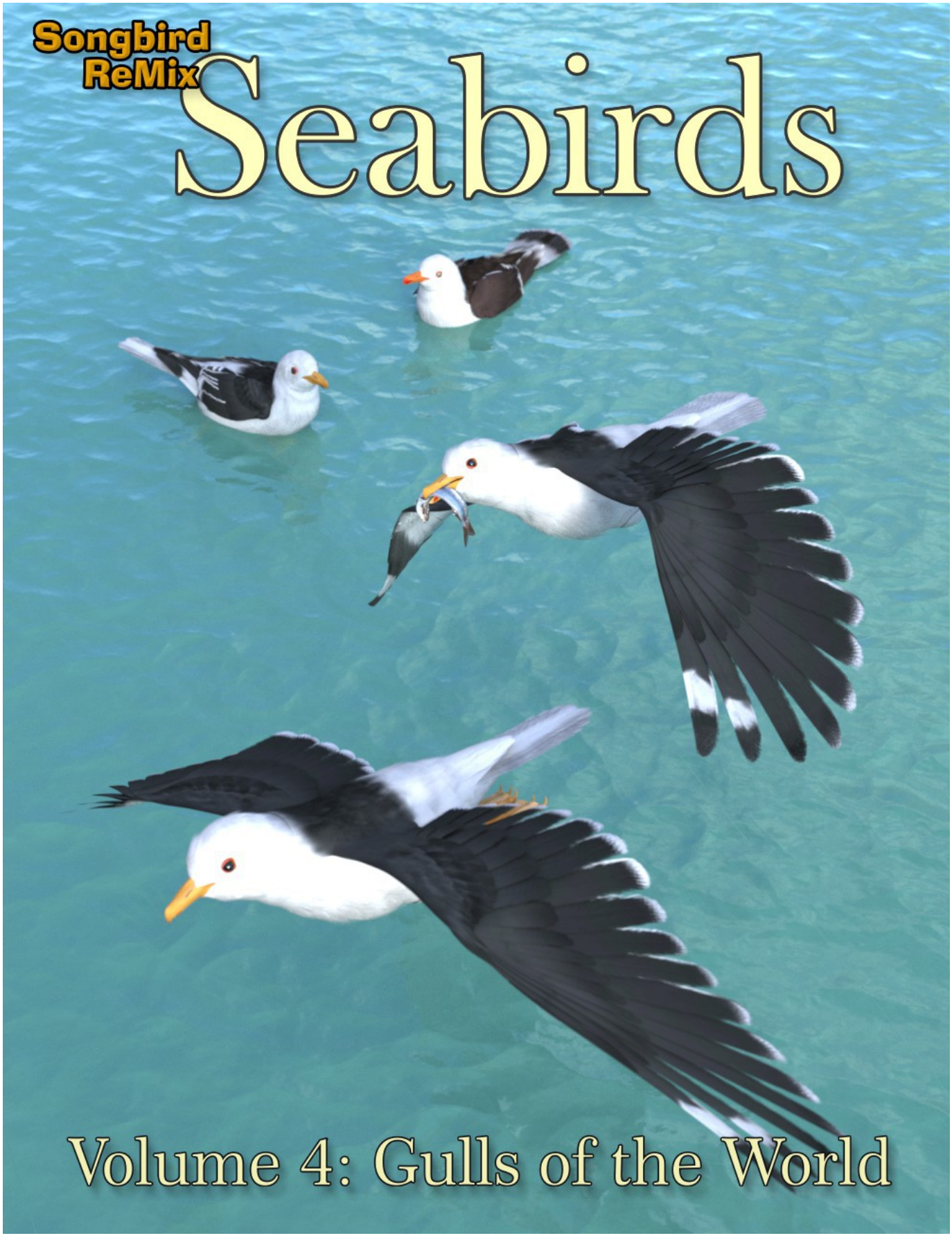


Avian Models for 3D Applications by Ken Gilliland

Songbird ReMix

Seabirds v4: Gulls

Contents

Songbird ReMix

Seabirds v4: Gulls

Introduction

“Seabirds Volume 4: Gulls” adds 13 different gulls to the Songbird ReMix library. This worldwide collection has both iconic and rare species included such as the smallest gull in the world, the Little Gull, and the rarest, the Lava Gull. It also has many common, well known species, such as the Kelp Gull, Black-legged Kittiwake and Silver Gull.

Whether you choose to create art with a message or you are simply looking for realistic and attractive birds for your imagery, this package will easily fulfill those needs.

This set comes in two versions; Poser 10+ and DAZ Studio and supports 3DL, Firefly, Iray and Superfly render engines.

Overview and Use

The set is located within the **Animals : Songbird ReMix** folder. Here is where you will find a number of folders, such as **Bird Library**, **Manuals** and **Resources** . Let's look at what is contained in these folders:

- **Bird Library:** This folder holds the actual species and poses for the "premade" birds. Birds are placed into a "type" folder (such as "Birds of Prey (Order Falconiformes)" which for example would hold falcons, hawks and eagles). The birds for this set can be found in the following folder(s):
  - **Gulls and Waders (Order Charadriiformes)**
- **Manuals:** Contains a link to the online manual for the set.
- **Props:** Contains any props that might be included in the set
- **Resources:** Items in this folder are for creating and customizing your birds
  - **Bird Base Models:** This folder has the blank, untextured model(s) used in this set. These models are primarily for users who wish to experiment with poses or customize their own species of bird. When using physical renderers such as Iray and Superfly, SubD should be turned to at least “3”.

Poser Use

Select **Figures** in the **Runtime** Folder and go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer *Firefly or Superfly*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**.

DAZ Studio Use

Go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer (*3Delight or Iray*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**. **Note:** Using the "Apply this Character to the currently selected Figure(s)" option **will not** properly apply the correct scaling to the bird selected. It is better to delete the existing character first and load the one you want to use.

Physical-based Rendering

Iray and **Superfly** requires more CPU and memory horsepower than the legacy renderers because of ray-trace bounces and higher resolution meshes needed for displacement. Poser's **Superfly** renderer will require that the "Min Transparent Bounces" be set to **at least 16** and that the "Max Transparent Bounces" be set to **at least 32** in render settings. Superfly renders may show artifacts in the head area. This is a known Poser issue and may be addressed in the future. Increasing the SubD may minimize this issue.

Posing & Shaping Considerations

This volume has various species, so when using generic poses, not every pose will work perfectly with every bird. You may find that some minor alterations to the stock poses may be warranted.

Here are some of the most common alterations you may need to make:

- Birds will not be flat on the zero plane due to leg size and overall scale.
- Because of the numerous beak shapes, closing the beak may range from 0.5 to 1+. Usually, 0.8-0.9 is about right.
- **Tongue poke-through** (especially when the beak is open). This can be easily solved by using the **Throat-Fuller1 & 2** morphs (*found in Creation Control/Head Shapes*).
- **Tail Spread2 and other morphs…** Because these are generic models, in some case, some morphs are provided that aren't normally used with a specific species of bird or have a limited use. They may find use in future expansions, so I've included them. **Tail Spread2** is one of those morphs. Very few seabird species would ever spread their tails this way, but there may come an occasion

when it does get used. This morph tends to create distortions when used with a combination of the 3 round tail morphs (Tail Round, Tail Round2 and Tail Rounder). Experimentation with those morphs will get you around the distortions.

- **“Fluff” lines.** With some lighting, seams where the “Fluff” transparency planes correct to the model may show badly. In these cases, there are 3 “work-arounds”… 1) reposition the lighting so the seam(s) doesn’t show; 2) smooth/paint it out in postwork; or 3) use the "Hide Fluff" morphs found in Correction Controls on the offending area.

IK Concerns

Some poses may go askew when IK is turned on. By default, Poser’s IK feature is turned off when loading a bird. To turn it on, select the “Figure” category from the main tool bar and “Use Inverse Kinematics” from the submenu.

By default, DAZ Studio’s IK feature is turned on when loading a bird. This will cause the thigh and shin rotations change when the character is moved. The **CTRL K** keypress will turn IK on and off in DAZ Studio. IK doesn’t work that well in Studio, so I suggest selecting the character in the **Scene tab** and simply deleting the two IK body parts to remove IK.

Where to find your Birds and Poses

Type Folder	Bird Species
Gulls and Waders (Order Charadriiformes)	Silver Gull Little Gull Andean Gull Laughing Gull Sooty Gull Pacific Gull Short-billed Gull Kelp Gull Lava Gull Grey Gull Black-legged Kittiwake Sabine's Gull Brown-headed Gull

Songbird ReMix

Seabirds v4: Gulls

Field Guide

Silver Gull
Little Gull
Andean Gull
Laughing Gull
Sooty Gull
Pacific Gull
Ring-billed Gull
Kelp Gull
Lava Gull
Gray Gull
Black-legged Kittiwake
Sabine's Gull
Brown-headed Gull

Common Name: Silver Gull
Scientific Name: *Chroicocephalus novaehollandiae*

Size: 15-16.9 inches (38–43 cm); wingspan: 35.8-37.8 inches (91-96 cm)

Habitat: Oceania; endemic to Australia, Tasmania, New Zealand and surrounding areas.

It is found in both coastal and inland locations where it frequents sandy and rocky shores, parks, beaches and rubbish dumps, and inland fields. It breeds on small islands and points, mainly with low vegetation and offshore, but also on freshwater and brackish lakes; off South Australia mostly on marine islands. In New Zealand, breeds on rocky beaches, islands, and stacks, but rarely it is found around inland lakes.

Status: Least Concern. **Global Population:** >1,000,000 mature adults with an increasing population. Abundant and increasing, especially in the south of range. Over 500,000 pairs at 200 colony sites in Australia, some of which number 40,000–50,000 pairs, some of which were founded only very recently. It is occasionally considered a pest at airports, and at colonies of other seabird species. It has declined locally with increases in other seabirds such as Kelp Gull and Australian Gannet. The population of Race *scopulinus* probably also > 500,000 pairs. As with many gulls, its numbers increased dramatically through most of 20th century, benefiting from supplementary winter food at fish-processing plants and rubbish dumps.

Diet: Very varied. Its natural diet includes cnidarians, squid, annelids, insects, crustaceans, arachnids, small fish, frogs and small birds.

It mostly forages diurnally, but also at night. The nominate race has been observed on water's surface 30 km offshore, eating pelagic amphipods has been observed forming feeding frenzies with other seabirds and dolphins. Inland flocks feed similarly on brine-shrimps. They patrol the edges of seabird colonies. In some disturbed colonies, it will opportunistically takes eggs of conspecifics, and occasionally will steal food from terns and pelicans. It scavenges along then shore and is often seen hawking flying ants and kelp-flies (sometimes in large flocks of up to 3000 birds).

Nesting: It has a white head, body and tail, blending into a gray mantle, back and wings. The outer primaries are mostly black, with white subterminal spots on the outermost three feathers, the inner feathers are white at their bases. The bill is entirely bright red. The legs are dull red, the iris is whitish, with narrow fleshy red orbital ring. The bare-part colors are duller in the west than in the east. Sexes differ in the bill depth with males > 11 mm and females < 11 mm. The juvenile has brown markings on the head, a brown-mottled mantle, the scapulars and upper wing coverts, and a dark brown subterminal band on the tail. The bill, iris and orbital ring are all dark with the legs varying from flesh to blackish in color. It molts into adult plumage at 12 months.

It usually lays eggs from March to November in western Australia, some pairs raising two broods per year; from July in the south and a 'winter' breeder in north. Race *scopulinus*, begins nesting July, with prolonged egg-laying (late September to December), with peak in October (mid November on subantarctic islands); July–October in New Caledonia. Older birds nest earlier, and produce more young. Tge territory is defended for long period in Race *scopulinus* with nest building begins 2–3 weeks prior to laying.

Nests are a shallow cup of grass, samphire, rushes, thistle stems, old remiges, dry seaweed, or whatever material is available. Fidelity to natal colony varies dramatically, from 42% in New Zealand to 80% in South Australia. The clutch is usually three eggs. Often two broods are raised in a year, and both adults share nest-building, incubation and feeding.

Cool Facts: The silver gull has a sharp voice consisting of a variety of calls. The most common call is a harsh, high pitched '*kwarwh*'.

There are three subspecies:

Silver Group

- *C. n. forsteri.* First reported by Mathews in 1912. It is endemic to northern Australia, New Caledonia and the Loyalty Islands. Race *forsteri* differs in being slightly larger than the nominate race.
- *C. n. novaehollandiae.* First reported by Stephens in 1826. The nominate race is found in southern Australia and Tasmania.

Red-billed Group

- *C. n. scopulinus*. First reported by JR Forster in 1844. This race which is also known as the "Red-billed Gull", it is found in New Zealand, breeding mainly on the eastern coasts of North Island and South Island, and inland at Lake Rotorua (North Island); also found on Stewart Island, Chathams, Bounties, Snares, Aucklands and Campbell Island. Race *scopulinus* differs from the nominate only in bill shape, sometimes it has a grayish wash to nape, rarely has white mirror on p8 and mirrors on p9–10 are shorter than wider than on same feathers in nominate.

Common Name: Little Gull
Scientific Name: *Hydrocoloeus minutus*

Size: 9.4 to 11.0 inches (24-28 cm); wingspan: 24-27 inches (62-69 cm)

Habitat: Palearctic; it has a wide distribution breeding from northern Scandinavia and the eastern Baltic Sea to eastern Siberia. They also breed in North America around the Great Lakes. It is a migratory species which winters along the coasts of Europe as far south as the Mediterranean, Black and Caspian Seas. They are uncommon in the western Pacific. In North America they winter along the Atlantic coasts in small numbers, as far south as the Carolinas.

In the early 21st Century non-breeding birds have summered in western Europe in increasing numbers and in 2016 they successfully nested for the first time in Great Britain at the RSPB reserve at Loch of Strathbeg reserve in Aberdeenshire; they returned for a few days in May 2017, but did not breed again.

It nests in areas of dense vegetation where there are emergent or plants with floating leaves in shallow freshwater bodies, slow-moving rivers, marshes and bogs, occasionally using costal lagoons or other brackish water habitats. When it is migrating this species is coastal but may be found inland in some conditions. They also winter on the coast where there are sand and mud substrates and at river mouths and even out to sea. They may be attracted to sewage outfalls.

Status: Least Concern. **Global Population:** Unknown amount of mature adults with an increasing population. It has a likely increased risk of predation of its nests and small young by colonially nesting gulls such as Franklin's or Ring-billed gulls during protracted human disturbance of Little Gull nesting area.

Diet: Varied; mostly invertebrates, such as dragonflies, beetles and midges. It is mainly insectivorous when breeding and on migration and presumably eating mainly small fish and invertebrates in winter.

Breeding birds are insectivores and feed on a variety of insects caught on the wing close to the water and in winter the diet is dominated by small fish and marine invertebrates.

Nesting: Sexes are alike. The adults in breeding plumage have a black hood, dark red bill, bright red legs, and sometimes a rosy flush to the underside. In non-breeding plumage the adults have a black cap and spot on the ear, white underparts, a black bill and the red on the legs is duller. In all plumages the adults have a pale grey back and upper-wings with white primaries contrasting with very dark gray under-wing. The juveniles have large areas of blackish colour on the back and head and in flight they have a dark "w" pattern on the upper-wings with white under-wings. By their first winter the head and body are similar to those of an adult but the upper-wing pattern is retained. By their second year they have become very similar to the adults but have some black primary feathers.

Cool Facts: It is the smallest species of gull in the world, and the only species in the monospecific genus *Hydrocoloeus.*

Common Name: Andean Gull
Scientific Name: *Chroicocephalus serranus*

Size: 17 to 19 inches (44–48 cm); wingspan: 43.3-51.2 inches (110-130 cm)

Habitat: South America; endemic to Andean lakes from northern Ecuador, western Bolivia and northwestern Argentina (Tucumán) to central Chile (Ñuble, rarely to Aisén). Individuals and small flocks also reported from southwestern Colombia at Laguna La Cocha. In winter extends to Pacific coast, mainly from central Peru to northern Chile.

During the breeding season. it frequents lakes, bogs with small ponds, marshes and fields. It breeds on riverbanks, or on small islets in altiplano lakes, usually at altitudes of 4000–5300 m, occasionally lower. It winters on the adjacent Pacific coast.

Status: Least Concern. **Global Population:** 150,000 mature adults with an unknown population. At present the species is not believed to be impacted by any factors likely to pose a genuine threat to populations of this species.

Diet: Earthworms, insects, amphibians and small fish, and sometimes eggs and chicks of various waterbirds. Outside breeding season, takes offal, marine invertebrates and fish.

Breeders feed along rivers and on grasslands.

Nesting: Sexes are alike. The breeding adult has a glossy black hood, with white rear eye-crescents. The neck is white while its back and upper-wing are gray. It has an unique wing pattern, with a broad dark band across middle of black-tipped white

primaries, creating a white-black-white-black pattern; from below. The distal half of wing is mainly blackish, with large white mirrors on three outermost primaries; the under-parts are white, sometimes suffused pink. The bill, legs and feet are blackish brown, tinged reddish. The iris is brown. Non-breeding adults lack the black head but have blackish legs. First-year birds have a complex black-and-white pattern on upper primaries and secondaries, a partially dark head, and black subterminal tail-band.

They nest mainly from July to August, but variable, depending on climate. Nests are found among tall grasses and rocks on vegetated islands, or it builds a floating nest anchored to emergent vegetation, up to 1 m above water. Nests are 1–3 m apart, usually at base of rock or vegetation. Usually 2–3 eggs are laid. It attains adult plumage by two years old.

Cool Facts: Its eggshell has reduced pores and lower water-vapor conductance than those of gulls breeding at sea-level, but water loss is greater because of increased gaseous diffusion and lower barometric pressure at high altitude.

Common Name: Laughing Gull
Scientific Name: *Leucophaeus atricilla*

Size: 14–16 inches (36–41 cm); wingspan: 39–43 inches (98–110 cm)

Habitat: North and South America; commonly found along the Atlantic and Gulf coasts of North America, Central America, and northern South America.

Primarily found along the coasts, in estuaries, and along continental shelf. It roosts on inland lakes, bays, estuaries, and impoundments, as well as on open ocean.

Status: Least Concern. **Global Population:** Unknown amount of mature adults with an increasing population. At present the species is not believed to be impacted by any factors likely to pose a genuine threat to populations of this species. Populations were nearly wiped out in the late 19th century due to hunting for feathers and eggs but have rebounded over the last century thanks to protection from legislation like the Migratory Bird Treaty Act.

Diet: A broad diet. Aquatic and terrestrial invertebrates, including earthworms, flying insects, beetles, ants, and other insects, snails, crabs, crab eggs, crab larvae, fish, squid, eggs and downy tern chicks, garbage, offal, and berries such as mulberries and blueberries.

It forages while walking by picking up food from surface of land or water; while swimming by picking up items on surface, just below surface, or emerging; while walking in water or by foot-paddling for invertebrates or horseshoe-crab eggs. In flight, it seizes insects, plunge-diving for fish, and pirates food from conspecifics or other species.

Nesting: Sexes are alike. During the breeding season, adults are easily identified by their solid black hood, contrasting white eye crescents, and a deep red bill and legs. Their back and wings are a dark gray, and the rest of their body is white.

In the winter, the black hood fades to a blurry gray mask, and the bill and legs turn dark. Immature birds are a mottled brownish-gray and take two to three years to reach full adult coloration.

Laughing gulls nest from mid to late May in the north of their range and from late April in the south. They nest in colonies which vary in size from a few pairs to 25,000. The nest site is usually on low lying coastal islands. The nest is built by both sexes from available vegetation. The clutch is usually three eggs which are incubated by both parents for 22-27 days. The chicks normally remain near to the nest for the first 5 days. They are fed and brooded by both parents. The young can fly when they are around 40 days old.

Cool Facts: The laughing gull's English name is derived from its raucous "*kee-agh*" call, which sounds like a high-pitched laugh "*ha... ha... ha...*".

There are two subspecies:

- *L. a. megalopterus.* First reported by Bruch in 1855. This race is found on islands off west North Atlantic coast of southeast Canada (sporadic or formerly), Maine to Florida, Gulf of Mexico to south Texas, Salton Sea (southeast California (formerly)), Gulf of California to Colima.
- *L. a. atricilla.* First reported by Linnaeus in 1758. The nominate race is found in the West Indies, islands off Yucatán Peninsula, islands north of Venezuela, Trinidad and Tobago and to French Guiana.

Common Name: Sooty Gull
Scientific Name: *Ichthyaetus hemprichii*

Size: 17-18.9 inches (43–48 cm); wingspan: 41.3-46.5 inches (105–118 cm)

Habitat: Eurasia and Africa; found in Bahrain, Djibouti, Egypt, Eritrea, India, Iran, Israel, Jordan, Kenya, Lebanon, Maldives, Mozambique, Oman, Pakistan, Palestine, Qatar, Saudi Arabia, Somalia, Sri Lanka, Sudan, Tanzania, United Arab Emirates, and Yemen.

It is a coastal bird, seldom going further out to sea than about 10 km (6 mi) beyond coastal reefs although it has occasionally been seen 140 km (87 mi) from land. It frequents ports and harbors, the coast, inshore islands and the intertidal zone. It seldom moves inland or visits freshwater locations. It is nomadic or partially migratory and many populations move southwards after breeding, though Red Sea populations seem to be relatively sedentary.

Status: Least Concern. **Global Population:** Unknown amount of mature adults with an declining population. Although some scientists consider the population to be increasing, the population is suspected to be in decline owing to unsustainable levels of exploitation

Diet: Predator and scavenger. It feeds on discarded fish and fish offal, other small fish that it catches itself, prawns, newly hatched turtles and the eggs and chicks of other sea birds.

Nesting: Sexes are alike. It is a distinctive dark gull, with long legs and a long bi-colored bill. The breeding adult has a blackish-brown hood extending on to the upper breast as a bib. It has an extensive white collar on the neck sides, narrower at the rear, and a narrow white crescent above the eye. The mantle, back and upper breast

are grayish brown. The wings are dark brown above and below with a white trailing edge to the inner wing. The belly, rump and tail are white. The long, heavy bill is yellowish green, with a red tip (extreme tip yellow) bordered at rear by black ring; legs dull yellowish olive; iris brown, orbital ring red. The juvenile is brown with a white rump, tail-base and belly and a black distal tail bar. Its head is often paler and the upper-part feathers have pale edging. Its eye is dark and its bill blue-gray with a black tip. Its legs are gray. First-winter birds are similar but have a uniform brown mantle and scapulars. Second winter birds show blacker flight feathers and a suggestion of the neck ring; the tail retains some black.

Breeding takes place during the summer. It usually nests in small colonies on inshore coral islands, particularly outer islands protected by reefs with rock, sand and sparse vegetation. Nests are sometimes solitary, particularly in Africa, or may be scattered among the nests of other colonial sea birds. The nest may consist of a bare scrape in the coral in an exposed position or may be protected by a coral overhang or sheltered beneath a low-growing mangrove or a seepweed bush.

Cool Facts: It is also known as the Aden gull or Hemprich's gull. The sooty gull is named in honour of the German naturalist Wilhelm Hemprich who died in 1825 while on a scientific expedition to Egypt and the Middle East with his friend Christian Gottfried Ehrenberg.

Common Name: Pacific Gull
Scientific Name: *Larus pacificus*

Size: 23-26 inches (58-66 cm); Wingspan: 54-62 inches (137-157 cm)

Habitat: Oceania; it is native to the coasts of Australia. It is moderately common between Carnarvon in the west, and Sydney in the east, although it has become scarce in some parts of the south-east, as a result of competition from the kelp gull.

Of the two subspecies, the nominate eastern race prefers sheltered beaches, and the western race *georgii* is commonly found even on exposed shores. Both subspecies nest in pairs or loose colonies on offshore islands, making a cup of grasses and sticks in an exposed position, and laying two or three mottled brown eggs.

Status: Least Concern. **Global Population:** 20,000 mature adults with a stable population. Reductions in the levels of zooplankton as a result of climate change is decreasing prey availability in seas throughout this species' range. While not having serious negative effects on population trends at present, this threat will likely only be exacerbated in the future as the effects of climate change continue. Populations have begun contracting at the northern end of the distribution in Queensland, which is ascribed to competition with the rapidly increasing population of Kelp Gull.

Diet: Various fish species and invertebrates. They frequently consume crabs. They also commonly eat Sand Flatheads and *cephalopods*, both of which are sourced from their regular consumption of waste from fish which have been cleaned on wharves and beaches. Additionally, they may eat insects, eggs, and other seabirds.

Pacific gulls are usually seen alone or in pairs, loafing around the shoreline, steadily patrolling high above the edge of the water, or sometimes flying high on the breeze to drop a shellfish or sea urchin onto rocks.

Nesting: Sexes are alike. This species is mostly white, with dark wings and back, and a very thick (when compared to other gull species), powerful, red-tipped yellow bill. They have salt glands that secrete salty water through the nostrils. Young birds are mottled-brown all over, and attain their adult plumage only gradually; by its fourth year, a young Pacific gull has usually become difficult to tell apart from an adult bird.

Cool Facts: The Pacific gull was first described by English ornithologist John Latham in 1801 from a Thomas Watling drawing, where the local name had been recorded as "*Troo-gad-dill*".

There are two subspecies:

- *L. p. pacificus.* First reported by Latham, 1801. The nominate race is found from the south-east coast of Australia to Tasmania.
- *L. p. georgii.* First reported King in 1826. This subspecies is found in South Australia and Western Australia.

Common Name: Short-billed Gull
Scientific Name: *Larus brachyrhynchus*

Size: 16-18 inches (40-45 cm); Wingspan: 39 to 47 inches (100-120 cm)

Habitat: North America; breeds in colonies along coastal areas and inland wetlands, mainly in Alaska and Northwest Canada. Most birds winter along the Pacific coast down to the Sacramento Valley, and less frequently to Baja California, the Northern Rockies and Ontario. It is a very rare visitor to eastern North America and a vagrant to east Asia. There is one recent record of a short-billed gull in Europe, on the Azores in 2003.

It occupies a wide variety of habitats, several of which are used in both summer and winter, including lakes, rivers, and rocky shores. In addition, during the breeding season, it uses tundra, marshes, streams, and islands. In winter, they chiefly forage over inshore and near-offshore marine waters, lagoons, and river estuaries; they are mainly coastal, being rare far offshore. Onshore, Short-billed Gulls may frequent flooded fields and short-grass pastures and are common, and perhaps best known, around sewage-treatment ponds and outfalls in coastal communities. This bird eats fish in coastal waters and insects and other invertebrates both along the coast and inland; occasionally, it will feed on grains and berries, depending on the availability of the main items in its diet. It employs a variety of foraging techniques, including kleptoparasitism. Nest sites depend on what is available locally, but are typically selected because they offer protection against predators and inclement weather..

Status: Least Concern. **Global Population:** 360,000 adults with a stable population. Breeding habitat loss has resulted from land reclamation, drainage, and afforestation..

Diet: Opportunistic feeders that mostly eat invertebrates, crustaceans, fish and garbage.

It will forage in flight or pick up objects while swimming, walking, or wading. They also steal food from other birds and frequently scavenge.

Nesting: Sexes are alike. It is smaller than other gulls in the Common Gull complex, with a shorter bill and longer wings. Its wings appear long and narrow in flight relative to its short body. In breeding plumage, adults have a white head, pale eyes surrounded by a red orbital skin, yellow legs and bill with no markings. In winter, the head is marked with brown mottling, the eye orbital skin becomes grayish and the bill becomes duller with a faint dark marking. In flight, the two outermost primary feathers (p9 and p10) have conspicuous white spots or "mirrors". Between p5 and p8, the primaries have white "tongue tips" which form a 'string of pearls' transitioning to the broad white trailing edge. p4 usually has a black markings in many birds. In comparison, common gulls have a larger bill and shorter wings. The wingtips of common gulls have more extensive black wingtips with smaller mirrors on p9-10, a narrower trailing edge, and typically lack black markings on p4 as well as the white tongue tip on p8.

Short-billed gulls take 3 years to attain breeding plumage. Juveniles are brownish overall with dark brown wingtips. They appear darker and more smudged on the head and neck, compared to the paler and finely-marked common gull, which more closely resembles Ring-billed gull at this stage. Many first-year birds retain juvenile plumage through the winter, but some grow grayish saddle feathers intermixed with juvenile feathers. The bill becomes pink at the base with a black tip by the first winter. Second-year birds resemble adults but may have brown wing covert feathers and black markings on the tertials, lacking white spots on the wingtips except the p10 mirror. Third-year birds are similar to adults but may have dark markings on primary coverts, secondaries, underwing and tail, with more extensive black on the wingtips.

It is facultatively colonial, and colony size can range from a few to several hundred pairs. It breeds in both marine and freshwater habitats and is both a ground and tree nester, being the only “white-headed” gull that regularly uses trees for nesting.

Cool Facts: The Short-billed Gull is remarkable for the plasticity of its habitat selection and for its reproductive and feeding behaviors. It is a characteristic bird of beaches and river estuaries along the Pacific coast in winter and is the smallest of the “white-headed” gulls in North America.

Common Name: Kelp Gull
Scientific Name: *Larus dominicanus*

Size: 21-26 (54-65 cm); Wingspan: 50-56 (128-142 cm)

Habitat: Southern Hemisphere; is mainly found in the Northern Europe with some small colonies in North America. The nominate races is found around South America, parts of Australia (where it overlaps with the Pacific gull), and New Zealand (where it is known as the black-backed gull, the “Southern black-backed gull” (aka “mollyhaw” or by its Māori name “karoro”). Race *vetula* (known as the “Cape Gull”) is endemic to Southern Africa.

The kelp gull is a rare vagrant to the United States, with the first record in 1989 on Chandeleur Islands in Louisiana. They have interbred with American herring gull on these islands, leading to intermediate birds that may backcross to one another. After Hurricane Katrina in 2005, breeding populations of the two species and their hybrids were displaced from the island, though putative hybrids have been reported elsewhere and may be the result of other offshore colonies. In 2025, a kelp gull was found living on the roof of a warehouse in Milwaukee, Wisconsin.

It breeds on freshwater lakes and marshes, and spends winters at sea.

Status: Least Concern. **Global Population:** Unknown amount of mature adults with an increasing population. The species is potentially threatened by future marine oil spills, and is susceptible to avian cholera and avian botulism so may be threatened by future outbreaks of these diseases. The species also suffers mortality from

interactions with trawler warp cables (Argentina). However, none of these threats are thought to pose a genuine threat to the population at present.

Diet: Omnivore; they will scavenge as well as seek suitable small prey. They have been observed feeding on living right whales. The kelp gull uses its powerful beak to peck down centimeters into the skin and blubber, often leaving the whales with large open sores, some of which have been observed to be half a meter in diameter. At rocky sites along the Southern African coast, they have been seen picking up shellfish and repeatedly flying up several meters and dropping them onto the rocks below in order to break them open. They have also been reported pecking the eyes out of seal pups on the coast of Namibia before attacking the blind seals in a group.

Nesting: Sexes are alike. The adult kelp gull has black upper-parts and wings. The head, under-parts, tail, and the small "mirrors" at the wing tips are white. The bill is yellow with a red spot, and the legs are greenish-yellow (brighter and yellower when breeding, duller and greener when not breeding). Juveniles have dull legs, a black bill, a dark band in the tail, and an overall gray-brown plumage densely edged whitish, but they rapidly get a pale base to the bill and largely white head and under-parts. They take three or four years to reach maturity.

The nest is a shallow depression on the ground lined with vegetation and feathers. The female usually lays 2 or 3 eggs. Both parents feed the young birds.

Cool Facts: There are five subspecies:

- *L. d. dominicanus.* First reported by Lichtenstein in 1823. The nominate subspecies in found in South America, Falklands, South Georgia, Australia and New Zealand
- *L. d. vetula.* First reported by Bruch in 1853. This race is endemic to Southern Africa.
- *L. d. judithae.* First reported by Jiguet in 2002. This race is endemic to sub-antarctic islands in the Indian Ocean.
- *L. d. melisandae.* First reported by Jiguet in 2002. This race is endemic to southern & southwestern Madagascar.
- *L. d. austrinus.* First reported by Fleming in 1924. This race is endemic to Antarctica and Antarctic islands.

Common Name: Lava Gull
Scientific Name: *Leucophaeus fuliginosus*

Size: 20-22 inches (51-55 cm); Wingspan: 51.2 inches (130 cm)

Habitat: South America; The entire population lives on the Galapagos Islands where it is found predominantly on the islands of Santa Cruz, Isabela, San Cristobal and Genovesa.

It prefers mainly sandy and gravelly beaches. It can be attracted to boats and harbors.

Status: Vulnerable. **Global Population:** 600-800 mature adults with a suspected declining population. They are primarily threatened by fishing activities, especially being caught on hooks as bycatch. Newcastle disease, brought into the Galápagos with domestic chickens, is thought to pose a particularly high risk of mortality and

morbidity in wild Lava Gulls due to their endemic nature and small population size. It is also thought they experience some direct persecution, although it is believed the numbers included are very low. Invasive non-native species also pose a threat, particularly house rats, cats and dogs which have been shown to predate Lava Gull nests.

Diet: Omnivore; generally scavenging or stealing from nests and from fishers, but will also catch fish, small crustaceans, and newly hatched lizards, iguanas, and turtles.

They also feed on sea lion placenta. On Genovesa, they exploit the kleptoparasitic behavior of the Magnificent frigatebird, capitalizing on the botched attempts by these frigatebirds to steal fish from various nesting seabirds.

It feeds almost exclusively along shores; flying 3–5 m above ground while scanning for food. It rarely settles on sea, but does perch on rocks, piers and boats. It associates with sea lions, eating placentae and fish fragments and hovers over the surface of water to snatch floating offal.

Nesting: Sexes are alike. The adult plumage consists of a sooty brown to black head, which unlike other dark hooded gulls doesn't vary by season. The wings are dark gray with a contrasting white line on the leading edge, thought to play a function in displays and camouflage. Its dark gray body contrasts with a paler gray belly. The upper-tail is white and gray lower down. The bill and legs are black, and the inside of the mouth is scarlet. It has white upper and lower eyebrows, with red lids. Immature gulls are generally dark brown.

Unlike most gulls which nest close together and sometimes touching, lava gulls are solitary nesters, rarely nesting closer than 100 meters apart. They are highly territorial, defending breeding territories of roughly 2000 sq. meters (70 m diameter) from conspecifics. They nest on the ground, often under the protection of coastal vegetation, and line the nest with plant material. They lay two olive-colored and well-camouflaged eggs that take 32 days to incubate. They generally nest close to calm water, often near lagoons. Breeding appears to be opportunistic and is not restricted to a single season. Young birds fledge at 55 days and continue to be cared for by the adults for several weeks. Potential nest predators include owls, frigatebirds and other lava gulls, as well as introduced mammals.

Cool Facts: It is also known as the “Dusky Gull”. It is currently considered the rarest gull in the world.

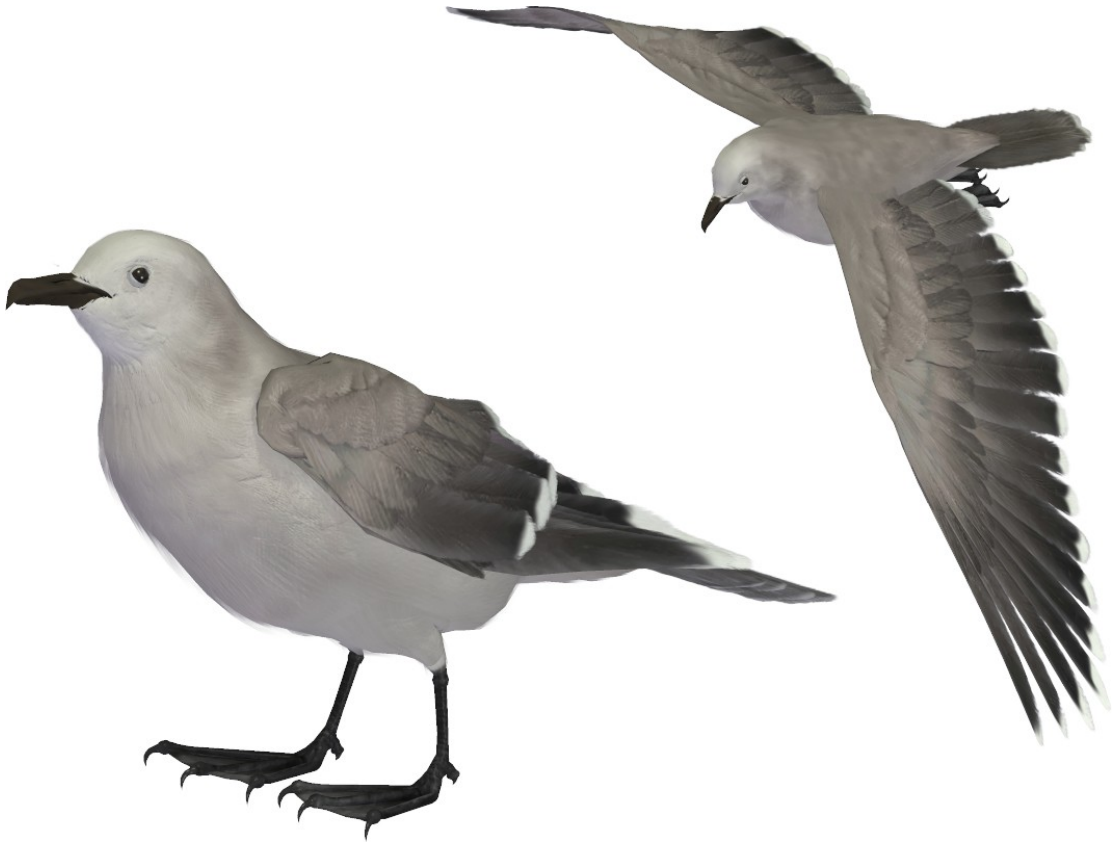
Common Name: Grey Gull
Scientific Name: *Leucophaeus modestus*

Size: 18 inches (45 cm); Wingspan: 47.2 inches (120 cm)

Habitat: South America; it breeds inland in the extremely dry Atacama Desert in northern Chile, although it is present as a non-breeding bird along much of the Pacific coast of South America. .

The typical habitat of this species is sandy beaches and mudflats along the western coasts of South America where it probes with its beak in the sediment for invertebrate prey.

Status: Least Concern. **Global Population:** Unknown amount of mature adults with a declining population. Large El Niño events can cause complete breeding failure; in both 1982/3 and 1983/4 no chicks appeared to have fledged. When food supplies are



limiting, individuals move from nesting in the desert, where there is little predation but a journey of up to 100km to the coastal feeding grounds, to nesting in coastal locations despite enhanced predation ris). Dogs are an additional, non-native source of predation capable of reducing reproductive success in a colony to zero, as noted for one of the novel coastal colonies where 40 nests were abandoned overnight with extensive signs of dog predation. However, the conditions in typical desert colonies are too extreme to support feral dogs, hence they are only likely to impact reproductive success in a significant way when breeding takes place close to the coast or urban locations. The species is also at risk from direct human interference. Large-scale mining operations have been proposed and in some cases undertaken

close to active colonies; enhanced disturbance may contribute to colony abandonment and short-term reduced reproductive success. Large scale raids of colonies have been recorded and are likely to cause colony abandonment. Egg and chick collection appears to be a frequent occurrence when colony locations become known, and may contribute to colony switching demonstrated by the species.

Diet: Invertebrates; particularly mole crabs. It also eats fish and ragworms, scavenges for offal and sometimes follows fishing boats.

Nesting: Sexes are alike. The head is white in summer but brownish-gray in winter. The body and wings are gray with the dorsal surface rather darker than the ventral region. The flight feathers are black and the inner primaries and the secondaries have white tips, visible in flight. The tail is gray-black with a white trailing edge. The legs and beak are black and the iris is brown.

The site chosen for the nest, a scrape in the sand and often near rocks, is a waterless region some 35 to 100 km (22 to 62 mi) from the coast. Once the eggs hatch, the parents take it in turn to make the round trip to the sea to bring food and water to their offspring.

Cool Facts: This gull breeds in the middle of the Atacama Desert. The humidity, wind speed, air and surface temperatures vary widely on a daily basis and the gull has to use various thermo-regulatory mechanisms when nesting to maintain its body temperature and that of its eggs and chicks within acceptable limits. In the hottest part of the day the parent bird stands over its nest to prevent the eggs or chicks overheating. Its chief predator is the turkey vulture and when threatened, the incubating parent sometimes leaves the nest temporarily, and when this happens the eggs need to have impervious shells in order to avoid losing too much water through evaporation. In fact, the evaporative loss from the eggs is found to be about one third of that which occurs in Heermann's gull (*Larus heermanni*), another desert nesting species.

Common Name: Black-legged Kittiwake
Scientific Name: *Rissa tridactyla*

Size: 15–16 inches (37–41 cm); Wingspan: 36–41 inches (91–105 cm)

Habitat: Palearctic; found all across the northern coasts of the Atlantic, from Canada to Greenland as well as on the Pacific side from Alaska to the coast of Siberia. Its wintering range extends further south from the St-Lawrence to the southern coast of New Jersey as well as in China, the Sargasso sea and off the coast of west Africa.

Out of all the gulls, the kittiwakes are the most pelagic ones, except for perhaps Sabine's gull. They are almost exclusively found at sea with the exception of the breeding period, from May to September, where they can be found nesting on the sheerest sea cliffs. They are rarely found inland, though occasional vagrants can turn up far inland, even in central Asia well over a thousand km from the sea. For the rest of the year, they spend most of their time on the wing out of sight from the coast.

Status: Vulnerable. **Global Population:** Unknown amount of mature adults with a declining population. Trophic shifts in the Atlantic appear to have removed the prey base for a large proportion of the population over a relatively short time-frame, and these appear largely to be due to climate change. Both large spills and ongoing chronic oil pollution are impacting populations of this species, and may be contributing to reduced prey abundance and poor adult condition resulting in lowered reproductive output. Certain fisheries may also have contributed to depleted food resources for the species, exacerbating population declines due to increased foraging effort and nutritional stress leading to greater adult mortality or breeding

desertion. Black-legged Kittiwakes also suffer a level of bycatch in longline fisheries, especially the Spanish Gran Sol longline fishery, for which there is virtually no monitoring of bycatch and none of the vessels operating in the fishery are currently MSC-certified. However, there is virtually no bycatch of kittiwakes in the northern Atlantic, with the species noted to be adept at removing prey without capture at least where the hooks are large. Avian flu has been recorded in the species, but to date only in very few individuals and without any indication of impacts at the population level. There is a possibility that a future outbreak could lead to significant mortality within a breeding colony.

Diet: Mostly fish; though it is not unlikely to find invertebrates such as copepods, polychete and squids in their diet, especially when fish is harder to find.

Prey is captured with the bill and swallowed whole. It feeds at surface, often in flocks, using surface-plunging, surface-seizing, and surface-dipping techniques. It will occasionally steals food from fellow kittiwakes.

Nesting: Sexes are alike. It has a white head and body, gray back, gray wings tipped solid black, black legs and a yellow bill. Occasional individuals have pinky-gray to reddish legs, inviting confusion with the similar Red-legged Kittiwake.

Kittiwakes are similar to most other gulls in their molting pattern with one full molt and one partial moult each year. The full moult from summer to winter plumage though is very protracted, beginning as early as late May or June, and continuing through summer until completed by October, or rarely as late as the end of the year. Then in early spring, there is a partial moult (head and body feathers, but not the wing or tail feathers) from winter plumage to summer plumage in March to early April.

Breeding pairs both participate in building the nest in which the female will lay their eggs. The breeding season begins with nest refurbishment in late March or early April, and egg-laying from late April, and usually ends in August. Building the nest in order to welcome their fragile eggs is a tedious task and requires time and energy. The parents begin with a layer of mud and grass in order to form a platform that will cushion and help to isolate the eggs from the cold ground. A cup is then built around the platform in order to keep the eggs from rolling out of the nest. Finally, the nest is lined with soft and dry material such as moss, grass or seaweed. The nest is solidified by a continuous trampling of the materials by the pair. Throughout this period, the male will do courtship feeding by feeding the female at their nest site. The reasons for such behaviour are not quite understood but many hypotheses have been brought up to explain the phenomenon. Hypothesis such as the "nutrition hypothesis" and the "copulation enhancement hypothesis" have shown evidence that this behavior evolved either through natural or sexual selection.

Cool Facts: The inside of their mouth is also a characteristic feature of the species due to its rich red color. Such red pigmentation is due to carotenoids pigments and vitamin A which have to be acquired through their diet. Studies show that integument color is associated with male's reproductive success. This hypothesis would explain the behavior of couples greeting each other by opening their mouth and flashing their bright mouth it to their partner while calling.

There are few studies focusing on their water needs, though they seem to prefer salt water to fresh water. Captive kittiwakes are known to refuse fresh water but will willingly drink salt water.

There are two subspecies:

- *R. t. tridactyla.* First reported by Linnaeus in 1758. The nominate race is found in the North Atlantic Ocean, from high Arctic to temperate coasts, in Greenland, Iceland, west and northwest Europe, Svalbard and northwest New Siberian Islands, the Canadian high Arctic (northeast Canada), Gulf of St. Lawrence and Newfoundland (southeast Canada). Unique among the Laridae in having only a very small or even no hind toe.
- *R. t. pollicaris.* First reported by Ridgway in 1884. This race is found in the North Pacific Ocean, from high Arctic to temperate north coasts, from the northeast New Siberian Islands to Sakhalin, Kamchatka Peninsula, Kuril and Commander Islands (east Russia), the Aleutian Islands and Bering Sea islands, and west and southwest Alaska mainland. Hind toe (as the name pollex, meaning thumb, suggests) present. It is slightly larger than the nominate.

Common Name: Sabine’s Gull
Scientific Name: *Xema sabini*

Size: 10.5-13 inches (27-33 cm); Wingspan: 32–34.5 inches (81-87 cm)

Habitat: Circumpolar; distributed across northernmost North America and Eurasia. They migrate south to the Southern Hemisphere in autumn, covering up to 32,000–39,000 km per year, the longest migration of any gull.

The Svalbard, Greenland and eastern Canadian populations of Sabine's gull usually cross the Atlantic Ocean by way of the westernmost coasts of Europe (Ireland, western Great Britain, northwest Spain, Portugal) and northwest Africa (Morocco) to winter off southwestern Africa in the cold waters of the Benguela Current off Namibia and South Africa. During their flight south, the birds spend significant time (typically around 45 days) feeding offshore in the Bay of Biscay. They may also stop at different island chains, such as the Azores and Canary Islands. Occasionally, individual Sabine's gulls can be seen on other coastlines, such as the coasts of the North Sea, and in North America in the northeastern United States and Eastern Seaboard, typically following autumn storms.

Most of the western North American and Siberian populations winters at sea in the southeast Pacific Ocean, heading to islets and outcrops off of the South American west coast from the Galápagos Islands to northern Chile, where a consistent food supply is nourished by the cold waters of the Humboldt Current. Along their migration route, Sabine's gulls make stops along the United States West Coast, and the Pacific coasts of Mexico and Central America; they can be observed on the California coast and along the Pacific coast of Baja California and Baja California Sur, Mexico.

Sabine's gull is recorded often enough inland, in North America, Europe, and even Siberia, that it has been said to exhibit "cross-continental migration" in addition to migration at sea.

It breeds in wetlands with mosses and sedges; on Southampton Island, Canada, breeds mainly in narrow band of brackish water habitat just above summer high tide line.

Status: Least Concern. **Global Population:** 340,000 mature adults with a stable population. No specific information on threats to this species has been recorded within Europe, however as an Arctic breeding species, it is likely to be vulnerable to the impacts of climate change including habitat change and ecosystem shifts. Beyond Europe, the species is hunted in Russia, including egg harvesting. Neither of these threats are believed to be significant to the species as a whole.

Diet: It feeds on a range of freshwater and terrestrial prey on the tundra (and within boreal river deltas, estuaries and coastal wetlands), including both terrestrial and aquatic beetles, springtails, craneflies, mosquitoes, midges, flower flies, molluscs, insects, arachnids, water bugs, various invertebrate larvae, crustaceans, fish, as well as nestling birds or unhatched eggs. Young chicks and eggs, while generally consumed opportunistically, may include waterfowl, Black Turnstones and Lapland Longspurs, as well as other gulls, including Sabine's gulls.

Stands and walks with body held horizontally and head held vertically; walks and runs precisely, with light steps.

Nesting: Sexes are alike. The adult has a pale gray back and wing coverts, four black outer primary flight feathers, and white inner primaries and secondaries. The white tail is slightly forked. The adult's hood darkens during breeding season to dark gray with a narrow black collar at the base of the hood. Young birds have a similar tricolored wing pattern, but the gray is replaced by brown, and the tail has a black terminal band. Juveniles take two years to attain full adult plumage. Sabine's gulls have an unusual moult pattern for gulls. Fledged birds retain their juvenile plumage through the autumn and do not start molting into their first winter plumage until they have reached their wintering grounds. Adults have their complete molt in the spring prior to the spring migration, and have a partial molt in the autumn after returning to the wintering area, a reversal of the usual pattern for gulls. Geographical variation is slight; birds from Alaska are slightly darker and perhaps bigger.

Arrival at breeding grounds and general timing of breeding highly dependent on severity of environmental conditions, particularly ice and snowmelt, at different locations and latitudes. Egg-laying commences soon after snowmelt on breeding territory and is fairly asynchronous within colony. Usually 3 eggs are laid.

Cool Facts: Sabine's Gull is an unusual and distinctive arctic gull that breeds at high latitudes but winters in coastal upwelling zones of the Tropics and Subtropics.

Common Name: Brown-headed Gull
Scientific Name: *Chroicocephalus brunnicephalus*

Size: 16.1-17.7 inches (41-45 cm); Wingspan: 41.3-45.3 inches (105-115 cm)

Habitat: Asia; breeds in the high plateaus of central Asia from Tajikistan to Ordos in Inner Mongolia. It is migratory, wintering on the coasts and large inland lakes of the Indian Subcontinent.

This gull breeds in colonies in large reedbeds or marshes, or on islands in lakes, nesting on the ground. Like most gulls, it is highly gregarious in winter, both when feeding or in evening roosts. It is not a pelagic species, and is rarely seen at sea far from coasts.

Status: Least Concern. **Global Population:** Unknown amount of mature adults with a stable population. At present there are no factors thought to pose a genuine threat to this species.

Diet: Fish, shrimp, offal, insects, grubs, slugs, earthworms, sewage, potatoes, rodents and plant shoots are consumed.

A bold and opportunist feeder, which will scavenge in towns or take invertebrates in ploughed fields with equal relish. This is a noisy species, especially at colonies.

Nesting: Sexes are alike. The summer adult has a pale brown head, lighter than that of black-headed, a pale gray body, and red bill and legs. The black tips to the primary wing feathers have conspicuous white "mirrors". The under-wing is gray with black flight feathers. The brown hood is lost in winter, leaving just dark vertical streaks.

This bird takes two years to reach maturity. First year birds have a black terminal tail band, more dark areas in the wings, and, in summer, a less homogeneous hood.

It returns to colonies in May; laying eggs at the end of May and in early June. Colony size is usually about 50 pairs, but there are reports of several thousand pairs (in Tibet). The nests are usually close together, made from masses of plant stems. Large, bulky nests are built in marshes, with smaller nests on the land. Usually three eggs are laid.

Cool Facts: “Masked” gulls have been recently moved from *Larus* to *Chroicocephalus* by scientists.

Special Thanks to my beta testers…

Alisa and FlintHawk

Species Accuracy and Reference Materials

Many birds of the same species do vary considerably in color. This package tries to emulate the colors and markings in the most commonly found variants.

The author-artist has tried to make these species as accurate to their real life counterparts as possible. With the use of one generic model to create dozens of unique bird species, some give and take is bound to occur. The texture maps were created in Painter with as much accuracy as possible. Photographic references from photographs from various Internet searches and several field guides were used.

Sources for this Volume and Field Guide

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