

Common Loons in Glacier National Park



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The Common Loon is often seen as a symbol of remote wilderness.

This presentation contains information about:

- General facts about Common Loons (*Gavia immer*)
- Threats and management concerns
- Status of Common Loons and loon research in Glacier National Park
- Common Loon identification and important behaviors for observers
- Life cycle of Common Loons

Click on speaker icons to play sounds.

Wail call (left) and Tremolo call (right) will be discussed later in presentation.

Common Loon

- **Gavia Immer**
- **Member of the Gaviidae Family**
- **Five Loon Species in North America**
- **Montana Species of Special Concern**

photo by W. Troyer

Facts about the Common Loon

Loons are members of an ancient group of fish eating birds that spend almost their entire lives in water.

Loons are not ducks. They are members of the Gaviidae family whose closest relatives are penguins and albatross. Similarities to those species include lobed feet, designed for swimming, that are set very far back on their body and a long conical bill.

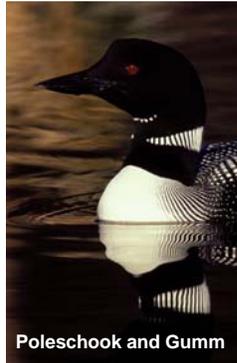
The name loon originated from the Scandinavian word *lom*, meaning lame referring to the awkward manner loons maneuver on land. Loons go on land only to breed, care for eggs and when injured.

There are 5 types of loons in North America- Pacific Loon, Arctic Loon, Red-throated Loon and Yellow-billed Loon. Common loons are the largest of the loon species.

The Common loon is listed as a “Species of Special Concern” in Montana. Because of the loons breeding preference for isolated lakes surrounded by lots of water plants that supports abundant fish populations the Common loon, *Gavia immer* has become a symbol of remote wilderness areas.

Adaptations

- Counter Shading
- Dense Bones
- Diving
- Wing Span
- Red Eyes
- Submarine Like
- Necklace
- Feet
- Fresh to Salt Water Adaptation



The Common loon is anything but common.

Loons have evolved with amazing adaptations to augment their unique niche in the environment. Loons spend almost all of their lives in water only going on land to breed, incubate eggs or when they are sick or injured.

1. To begin with their striking coloration is actually a wonderful camouflage. The **black and white feathers** on their back make them almost invisible in choppy water. A **white underbelly**, when viewed from underwater while looking up fish can't see them.

Red eyes allow the loon to see better in low light, as when fishing in deep waters. While they may look intimidating they actually appear gray underwater. Red eyes may possibly be a means of attracting a mate. The loon **necklace** is a distinctive trait like a fingerprint, every bird has variations in pattern unique to that bird.

2. In winter loons lose their showy breeding coloration becoming mostly gray-brown with a white underside.

3. The loon has **submarine like** abilities. It can compress the air out of its body surfaces and reduce the air in its lungs to sink below the water surface and snorkel or ride with just their head above the water. When submerged the black head also adds to the loon ability to sink around undetected. This behavior can also indicate that the loon perceives a threat.

- An adult loon's **wingspan** is almost 5 ft. A loon is similar in size and weight to a goose but the surface area of a loon's wings are half that of a goose. Another adaptation for more efficient diving. Less surface area means less resistance while diving. However, if a loon loses just a few flight feathers it is grounded. Losing flight feathers would mean the bird would be flightless until the following March when new feathers grow in.

The Great Northern Diver



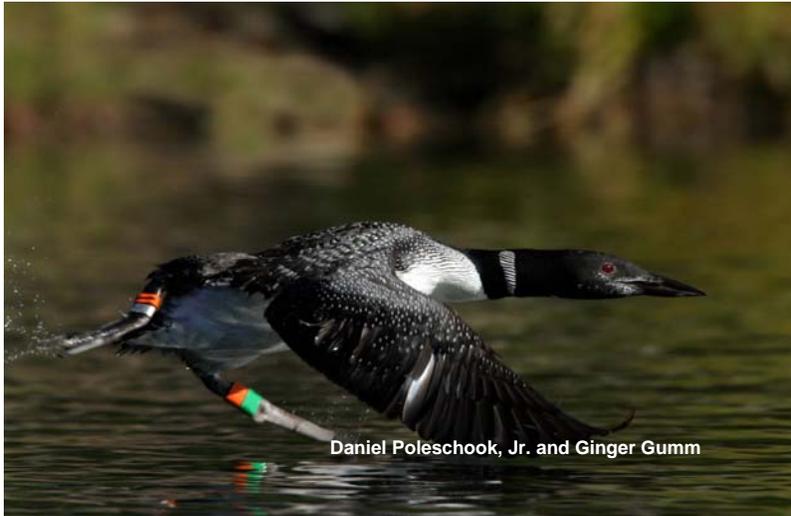
Loons feed by diving in pursuit of their primary prey, fish.

The Common Loon is referred to in England as the “Great Northern Diver”. Most of their unique adaptations are directly related to benefit their ability to dive.

Loons are heavy birds, weighing 8- 12 pounds. Most birds have hollow bones, reducing weight for flight. **Loons bones are more dense**, giving them added weight for diving. Loons can dive up to 200’ and stay under water for up to 15 minutes. The long bill is used for grabbing – not stabbing - prey Loons have ridges on the roof of the mouth and top of the tongue for holding prey.

Fish are the main prey of loons although they will also eat salamanders, frogs, leeches, snails and other invertebrates.

Preparing for Take-Off



Daniel Poleschook, Jr. and Ginger Gumm

Video by Darwin Long

The loons feet are over-sized webbed feet with a lot of surface area.

These feet are great for swimming but also used to provide extra propulsion on those long runway takeoffs. Loons need hundreds of meters of water to take off. They can be seen running on water to get up speed to take off.

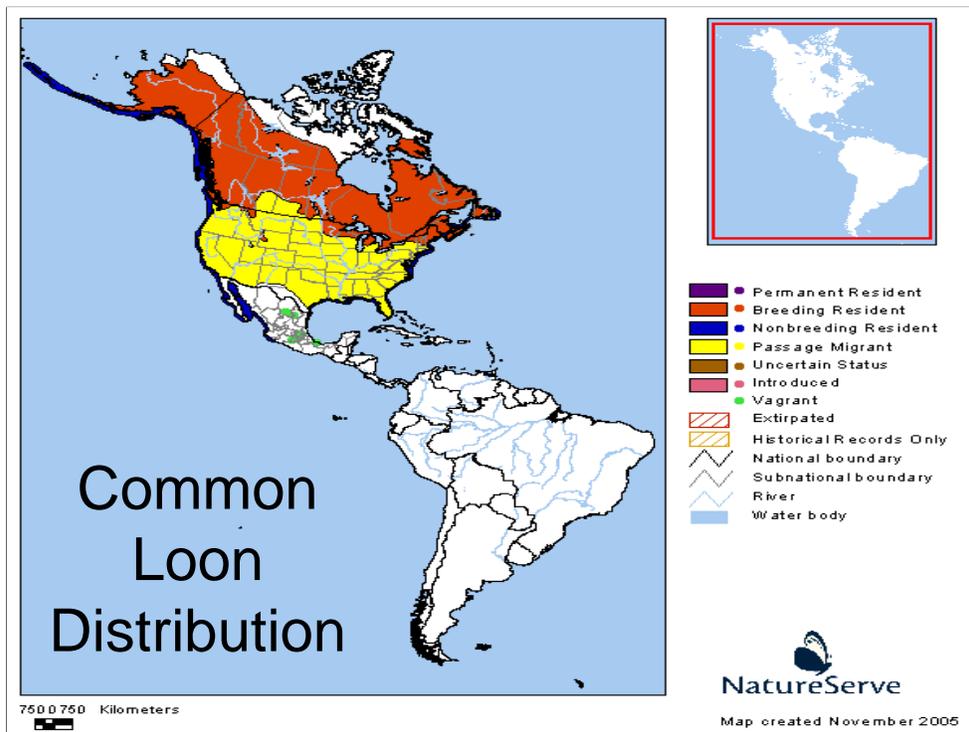
Loons legs are set far back on the body (similar to those of a penguin) and joined to our equivalent of a calf. This provides added propulsion when underwater but makes the bird virtually unable to walk on land and very vulnerable. This is why nests are built right on the shore allowing them to launch themselves into the water if they sense danger. Loons must beach themselves to go on land. They are only found out of the water when incubating eggs, mating or when sick.

Weighing between 8-12 lbs (5.5 kg), the birds must have a runway for take off. Runways must be at least 30 meters and occasionally need to stretch up to $\frac{1}{4}$ mile long depending on the wind and the individual bird's weight. They cannot take off from land. When landing in water, they set their wings and glide in, crash landing on their bellies.

Video Clip: Common Loon taking off in flight at North Twin Lake, Ferry County, WA, on the Colville Indian Reservation.

Click twice on black area to play

Video clip courtesy of Darwin Long from <http://members.aol.com/djl4loons>



Where are Common Loons found?

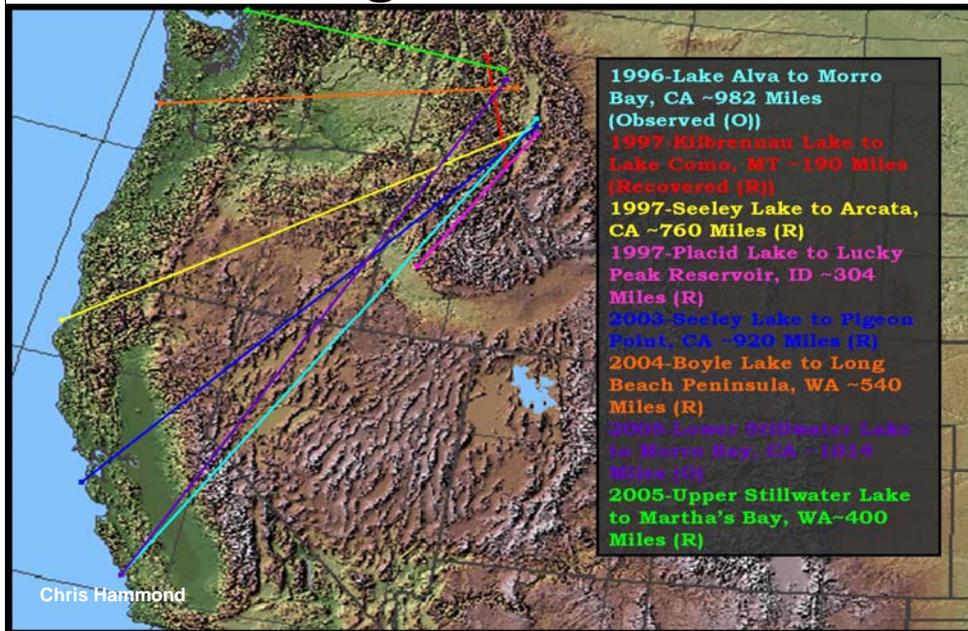
Most Common Loons spend their summers (breeding season) on inland fresh water lakes. The breeding region for Common Loons is shown in red on this map. Loons arrival to breeding ranges relates directly to ice-off on inland lakes. Loons occupy these inland breeding areas from early spring, about April, through late fall just before the ice returns to the lake.

Historically loons nested from northern California to Colorado, Illinois, Indiana Ohio and Pennsylvania. Due to habitat loss, now only the far northern areas of the America are home to loons.

In late fall loons migrate to the coast and live just off shore in saltwater inlets and bays, feeding on saltwater fish, crabs and mussels. They adapt from drinking fresh water to salt water by utilizing glands to rid their system of excess salt. They live mostly a solitary life or in loose association with each other and may raft together at night depending on weather and shelter needs. The blue outline indicates the winter range for loons.

Loons migrate each spring and fall once they reach sexual maturity at about 3 or 4 years of age. Chicks migrate to the coast their first fall, when they are about 4 months old, where they will remain until they reach sexual maturity. Breeding pairs separate during fall migration and may winter hundreds of miles apart. The same pair will join again during the spring migration returning to same lake year after year.

Loon Migration Research



Common Loon Research

Until recently little was known about loon migration or breeding requirements. Through observation researchers knew where the Common Loons' breeding and winter ranges were but had little specific information about where individual birds went or what routes they took. In the last two decades thousands of loons have been banded from Alaska to Maine, including many birds that breed in Montana. Banded birds have provided researchers with answers to some important questions such as:

What route do loons take and which birds return?

Which breeding pairs are successful?

Do loons display territory and mate fidelity?

Banding research has also demonstrated that loons hopscotch from one lake to another all across their migration route. A recent project spearheaded by Brett Gullett, a wildlife biologist with the Confederated Salish and Kootenai Tribes, is helping to identify specific stopover points. Gullett implanted satellite transmitters into four loons preparing for migration on Flathead lake. One of the loons made a 950 mile migration to the central California coast in less than 5 days, following a migration route similar to that used by many large raptors. Gullett's project also tracked a loon that stopped briefly at Walker lake, a stopover point on the California Nevada line used by as many as 1400 loons each year. The loon did not stay to refuel possibly due to the extreme drawdown of the lake for upstream irrigation. Research such as this emphasizes the importance of maintaining loon habitat across the entire migratory range.

Threats

Human Disturbance

- Development
- Water level fluctuation
- Recreational use/watercraft



Toxins

- Lead
- Mercury
- Oil Spills

Natural Factors

- Weather Events
- Predation
- Disease



Photos by Daniel Poleschook, Jr. and Ginger Gumm

Threats to Loon Survival and Reproductive Success

Human disturbance leading to loss of loon nesting habitat, such as shoreline development, is the greatest cause of declines in loon populations. Loons prefer small lakes surrounded by reeds and brush. Clearing for docks and landscaped backyards to the shores leave loons with limited resources for nesting sites. Human-caused lake level fluctuations can flood nests or nesting habitat. Nests and chicks can also be left high and dry when water levels are drawn down for irrigation.

Lake recreation and watercraft use can also be very detrimental to loons' reproductive success. Not only do motor boats disturb them and cause them to leave the nest but the wake these craft make can swamp the nest or wash the eggs off the nest. Perhaps surprisingly, a canoe or kayak may actually be more disturbing to a loon because the loon may not be aware of the boat's quiet approach until it is too close. The bird will often jump off the nest in haste, pushing the eggs off the nest into the water, where they are lost.

Lead from fishing lures is the leading cause of death among adult loons. Loons, like many other birds, gather small rocks from the bottom of the lake to assist them in food digestion. Included in the mouthful of gravel often are small lead weights lost from the end of fishing line. A piece of lead smaller than the eraser on a pencil can kill an adult loon within weeks. Alternative weights made of steel are much safer and are now required inside Glacier National Park. Discarded fishing line can also kill many species of wildlife including loons.

Mercury exposure causes reproductive failure and affects chick behavior and development. Mercury is absorbed by fish who are in turn eaten by wildlife or humans. Mercury enters the atmosphere as a by-product of fossil fuel combustion and is transformed into methylmercury, a highly toxic compound. Methylmercury ingested by loons is stored in the kidney and liver of the bird, accumulating over time. Adults with elevated levels of Hg have reduced or abnormal egg production. Chicks with elevated levels of Hg spend increased amount of time and energy preening which slows development.

Acid Rain poses a risk to loons because it kills phytoplankton which can result in the reduction of fish populations. Acid rain also causes the further release of mercury.

Oil spills on the coast where loons winter cause gastrointestinal problems in waterfowl, leading to dehydration and death. Oil in feather also reduces thermoregulation leading to hypothermia and pneumonia.

Extreme weather affects loons especially during migration. Loon Fallout occurs when a loon lands on wet roads mistaking them for ponds during heavy rains and are unable to take off again. Hurricanes or violent storms on the coast could cause a loon to drown.

Predators Loon eggs and chicks are extremely vulnerable to predation. Eggs are frequently taken by ravens and gulls. Young chicks can not fly or dive so are easy prey for eagles, raccoons, foxes, skunks and even snapping turtles and large fish such as pike and musky. Adult loons have few predators other than an occasional opportunistic large carnivore or man.

Diseases West Nile virus is an inflammation of the brain spread through other birds by mosquitoes. Botulism is caused by anaerobic bacteria that proliferate when lake temperatures rise. Both can be detrimental or fatal to loons as well as

Management Concerns

Species of Special concern

- **Slow to mature**
- **Low Recruitment Rate**
- **Habitat Preferences**



Why are we concerned about Common Loons?

In addition to the numerous threats impacting loons, there are also limitations based on their natural history.

Montana boast the largest population of loons in the western states- a yearly total of about 200 loons with 60 nesting pair- 25 of which are successful. Breeding loons lay only 2 eggs. Therefore, Montana loons typically produce less than 35 chicks each year. About 12 of those 35 chicks will survive to return to Montana as mature breeding age loons.

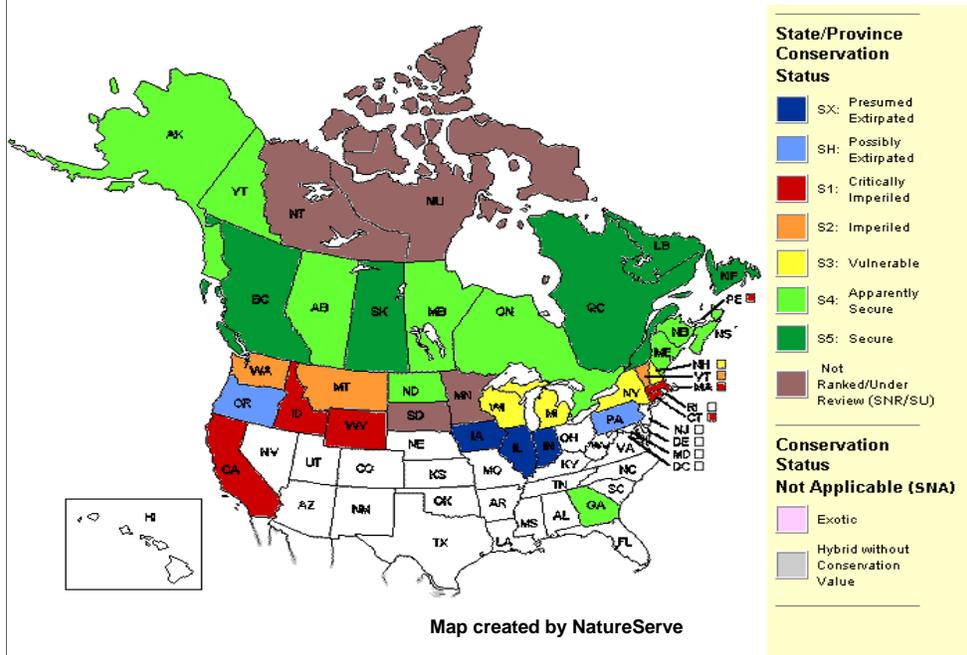
Loons are slow to mature. A chick born here will migrate to the coast and not return for 3 years. The average breeding age is 7 years of age.

This means that less than 20% of the chicks that are born here and migrate to the coast will return. When those loons do return they will need to establish a new breeding territory. Loons are poor colonizers. Even when population numbers are high, they do not seek new areas. While some returning loons may venture as far as 40 miles in search of new territory, they usually disperse less than 10 miles from their natal lake.

They prefer undisturbed habitats, calm waters and a good supply of fish. If no suitable lake exist within the small radius surrounding their natal lake they may not be able to establish a territory or find a mate and contribute to the population growth.

Thus the presence of loon pairs does not guarantee continued reproduction. If pairs that occupy a lake are repeatedly unsuccessful we will continue to see further declines in population. Local populations could disappear all together. The most important management concern should be to maintain habitats suitable for nesting and rearing young.

Conservation Status of Common Loons



Conservation Status of Common Loons

The survival threats faced by Common Loons in combination with their own biological limitations make them a species of concern in many states where they are still present.

[Listed Federal Status](#) United States Fish and Wildlife Service (USFWS)
Migratory Nongame Bird of Management Concern

[Listed State Status](#) Endangered: Vermont and Oregon

Threatened: New Hampshire and Michigan

Species of Special Concern: Connecticut, Massachusetts,
Montana, New York

Common Loons in Glacier National Park



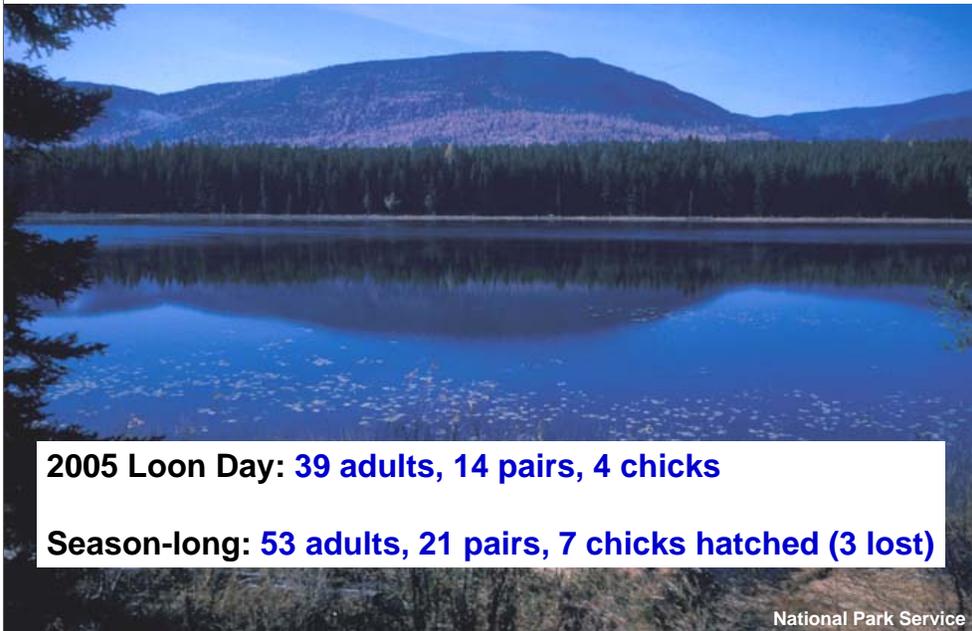
How do we determine the population health of Common Loons in Glacier National Park?

Since 1986 Glacier National Park has participated in Montana Loon Day, an annual statewide Common Loon population count that takes place in mid-July after most chicks have hatched. During Loon Day in Glacier volunteers and Park staff survey each of the 45 high priority lakes that have been identified as potential Common Loon nesting habitat.

The population count provided by Loon Day has show that Glacier loons account for 20% of Montana's population and are producing an average of 0.35 fledged young per pair each year. This number is lower than the reproductive average for the rest of the state. It is also lower than the 0.54 fledged young per pair each year that is necessary to maintain a stable population.

While Loon Day is a valuable and vital part of our understanding of Common Loon populations, it provides only a brief glimpse. In addition, the numbers of Loons reported during Loon Day can vary from the actual population. Loons can be misidentified or missed leading to under or over-reporting of the population.

2005 Loon Citizen Science Pilot Project



2005 Citizen Science Project for Common Loons in Glacier National Park

In 2005 we began a pilot project to try to count Loons on each of the 45 priority lakes repeatedly throughout the season. The goal was to get a more robust dataset and determine whether the population estimate would be different if lakes were visited more than once each year.

We discovered that the population estimates from Loon Day and Season-long efforts differed substantially. Only 4 chicks were observed on Loon Day out of the 7 hatched chicks discovered through season-long efforts in 2005. In explanation, a brood of 2 chicks was hatched but lost by early June. Additionally one chick of a two chick brood was not seen on Loon Day while another chick of a two chick brood was lost after loon day.

Citizen Science for Common Loons in Glacier Park



2006 Loon Day: 36 adults, 9 pairs, 4 chicks

Season-long: 45 adults, 16 pairs, 5 chicks hatched (1 lost)

Daniel Poleschook, Jr. and Ginger Gumm

Citizen Science for Common Loons in Glacier National Park in 2006 and beyond

In 2006 we have more fully developed the 2005 pilot project. We will continue to develop the project in 2007.

The project trains Volunteer Loon Observers and GNP staff to improve accuracy and increase coverage of 45 priority loon lakes throughout the nesting season. Our main scientific goal is to determine the number of loons in Glacier, the proportion of breeding pairs, and the number of successful nests. A secondary scientific goal is to determine the factors affecting nesting success by comparing nest locations and human activities at lakes with good reproduction to those with poor reproduction.

Long-term volunteers: focus on the loons on one lake, to determine if there is a loon nest, and to examine the effects of recreational activity on the success of that nest.

Short-term volunteers: participate in Glacier Loon Day. On Glacier Loon Day, volunteers will determine if lakes have single loons, paired loons, or loons with young.

In 2006 we recruited and trained 77 Volunteer Loon Observers and gave educational presentations to 216 additional people. We conducted over 400 surveys on 72 of Glacier's Lakes. Each of the 45 priority lakes was visited at least 3 times during the breeding season (prior to, during and after Loon Day).

Once again we discovered that the population estimates from Loon Day and Season-long efforts differed substantially. We gained more information about chick survival by detecting an additional chick through season-long efforts that did not survive long enough to be counted on Loon Day. Documenting chick loss is a critical factor in determining nesting success rates especially in an overall average state population of about 35 chicks per year.

In 2007 we will hit the ground running with a large core group of returning Volunteer Loon Observers plans. Returning volunteers will begin earlier to gather unprecedented information on nesting activity and number of successful nests. New volunteers will continue frequent monitoring of the 45 priority lakes.

Observing Common Loons



What to look for when observing Common Loons?

The next portion of this presentation cover the identification and natural history of Common Loons in greater detail.

Common Loon Breeding Habitat



Common Loon Breeding Habitat

Loons breed on inland freshwater lakes in boreal and mixed forest. They prefer isolated clear water lakes of at least 10 acres in size and below 5900' elevation. The lake must be long enough to facilitate landings and take-offs. Ideal habitat includes both deep-water and shallow-water areas, islands and areas that allow protection from winds and waves. Loons also require ample fish or invertebrate populations for food along with abundant water plants and shoreline vegetation.

Common Loon Life Cycle



Establishing or re-establishing nesting territory

Following ice-off in spring, loons return to their breeding area to begin establishing a nest or pioneering a new territory. Loons will often utilize the same nest year after year if no significant habitat change has occurred. Pairs often arrive together, immediately re-establishing territory used in previous years. Loons display 79% mate fidelity. Mate switching generally occurs after the first nest, a nest failure, or the death of a mate.

Nests are often located where the nesting adults can have good visibility. Nest sites are located on lake margins or on islands less than 4 feet from the shoreline. Optimal nest sites provide overhead cover to shelter nest from aerial predators like eagles and ravens and vegetative cover for protection from land predators. They also require protection from winds and waves. Loon nest sites are often close to inlets while nursery sites are often in shallow protected coves having abundant small fish and insects.

This photo shows a territorial pair of common loons circling at the nest site prior to laying eggs.

Nest Building and Incubation



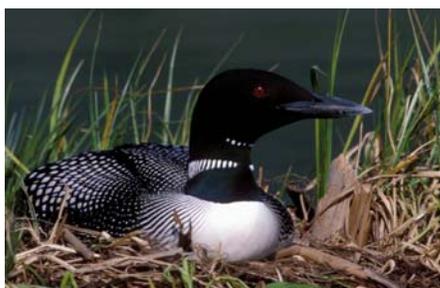
Nest Building

Both males and females will build the nest and incubate two eggs for about 26-28 days. The eggs are laid 1 day apart, so the first egg will hatch 12-24 hours before the second egg. Eggs are turned each time an adult returns to the nest.

This is the most critical time for reproductive success. Eggs are susceptible to a whole host of predators. Ravens often steal loon eggs. Skunk, fox and raccoons can make an easy meal of a loon nest. If a pair of loons lose their first clutch they may re-nest a second or third time, laying only one egg, provided the loss occurs early in the breeding season. They usually don't re-nest after the third week in June.

Nest disturbance is of primary concern. If loons are disturbed, leave the nest and don't return for an hour or more, the eggs can become chilled and are vulnerable to predation.

Nest Characteristics



What does a loon nest look like?

Loon nests are found immediately adjacent to water in marshy backwaters or near inlets. They prefer deep-water so that they can enter or exit the nest without being detected. The nest will be no more than three feet from shore. They are large structures often up to three feet across and composed of rootlets and mud from underwater. Loons prefer areas of tall reeds and cattails or small islands and usually build the nest with nearby vegetation, grasses, moss and twigs but nest can be built on bare dirt with no vegetation.

- Look for the profile of a loon's head near the shoreline to locate an incubating loon on an active nest. Keep your distance.
- Common Loon eggs vary in color and speckled pigmentation and are about 3 to 4 inches in diameter
- The nest on the lower left is an example of a hummock nest.
- Small islands are strongly preferred by loons because they offer quick easy escape routes (below center).
- Loons will often deposit their eggs on bare ground with little or no vegetation protecting the eggs (below right).

Water level fluctuations can influence nest characteristics. Loons can adapt to gradual rises in water levels by adding vegetation to elevate the nest. Rapid rises in water often result in nest failure by flooding the nest. Reductions in water levels can make the nest unavailable to the adults, stranding the nest on

Newly Hatched Chicks



Newly hatched chicks are covered with black downy feathers. Chicks leave the nest and begin swimming with the adults within 24 hours of hatching.

Chick Nursery Areas



Nursery Areas

The parents often move the chicks to a nursery area characterized by shallow backwater where the loon family stays for the first four weeks after chicks are hatched. They prefer a site that is protected from winds and wind-generated waves that can separate the chicks from their parents. These areas are also perfect for bass and pike habitat so anglers need to be extra alert for loon families in these areas in June and July.

Most chicks that are lost die within the first 4 weeks.

Caring for young loon chicks



Caring for young loon chicks

Adults carry the chicks on their backs 65% of the time for the first few weeks after hatch. In this way, the chicks are protected from aquatic predators and can get warm and dry after being exposed to cold water.

Newly hatched chicks stay close to their parents because they can become water soaked quickly and are too buoyant for preening and diving very at this stage. They require a large amount of parental care.

Feeding the Young Loons



Feeding the young loons

Both parents catch fish and feed the chicks for the first couple of weeks. The chicks use a begging call to indicate hunger. This call is also used when the loon chick is fearful or searching for other loons.

An adult pair of loons raising two chicks can consume up to a ton of fish while occupying their breeding lake.

The black downy feathers of the newly hatched chick are replaced by brownish-gray down feathers when the chicks are between 10-14 days old, such as the chick in this photo.

Click on speaker icon to play chick call.

Molting into Juvenile Plumage



Molting into Juvenile Plumage

The brownish-gray downy feathers are then replaced by smoother contour feathers of the same color. This set of feathers will be retained by the juvenile until the next summer when it will experience its first complete molt.

Chicks leave their natal lake their first fall, migrating to the coastal winter ranges. This year's chicks will stay on the coast for 3 years while the adults will return to their territories again next April.

They retain the gray/brown plumage as sub-adults until they reach 3 years of age and are ready to begin breeding.

Loon Chick – Just Before Migration



Learning to fly

By the time the young are 10-11 weeks old, their juvenile plumage is complete and flight feathers have erupted enough to allow flight practice. They start to fly 11-13 weeks after their hatch date which means they are flightless until at least mid-August.

Chicks begin to fend for themselves at about 4 months of age. At this point the chicks are almost as large as their parents but they lack the colorful plumage of the adult.

Fall Staging Areas



Preparing for Migration

In September and October, the adults gather on staging lakes in preparation for the fall migration to the Pacific Coast. The first to arrive at staging lakes are the non-breeding adults and the unsuccessful breeding adults. The successful breeding adults move from their breeding lakes to staging lakes leaving their chicks behind to fend for themselves.

Loon chicks of the year will be the last to migrate, having spent up to a month on their own on their natal lake, giving themselves the longest time possible to grow. They will be making their migration journey at only 3-4 months of age as they must be off their natal lake before freeze-up occurs.

A few examples of local staging lakes include Flathead Lake, Pablo National Wildlife Reservoir, and Fort Peck lake. Several of Glacier's larger lakes may be used as pre-staging lakes.

Migration-staging lakes are re-used if they have an adequate food supply. These lakes become part of the migration repertoire of common loons throughout their lifetimes. Some migration-staging lakes are visited by hundreds of common loons at a time.

The hoot call is commonly heard among flocks at staging lakes. It is often used in family groups to maintain contact.

Click on speaker icon to play hoot call.

Sub-adult Loons



Daniel Poleschook, Jr. and Ginger Gumm

Identifying Sub-adult loons

Three sub-adult common loons on migration lake, two (left and center) show plumage of 16- week-old juveniles while the other (right) is a two-year-old juvenile.

Sub-adult loons are very similar in appearance to juveniles. It is not common to see sub-adult loons in our region during the breeding season. If a loon is seen with juvenile plumage on a lake in close proximity to an adult loon it is most likely a chick.

Adult loon in Breeding Plumage



Breeding Plumage

Once a Common Loon reaches breeding age it will look like the beautiful black and white speckled bird with which we are more familiar.

Identification of Common Loons



Daniel Poleschook, Jr. and Ginger Gumm

Identifying a Common Loon in flight

The loon is very distinctive in flight with its long legs trailing out from the tail, humped back (like the Concord Jet) and rapid wing beat. After take off, they fly low at first and slowly start to gain elevation. They circle around the lake, often giving a tremolo call until they finally clear the trees.

Once underway, their cruising speed is 75 MPH and if they are in a big hurry, they have been clocked at 100 MPH.

Common Loon vs. Similar Species

Common Loon ID Features:



- Sexes similar
- All black bill and head (no white on face)
- Black and white “necklace”
- White chest and belly
- Black back w/ white checkering and spotting
- Upperwings dark in flight; feet trail behind body

Similar Species:



Common Merganser



Barrow's Goldeneye

Identifying Common Loons versus similar species

Always look for the combination of an all black head, and a mostly black body. Both male and female adult Common Loons look similar and are rarely seen in very close proximity to other species.

Be certain of Loon identifications- use binoculars and/or a spotting scope and rule out all other species first.

In Glacier the most commonly seen similar species are the Common Merganser, the Barrow's Goldeneye and the Common Goldeneye (not pictured but similar to the Barrow's Goldeneye). To identify a Common Merganser note the large amount of white on the body and the brownish coloration of the female.

To identify the Barrow's or Common Goldeneye note the white patch on the face and the brownish coloration of the female.

Identifying Loons at a Distance



Identifying Loons at a Distance

By now you have seen many sharp close-range photos of Common Loons. Here are a few photos of more common distances and less than ideal lighting. It is important to develop your own search image of loons and be certain of your identification using binoculars or a spotting scope.

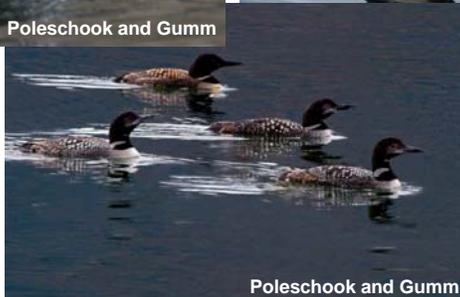
Identifying Molting Loons



Poleschook and Gumm



Poleschook and Gumm



Poleschook and Gumm

Identifying Molting Loons

(Photo above left) Adult common loons start their fall/winter molt with the loss of pigmentation at the base of the bill (about 1 cm of the proximal part of the bill of this bird has already changed as of September 13), and loss of pigmentation in the facial feathers around the bill. Note other feather changes on the neck and the loss of some of the square patterns on the scapular feathers.

(Photo above right) The appearance of an adult common loon molting from basic to alternate (breeding) plumage is shown as photographed on February 26, 2004. Note how the bill has already regained nearly total pigmentation. Observations of numbers of common loons involved in plumage changes indicate molt cycles are highly variable for different birds.

(Photo below center) This small group of adult common loons in varying stages of molt is swimming together before the final leg of their fall migration which takes them to the coastlines of North America.

Banded Birds



Look for bands on Common Loons

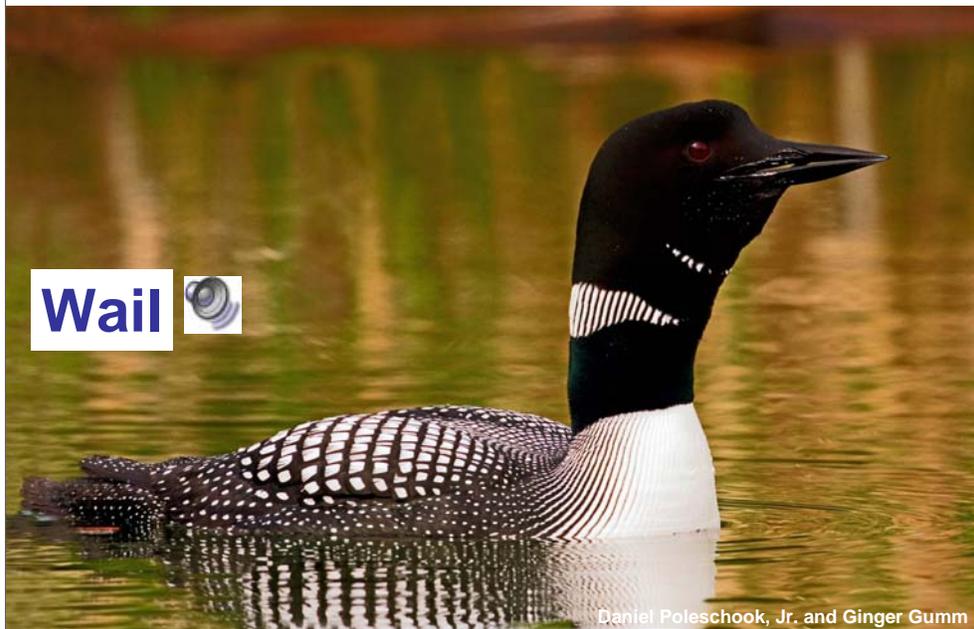
No banding is currently taking place in Glacier National Park for Common Loons. However, loons are being banded in nearby territories that could potentially show up in Glacier. Juvenile loons are also being banded while they are on their coastal wintering range. These birds may also show up in Glacier when it is time to establish their own breeding territory.

This 13th-week chick in the upper photo displays its white/yellow right leg bands while bathing. This is an opportune time to determine if a common loon has been banded, as they often display their legs above the waterline while bathing.

If a band is spotted, watch for long enough to get a clear view of both legs.

Record the color of each of the bands on both legs as well as the order that the bands are placed.

Loon Calls



Listen for loon calls

The loons distinctive call has been identified having several specific meanings. Each type of call has degrees accentuating the meaning.

The **Wail** is an interaction call used to communicate with other loons as in locating chicks or their mate. There are degrees of calls, distinguished by how many parts there are to the call. When 2 notes are heard the call it becomes a warning call, indicating the bird is disturbed by something such as an eagle, raven or a person too close. A three note wail is communication to other loons warning of some disturbance followed by a question “beware I am disturbed - where are you?”

Click on speaker icon to play the wail call.

The Tremolo Call- a Cry of Distress



The Tremolo call- a cry of distress

The **Tremolo** is the most often heard call used by Hollywood to denote peaceful lake settings. This call is actually an alarm call. When you hear a tremolo call it means the bird is frightened. A single call at a low pitch indicates the bird is slightly frightened or disturbed. Higher pitched call means the bird is more frightened and even higher pitch indicates a very excited frightened bird. This call is also the only call the bird makes in flight.

Click on the speaker icon to play the tremolo call.

The Yodel Call



The **Yodel** call.

The yodel is the most complex call and is only given by the male. This call is strong language for loons. It is used in territory issues. It can have up to 9 phrases. The greater the birds excitement the more phrases. These calls are very distinctive between birds much like a fingerprint.

When the male yodels, he lowers his head across the water and usually faces whatever is causing the territorial problem or disturbance.

In this photo an adult male loon is demonstrating the territorial and defensive yodel call while its chick listens and learns.

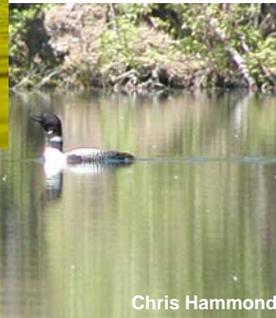
Subtle Signs of Disturbance



Daniel Poleschook, Jr. and Ginger Gumm



Chris Hammond



Chris Hammond

Watch for subtle changes in loon behavior that may indicate disturbance.

While loon calls offer an auditory signal of distress it is important to also watch for visual signs of disturbance. Being alert to subtle changes in behavior may prevent an observer from getting closer and causing further distress.

Upright wing flap (above left)

If a non-resident loon or a boat enters the territory, a loon from a resident pair may raise up out of the water, face the intruder and flash the white chest and underwings. The message seems to be “this territory is taken. I really don’t want to have to deal with you, but I will if you persist”.

Then the birds approach the intruder to communicate their territoriality a little more clearly.

People have said “the loons like me. They come right up to my boat”. While loons are curious, their usual reason for approaching during the nesting and chick-rearing seasons is territorial defense.

Submarine posture and moving off nest (above right)

When a loon wishes to remain undetected they often use the submarine posture, sinking underwater until just their head is surfaced. They may use this posture while trying to slip quietly off their nest without being detected or betraying the nest location

During the nesting season (May1-June 30) if you see one bird in the water, the other one is probably on a nest that could be nearby. If you see two birds in the water, you may have caused the nesting bird to leave the nest. Look around.

Penguin Dance- Severe Disturbance



Penguin Dance- Severe Disturbance

Loons prefer quiet isolated places. Loons are usually very sensitive toward disturbance.

They are extremely territorial towards other loons, water birds and people on their lakes or near their nests. How do you know if you are disturbing a loon?

The adult common loon in this photo is acting defensively to a stimulus that threatens its territory and/or its family by doing the upright defense display (penguin dance display). A loon demonstrating the upright defense display behavior arches upward, opens or extends its wings, stomps the water repeatedly and vigorously with its feet and places its bill in a threatening position. Tremolo or yodel calls are sometimes vocalized during this display. The upright defense display is loud, moves considerable water, and is usually highly effective at minimizing a threat. If you see this behavior, leave the area immediately since the message of this behavior is “you are too close”.

Coexisting with Loons



Coexisting with Loons

Loons and people can coexist on the same lake as long as people give the birds extra space.

Try to stay at least 100 yards from a family group. If we do this, our children and grandchildren will have a chance of the haunting calls of loons on their favorite lake.

Questions?



Daniel Poleschook, Jr. and Ginger Gumm

Final Identification Test



Jeff Stetz



Therese Hartman



NPS photo

Final Identification Test

Photo on left- Two adult Common Loons with male Common Merganser in background

Photo Upper right- Two adult Common Loons with 8 week old chick

Photo lower right- Female Common Goldeneye with chicks

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