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## BREIÐAFJÖRÐUR

Breiðafjörður Bay is an extensive yet shallow bay located on the west coast of Iceland. Among its distinctive features are its shallow water, which covers a vast area, and the tide difference, which is more marked here than in other places in Iceland. These two features cause the landscape to undergo substantial changes according to the state of play of the tides. Of note, it is estimated that a quarter of Iceland's seashore is in Breiðafjörður. One other distinctive feature is the large number of islands, islets and reefs located in the inner part of the bay, which are estimated to number around 2,500.

Breiðafjörður is one of the most important areas of Iceland for birdlife and has been listed as one of the most important bird areas in Europe. Breiðafjörður is especially important for seabirds, waders, geese and sea eagle. The islands and coastline of the inner part of Breiðafjörður are protected areas according to Icelandic Act No. 54/1995 on the Conservation of Breiðafjörður. The information here will mainly deal with the most important species of birds that characterize the islands and shores of this protected area, but it is not exhaustive, either regarding the birdlife in the area or Breiðafjörður's adjacent geographical areas.

### Characteristics of the birdlife

Birdlife in Breiðafjörður is characterized by species who are totally dependent on the marine ecosystem. Some of these species nest in large colonies. In addition to the Icelandic breeding birds, thousands of other birds from a few migrant species pass through Breiðafjörður on their way from Western Europe to and from their nesting grounds in Greenland and the northern part of Canada.

### Why this abundant birdlife?

The main reason for such rich birdlife here is an abundance of food, resulting from interplay of the geography, great differences in tide levels and the sea's richness. Around 65% of the rocky shores of Iceland and 40% of all mudflats are located in Breiðafjörður. These two types of shore formation have an extremely rich biota and contain a much more diverse range of species than any other of Iceland's shore areas. These shores, together with other plant and animal marine habitats that have high species diversity, are accompanied by particularly dense colonies of seabirds and waders. Waders are especially common in spring, when they have access to abundant food on the shores of Breiðafjörður during a period of food scarcity further inland. On the other hand, seabirds dominate the area during summer, when they have both access to food from the sea and suitable nesting grounds on the islands.



## THE MAIN BIRD SPECIES

The most common bird species in the Breiðafjörður protected area during the summer months are puffin, eider and kittiwake. Eider is the dominant species during the winter, but gulls, shags and cormorants are also abundant. In Iceland white-tailed eagles are more common in Breiðafjörður than anywhere else. But, although they may be spotted throughout the year, they are not a frequent sight. Here we shall discuss some of the characteristic bird species of Breiðafjörður.

### Breeding birds

There are 35 bird species who nest regularly on Breiðafjörður's islands — almost half of the Icelandic breeding bird species. Usually 57 species nest on or around the bay. The following birds are the most common on the islands and shores alike:

**Eider** *Somateria mollissima* is a resident bird who stays close to the seashore all year round. It is estimated that up to one million eider winter in Iceland, and accordingly the eider stock is larger than all other duck populations combined; likewise, the eider makes up one of the largest bird populations of the country. The eider nests in diverse conditions on islets, islands and along shores. The eider's food is a variety of invertebrates, such as mussels, periwinkles, limpets, crustaceans and starfish. The eider has been totally protected since 1847, but is caught for food in many other countries. For centuries, co-existence between eider and humans has been a tight-knit one in Iceland.

**Puffin** *Fratercula arctica* is almost exclusively a migratory bird and the most common bird in Breiðafjörður Bay during summer, although puffins are seldom spotted close to human habitation. Puffins nest in dense colonies in grassy habitats on the islands but stay mainly at open sea during winter. Puffins eat mainly fish — in particular sand eel and capelin — but also a variety of invertebrates. The puffin is a good diver but is not good at flying. Arctic skuas, Arctic terns and kittiwakes are quite aware of the puffins' disability as they follow the puffin in flight and steal its prey.

**Black guillemot** *Cephus grylle* belongs to the auk family, like the puffin. The black guillemot is a resident bird, common around Breiðafjörður and can be seen in numerous places along the seashore. The black guillemot nests in crevasses or holes close to the ocean, frequently on land covered by large boulders, but the bird will also use buildings for nesting. The black guillemot prefers fish, such as butterfish and sand eel, but it will also eat invertebrates such as shrimp, lugworm and shellfish. Adult black guillemot are for the most part resident birds, but their young travel some distance away from Iceland during winter.



**Shag** *Phalacrocorax aristotelis* is another resident bird that stays along the shores. The greatest part of the Icelandic population nests in colonies on low rocks on islands or reefs in Breiðafjörður. The shag looks similar to the cormorant although the shag is smaller, and has a more delicate beak and a more spherical head. Its crest may be spotted on adult birds from January till spring. Sand eel is the mainstay of the shag's food during the nesting season, but bull-rout, cod (and related fish) are its most important food during autumn and winter.

**Cormorant** *Phalacrocorax carbo* is an Icelandic resident seabird but may also be found occasionally in freshwater. The cormorant nests in colonies, mainly on plain barren reefs (skerries) in Breiðafjörður and Faxaflói Bay. The young birds disperse around the country during winter, but the adult birds mainly stay close to the nesting grounds. Adult cormorants have a white area on the front of their necks below the beak and a light-coloured spot on the upper part of each leg. The cormorant catches fish, particularly bull-rout, in shallow waters. Other important food sources for the cormorant are butterfish, plaice and fish from the cod family.

**White-tailed eagle** *Haliaeetus albicilla*, commonly called the king of the birds of Iceland, is a resident bird and nests in the western part of the country. For a long time, Breiðafjörður has been the most important area for the sea eagle and two-thirds of the population can be found there. The sea eagle is steadily increasing in numbers, albeit slowly, after it became almost extinct around 1960. The eagle is very sensitive during the nesting period and therefore no one is allowed to get within 500 metres of an eagle's nest except for the landowner while working his land. The main food of the eagle during the summer period is fulmar, eider and various types of fish. The eagle enjoys absolute government protection.

**Glaucous gull** *Larus hyperboreus* is also, for the most part, a resident bird. It nests mainly on steep mountain slopes with ledges close to the sea in the western part of the country. Its largest nesting ground is at Mýrarhyrna in Grundarfjörður. The glaucous gulls' choice of food is quite variable, but its most important food types are mussels, crabs and other shore fauna, sand eels, and waste from fishing vessels. This gull also consumes the eggs and young of other species.

**Great black-backed gull** *Larus marinus* is a resident bird and the largest of the gulls. During winter the black-backed gull keeps mainly to the coast, but during summer it will move slightly inland. The black-backed gull nests in a variety of circumstances, either as single pairs or in colonies. The black-backed gull is an opportunist when it comes to food and will eat almost anything. Its main food includes various types of fish, e.g. sand eel, butterfish and capelin, but in summer it also eats the eggs and young of various species. In addition to this, it eats fish remains and other waste from human processing, as well as shellfish and animal carcasses.



**Oystercatcher** *Haematopus ostralegus* is mainly a mi-gratory bird and is commonly found nesting in the low-lands by the sea. Most Icelandic oystercatchers leave for the British Isles during the winter, but 2-3,000 remain on the south and west coasts of Iceland; a number of these stays in the Breiðafjörður area. The oystercatcher gets the bulk of its food from the shores, in particular during winter months. This food consists mainly of mus-sels and lugworms. When searching for food inland dur-ing the summer, it will predominantly search for insects and earthworms. The oystercatcher is a totally protected species.

**Fulmar** *Fulmarus glacialis* is almost exclusively a migra-tory bird and is a very common seabird around Iceland. It is sometimes confused with gulls but is not closely related to them, since it belongs to the petrel and shear-water family. The fulmar stays mainly at open sea for the greater part of the year but will arrive in its nesting grounds in early spring. It nests on islands, sea cliffs and mountain slopes along the coast, although it has also been found nesting in mountains inland.

**Kittiwake** *Rissa tridactyla* is predominantly a migratory bird and is a very common breeding bird on the rocks and cliffs of islands and the mainland. It arrives in its nesting grounds in January or February, but will mainly stay in the open ocean during the non-nesting season. The kittiwake population of Iceland has increased signifi-cantly during the last two centuries and is now one of

the largest bird populations in Iceland. Its main nesting grounds are high bird cliffs but it is also very common in Breiðafjörður Bay. Sand eel is its most important food, but kittiwakes will also eat squid and organic waste from fishing boats and fish factories.

**Arctic tern** *Sterna paradisaea* is a common migratory bird and is one of the most common and widespread Icelandic birds. Most Arctic terns arrive in Iceland from southern oceans in May, following the longest migratory flight of any Icelandic bird. They stay in Iceland until mid-August. They mainly nest in colonies in various habitats close to the sea. Arctic terns nest in many places around Breiðafjörður, but the largest nesting ground in Breiðafjörður is at Rif on the Snæfellsnes pen-insula, which is also one of the largest Arctic tern colo-nies in the whole of Iceland.

**Greylag goose** *Anser anser* is almost exclusively a mi-gratory bird and is the commonest goose species in the lowlands of Iceland. Before 1950, the greylag goose was almost unknown on the Breiðafjörður islands and in the West Fjords, but in the wake of a population increase during the following decades, the goose began nesting there. At present, greylag geese nest on islands in nu-merous areas around Breiðafjörður Bay, although sel-dom more than a few on each island. The greylag goose is more common in Breiðafjörður in late summer when thousands of geese from all over the country shed their feathers there.



Oystercatcher

JÖH

Fulmar

DB

Kittiwake

DB

## ECONOMIC USE

Throughout history, humans have used birds in various ways. In most cases for food — although not always. Eider and puffin are the commonest birds in Breiðafjörður, and are also the species that have been most utilized by humans.

**Eider farming** has been pursued from the time Iceland was settled in the mid-800s. Farmers collect eider down, a valuable commodity, from eider nests during their nesting period. Over the centuries eider husbandry has undergone development; although many of the present-day eider nesting grounds are located where former nesting grounds were located, other nesting grounds are man-made in the sense that the birds have been lured to nest in particular places. In most eider nesting grounds the farmer keeps the eider’s natural enemies at bay. The eider down is collected during May and June, cleaned during the following months and then mostly exported. For a long time, Breiðafjörður has been considered the cradle of eider down production in Iceland. Any traffic through protected eider nesting grounds is prohibited during the nesting period.

**Feather collecting:** A great number of geese and whooper swans *Cygnus cygnus* shed their feathers in Breiðafjörður during late summer. Up until the First

World War, swan feathers were collected in late summer and used for quill pens, amongst other things.

**Collecting eggs and young** for human consumption has for a long time been one of the more significant per-quisites around Breiðafjörður, although the custom has decreased during recent years. The eggs have mainly been collected from kittiwakes, black-backed gulls, glau-cous gulls and black guillemots, while the collection of young birds has mainly been from cormorants and puf-fins.

**Shooting** is not much pursued within the protected area and has mainly been carried out by those who make use of the area for their livelihoods. Most bird species are protected during summer, but hunters kill black guille-mots, shags, cormorants and gulls in winter as well as black-backed gulls and ravens *Corvus corax* to some extent all year round. There is little or no shooting of geese in the protected area, but in other places around the bay hunters shoot geese to some extent.

**Puffin hunting** by use of hand nets has been practised for centuries. Every year, sustainable hunting of over 100,000 puffins is carried out in Iceland. They come from a large population of puffins. Hunters kill most puf-fins in the Westman Islands (S-Iceland) — but a consid-erable amount of their slaughter also takes place in Breiðafjörður.



Arctic tern

DB



Eider nest

JÖH



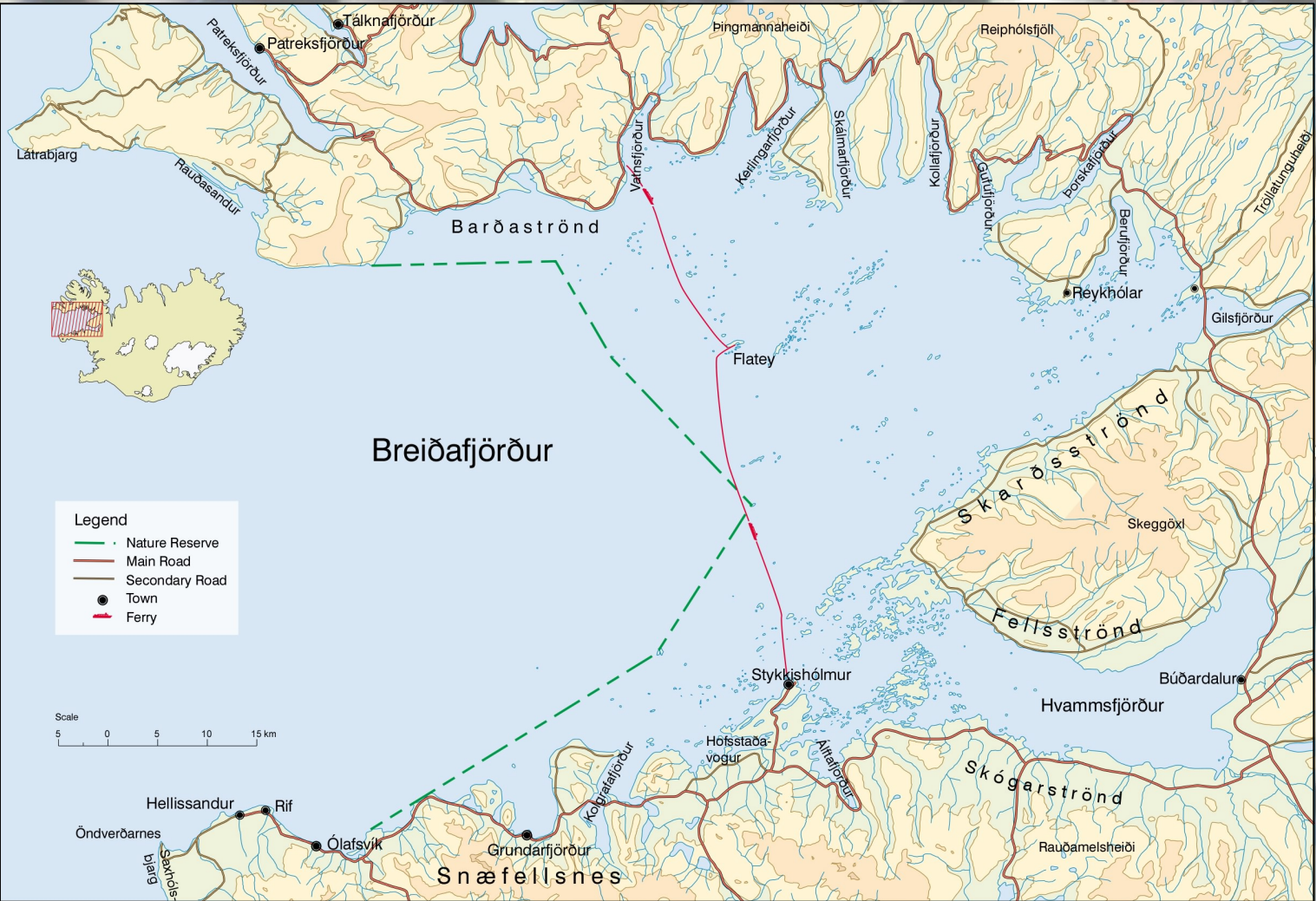
Greylag goose

JÖH



Snipe

DB



## BIRDWATCHING

Most migratory birds arrive in Iceland in April and May and begin to leave the country in late summer. By Octo-ber, most of them have left. The most favourable time for birdwatching is May and June when the number of bird species, weather conditions, access to birdwatching areas, plumage of the birds and their prominence are considered. During winter there are fewer bird species in Iceland and they mainly stay around the coast. But you may find a few species that are not seen during the summer period, such as the Iceland gull *Larus glaucoides*, king eider *Somateria spectabilis* and grey heron *Ardea cinerea*. The winter plumage of several bird species is also different from their summer plumage.

Birdwatching can be carried out almost anywhere in the Breiðafjörður area, although some parts of the area are more rewarding than others. Access for tourists to the islands is limited because of lack of transport, but a number of interesting nature sightseeing trips are of-fered from Stykkishólmur by boat or kayak. Likewise, one may travel by ferry across Breiðafjörður Bay in or-der to get to the island Flatey, where birdlife is particu-larly rich. Other interesting areas worthy of mention are Kolgrafafjörður, Hofstaðavogur and Álftafjörður on the Snæfellsnes peninsula, the road by the Fells- and

Skarðsströnd coastline, by Gufufjörður, Berufjörður, Vatnsfjörður, and the area around Reykhólar. These ar-eas differ according to season, but usually the birdlife is most prolific during spring and early summer. The mid-dle of April until the beginning of June are the best times for spotting the passage migrants.

Other interesting spots for birdwatching in the Breiðafjörður area that are located a short distance from the protected area are the magnificent Látrabjarg sea cliff formations in the northern part of Breiðafjörður, which no nature observer should miss, as well as the Þúfubjarg and Saxhólsbjarg cliffs close to the tip of the Snæfellsnes peninsula. In these areas, members of the auk family – **guillemot** *Uria aalge*, **Brünnich’s guille-mot** *Uria lomvia*, and **razorbill** *Alca torda* – nest in large colonies, but these are rare species in the pro- tected area as a whole.

In addition to the bird species mentioned above, the following spe-cies usually nest in Breiðafjörður: Red-throated diver, great northern diver, Slavonian grebe, harlequin duck, tufted duck, scaup, long-tailed duck, wigeon, mallard, teal, red-breasted merganser, goosan-der, gyrfalcon, merlin, ptarmigan, ringed plover, golden plover, dunlin, whimbrel, black-tailed godwit, redshank, purple sandpiper, red-necked phalarope, grey phalarope, Arctic skua, lesser black-backed gull, black-headed gull, herring gull, common gull, short-eared owl, meadow pipit, white wagtail, wren, wheatear, redwing, starling, redpoll and snow bunting.