

© Copyright, Princeton University Press. No part of this book may be distributed, posted, or reproduced in any form by digital or mechanical means without prior written permission of the publisher.

The Wildlife



For general queries, contact webmaster@press.princeton.edu

Divers

With their delicately patterned plumage – seemingly the work of a talented painter rather than comprising individual feathers – the divers are among the most attractive of all northern birds.

For many, the haunting wailing or yodelling calls of the Great Northern Diver is also redolent of the wilderness, and it is no surprise to discover that these birds have become entwined in the myths of northern dwellers. In North America the call was thought to be the anguished cry of the dead calling for lost loves, an evocation that led to the belief that the birds guided the dead to the spirit world: sometimes the skull of a diver would accompany grave goods, carved ivory eyes replacing the originals, the better for it to follow the correct path. The bird's diving abilities also led to the belief that it could see in the dark and, therefore, could restore sight to blind people, the bird diving with the blind person on its back: it was believed the prominent white markings on the backs of the Great Northern (Photo 39a) and White-billed Divers (Common Loon and Yellow-billed Loon) were shell necklaces presented to the birds in thanks. In Siberia, native people incorporated the birds into creation myths, claiming that mud dredged from the bottom of the sea and brought to the surface on a diver's webbed foot began the process of building the land. Several Inuit dances included diver masks. Today, the Canadians have the Common Loon on their one-dollar coin, as a reminder of the wilderness that holds such a special place in the country's heart. Its appearance on the coin explains why, to the occasional puzzlement of first-time visitors from Europe, the coin is frequently called a 'loonie'.

Yet despite the reverence, the birds were killed for both meat and clothing by native Arctic dwellers. The dense feathers, evolved for keeping out the chill of Arctic waters for this essentially aquatic bird, allowed a diver carcass, snugly fitted to the head, to combat winter snowstorms: the clothing of 15th century mummies found in west Greenland included an inner parka, the hood of which was made from the skins of two Red-throated Divers. The waterproof skins were also useful for carrying the means to prepare fire, the bird being gutted to produce a bag: these 'loonie bags' are still occasionally seen in Nunavut. →

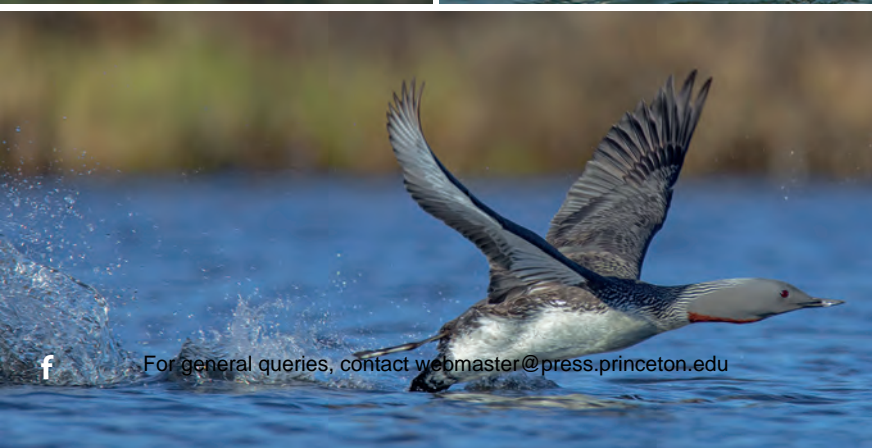
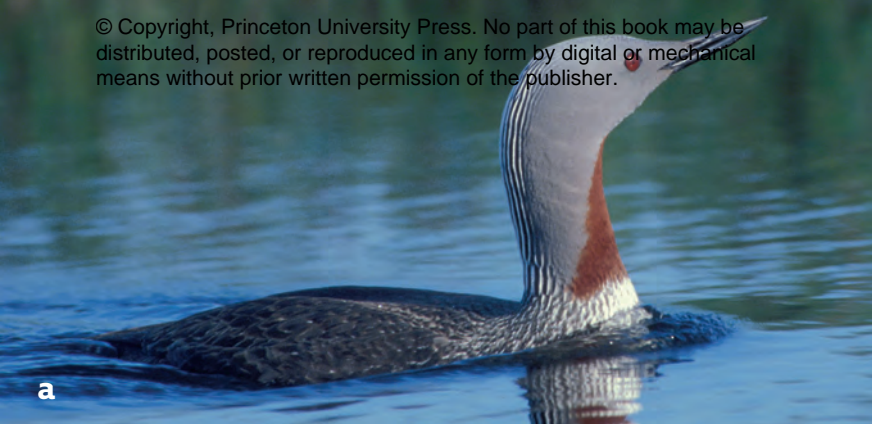
Red-throated Diver (Red-throated Loon) *Gavia stellata*

The smallest of the divers and, with a red throat that develops for the breeding season, one of the most attractive. The head and remainder of the neck are pale grey. The upperparts lack the chequer-boarding of the larger divers, being grey-brown with white speckling. In winter the grey neck and red throat are lost, the back and upper wings being covered in a myriad of white speckles: looking like the Milky Way, these spots explain the Latin name – *stellata* – stars (Photo 37e). The calls of the Red are also distinct from the voices of the other divers, being more waterfowl-like: in the UK's Shetland Islands the calls led to the bird being named the 'Rain Goose', though to be fair, given the rainfall of northern Britain most birds could be associated with its arrival. Being smaller, Red-throated Diver can nest on smaller lakes, though this often means that the local food supply is inadequate for chick-rearing, the birds having to make a large number of flights to gather food.

Circumpolar breeders, breeding on all the Arctic islands of Canada and Russia, though apparently absent from the New Siberian Islands. In winter the birds are seen in the North Atlantic, North Sea, Bering Sea and North Pacific.

a, b, d-f Red-throated Divers.
c Great Northern Diver.

For general queries, contact webmaster@press.princeton.edu



Great Northern Diver (Common Loon) *Gavia immer*

The scientific name *immer* (Latin for immersion) derives from the apparently magical way in which the bird dives and disappears as it travels a long way underwater. A magnificent bird, with black head and a prominent red eye. The throat is black, ringed by a black-and-white striped collar, with broader areas of striping on the sides of the neck. The upperparts are checked black-and-white, the underparts white. The sexes are similar. In winter the red eye is lost, as is the chequerboard back and throat collar, the bird being a more uniform grey-brown.

Breeds across northern North America, including southern Baffin Island, on Greenland, Iceland, Jan Mayen and (irregularly) Bear Island. In winter they may be seen off both coasts of the USA, and off the coasts of the British Isles and Norway.

White-billed Diver (Yellow-billed Loon) *Gavia adamsii*

Status: IUCN: Near Threatened (probable rapid population decline, in part due to subsidence over-hunting).

The largest diver. The bill of the adults varies in colour from pale yellow to ivory (which allows both European and American names to be correct). It is also held slightly upturned, this accentuated by the upward angle of the gonys. Similar to the Great Northern Diver, but the chequerboard pattern of the upperparts has fewer, but larger, white spots. The white areas of the throat stripes are also larger. In winter the plumage is again very similar to the Great Northern Diver, though the bill colour is still distinctive.

Breeds along the northern coast of Russia to the east of the Urals, and on the southern island of Novaya Zemlya. In North America breeds in northern Alaska and the central Canadian Arctic, including southern Arctic islands. Seen off the north Norway coast, around northern Japan/Kuril islands, and off southern Alaskan and west Canadian coasts in winter.

→Diver is the British name for the five species of the genus *Gavia*, (from the Latin for 'seagull') birds so highly specialized for swimming that they have considerable difficulty walking. It is this inability that is believed to be the basis of the North American name – loon – for the birds, the word deriving from the Old Norse word *lomr*, lame or clumsy. The feet are webbed between the three front toes, with the legs positioned far back on the body, allowing the thrust from the feet to be developed behind the body for maximum efficiency when diving. The wings are not used for propulsion during dives, though occasionally deployed to aid fast turning: instead, the body is held rigidly, only the feet breaking the streamlined shape. The birds are superb divers, reaching depths of up to 75m, though much shallower dives are more normal. Dives usually last about 45s, though longer dives have been recorded. Underwater, the bird draws a transparent nictitating membrane across its eye as a form of 'contact lens' so as to retain excellent vision. The dagger-like bill is a highly efficient fishing tool. Often the birds swim with their heads submerged (Photo 41b) searching for prey before actually diving.

On land, as noted above, the position of the legs makes walking difficult and divers rarely travel far from water. On land the birds move by a series of inelegant hops or an equally inelegant shuffle, with the body held at an angle. The difficulty of locomotion on land means the birds take off from water. But they are heavy – White-billed Divers may weigh 6.5kg, and even the smallest diver, the Red-throated, weighs up to 2kg – and so take-off after scurrying across the surface to obtain speed (Photo 37f). They then gain height slowly. As a consequence, divers look for long or large lakes. If the only available lake is smaller and tree-surrounded, it is not unusual for the birds to have to circle, gaining height, until they are high enough to clear the trees. Yet despite these problems, divers are strong fliers, often travelling considerable distances (up to 60km) to feed when they are rearing chicks, and making long migratory flights.→

a-c Great Northern Divers.

d-f White-billed Divers.

For general queries, contact webmaster@press.princeton.edu



Black-throated Diver (Arctic Loon) *Gavia arctica*

Similar in appearance to the Great Northern Diver, but the head and nape are pale grey and the black, and striped patches of the neck are larger. In addition to a yodelling call the birds also have a staccato, Raven-like, bark. In winter the birds lose the marvellous patterning. Nest on islets, at the lake shore and even occasionally in sheltered bays if the tidal reach is low.

Breeds in Fennoscandia, across Arctic Russia and in Kamchatka, with a few pairs also breeding in western Alaska. Siberian/west Alaskan birds are a sub-species (*Gavia arctica viridigularis*) with a green-sheen to the black throat. In winter birds are seen off the Japanese coast, and in the North Sea and North Atlantic.

Pacific Loon *Gavia pacifica*

Once considered to be a sub-species of the Black-throated Diver to which it is very similar. In breeding plumage the white throat stripes are less obvious, the head and nape paler. In winter the white flank patch of the Black-throated is diagnostic (Photo 41c). The two birds share habitats, habits and calls. Only in a few places in western coastal Alaska do the two species overlap during the breeding season: they may also overlap in winter off the coast of SE Alaska.

Breeds across North America and on the southern Canadian Arctic islands, and also in north-eastern Chukotka. In winter Pacific Divers are seen in the Bering Sea off Kamchatka and along the western US coast.

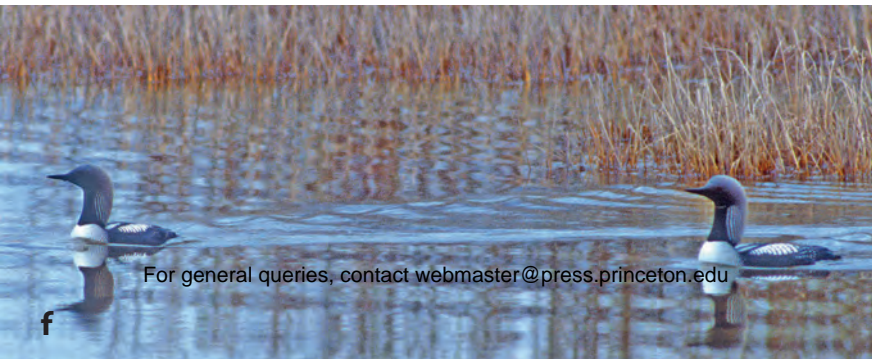
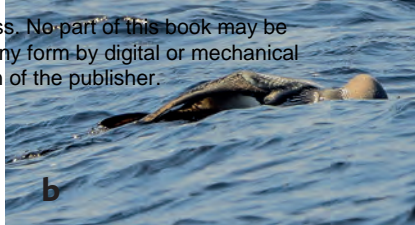
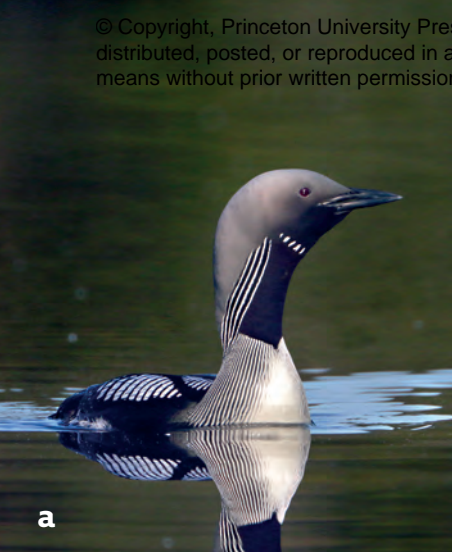
→The position of the legs also prevents the birds from landing feet first as other water birds (e.g. swans) do. In landing the diver resembles a seaplane, landing undercarriage-free on its underside. In flight the feet extend beyond the tail, a diagnostic characteristic (Photo 37d).

In winter divers are gregarious, but are solitary nesters and defend their territories aggressively against both rivals and potential predators of their eggs or young. Divers are monogamous, pairing apparently lifelong, though confirmatory evidence is scant for the larger species. Mating displays of the two larger divers involves little more than mutual bill-dipping, but the other three species include more elaborate courtship, the pair often making short, splashing runs with the body almost vertical and the bill thrust forward. Red-throated Divers can perform the most theatrical displays with side-by-side swimming, vertical calling, and long runs across the water with the bodies vertical, always with heads and bills thrusting forward, all in synchrony. The call of Red-throateds also differs from the other divers, being more goose like.

Divers eat a variety of fish species – freshwater during breeding (the Great Northern Diver has a penchant for trout in Iceland, though its Nearctic cousins prefer perch), marine at wintering quarters, though they will make do with just one kind if that is all their lake provides. They also eat amphibians and shellfish. The preferred nest site is an islet or floating mass of vegetation (Photo 37c and Photo 37b), but a marshy part of the lake shore will be used if nothing better is available. The nest, a pile of aquatic vegetation, is always close to the water because of the birds' poor walking abilities. There are usually two eggs, though one is not uncommon. The chicks are able to swim within 1 or 2 days (Photo 39b), though they often rest on their parents' backs (Photo 39c) or snuggle beneath the wings for warmth. Divers breed at two or three years of age. The birds are migratory, but do not travel far from the breeding territories.

a-c Black-throated Divers.
d-f Pacific Loons.

For general queries, contact webmaster@press.princeton.edu



Grebes

Though superficially similar to divers, grebes have some distinctly different characteristics, suggesting a very different evolutionary path. The feet are not webbed, the toes being lobed to provide the paddles necessary for pursuit of prey underwater. The paddle stroke is also different from that of divers, a surface paddling grebe using the feet one at a time, and twisting them so that they move parallel to the surface. Lacking the divers' heavy bone structure grebes reduce their buoyancy by forcing air out from between their feathers to dive. As with the divers, the feet are placed far back on the body, making walking difficult (Photo 43c).

Apart from the flight feathers, grebes shed and replace their feathers continuously throughout the year, and have the curious habit of ingesting moulted feathers, and feeding them to their chicks. The birds also drink more than would be expected for their size, the water and feathers creating a paste-like mass that can amount to half the stomach volume. At intervals paste is regurgitated, leading to the suggestion that it allows the bird to rid itself of fish bones that might otherwise damage the lining of the digestive tract. However, other fish-eaters do not share the habit. The paste may also help the birds rid themselves of intestinal parasites.

Grebes have conspicuous courtship ceremonies. A pair of birds will stand upright on the water, breast-to-breast, with the heads turning from side to side (Photo 43b). They may then swim side by side, or even rush across the water side by side while remaining upright. In the 'weed ceremony' the birds dive together, each surfacing with its bill filled with weeds. They then stand facing each other, their heads moving sideways to display the weeds. The weeds may be used to build the nest, which comprises a heap of weed floating in the chosen pond or lake. The nest is anchored to aquatic vegetation (Photo 43d). Grebes hunt fish and aquatic invertebrates with short (usually less than 30s) dives at moderate depths of up to 20m.

Grebes are poor fliers in comparison to divers, the wings beating so fast the birds appear panic-stricken. As a consequence they are rarely seen in flight at their breeding territories. Nevertheless, the two Arctic breeding grebes are migratory, moving to southern coastal waters in winter. On migration they frequently fly at night. This has led to instances where in the early morning light exhausted birds have mistaken wet roads for streams and landed. They are then stranded, being unable to take off from land.

Slavonian Grebe (Horned Grebe) *Podiceps auritus*

Status: IUCN: Vulnerable (Population declining due to habitat loss).

Handsome birds when in breeding plumage, with highly conspicuous yellow 'horns' between a black crown and black throat. The throat and flanks are chestnut, the back pale grey. Sexes similar. In winter the horns and bright colours are lost, the birds becoming similar to Red-necked Grebes. Slavonians are smaller than Red-necked Grebes and cannot compete for larger prey; this probably explains why the smaller birds are found in a wider range of habitats. However, both birds may have been forced northwards by competition from larger southern species such as the Great Crested Grebe.

Circumpolar breeder, though absent from Greenland, and confined to more southerly areas apart from Mackenzie Delta. In winter found around the British Isles, in the North and Baltic seas, and off both American coasts.

Red-necked Grebe *Podiceps grisegena*

Less handsome than their horned cousins, but attractive birds with black crowns, white or pale grey faces and a red neck in breeding plumage. The upperparts are grey-brown, the underparts paler. Sexes similar. In winter the birds lose the bright colouration, being dull brown and white (Photo 43e). Highly territorial and very aggressive during the breeding season, Red-necked Grebes have been known to kill intruding ducks. If several chicks hatch the parents may split the brood when carrying them around.

Circumpolar breeder, though absent from Greenland and Iceland, and the High Arctic. Wintering birds are found off both coasts of America, and in the North and Baltic seas.

a-d Slavonian Grebes.

e, f Red-necked Grebes.

For general queries, contact webmaster@press.princeton.edu

