

Common Loon

Gavia immer

REGULATORY STATUS

USFWS: Migratory Bird
USFS R2: No special status
USFS R4: Sensitive
Wyoming BLM: No special status
State of Wyoming: Protected Bird

CONSERVATION RANKS

USFWS: No special status
WGFD: NSS1 (Aa), Tier I
WYNDD: G5, S1B/S3N
Wyoming Contribution: LOW
IUCN: Least Concern
PIF Continental Concern Score: Not ranked

STATUS AND RANK COMMENTS

The Wyoming Natural Diversity Database has assigned Common Loon (*Gavia immer*) a state conservation rank for both the breeding and non-breeding season because the species has a broader state range, lower intrinsic vulnerability, and lower extrinsic stressors during migration than during the breeding season.

NATURAL HISTORY

Taxonomy:

There are no recognized subspecies of Common Loon ^{1, 2}.

Description:

Identification of Common Loon is possible in the field. Common Loon is a large waterbird, slightly larger than largest ducks. Males and females are identical in appearance, though males are larger than females. Adults range from 66–91 cm in length. During the breeding season, the bill, head, neck, back, wings, and sides are black. The belly and breast are white. The wings have rectangular white markings. The neck has two white patches, one nearly circling the neck at the base, and another higher on the neck just below the chin. These white patches have fine, black, vertical striping. Juveniles, sub-adults, and wintering birds have gray to gray-brown upperparts, a white to grayish-white throat, and a gray bill ^{1, 3}. There are no similar species during the breeding season in Wyoming.

Distribution & Range:

The breeding range of Common Loon includes most of Canada, northern portions of the United States, and limited areas outside of North America. The only breeding population in Wyoming is found in the northwestern portion of the state. This population is isolated from the remainder of the species' range by over 320 km ⁴. A few non-breeding adults are often found statewide during the breeding season and numbers of migrants that nest farther to the north pass through the state

in both spring and fall⁵. Most Common Loons migrate to coastal areas for the winter. Range contractions have occurred across southern portions of the breeding range, with local extirpations occurring in some areas. Recent range expansions have occurred in northeastern North America. The species has also recolonized areas where it was previously extirpated, such as Idaho^{1,6}.

Habitat:

During the breeding season, Common Loon uses freshwater lakes and ponds^{1,4}. The species prefers lakes with clear water, and numerous small islands, which are used for nesting. Streams are generally avoided but oxbows with minimal current may be used¹. Water bodies must be at least 2 m deep, and are generally free of human disturbance⁷. Habitat preference has not been studied in Wyoming. In Wyoming, the only known breeding locations are in and around Yellowstone and Grand Teton National Parks^{1,4,7}. In winter, the species is generally found along coastal waterways in coves, channels, bays, and open ocean, and on large, slow moving rivers¹. One female adult from Wyoming tagged with a geolocator wintered around the southern end of the Baja Peninsula⁴.

Phenology:

Spring migration of Common Loon in Wyoming occurs from mid-April to early May⁵. Incubation averages 28 days. Fledging occurs past 10 weeks¹. While actual dates of nesting events are not known in Wyoming, adults with young are expected by July⁸. Fall migration occurs in September and October. Migration continues until lakes in the state freeze over⁵.

Diet:

Diet of Common Loon is primarily comprised of live fish. In Wyoming, fish species composition of the diet is not known. In other portions of Common Loon range, Yellow Perch (*Perca flavescens*), Pumpkinseed (*Lepomis gibbosus*), and Bluegill (*L. macrochirus*) are most frequently taken. Crustaceans are sometimes eaten¹. Some loons in Wyoming nest in lakes that are fishless or have low fish populations suggesting that amphibian and invertebrate prey may be important at these sites⁴.

CONSERVATION CONCERNS

Abundance:

Continental: WIDESPREAD

Wyoming: VERY RARE

Common Loon has a widespread breeding distribution in northern North America, but breeding pairs are very rare in the western United States and Wyoming. In 2013, a total of 105 territorial pairs were recorded across Montana, Washington, Wyoming, and Idaho; the Greater Yellowstone Ecosystem (GYE) of Wyoming supported 14 of those breeding pairs as well as 8 unpaired adults⁹. In 2015, a total 17 territorial pairs were documented in the GYE⁴. From 1968–2015, annual Wyoming Breeding Bird Survey (BBS) detections of Common Loon ranged from 0 to 3, with none recorded in most years¹⁰. Common Loon was not detected during surveys for the Integrated Monitoring in Bird Conservation Regions (IMBCR) program between 2009–2015¹¹. While surveys conducted as part of the BBS and IMBCR programs may occasionally detect this species, neither is specifically designed to capture loon observations. Recent surveys in the Wind River Range of Wyoming documented a few resident loons in the breeding season which suggest that habitat could support a breeding population⁴.

Population Trends:

Historic: UNKNOWN

Recent: MODERATE DECLINE

Annual monitoring from 1987–2013 indicate that Common Loon populations are declining in Wyoming⁹. Number of nesting pairs increased slightly however in 2014 and 2015⁴. Wyoming trend data from the North American BBS suggest that Common Loon experienced annual declines from 1968–2013 and from 2003–2013, but these state estimates have low credibility and are not statistically significant¹². Survey-wide trend data from the North American BBS indicate that Common Loon numbers increased by 0.72% annually from 1966–2013 and 1.12% annually from 2003–2013; however, neither trend estimate was statistically significant¹².

Intrinsic Vulnerability:

HIGH VULNERABILITY

The Common Loon breeding population in Wyoming is extremely small and isolated from other populations making it vulnerable to extirpation⁴. Availability of breeding habitat in Wyoming is also limited and may be declining¹³. Lakes of at least 24 ha are typically used for breeding. Lakes smaller than 24 ha may be used by the species, but are typically part of a larger territory that includes other lakes and ponds. Additionally, lakes must be free of ice for at least four months of the year, and have clear, unpolluted water with some emergent vegetation^{1, 4, 6}. The species is unlikely to occupy new habitats because it has high site fidelity and low rates of dispersal⁴. Common Loon may also be limited by low fecundity. Specifically only one or two young are raised each year. Additionally, successful breeding does not normally occur until individuals are at least three years of age¹.

Extrinsic Stressors:

HIGHLY STRESSED

Common Loon is very sensitive to human disturbance. Recreational activities such as boating, hiking, and fishing may cause nest abandonment or failure^{1, 7}. Human disturbances may have led to reduced reproductive success on Loon and Moose Lakes in northwestern Wyoming¹⁴. The species may also be threatened by fluctuating water levels in lakes and reservoirs that may flood nests during runoff or increases in water storage. Reduced water levels may lead to nest abandonment and increased rates of nest predation¹. Lead is often accidentally ingested by the species which may lead to reproductive failure or death¹. Exposure to other contaminants such as heavy metals, synthetic chemicals, and cyanotoxins are of concern^{1, 6}. Mortality of loons by entanglement in gillnets used to control invasive trout on Yellowstone Lake has been documented recently⁴.

KEY ACTIVITIES IN WYOMING

Since 1987, Common Loon site occupancy and productivity surveys have been conducted annually by state and federal agencies in Wyoming. From these surveys, breeding attempts have been observed at a total of 28 lakes in the GYE¹³. Results from these surveys suggest declines in the number of breeding pairs and reduced productivity. However, these monitoring efforts have been somewhat inconsistent between the monitoring agencies and years. Starting in 2012, the Biodiversity Research Institute (BRI) initiated a 5-year, continent-wide conservation study funded by the Ricketts Conservation Foundation in partnership with state and federal agencies that includes a focused monitoring effort of the Wyoming breeding population⁴. Objectives of this project include monitoring occupancy and reproductive success at all existing loon territories, surveying potential breeding habitat, identifying anthropogenic threats to the species,

and developing measures to restore and expand the Wyoming loon population ⁴. In 2013–2105 nesting season, a total of 15 adults and 3 young have been captured and measured and sampled for genetics, stable isotope analysis, and health evaluation ⁴. Health evaluation includes both blood and feather sampling for lead, mercury, infectious disease, hemoparasites, plasma biochemistry, and hematology. A Wyoming Common Loon Working Group has been formed that meets annually to review project findings and objectives (S. Patla, pers. comm.).

ECOLOGICAL INFORMATION NEEDS

Current work on Common Loons in Wyoming focuses on monitoring the breeding population in the northwestern portion of the state and surveying for additional pairs and suitable nesting habitat outside of the documented range ⁴. The species is known to occur elsewhere in the state during the breeding season, but it is unknown if breeding occurs outside the GYE. Data currently being collected to fulfill existing information gaps include adult and juvenile survivorship, dispersal and migration movements; causes of nest failure; investigation of prey use; and evaluation of genetic and health status of this population.

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Susan M. Patla. The Wyoming Game and Fish Department and Yellowstone National Park initiated surveys of Common Loon nesting pairs in northwestern Wyoming in 1987. Beginning in 2012, BRI began a comprehensive study of loons in Wyoming as part of a continent-wide conservation effort ⁴. BRI is working with federal land management agencies and the state to expand monitoring efforts, to enact management actions including closures and deploying nest rafts where applicable to aid nesting loons, and to capture, sample, and band loons in the region. These efforts are increasing the understanding of the threats, wintering locations, health status and natural history of this breeding population. The Wyoming Loon Working Group (formed in 2013) meets on an annual basis to collaboratively work to understand and address the status, management, and future of the Wyoming loon population. Recommendations for future work include continued annual inventory and monitoring efforts of nesting pairs to track population status and determine causes of nest failure; additional survey work in other areas of the state that may support nesting pairs; investigation of translocation and other management strategies to possibly expand and increase the current extremely small breeding population; and continued data collection on habitat and prey requirements, health parameters, and winter/migration movements to aid conservation efforts. Existing nest sites should be managed to minimize the potential for degradation and disturbance given the high site fidelity of this species.

CONTRIBUTORS

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Figure 1: Adult Common Loon in breeding plumage in California. (Photo courtesy of Glen Tepke, <http://www.pbase.com/gtepke/profile>)

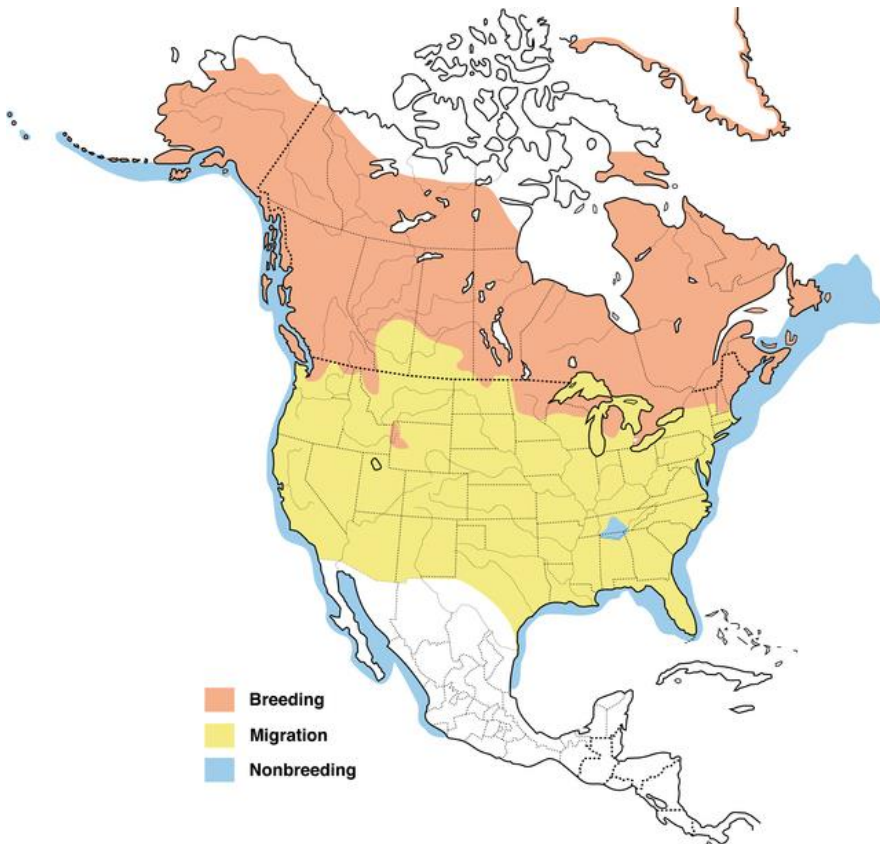
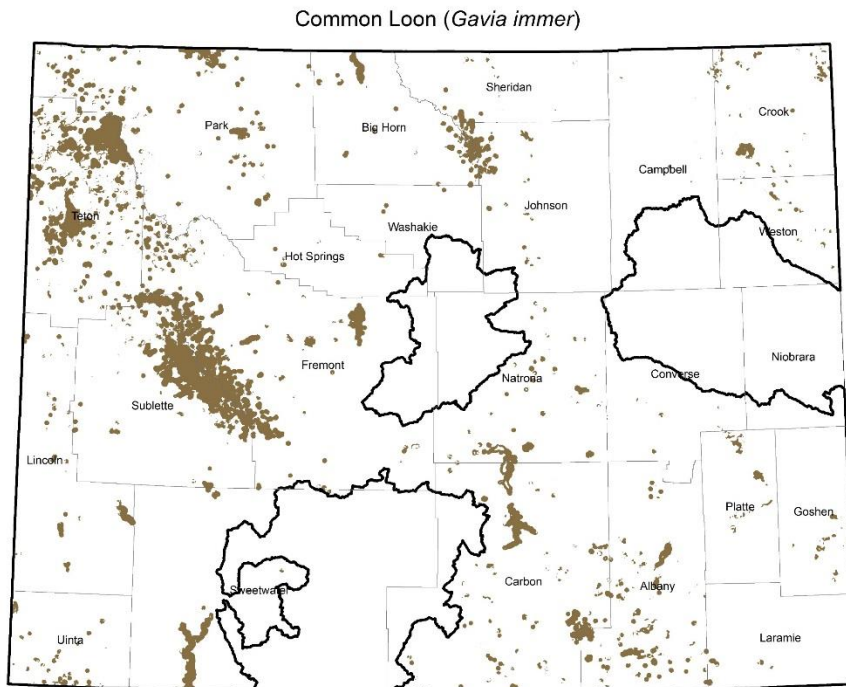


Figure 2: North American range of *Gavia immer*. (Map courtesy of Birds of North America, <http://bna.birds.cornell.edu/bna>, maintained by the Cornell Lab of Ornithology)



Figure 3: Common Loon habitat, Leigh Lake in Grand Teton National Park, Wyoming. (Photo courtesy of Susan M. Patla, WGFD)



SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: Sept. 2016.
Wyoming Game and Fish Department and Wyoming Natural Diversity Database, University of Wyoming, Laramie, Wyoming.
Note that brown indicates the predicted distribution of the species;
heavy black lines indicate outermost boundaries of possible occurrence.

Figure 4: Range and predicted distribution of *Gavia immer* in Wyoming.



Figure 5: Adult Common Loon with young on Emma Matilda Lake in Grand Teton National Park, Wyoming. (Photo courtesy of Thomas Stanton, Jackson Hole Daily)