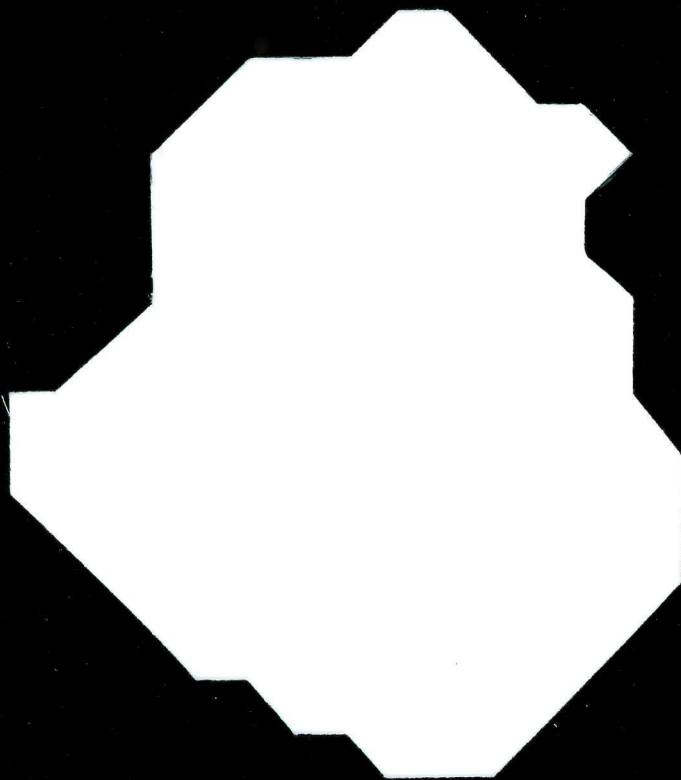


Sea-birds of Bonaventure Island

Canadian Wildlife
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In the Gulf of St. Lawrence, just two miles from the Québec village of Percé, lies Bonaventure Island. Here on its cliffs, each summer brings a remarkable display of bird life in all its social complexity. A visit to the Gaspé is incomplete without a view of the spectacular sea-bird colonies for which Bonaventure Island is famed.

The island was discovered by Jacques Cartier during his first exploration of the new world in 1534. It was used by Norman and Breton fishermen as a summer base, but it was only after 1672 that French settlement began. In that year, the first *Seigneurie de l'Île Percée* (including Bonaventure and nine miles of the coastline east of Percé) was granted to Pierre Denis. A chapel, built in 1683–87, had not long to stand, for in 1690 English privateers burned it down, drove the settlers from the island and ravaged the entire area around Percé.

Colonists returned to Bonaventure only in 1787 when Lieutenant Governor Cox obtained the concession to the island. The population increased from four families in 1815 to 35 in 1831, of

which all but two were of English, Irish or Channel Island descent. Bonaventure Island remained permanently settled until 1963. There were a few summer residents until 1972, when it was expropriated by the Quebec Government for use as a provincial park.

The island is made up of a crumbly mixture of conglomerate and red sandstone from the carboniferous era. Roughly circular in shape, it has an area of 1,800 acres and a maximum elevation of 450 feet. Cliffs on the southeastern and northeastern shores rise to a height of 250 feet. And it is here that the sea-birds gather for nesting.

Percé Rock, some 200 yards off-shore from Percé, is composed mainly of limestone of the Devonian era. This mass, 1,500 feet long and almost 300 feet high, was once two imposing arches. The remnants of one, long collapsed, is a pillar which stands, like a sentinel, near the eastern tip of the rock. The other, 80 feet wide and high, is the outstanding feature, and it is from this *pierced* formation that the name is derived.

The Gulf of St. Lawrence has a harsh climate. Frost-free days average 114 a year. The mean annual temperature is 38.8°F: the lowest monthly average is

11.5°F in January, the highest is 63.9°F in July. The mean annual precipitation is 38.6 inches, including an average snowfall of 113 inches.

Bonaventure Island lies within the mixed boreal zone, as does the southern portion of the Gaspé Peninsula bordering Chaleur Bay. Balsam fir and spruce predominate the island forest. Various shrubs, including alder, are taking over the abandoned fields. More than 320 plant species have been identified. Mammals include snowshoe hare, red fox and small rodents.

Among the sea-birds nesting on Bonaventure Island and Percé Rock are the Gannet, Double-crested Cormorant, Great Black-backed Gull, Herring Gull, Kittiwake, Black Guillemot, Razorbill, Common Murre, Common Puffin and Leach's Petrel. In addition, the island harbours many varieties of migratory insectivorous birds, especially the Blackpoll Warbler and Boreal Chickadee.

The Gannets are the most numerous of the birds breeding here, the Bonaventure colony being the largest, the most accessible and one of the most famous in the north Atlantic.

Management

When Europeans first came to North America, sea-birds nested in several colonies along the north Atlantic shores. These colonies were a godsend to the early sailors, who used them as a source of fresh meat. To fishermen, the birds provided bait and eggs. When fishermen arrived in New France in May, they found partly incubated and unpalatable sea-bird eggs. These they broke to stimulate the birds to lay new clutches, which would provide fresh eggs for the table. Such excessive and often needless exploitation severely depleted the breeding populations of sea-birds.

By the beginning of this century, some Bonaventure colonies were showing signs of decline. Various groups of naturalists agitated for protection of the birds and succeeded in arousing public opinion. The eastern and northern cliffs

of Bonaventure Island, as well as Percé Rock, were declared federal migratory bird sanctuaries on March 29, 1919. These are now administered by the Canadian Wildlife Service of the Department of the Environment.

With the creation of a provincial park on Bonaventure Island, areas formerly used by man will be allowed to return to their natural state. Vehicles will be banned from the island, and the old motor trails will be eliminated. Trails more in keeping with the surroundings will be cut in appropriate places and posted with informative signs.

Regular boat tours run by private operators circle the island, enabling passengers to see the sea-bird colonies from the water. The more energetic can disembark on the island for rambles along the trails. But they must take care never to disturb the natural features, particularly the sea-bird colonies, that make Bonaventure an island of great beauty and interest.

Percé Wildlife Centre

Outside the village of Percé, within sight of Bonaventure Island, the Canadian Wildlife Service is establishing the Percé Wildlife Centre. Open only during the tourist season, the centre will help visitors appreciate the natural history of the region. It contains an exhibit hall, small theatre, workshop and lounge.

Films, slide shows and exhibits within the building are intended merely to stimulate visitors to see the marvels of the outdoors. Naturalists will be on duty to lead groups on nature walks in the immediate area. With the co-operation of the Quebec Department of Tourism, Fish and Game, naturalists from the centre will also lead groups on visits to the sea-bird colonies of Bonaventure.

Gannet

Of all the sea-birds nesting on Bonaventure Island, the Gannet (*Morus bassanus*) has experienced the greatest growth in numbers since the sanctuary was created in 1919. P.A. Taverner, the famous Canadian naturalist, visited the island in 1914 and estimated the population at 8,000 Gannets. The estimates were 14,000 in 1938, 26,500 in 1961 and over 42,000 in 1966.

The adult is a magnificent, dazzling white bird, 34 to 40 inches long, with a wing span of up to six feet. The wing tips are jet black, the neck and head saffron yellow. In its first autumn, the young is dark slaty-brown, spotted with white. As the young bird matures, the brown feathers are replaced until, by its third year, it wears the splendid, white adult plumage.

The nests are made primarily of seaweed and are usually placed close together on a rock ledge or cliff top. Both parents incubate their single bluish

white egg for about 44 days. The young bird is born naked but is soon covered with down. It is completely dependent on its parents for food and eats so voraciously that at fledging it usually outweighs an adult. The chick remains near the nest for about 90 days before taking flight from the cliff.

The Gannet has a streamlined shape, tapered at both ends. An efficient diver, it plunges head first into the ocean from up to 100 feet in the air. The bird emerges from its usually shallow dive quite quickly, often swallowing its food first. Its prey include herring, mackerel and capelin, which normally travel in schools near the surface.

The Gannet's performance on the ground contrasts with its airborne grace. Its short legs set far back on the body make walking awkward. With wings often slightly outstretched it waddles and hops towards the edge of the cliff, sometimes scattering other birds and dashing eggs and young out of nearby nests. At the take-off point it uses its legs and wings to make a clumsy leap into the air.

As disturbance can wreak havoc in the colony, visitors should keep at least 100 feet away. The Gannet in the photo defends its nest from an intruder.

North American Gannets breed on Anticosti, Bonaventure and Magdalen islands in the Gulf of St. Lawrence; on Funk and Baccalieu islands off Newfoundland's east coast, and on Cape St. Mary's on its south coast. The Gannet migrates south to winter off the coast from Virginia to Florida.



Double-crested Cormorant

A large bird, 29 to 35 inches long, the Double-crested Cormorant (*Phalacrocorax auritus*) is mainly a shiny, greenish black. The skin around the eyes and the naked throat pouch are orange yellow. In its first year, the bird is mostly dark-brown with a brown-streaked buff underside.

The nest is made of sticks, weed stalks and seaweed placed on bare or soil-covered rocks, islets, cliff tops and ledges (as in photo), and in trees near the water. The female usually lays three or four pale, greenish-blue eggs, incubated by both parents in about 28 days. Born featherless and helpless, the chick grows fairly rapidly, can fly at 7 weeks and is independent at 10.

The Cormorant resembles a duck, but its body and tail are longer. Unlike ducks, it swims with body and tail submerged and long, slender, hooked beak pointed upward. In flight, it holds its head higher than the rest of its body.

The Cormorant dives from the surface of the water for small fish which are swallowed whole. On returning to the nest to feed its young, the parent opens its beak. The chick then thrusts its head into its parent's throat and pulls out its dinner.

The Cormorant stays underwater about 20 to 30 seconds. There it propels itself with its feet and sometimes its wings. An awkward bird on land, it is no more graceful at taking off from the water. This effort is accompanied by much paddling, flapping and splashing. Once in the air it flies with steady flaps and can glide for short distances. The plumage, unlike that of other aquatic birds, is not completely waterproof. To dry itself off, the Cormorant perches with wings spread to the sun, on a rock, buoy or even a deserted dock.

The breeding grounds are in the Maritime Provinces, along the shores of the St. Lawrence River and the Great Lakes, and west through the water system of the Prairie Provinces to eastern Alberta. The regular winter range extends from Long Island, New York, to the coast of the Gulf of Mexico.



Great Black-backed Gull



At 28 to 31 inches, the Great Black-backed Gull (*Larus marinus*) is among the largest of the gulls. The adult plumage, white with distinctive black mantle, does not appear until at least the fourth year. The first-year birds are distinguished from first-year Herring Gulls by whiter tail feathers, paler under and upper parts, larger size and heavier bill.

The female nests singly or in colonies, generally on coastal islands and cliffs. She usually lays three buff to olive-brown eggs blotched and spotted with brown and purplish greys. These are laid in a depression usually lined with grass, seaweed or other vegetable matter and are incubated by both parents for 26 to 28 days.

In Canada, these gulls breed from northern Labrador, southward through coastal southern Quebec, the Gulf of St. Lawrence, the Maritime Provinces and Newfoundland. They occasionally breed inland in southern Ontario. The wintering grounds are mainly on the east coast from the Strait of Belle Isle southward through coastal southern Quebec to Nova Scotia and Newfoundland.



Herring Gull

The Herring Gull (*Larus argentatus*) is known far and wide as the *sea-gull*. This large gull, 23 to 26 inches long, bears a pearl grey mantle which distinguishes it from its Great Black-backed cousin. The wing tips are black further tipped with white, feet pale pink and bill yellow with a red spot on the lower mandible. The Herring Gull's larger size and pink feet differentiate it from the Black-legged Kittiwake.

Young Herring Gulls are mottled brown with plain dark-brown wing tips and dark bill. By the second winter, they are a paler brown mixed with white and show some grey in the mantle. By the third winter, the mantle is extensively grey and the bill paler with a dark band, somewhat similar to the adults of the smaller Ring-billed Gull.

Coastal islands, islands and boulders on inland lakes and rivers, and cliff ledges offer safety from predators and are the most common nesting habitat. Here the Herring Gull generally nests in a ground depression lined with grass, moss, seaweed and even rubbish. It nests usually in colonies, sometimes in single pairs, and occasionally with such species as terns and other gulls. The female lays two or three bluish grey to brownish eggs

irregularly splotched with dark brown and lilac. Incubation lasts from 25 to 28 days and is carried out mostly by the female.

This gull clears the shores of dead fish and marine offal. It follows fishing boats, but seldom far out to sea. It frequents garbage dumps, cultivated fields and fish processing plants and canneries.

The numbers of Herring Gulls have increased to such an extent that they are now in direct competition with some specialized species, especially terns and puffins.

The Herring Gull breeds throughout Canada south of the Arctic Circle, except for western and coastal British Columbia, most of Alberta and southern Saskatchewan. It winters on the coasts of British Columbia, the southern Great Lakes, the St. Lawrence River, and the Atlantic from Newfoundland through the Maritime Provinces.

Black Guillemot



The Black Guillemot (*Cepphus grylle*) is 12 to 14 inches long and has a pointed bill, red feet, and black summer plumage with two conspicuous white wing patches by which it is usually identified. In winter, it retains the black tail and white-patched wings but becomes pale with white underparts. Commonly called a *sea pigeon*, it somewhat resembles a small duck.

The least gregarious of the auk family, the Black Guillemot nests in small colonies or in single pairs. The female usually lays two white to greenish or buff eggs blotched with brown or purple. The nest site may be in crevices in cliff faces, among fallen rocks, or in holes dug in clay bluffs. The parents incubate the eggs for about 28 days and the young leave the nest at 29 to 39 days.

The Black Guillemot may be seen close to shore where the water is shallow and the bottom fairly rocky. Here it finds shellfish, marine worms and small fish.

This bird breeds on rocky coasts and islands near the sea from southern Ellesmere Island in the Canadian Arctic, east and south to Maine. It winters on off-shore water and at the edges and leads of pack ice on open inshore waters, along the Canadian Atlantic coast and from Hudson Bay to Igloolik in Baffin Bay.

Black-legged Kittiwake

The Black-legged Kittiwake (*Rissa tridactyla*) is a small gull 16 to 18 inches long. At first glance it looks like a small Herring Gull, but has black legs, feet and wing tips, and its bill has no red spot.

It lays two or three buff to greenish or bluish eggs, splotched with browns and grey, in cupped nests made of seaweed, moss and grass. Incubation is shared and takes 21 to 24 days.

Black-legged Kittiwakes eat small fish and plankton and will follow fishing boats for a ready supply of food. They rarely venture inland and hardly ever frequent harbours.

These birds breed in huge colonies, several of which occupy the cliffs of Bonaventure Island. They nest on narrow cliff ledges in the Canadian Arctic (Devon Island south to Button Islands near Ungava Bay) and in temperate waters (Gulf of St. Lawrence, Nova Scotia and Newfoundland). When they are not breeding, most Black-legged Kittiwakes are out at sea, but some do winter along the British Columbia coast and from the Gulf of St. Lawrence southward off the Maritime Provinces and Newfoundland. Many birds banded in Greenland, Iceland and northern Europe have been recovered on the Canadian Atlantic coast.



Razorbill

The Razorbill (*Alca torda*) is 16 to 18 inches long. It is black above and white below but in winter the adult's throat and sides of the neck are white. The thick bill, marked by a crescent-shaped white line, differentiates this auk from the murre. In autumn, a first year Razorbill looks much like an adult in winter plumage, but the young bird has a smaller, shallower bill without a white line.

The Razorbill breeds in loose colonies, sometimes mixed with murre. The nest may be in a crevice or on a turfed ledge of maritime cliffs, under rocks or overhangs, or among boulders and rocks. The female lays a single buff to greenish white egg, spotted with browns or blacks. The young hatches after a shared incubation of 33 to 36 days and takes to the water before it can fly. The fledging period is about 18 days.

This sea diver usually catches small fish near the surface, but can plunge to great depths in search of food.

The breeding grounds extend from southeastern Baffin Island along the Labrador coast and south to Newfoundland and Maine. It winters in off-shore waters from southern Labrador and Newfoundland southward.

Common Murre

The Common Murre (*Uria aalge*), 16 to 18 inches long, is dark brown above and white below. Its black bill is slender and pointed, and its head and neck are usually completely brown in summer. Some birds from Atlantic populations have a narrow white line circling the eye and extending backwards (see photo) and were thought to be a separate species. The similar but more northerly Thick-billed Murre has a shorter, thicker bill with a light mark along the gape.

This gregarious alcid nests in large dense colonies on steep maritime cliffs or on flattish rock on remote off-shore islands. On the Bonaventure cliffs as many as 4,500 pairs may be seen packed tightly together. Its single pear-shaped egg is pale greenish to bluish, variously spotted and scrawled with browns or blacks and is laid on bare rock (see photo). Incubation is shared and lasts about 32 days. The young take to the sea 18 to 25 days after hatching, about three weeks before they can fly.

The Common Murre dives and swims underwater mainly for small fish and some squid, shrimp and marine worms.

The photo shows a Razorbill (left) and a Common Murre (right). The colour is similar but the bills are different.



In eastern Canada the Common Murre breeds from the Gulf of St. Lawrence and Newfoundland north to Nanarsuk Island, Labrador. In winter it is found on off-shore waters from northern Newfoundland southward, especially on Grand Banks.





Common Puffin

Leach's Petrel

A sea-bird, 11 to 13 inches long, the Common Puffin (*Fratercula arctica*) has a broad, triangular, colourful bill. This marks it as a puffin and accounts for the nickname *sea parrot*. In winter the bill is much smaller and less gaudy but still distinctive. The Common Puffin is black above and white below but the cheeks are light grey.

It nests in colonies on coastal islands, laying a single white egg on grass or feathers at the end of a burrow dug in a grassy slope or in a rock crevice. Incubation of about 42 days is shared but the female plays the greater role. The young remain in the nest an average of 52 days until they can fly.

The Common Puffin swims underwater to catch fish and other marine animals. It takes fish, the main food of the young, back to the nest in its bill.

Puffin populations throughout the world are in a state of decline. The last count on Bonaventure Island showed only five breeding pairs.

This bird breeds from southwestern New Brunswick and eastern Newfoundland north along the Labrador coast to Nain. It winters in Atlantic waters from Newfoundland southward.

A small, sooty-coloured sea-bird, about 7 to 9 inches long, the Leach's Petrel (*Oceanodroma leucorhoa*) has black feet, a forked tail, a white rump patch and a light-brown band on the wings. This bird of Canada's east and west coasts breeds in colonies on grassy, wooded or treeless islands well-layered with soil. Here, tunnels for nesting are dug, usually by the male. A single, dull-white egg, its larger end faintly wreathed with lilac dots, is laid on a bit of vegetation at the end of a tunnel. Both parents share incubation, each taking stints which can last for as many as 96 hours without any time off for feeding. Incubation probably takes about 42 days and fledging at least 50 days.

The colony is an oddly silent place in the daytime, and a visitor may be right in the middle of it without knowing. The ground may be honeycombed with nesting tunnels but the entrances are small and quite inconspicuous, located as they are at the base of grassy hummocks. Inside the tunnels the incubating birds sit, still and silent, while their mates roam far out at sea.



With the coming of nightfall, the ocean foragers return to relieve their mates. The colony becomes alive with the hustle and bustle of this night-time activity. Wraith-like forms flit through the darkness and the air is filled with the sounds of flapping wings and eerie calls.

It is at night that the Leach's Petrel suffers most from predation. This gentle bird is easy prey for gulls, especially on moonlight nights. Cats, dogs and rats introduced to islands used for nesting can destroy an entire colony.

The Leach's Petrel is not easily seen as it spends most of its life at sea, coming ashore only to breed. It gleans from the ocean molluscs, crustaceans, small fish and oily foods left by whales. It does not regularly follow ships, but can be attracted by bits of fish liver thrown overboard.

The Leach's Petrel occurs off the British Columbia coast throughout the year. On the Atlantic coast it nests on coastal islands from southern Labrador south through Newfoundland and Quebec to Nova Scotia. It migrates southward for the winter and remains far off the coast.

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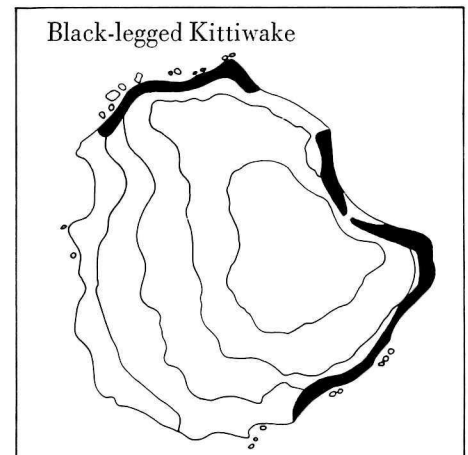
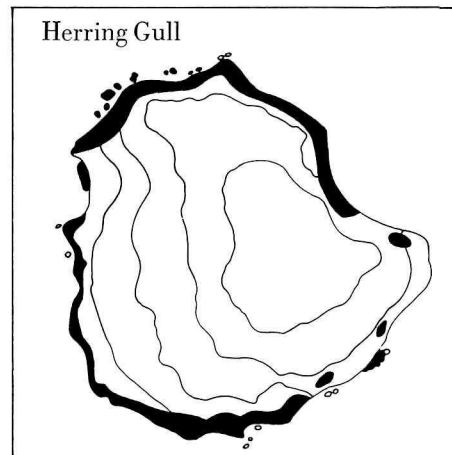
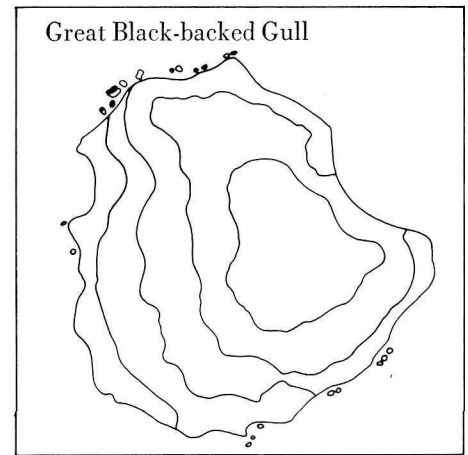
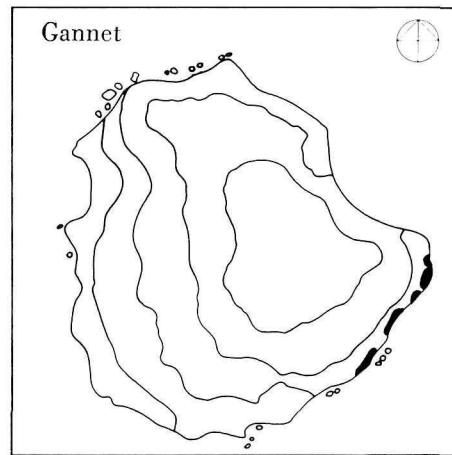
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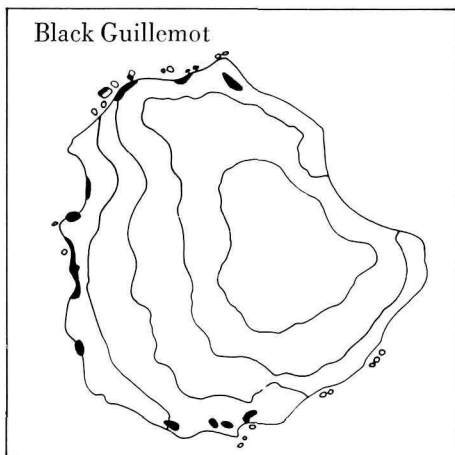
Locations of breeding colonies

These maps show where the species are located on Bonaventure Island. They do not indicate the size of the breeding populations. Herring Gulls, for example, are much fewer in number than Gannets, yet their breeding areas are much more widespread. Data on breeding distribution of the Double-crested Cormorant is not available, so a map for this species could not be included.

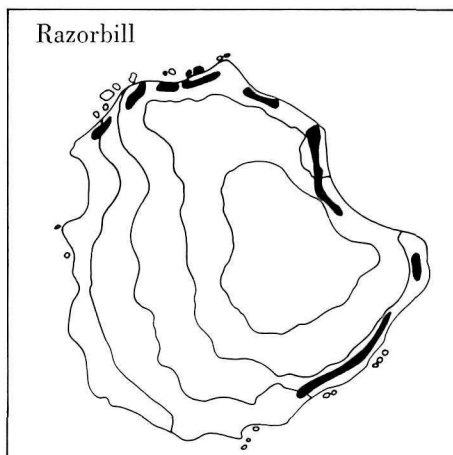
Maps after Gauthier, Poulin, Thériault et associés prepared for Inventaire de la faune pélagique, Parks Branch, Quebec Ministry of Tourism, Fish and Game.



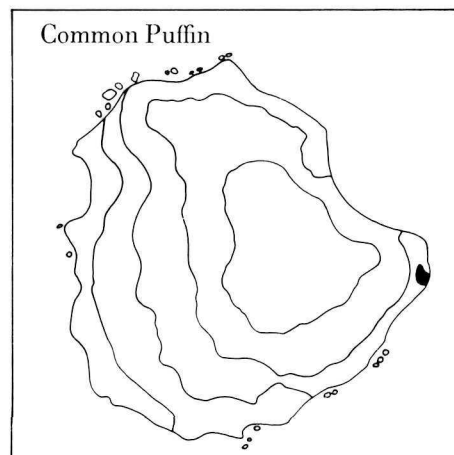
Black Guillemot



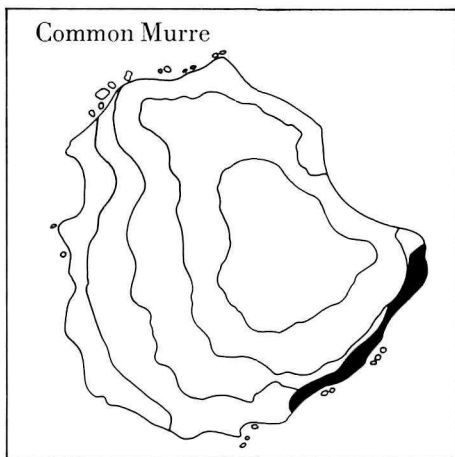
Razorbill



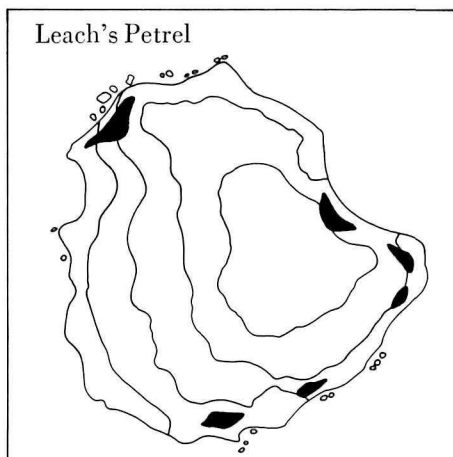
Common Puffin



Common Murre



Leach's Petrel



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