp.*), and Sanderlings (*Calidris alba*). High human traffic to this area also meant that trash, human built structures, and beach fires were observed more so than the other nesting sites.

Nest 6

Location: 46°41'01.6"N 90°43'29.4"W
Female: **-,O:X,b/O/b (Gdot)** [2651-63439]
Male: **X,G:O,O/G (Rdot, G326)** [0831-83581]
Found: 6/14
Egg 1-4: 6/14
Chick 1-4: 7/5
Banding Date: 7/14
Chicks Fledged: 4
Chick Band Combinations and Weight:

- **X,O/G:O,G (Gdot, G371)** [2651-63603], 21.0g
- **X,O/G:O,G (Ydot, G204)** [2651-63604], 22.0g
- **X,O/G:O,G (Bdot, G208)** [2651-63605], 23.0g
- **X,O/G:O,G (Rdot, G214)** [2651-63606, 20.0g

Mini exclosure Installed: 6/16
Full-sized exclosure Installed: 6/17
Psychological Fencing Installed: 6/17
Trail Camera Installed: 6/17

Figure 17. Nest 4 clutch of eggs (4) on the day the nest was discovered 6/14 (above).

Figure 18. Nest 4 chick (26 days old) foraging along the beach (above).

Nest Overview

Nest 6 was the last nest to be discovered. The male hatched in 2020 on Michigan Island and the female hatched in Sleeping Bear Dunes National Park in 2021. There was substantial evidence of coyotes (*Canis latrans*) around the nest. Tracks were often seen within a few yards of nest on occasion, but there never appeared to be any disturbance to the eggs. Upon review of the trail camera footage, it became obvious that coyotes were not the only wildlife that frequented Nest 6; Sandhill cranes (*Grus canadensis*) and White-tailed deer (*Odocoileus virginianus*) were also frequent visitors (figure 35). All this activity proved to be no issue for the plovers and all four eggs hatched on 7/5. The chicks were banded on 7/14 and all four fledged on 7/28.

Site Description

Figure 19. Nest 4 breeding female incubating the eggs (4) within the exclosure and the nest 4 territory in the background (above).

Located about 0.25 miles past Joe's Nest, and ~3.8 miles south of Plover Camp, this nest was the furthest south of the year's sites. Resting on the same beach as Joe's nest, the Nest 6 territory shares many of the same site characteristics. The beach area was flat, and the sand was fairly compact with some moisture. Medium to small sized woody debris was scattered along the beach with some smaller pebbles. The nest sat 20 ft. from the shoreline, and about 10 ft. from the foredune. The foredune was steep, and the dunes behind had a lot of poison ivy. The width of the Point at this beach (lakeside to bayside) was considerably larger than the other sites. This meant that that the tree line was further back; the forested area was denser, consisting of mixed deciduous and coniferous species, heavy with white pine (*Pinus strobus*).

Plover Behavior

The plovers were commonly seen defending and marking their territories from the other breeding pairs, an unidentified (unbanded) individual, and killdeer in the early season.

Figure 20. Unidentified male piping plover foraging along the shoreline between nests 1 and 2 on 6/29 (above).

Before finding the Caspian Nest, the monitors searched for a nest on the beach with the southern lighthouse. Plover tracks were seen on that beach, so the monitors thought that a breeding pair or a nest would be nearby. Ultimately, no nests were discovered on this beach, but killdeer were often heard and seen on the beach. There was one event where the Caspian Nest male was seen fighting with a killdeer on this beach. Afterwards, the male from the Caspian Nest was not seen foraging on the beach, but the killdeer remained; no killdeer nests were discovered.

On 6/16, one of the monitors found an unbanded male Piping Plover between nests 1 and 2 along with some sandpipers. He was last seen flying south after being chased by the duplex parents.

On 6/21, an unidentified female Piping Plover was seen flying with the Caspian Nest female. Once the Caspian Nest male noticed her presence on the beach, he chased her away successfully.

Due to the responsiveness and defense of predators/competitors, despite the initial Caspian Nest concerns, the plover pairs were successful in hatching and fledging their chicks. Overall, 24 eggs were laid, 22 hatched, and 22 chicks fledged, for a success rate of 91.6%.

Figure 21. Nest 4 banded chicks (32 days old) foraging along the shoreline on 7/24 (above).

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*
Franklin's gull	Gayaashk	*Leucophaeus pipixcan*
Herring gull	Gayaashk	*Larus argentatus*
Ring-billed gull	Gayaashk	*Larus delawarensis*
Caspian tern		*Hydroprogne caspia*
Black tern		*Chlidonias niger*
Common tern		*Sterna hirundo*
Forster's tern		*Sterna forsteri*
Great horned owl	Gookooko'oo	*Bubo virginianus*
American kestrel		*Falco sparverius*
Merlin		*Falco columbarius*
Peregrine falcon		*Falco peregrinus*
Turkey vulture	Wiinaange	*Cathartes aura*
Osprey		*Pandion haliaetus*
Northern harrier		*Circus cyaneus*
Sharp-shinned hawk	Gekek	*Accipiter striatus*
Cooper's hawk	Gekek	*Accipiter cooperii*
Broad-winged hawk	Gekek	*Buteo platypterus*
Red-tailed hawk	Gekek	*Buteo jamaicensis*
Rough-legged hawk	Gekek	*Buteo lagopus*
Coyote	Waasagi-Ma'iingan	*Canis latrans*
Fox	Waagosh	*Vulpes vulpes* and/or *Urocyon cinereoargenteus*
Domestic Dog	Animosh	*Canis lupus familiaris*
Raccoon	Esiban	*Procyon lotor*
American river otter	Nigig	*Lontra canadensis*
American black bear	Makwa	*Ursus americanus*

There was a diverse variety of predator species on the Point, although some of the larger birds of prey were collected observations made available from eBird. Some of the observations from the monitors this season are below.

During the first shift, the monitor saw a flock of gulls (Ring-Billed, Herring, & Bonaparte's) and a half-dozen crows. No predators were observed closer than 200 ft. from the nests. They also saw a river otter bayside in the lake during the evening.

From 6/9-6/13, gull sp. (Ring-Billed, Herring, & Bonaparte's) was near the Caspian nest. Additionally, a flock of 100+ gulls and 6 terns were present each day south of Nests 2 and 3. At Joe's Nest, otter tracks were spotted on 6/12. Evidence of coyote and fox were seen along the beaches north of Plover Camp. A monitor was also able to hear a coyote the night of 6/10 around 10 pm.

During the 6/13-6/16 shift, a monitor observed large flocks of gulls at the Caspian Nest and south of The Duplex. On 6/16, there were fresh coyote tracks starting north of Joe's nest and ending somewhere beyond Nest 6.

For the fourth shift 6/17-6/20, flocks of gulls were seen consistently south of The Duplex and northwest of the Caspian Nest. Coyote tracks were seen between Joe's Nest and Nest 6, but there were no signs of plover distress or injury. On one of the days, there was a bald eagle flying overhead just south of Nest 3.

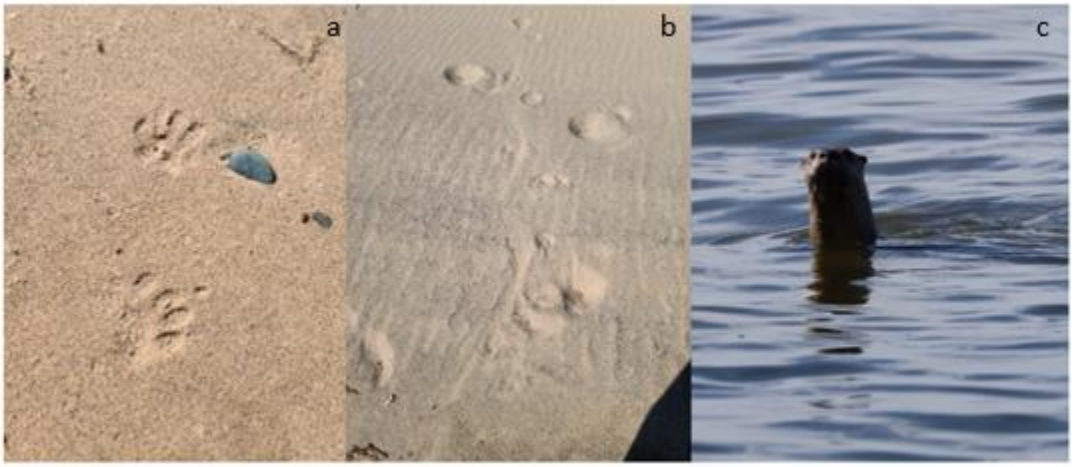

Figure 22. American river otter (Nigig) observations on the Point. (a) Two otter tracks near Plover camp. (b) Otter tracks and tail markings in the sand north of nest 1. (c) A photo of an otter swimming in Lake Superior. (left)

Figure 23. Coyote (Waasagi-Ma'iingan) evidence commonly found during the duration of the summer. (a) Two sets of coyote tracks, presumably one adult and one juvenile walking alongside each other at the southern lighthouse beach.(b) A coyote track between nests 4 and 6. (c) Coyote scat between Plover Camp and Nest 5. (left)

The monitors observed the usual flocks of gulls at Nests 2, 3, and 5 during shifts 6/21-6/24 and 6/27-6/28. During 6/21-6/24, the monitor saw coyote tracks along the thin stretch of beach between Nest 3 and Joe's Nest, and tracks were seen the following shift near the southern lighthouse.

The 6/30-7/2 shift was eventful for predators. There were coyote tracks seen along the dunes of nets 1, 2, 3, 4, and 6. There was a small flying bird of prey (potentially a merlin) flying near the Caspian Nest, in addition to the usual gull flock resting spots, and a black bear was seen on 6/29 between Nest 1 and Plover Camp.

Figure 24. American black bear (Makwa) observations. (a) A makwa track along the beach after direct observation of the bear on 6/29. (b) A photo taken of the bear in camp from the tent on 7/10.(above)

During the Fourth of July shift (7/3-7/6), the monitor observed the usual flocks of gulls and coyote tracks (not near nests). There was an unleashed dog near the caspian nest and nest 1. There were also raccoons near behind plover camp and along the beach.

Over the 7/7-7/10 shift, a flock of gulls was seen south of Nest 3, but the usual flock near the Caspian nest was not present. The evening of 7/10, a black bear entered camp while a monitor was listening to music in the tent (figure 24). There was no damage or changes to the camp after the black bear visited.

Figure 25. Fox (Waagosh) evidence found along the northern beaches. (a) One set of fox tracks and (b) fox scat. (above)

The flock of gulls was seen south of Nest 3 and near Nest 5 during the 7/11-7/14 shift. There were also terns seen flying overhead at the Caspian Nest. At Nests 4 and 6, coyote tracks were close to the nests, but not within the fencing perimeters. The night of 7/11 and the early morning (4 am) of 7/12 a black bear was heard in Plover Camp behind the tent no more than 20 ft away. There were no known observations afterwards to indicate that the black bear visited camp for the remainder of the season. For the final recorded shift 7/14-7/18, the flock of gulls were present south of nest 3, and coyote tracks were seen along the full length of plover beach.

Figure 26. Evidence of racoons (Esiban) found along the beach and boardwalk system. (a) Racoon scat after a berry heavy meal, and (b) tracks near Plover Camp. (above)

Other Wildlife

A complete list of wildlife and (some) vegetation observed on Chequamegon point this year include:

Common Name	Ojibwe Name	Scientific Name
White-tailed deer	Waawaashkeshi	*Odocoileus virginianus*
Mouse	Waawaabiganoojiinh	*Peromyscus sp.*
Red Squirrel	Ajidamoo	*Tamiasciurus hudsonicus*
Grey Squirrel	Misajidamoo	*Tamiasciurus hudsonicus*
Chipmunk	Agongos	*Tamias striatus*
Common snapping turtle	Mikinaak	*Chelydra serpentina*
Garter snake	Ginebig	*Thamnophis sp.*
Smooth greensnake		*Opheodrys vernalis*
Spring peeper	Omagakii	*Pseudacris crucifer*
Wood frog	Omagakii	*Lithobates sylvaticus*
Gray tree frog	Agoozimakakii	*Dryophytes versicolor*
American toad	Obiigomakakii	*Anaxyrus americanus*
Tundra swan	Waabizii	*Cygnus columbianus*
Wood duck	Zhiishiib	*Aix sponsa*
Blue-winged teal	Zhiishiib	*Anas discors*
Northern shoveler	Zhiishiib	*Spatula clypeata*
Gadwall	Zhiishiib	*Mareca strepera*
American wigeon	Zhiishiib	*Mareca americana*
Mallard	Ininishib	*Anas platyrhynchos*
American black duck	Zhiishiib	*Anas rubripes*
Green-winged teal	Zhiishiib	*Anas carolinensis*
Redhead	Zhiishiib	*Aythya americana*
Common goldeneye	Zhiishiib	*Bucephala clangula*
Common merganser	Anzig	*Mergus merganser*
Red-breasted merganser	Anzig	*Mergus serrator*

Common Name	Ojibwe Name	Scientific Name
Hooded merganser	Anzig	*Lophodytes cucullatus*
Ruffed grouse	Bine	*Bonasa umbellus*
Horned grebe	Zhingibis	*Podiceps auritus*
Rock pigeon	Omiimii	*Columba livia*
Mourning dove	Omiimii	*Zenaida macroura*
Black-billed cuckoo		*Coccyzus erythropthalmus*
Common nighthawk	Beshkwe	*Chordeiles minor*
Chimney swift		*Chaetura pelagica*
Ruby-throated hummingbird	Nenookaasi	*Archilochus colubris*
American coot	Ajigade	*Fulica americana*
Sandhill crane	Ajijaak	*Grus canadensis*
Black-bellied plover		*Pluvialis squatarola*
American golden-plover		*Pluvialis dominica*
Semi-palmated plover		*Charadrius semipalmatus*
Killdeer		*Charadrius vociferus*
Marbled godwit		*Limosa fedoa*
Ruddy turnstone		*Arenaria interpres*
Red knot		*Calidris canutus*
Sanderling		*Calidris alba*
Dunlin		*Calidris alpina*
Baird’s sandpiper		*Calidris bairdii*
Least sandpiper		*Calidris minutilla*
White-rumped sandpiper		*Calidris fuscicollis*
Buff-breasted sandpiper		*Tryngites subruficollis*
Pectoral sandpiper		*Calidris melanotos*
Semipalmated sandpiper		*Calidris pusilla*
Western sandpiper		*Calidris mauri*

Common Name	Ojibwe Name	Scientific Name
Short-billed dowitcher		*Limnodromus griseus*
Wilson's snipe		*Gallinago delicata*
Spotted sandpiper		*Actitis macularius*
Solitary sandpiper		*Tringa solitaria*
Greater yellowlegs		*Tringa melanoleuca*
Willet		*Tringa semipalmata*
Lesser yellowlegs		*Tringa flavipes*
Common loon	Maang	*Gavia immer*
Double-crested cormorant	Gaagaagiishib	*Phalacrocorax auritus*
American white pelican	Zhede	*Pelecanus erythrorhynchos*
Great blue heron	Zhashagi	*Ardea herodias*
Green heron		*Butorides virescens*
Belted kingfisher	Ogiishkimanisii	*Ceryle alcyon*
Yellow-bellied sapsucker		*Sphyrapicus varius*
Downy woodpecker		*Picoides pubescens*
Hairy woodpecker		*Leuconotopicus villosus*
Pileated woodpecker	Meme	*Dryocopus pileatus*
Northern flicker		*Colaptes auratus*
Eastern wood-pewee		*Contopus virens*
Alder flycatcher		*Empidonax alnorum*
Least flycatcher		*Empidonax minimus*
Eastern phoebe		*Sayornis phoebe*
Great crested flycatcher		*Myiarchus crinitus*
Eastern kingbird	Wiindigoo-bineshiinh	*Tyrannus tyrannus*
Blue-headed vireo		*Vireo solitarius*
Red-eyed vireo		*Vireo olivaceus*
Blue jay	Diindiisi	*Cyanocitta cristata*

Common Name	Ojibwe Name	Scientific Name
Black-capped chickadee	Gijigijigaaneshiinh	*Poecile atricapillus*
Horned lark		*Eremophila alpestris*
Northern rough-winged swallow	Zhaashaawanibiisi	*Stelgidopteryx serripennis*
Purple martin	Zhaashaawanibiisi	*Progne subis*
Tree swallow	Zhaashaawanibiisi	*Tachycineta bicolor*
Bank swallow	Zhaashaawanibiisi	*Riparia riparia*
Barn swallow	Zhaashaawanibiisi	*Hirundo rustica*
Cliff swallow	Zhaashaawanibiisi	*Petrochelidon pyrrhonota*
Ruby-crowned kinglet		*Regulus calendula*
Golden-crowned kinglet		*Regulus satrapa*
Red-breasted nuthatch		*Sitta canadensis*
White-breasted nuthatch		*Sitta carolinensis*
Brown creeper		*Certhia americana*
House wren	Anaamisagadoweshiinh	*Troglodytes aedon*
Winter wren	Anaamisagadoweshiinh	*Troglodytes hiemalis*
European starling		*Sturnus vulgaris*
Gray catbird		*Dumetella carolinensis*
Brown thrasher		*Toxostoma rufum*
Eastern bluebird	Ozhaawashko-bineshiinh	*Sialia sialis*
Veery		*Catharus fuscescens*
Swainson's thrush		*Catharus ustulatus*
Hermit thrush		*Catharus guttatus*
American robin	Apichi	*Turdus migratorius*
Cedar waxwing	Zegibanwaanishiinh	*Bombycilla cedrorum*
American pipit		*Anthus rubescens*
Evening grosbeak		*Coccothraustes vespertinus*
House finch		*Haemorhous mexicanus*
Purple finch		*Haemorhous purpureus*

Common Name	Ojibwe Name	Scientific Name
American goldfinch		*Spinus tristis*
Lapland longspur		*Calcarius lapponicus*
Snow bunting		*Plectrophenax nivalis*
Chipping sparrow		*Spizella passerina*
Clay-colored sparrow		*Spizella pallida*
Dark-eyed junco		*Junco hyemalis*
White-crowned sparrow		*Zonotrichia leucophrys*
White-throated sparrow		*Zonotrichia albicollis*
Vesper sparrow		*Pooecetes gramineus*
Savannah sparrow		*Passerculus sandwichensis*
Song sparrow		*Melospiza melodia*
Lincoln's sparrow		*Melospiza lincolnii*
Swamp sparrow		*Melospiza georgiana*
Eastern towhee		*Pipilo erythrophthalmus*
Yellow-headed blackbird		*Xanthocephalus xanthocephalus*
Bobolink		*Dolichonyx oryzivorus*
Western meadowlark		*Sturnella neglecta*
Eastern meadowlark		*Sturnella magna*
Baltimore oriole		*Icterus galbula*
Red-winged blackbird	Asiginaak	*Agelaius phoeniceus*
Rusty blackbird		*Euphagus carolinus*
Common grackle		*Quiscalus quiscula*
Ovenbird		*Seiurus aurocapilla*
Northern waterthrush		*Parkesia noveboracensis*
Golden-winged warbler		*Vermivora chrysoptera*
Black-and-white warbler		*Mniotilta varia*
Tennessee warbler		*Leiothlypis peregrina*

Common Name	Ojibwe Name	Scientific Name
Orange-crowned warbler		*Vermivora celata*
Nashville warbler		*Leiothlypis ruficapilla*
Mourning warbler		*Geothlypis philadelphia*
Common yellowthroat		*Geothlypis trichas*
American redstart		*Setophaga ruticilla*
Cape may warbler		*Setophaga tigrina*
Northern parula		*Setophaga americana*
Magnolia warbler		*Setophaga magnolia*
Bay-breasted warbler		*Setophaga castanea*
Blackburnian warbler		*Setophaga fusca*
Yellow warbler		*Setophaga petechia*
Chestnut-sided warbler		*Setophaga pensylvanica*
Blackpoll warbler		*Setophaga striata*
Palm warbler		*Setophaga palmarum*
Yellow-rumped warbler		*Setophaga coronata*
Black-throated-green warbler		*Setophaga virens*
Canada warbler		*Cardellina canadensis*
Wilson's warbler		*Cardellina pusilla*
Rose-breasted grosbeak		*Pheucticus ludovicianus*
Indigo bunting		*Passerina cyanea*
Bald eagle	Migizi	*Haliaeetus leucocephalus*
Garden Slug		*Arion hortensis*
Mayfly	Omiimiisi	*Ephemeroptera sp.*
Yellow garden spider	Asabikeshiinh	*Argiope aurantia*
*Agelenopsis potteri (*spider*)*	Asabikeshiinh	*Agelenopsis potteri*
Orbweaver sp.	Asabikeshiinh	*Larinioides sp.*
Golden-rod crab spider	Asabikeshiinh	*Misumena vatia*
Common shiner		*Luxilus cornutus*

Common Name	Ojibwe Name	Scientific Name
Wood tick	Ezigaa	*Dermacentor variabilis*
Poison Ivy		*Toxicodendron radicans*
Beach Pea		*Lathyrus japonicus*
Wormwood		*Artemisia absinthium*
Common milkweed		*Asclepias syriaca*
Beach grass		*Ammophilia breviligulata*
Northern (purple) pitcher plant		*Sarracenia purpurea*
Pink lady's slipper		*Cypripedium acaule*
Blueberry	Miinagaawanzh	*Vaccinium angustifolium*
Wild rose	Oginii-waabigwan	*Rosa sp. (carolina or R. blanda)*

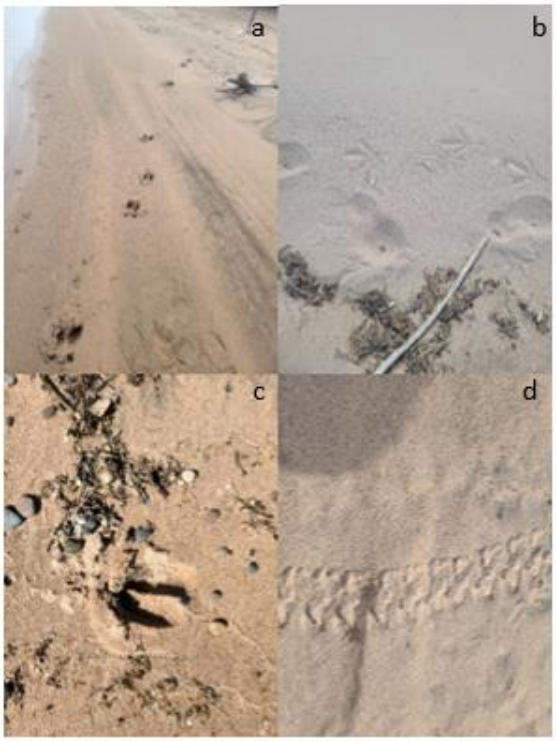

Figure 27. Signs of other wildlife on Chequamegon Point. (a and b) White-tailed deer tracks were often seen along the beaches, usually fresh from sunrise. (c) Sandhill crane tracks were seen sometimes at nests 1, 4, and 6. (d) Frog tracks (probably American toad) were seen near plover beach. There was also a resident toad who liked to take shelter in the tipped upside-down kayak. (above)

Figure 29. A common snapping turtle coming ashore. (above)

Figure 28. A ruddy turnstone strolling along the beach. (above)

Figure 30. A Northern (purple) pitcher plant west of Plover camp along the boardwalk and the surrounding marsh habitat. (above)

Figure 31. Two endangered Pink lady slipper orchids near the north end of the Point. (right)

Visitation and Human Impact

This season, Chequamegon Point was visited by at least 60 boats and 316 visitors. Of these visitors, there were a documented 18 dogs, 6 of which (33%) were unleashed and touched shore. There were no observed instances of dogs interacting with the plovers, but there was trail camera footage showing a white unleashed labradoodle within a foot of the Nest 2 exclosure (figure 35). Most of the visitors visited the northern end of the point (near the Caspian Nest) and Plover Beach (near Nests 1,2, and 3); visitor activity increased after the Fourth of July, and stayed consistent most of the season thereafter. As one might expect, there were more visitors on days with better weather (>80°F) than those with rain or lower temperatures. On days with higher visitor traffic, an increased amount of trash and man-made structures would be seen along the beaches. This year there were fewer visitors overall compared to 2020 and 2019 with a total of 388 visitors for each year.

Figure 32. Large driftwood structure made after the Fourth of July about 50 yards southeast of Nest 5 (above).

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 small 'bath toys' like rubber ducks and a large red beach ball were kept as decorations to adorn the Plover Camp tent.

There were a few occasions where visitors were seen close to the camp, either walking along the beach or sunbathing nearby. As far as we know, none of them had ventured into Plover Camp or damaged any property.

There were a few occasions where low flying planes flew below the legal altitude. The documented plane information is as follows: a white and blue N192AF a Cessna 414A Chancello (6/22), a red and white plane (7/3), a white and blue floatplane NI88F (7/7), a white and red Cessna N2905 (7/7), and a white and blue N3120T (7/7). The red and white plane on 7/3 was unidentified, but it flew no more than 30 feet west from plover beach directly above the water.

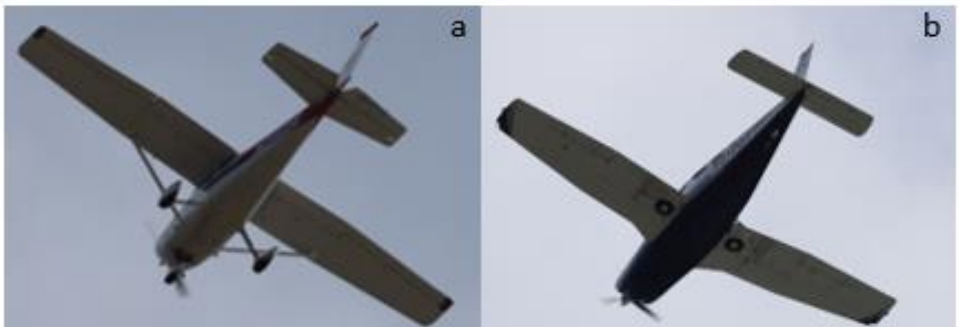

Figure 33. Low flying planes below the legal altitude threshold flying directly above a monitor. (a) A white and red Cessna N29056 flew along the south end of the Point. (b) A white and blue N3120T flew along the south end of the point. (above)

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 a few occasions, the dogs would run up to the monitors where the owners were either at the end of the beach or not present (at least at first); there were no injuries or major problems to report. Additionally, there were times when dog owners were not so cooperative when leashing their dogs.

Figure 34. Human visitors with unleashed dogs and their corresponding boats. (a)(c) A group of adults and one child were sitting near the southern lighthouse with two unleashed dogs (top left) and their boat (bottom left).(b)(d) Two adults and their unleashed small dog (not pictured)(top right) and their boat(bottom

On July 3rd, the busiest day of the season, a boat docked right in front of the Caspian Nest, 15ft away from the psychological fencing (figure 34). After the monitor asked if they could move down shore, they reluctantly cooperated, and they moved the boat about 50 feet away. After waiting a few minutes for the group to settle into their spot, the monitor saw that they had an unleashed yorkie. The monitor approached the group to inform them of the nesting plovers and the leash law. However, they shrugged the monitor off, and kept their dog off leash. A few hours later, a NPS ranger visited the monitor, where the monitor informed the ranger of the unleashed dog at the northern tip of the Point. After exchanging information and searching for the couple and their boat, they weren't found. This couple was seen again on 7/14 (a banding day), without their dog. On the same day, there was a couple with an unleashed dog 20 yards of Nest 1. The dog was in the water, but the monitor let the couple know about the nesting plovers and the leash law. The couple decided to not leash their dog despite the monitor's best efforts to try to convince them otherwise. The monitor informed the NPS rangers of these individuals.

Trail Cameras

Trail cameras were installed at each of the six nests on June 16th and 17th. With more ground to cover than in past years, making it more difficult to monitor the nests every day, it seemed all the more necessary to have cameras on the nests. Apart from the Piping Plovers, the cameras captured footage of Canada goose, gull sp., American crow, least sandpiper, sandhill crane, sanderling, an unknown bird of prey that landed on one of the enclosures, white-tailed deer, coyote, and black bear. The cameras also served as "security cameras" for the nests, capturing several humans and unleased dogs that entered the fenced-off areas. Despite these disturbances, there was no documentation of direct disruption to the plovers or their nests.

Most of the cameras were placed on the fence posts for the psychological fencing which were unstable, resulting in a significant amount of footage containing camera shaking caused by wind and cameras falling over, rendering a significant amount of footage unusable. The camera for Nest 6 was mounted on a driftwood log and was the most successful in consistent data capture. In the future, it is recommended that cameras be mounted where they are less susceptible to wind interference and where they may have a better view of the eggs in the nests. Additionally, funding permitting, an extra camera at each nesting site may be helpful in capturing further species data and plover territory updates.

Figure 35. Trail Camera Images taken on Chequamegon Point stationed at piping plover nesting sites (above). (a) Two sandhill cranes, a juvenile and adult at Nest 6. (b) Two female white-tailed deer at nest 6. (c) Adult black bear at nest 6. (d) Adult coyote at Nest 6. (e) Adult female visitor entering the psychological fencing perimeter to retrieve a frisbee at Nest 6. (f) Unleashed white labradoodle within the psychological fencing perimeter near the Nest 2 exclosure.

Banding

This year, there were three banding days for the Chequamegon Point population on 6/23, 7/1, and 7/14, and one banding day on Outer Island on 7/29.

On 6/23, a banding team consisting of Steph Schubel, Rachel Fields, and Cindy Mom came up from Michigan to band the unbanded Nest 2 Male and to re-band the Nest 2 Female. A trap was placed over the nest after swapping out the eggs for fake eggs (so the real ones were not damaged during the capture). The female was captured first and her previous combination of X,G:O,G (Gdot, G358) was removed and replaced with X,R:Of,YV. She was released, and she flew to the water to wash herself off. The unbanded male was trapped using the same procedure and given the band combination X,G:Of,Lb [USGS: 2651-63531]. Then, the male was released, and the fake eggs were replaced with the real ones. Afterwards, the parents returned to the nest to incubate the eggs.

Figure 36. Nest 1 chick (15 days old) on banding day 7/1 (above).

The chicks from Nests 1, 3, and 4 were banded on 7/1, for a total of 11 banded chicks.

The monitors and Louis met up between Nest 1 and 2, and they located all four plover chicks while waiting for the NPS crew and Sumner Matteson. The first nest took a series of three corral attempts, but we were able to band and weigh all four chicks. The parents were active in trying to communicate and find their chicks, and they were safely reunited afterwards.

Figure 37. Chick release with Louis Lozinski, Izzy Peters, Nolan Kerr, and Destiney Elder-Hall (left to right).

At Nest 3, the monitors pushed ahead to find the three chicks. They were located a little more south than anticipated, but they were located, nonetheless. The corralling was much easier this time, and it only took one try to corral and band all three of the chicks. All of the chicks were returned to the care of their parents.

The two crews split up and took their boats south to Joe's Nest. The same process was repeated for the four chicks there, but it took two attempts to capture all the chicks. These chicks were also successfully returned to their parents.

Figure 38. Nest 2 male with pinched band while Demetri Lafkas re-bands him on 7/14

On 7/6, the Nest 2 male was observed only using one leg. Upon closer inspection, it was determined that one of the plastic bands had slipped off the leg and was pinching the bird's toe. He was still eating and protecting his chicks. While everyone hoped the band would eventually fall off (as they often do in this situation), plans were made to remove the band.

The band never fell off on its own, so, on 7/14, a team consisting of Steph Schubel, Rachel Fields, Francie Cuthbert, Jillian Farkas, and Demetri Lafkas, Peggy Burkman, and Nolan Kerr were tasked with capturing the male and removing the band as well as banding the chicks from Nest 2. A series of mist nets were set up perpendicular to the shore, running from the dune to just into the water. The team moved to one side of the net with the Nest 2 male and chicks in between them and the nets. Just as chicks at typically corralled towards the water to be captured, the team slowly walked the family towards the nets. In the first attempt, one chick was caught in the net while the other three went under or through it and the male flew around. After moving to the other side of the nets, the team tried to push the birds into the nets again, catching two more chicks and missing the male and final chick again. Finally, on the third attempt, the male was captured in the net and the fourth chick was captured.

The slipped band was removed from the male along with the black band on the same section of the leg. The male's weight was recorded at 47g., and the band combination now read **X,G:Of,-**. All four chicks were released along with the male, and he returned to watching over them after bathing in the lake.

In the following days, the male was seen walking on both legs with increasing frequency until he had fully returned to normal. It should be noted that such a procedure had never been executed before, due to the unique nature of the situation.

Figure 39. “Nest 2 male rescue team” Demetri Lafkas, Rachel Fields, Francie Cuthbert, Nolan Kerr, Peggy Burkman, Jillian Farkas (left to right).

The chicks from the Caspian Nest and Nest 6 were also banded on 7/14 by a team consisting of Destiney, Louis, some of the NPS crew, Sumner, and two volunteers. All the corralling, banding, and releasing on that day was successful resulting in the banding of 11 chicks.

Beginning with Nest 6, the chicks were found south of the enclosure, and they moved north as the group closed in on them. For the first capture attempt, they caught two of the chicks. On the second capture attempt, they were able to capture the remaining two chicks. All four chicks were banded and released successfully. While banding the chicks, the Nest 6 female was very active and calling to the chicks. She came quite close to the group, and she showed her broken wing display at least twice.

At the Caspian Nest, the team was able to find the chicks quite easily. The female was active and calling, while the male sat in the sand just west of the enclosure. The parents slowly moved westward as the group closed in on the chicks, but all 3 chicks were captured at the same time. The female and male were close by, and the female also showed off her broken wing display. All three chicks were banded and released successfully.

Figure 40. Nest 4 chick (at 33 days old) on 7/25 (above).

During the banding at nest 5, there was a boat docked south of the Caspian Nest with 4 adults. Destiney noticed that it was the same boat from the 3rd of July that had an unleashed dog. They did not bring their dog with them this time, but she informed law enforcement of their presence at the beach.

Weather

It was a dry season, with 9 rain events and a seasonal precipitation adding up to 6.81 inches. The hottest recorded temperature was 97°F on June 20th, with 34°F on June 6th as the lowest, with an average of 64.8°F. It should be noted that the lowest and average temperatures include nighttime measurements and are not indicative of usual daytime temperatures with a temperature of over 105°F recorded on June 23rd using a handheld weather station on the beach. Although, most days, excluding rain event days usually reached low to mid 80's. The highest wind speed was 31 mph, maximum gusts were 47 mph, and the average wind speed was 7.3 mph. Weather records were collected courtesy of the National Weather Service using the Duluth , WI regional data and Ashland, WI specific data from 6/1 to 8/31.

Figure 41. White caps during a high wind event on Chequamegon Point north of nests 4 and 6 and south of nest 3.

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 post-storm. After these events, the wrack line would be pushed forward onto the shoreline by at least a foot, and up to a maximum of 10 ft. In some areas, the shoreline receded gradually over time as high impact storms and winds reached the Point. This was especially evident near nests 1, 2, and 3. It was not uncommon to see temporary lagoons form near the southern lighthouse location and nests 1-3. The backwater areas near the southern lighthouse would fluctuate quite a bit but were consistently full all summer. One of these pools contained hundreds of tadpole spawn and patches of red algae were seen along the edges of the pools in early July.

Figure 42. Lagoons formed as a result of heavy rain and wind events. (a and b) large temporary pools of water formed the whole length of the beach located at the southern lighthouse. (c) A shallow pool within the psychological fencing for nests 2 and 3, directly east of the nest 2 exclosure.

Overall, the season was mild, but had a few thunderstorms and few very high temperature days. 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 have a long list of people to thank for their support this season. Huge thanks to **Louis Lozinski** for being a great leader and source of knowledge, and additionally, for supporting the monitors with transportation and other amenities. Thanks to **Abi Fergus** for their help with transportation and their guidance and support during the season. Thanks to **Peggy Burkman** for all her help transporting monitors and anyone that helped with banding days, and for her coordination of efforts with the Tribe and the National Park Service. Thanks to Mashkiziibii Conservation Wardens **Pierce Maday**, **Cory Heggie**, and **Brad Bigboy** for helping to get us to and from camp, setting up the exclosures, and aiding in our overall safety and welfare. Thanks to **Sumner Matteson** (Wisconsin DNR) for his leadership on the banding days, finding Joe's Nest, and mentoring **Dawn Marsh** (USFWS) on chick banding. Thanks to **Steph Schubel**, **Rachel Fields**, and **Cindy Mom** for coming up from Michigan to band the Nest 2 male and returning to help with the slipped band and chick banding. Thanks to **Francie Cuthbert** (UMN), **Jillian Farkas** (USFWS), and **Demetri Lafkas** for also coming up to help with the slipped band. Thanks to **Allison Smith** for volunteering her time during the 4th of July weekend to assist the monitors during the busiest time of the season. Thanks to **Julie Van Stappen**, **Kyleleen Cullen-Bartnick**, **Kasey Arts**, **MaryBeth Barker**, **Emily Rasmussen**, **Izzy Vetterman**, and **Izzy Peters** for their assistance on banding days. Thanks to NPS Law enforcement officers **Lance Twombly, Mark McCool**, and **Jordan Sjogren** for helping with non-compliant visitors, low-flying planes, and for being an active presence on busier days of the season. Thanks to **Reena Bowman** (USFWS) for problem-solving support with the Nest 2 male, and being ready to drive up from Bloomington, MN at a moment's notice. 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, the Johnson Family, and the WISKERT Corporation.

A season as successful as the one we had simply would not have been possible without each one of these individuals and organizations. Thank You!

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 wave action.
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.
Tree line	The belt where the dune system transitions into forest habitat; the edge of the dunes where trees begin to grow.
Washzone	The region of the shoreline within which waves break.
Wrack Line	The impermanent line of debris, usually dark organic material, which is deposited on the beach by the tide.

Photograph contributions credited to Nolan Kerr, Destiney Elder-Hall, and Louis Lozinski