

U.S. Fish & Wildlife Service

Seabirds of the Pacific Northwest

Oregon Coast National Wildlife Refuge Complex
2127 SE Marine Science Drive
Newport, OR 97365
541-867-4550
www.fws.gov/oregoncoast

Washington Maritime National Wildlife Refuge
Complex
715 Holgerson Road
Sequim, WA 98382
www.fws.gov/washingtonmaritime

Refuge System Information
1-800-344-WILD

U.S. Fish & Wildlife Service
March 2008



The Significance of Seabirds

Seabirds are ocean-dwelling birds that live off the bounty of the sea, coming to land only to breed and raise their young. Largely unseen by humans in fall and winter, these birds are easily observed in spring and summer when they return from sea to colonize coastal islands, rocks, and precarious cliffs by the hundreds of thousands.

A seabird's life on land is gregarious and chaotic. As spring arrives flotillas of thousands of seabirds can be seen around nesting islands as they reinforce pair bonds and prepare to mate. Longer days bring seabirds to the height of the breeding season. Some fly underwater in pursuit of prey while others cruise the ocean surface and glean food to bring back to growing chicks.

The wild and rocky Pacific Coast provides seabirds with ideal nesting habitat. Thousands of coastal rocks and islands dot more than 500 miles extending from Washington into Northern California. Though small in size they provide safe breeding habitat for 14 species of seabirds with a population exceeding two million. Most of these rocks and islands are protected as National Wildlife Refuges and/or National Wilderness Areas and are closed to public use at all times.

Like the canary in the coal mine, seabirds are harbingers of harmful conditions in their environment. Whether natural or human-induced, disturbance and changes in ocean health are quickly reflected in reproductive success and survival. Some species of seabirds are declining and in these cases every effort must be made to protect them.





Western Gull

Tufted Puffin

Rhinoceros Auklet

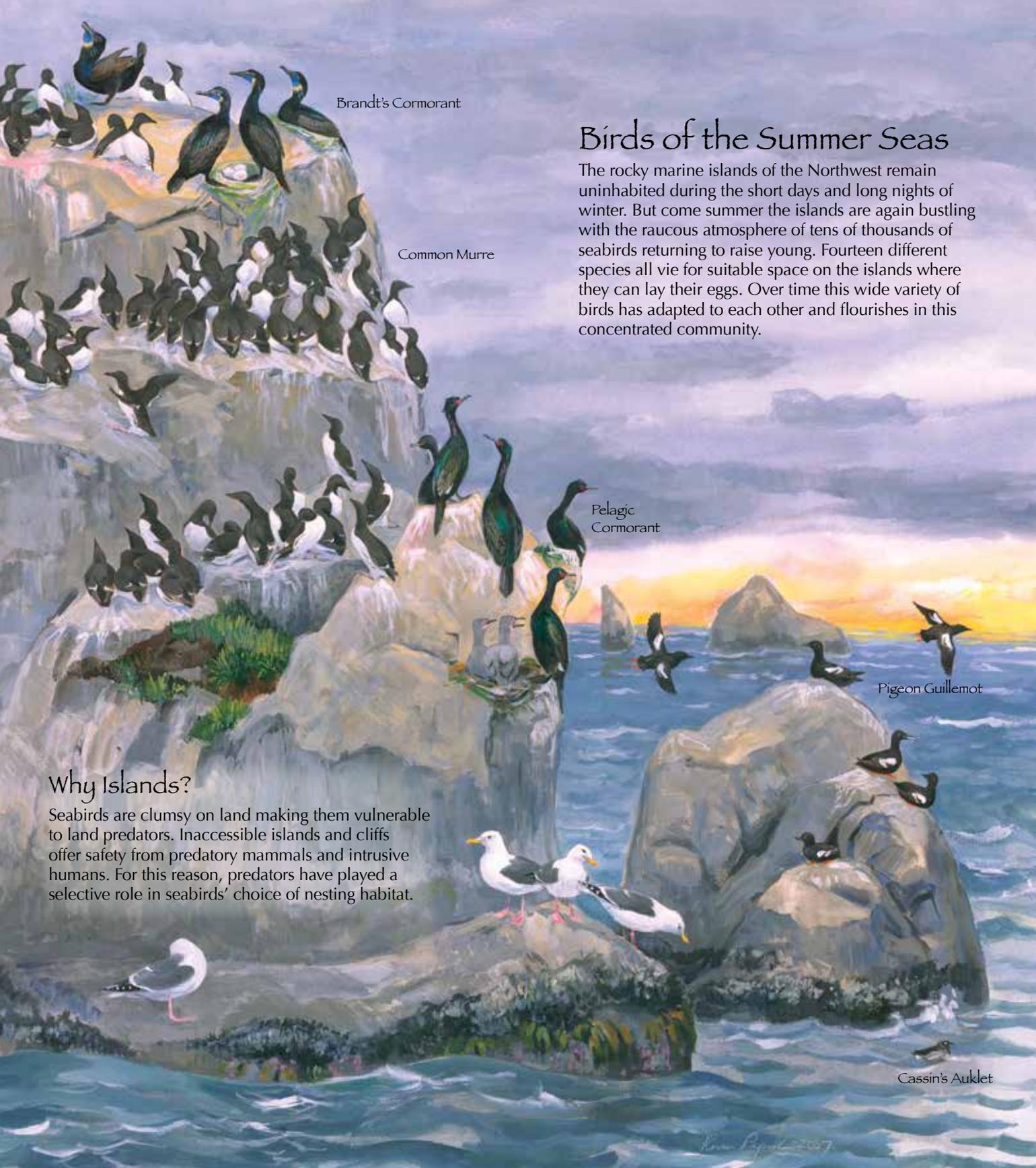
Leach's Storm-Petrel

Double-crested Cormorant

A Niche of One's Own

Space on an island is limited, but numerous species can coexist by exploiting different areas. Seabird species are found in predictable spots largely due to their different nesting strategies. They nest on the ground, on cliff ledges, in underground burrows, and in rocky crevices. Tufted Puffins stand guard at burrow entrances high on grassy slopes, Common Murres pack tightly together on level ground, and Pigeon Guillemots tuck away in dark crevices lower on the rock. Listen for the high, shrill call of Black Oystercatchers as they prowl the rocky intertidal for invertebrates.

Black Oystercatcher



Brandt's Cormorant

Common Murre

Birds of the Summer Seas

The rocky marine islands of the Northwest remain uninhabited during the short days and long nights of winter. But come summer the islands are again bustling with the raucous atmosphere of tens of thousands of seabirds returning to raise young. Fourteen different species all vie for suitable space on the islands where they can lay their eggs. Over time this wide variety of birds has adapted to each other and flourishes in this concentrated community.

Pelagic Cormorant

Pigeon Guillemot

Why Islands?

Seabirds are clumsy on land making them vulnerable to land predators. Inaccessible islands and cliffs offer safety from predatory mammals and intrusive humans. For this reason, predators have played a selective role in seabirds' choice of nesting habitat.

Cassin's Auklet

Karen Papadopoulos 2007

Common Murre

Common Murre are gregarious, clustering in dense colonies on the flat tops and wide ledges of islands. The birds nest shoulder to shoulder and may be so tightly packed that single birds returning from sea often land on the heads of others to settle in. A stark white breast contrasts sleek black feathers to create counter-shaded plumage on a bird that stands upright. Murres lay a single pear-shaped egg on bare ground. At only 4 weeks of age, the still flightless chick jumps from the cliff into the sea to join its father who teaches it to fish and avoid predation.

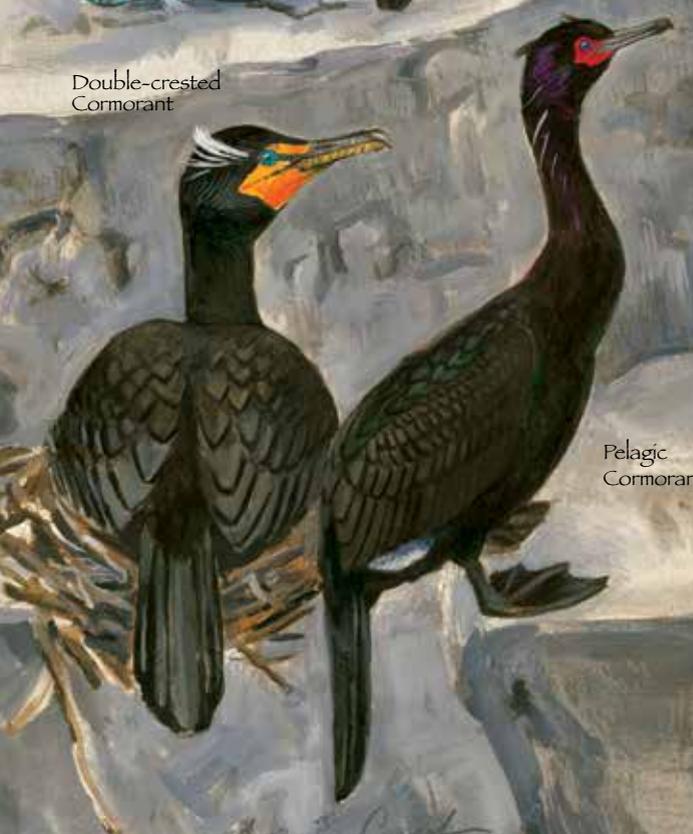


Common Murre

Brandt's
Cormorant



Double-crested
Cormorant



Pelagic
Cormorant

Cormorants

The smallest cormorant on the Pacific, **Pelagic Cormorant** have glossy purple-black feathers and bold white flank patches. They have the long, sleek necks found in all cormorants but also show a conspicuous red face and throat pouch. They nest singly or in loose colonies on narrow shelves of steep cliffs and use guano to cement together a nest of sea weeds and grasses. Cormorant use their feet to propel them when pursuing small fish in underwater dives.

Brandt's Cormorant are only found in estuaries and open ocean. These colonial nesters make a nest of guano, seaweed, and grasses on the top of rocky islands often in association with murres. A stout cormorant with glossy black feathers and a thick neck, it really stands out in the breeding season when the gular, or throat pouch, is cobalt-blue. Its neck and back have showy white plumes.

Double-crested Cormorant, the largest on the Pacific, are found in aquatic habitats across North America. Distinguish from other cormorants by thicker necks, a yellow face and gular pouch, and a long blunt bill that is hooked at the tip. They are often seen roosting with wings outstretched to dry. Dense colonies nest on bridges, islands, cliffs, and especially in trees. These social birds make their nests of sticks, bones, and feathers.



Leach's
Storm-Petrel

Cassin's
Auklet

Leach's Storm-Petrel

Leach's Storm-Petrel are small, dark, secretive birds with forked tails. They excrete salt through specialized tube-shaped nostrils on top of their bill. Their nests are well concealed in burrows and rock crevices on islands. Adults come and go under cover of darkness. They flutter above the waves and pick zooplankton from the surface of the water. Parents gather food for the single chick, which becomes very fat before it slims down enough to fly.

Cassin's Auklet

Cassin's Auklet are small, gray-plumaged birds with yellow eyes and bright blue feet. Rarely seen by people, they nest in colonies on offshore islands, coming and going under cover of darkness to avoid predators. If there is sufficient soil they will dig burrows, otherwise nests are constructed in cracks and crevices. Parents bring the single chick a purple "soup" of regurgitated crustaceans. Purple splatters outside the nest site distinguish Cassin's Auklet sites from those of other seabirds.

Tufted Puffin

Tufted Puffin

Known as sea parrots to some, **Tufted Puffin** are charismatic members of the auk family with stout black feathered bodies, a white facial patch, large colorful bills, and two yellow head tufts. They dig burrows into the grassy slopes of offshore islands and raise a single puffling on small minnow-like fish.

Rhinoceros Auklet

Rhinoceros Auklet are nocturnal and rarely seen by people. A medium-sized seabird with a strong orangish bill and dark plumage, their name is derived from a horn-like extension of the beak found on breeding adults that is shed each year. They dig burrow nests or use natural cavities, crevices, and when provided artificial nest boxes.

Rhinoceros
Auklet



Western Gull

Western Gull

Western Gull are the most common gull on the North Pacific coast and can live over 30 years. They are large with a white head and underparts, a grayish back, and pink legs. Nests are located on islands, offshore rocks, and abandoned wharves. Although three eggs are typically laid, usually only one to two chicks survive. Pairs aggressively defend their territory; chicks that venture into another's territory are in mortal danger. Western Gulls are opportunists—they will eat almost any type of live or fresh prey and discarded foodstuffs from humans.

Pigeon Guillemot

A chunky pigeon size gives the **Pigeon Guillemot** its name although it is in the same family as puffins. Smooth black plumage, white wing patches, and bright red legs and feet make them easy to identify. These cavity nesters prefer rocky cliffs and islands and often form loose colonies. Both parents care for the nestlings. They use their wings to propel them underwater in nearshore dives where they forage on small bottom-fish. The young are fed about 16 times a day and grow so quickly they triple their weight in 10 days.

Pigeon Guillemot

Black Oystercatcher

A striking bright red-orange bill and pink legs identify the **Black Oystercatcher**. Commonly found along rocky intertidal shorelines, these birds nest in smooth depressions on rocky headlands and islands. The breeding pair aggressively defends their nest and foraging area. Black Oystercatcher feed on a variety of invertebrates such as mussels and limpets...but rarely oysters.

Black Oystercatcher

Shorebirds on the Move

Millions of migrating shorebirds use the estuaries, rocky intertidal zones, and beaches along the Pacific Coast to rest and re-fuel during their long journeys between non-breeding habitat and breeding habitat. Successful migration depends on their ability to gather enough of their invertebrate prey to get to the next stop.

Habitat loss is the greatest threat to shorebirds, but increased recreational use of beaches where they feed has become a concern. Disturbance, in the form of playful, chasing dogs or vehicles, is harmful to migrating shorebirds as it forces them to expend valuable energy avoiding perceived predation and keeps them from searching for food.

Common Shorebirds

Semipalmated Plover are chunky birds identified by a brown back and wings, a white belly, a single black breastband, and a black mask around the eyes. Like all plovers they forage in a characteristic run-stop-scan pattern and pick surface-dwelling invertebrates from beaches and estuaries with an orange and black bill.

Sanderling are gray, almost ghost-colored birds with long, black legs. They are common on sandy beaches where they swiftly weave back and forth along the edge of waves probing the sand for small crustaceans.

Western Sandpiper are small reddish-brown and white shorebirds with drooping, tweezer-like bills. Look for them in mixed flocks with Sanderling or **Dunlin** as they probe estuaries and beaches for mud-dwelling invertebrates.



Semipalmated Plover

Dunlin

Western Sandpiper

Sea Lions

Sea Lions have ear flaps and large front flippers which they use to move on land and swim.

California Sea Lions are dark brown and sound like a barking dog. **Steller Sea Lions**, a federally threatened species, have light brown or auburn fur and sound much like a roaring lion. During the breeding season the strongest males maintain harems on rocky ledges where young are born.

Steller Sea Lion

Mammals of the Sea

Marine mammals, like land mammals, are warm-blooded, have hair, breathe air, and give birth to live young. Their specialized adaptations for living in the ocean include a streamlined body shape, insulating layer of fat, and the ability to conserve oxygen to remain underwater for long periods of time.

California Sea Lion

Seals

Unlike Sea Lions, **Seals** lack external ear flaps and have smaller flippers. On land they move clumsily by flopping on their bellies in an undulating motion called gallumphing, but in the water they gracefully propel themselves with their rear flippers. **Harbor Seals** have spotted light to dark gray fur and spend their lives close to shore hunting for small fish.

Elephant Seals come onshore only to breed and shed their fur. Males can reach 5,000 pounds. Their name comes from their large nose that is reminiscent of an elephant's trunk.

Harbor Seal

Elephant Seal

Sea Otters

These charming social mammals spend their entire lives at sea. They are carnivorous and use rocks to break open their food of sea urchin, clam, and abalone. Their fur is the densest of all mammals with two layers that trap air so the skin stays dry and warm. When hunting for food mothers wrap their buoyant babies in kelp so they won't float away.

Sea Otter

Threats to Marine Wildlife

Marine wildlife are extremely vulnerable to changes in the ecosystem, both natural and human-caused. Major threats include:

- Habitat loss and destruction
- Disturbance
- Light pollution
- Discarded fishing hooks, monofilament line, and old nets
- Plastic
- Toxic contaminants including oil spills, pesticides, and non-point source pollution
- Global climate change

Be Part of the Solution

When walking the beach or exploring the rocky intertidal

- Avoid areas where birds are nesting
- During breeding season, leave dogs at home or use a leash
- Never let your dogs chase birds
- If you flush a bird, slowly step away and leave the area
- Pack out all trash
- Discard monofilament line and fish hooks in trash cans
- Cut six-pack rings before discarding
- Never dump fuel, oil, or other hazardous liquids on the ground or in drains

Reduce light pollution

- Do not shine bright lights directly at cliffs and islands where seabirds nest
- Use only navigation and safety lights when anchored
- Use minimal wattage bulbs
- Keep lights shielded and directed downwards



Fishing nets and plastics entangle seals and sea lions

Floating Plastic

Plastic from a wide variety of sources—six-pack rings, water bottles, plastic bags, and netting—routinely enter the marine environment through accident and negligence. Heavier plastics take hundreds to thousands of years to break down and so remain floating in the ocean causing harm to marine wildlife who mistake it for food or become entangled.

Light Pollution

Nocturnal seabirds use light from the moon and stars to navigate, find food, tend their nests, and avoid predators. Artificial lights from boats or land can attract and disorient these birds sometimes resulting in injury or death.



Seabirds are often caught in fishing nets.

Human Disturbance

Whether by land, sea or air, human disturbance can be disastrous to seabirds and it is against the law. Even relatively minor commotions can force the birds to expend precious energy that can reduce their reproductive success and survival. Low flying aircraft and close approaching boats can disturb Common Murre causing them to fly from their eggs or chicks. This disturbance leaves eggs and chicks exposed, allowing gulls and ravens to take advantage by eating them. Marine mammals will also flee their colony site if disturbed, often leaving pups behind and in some cases crushing them during their escape.

Effects of disturbance can include (in order of severity from least to worst):

- Distraction from normal activities
- Less time tending young
- Parents leave nest, exposing eggs or chicks to predators or the elements (heat/cold)
- Nests are destroyed
- Parents are injured or killed
- Colony is abandoned

Be aware...

...of the wildlife around you. If birds are behaving nervously you are too close. Signs of distress include head bobbing, excessive calling, and fluttering. If a bird is dive-bombing or appears to have a broken wing, it is trying to lure you away from its nest. Watch your feet and move carefully away.

Help Protect Wildlife



All Rocks, Reefs, and Islands
are Closed to Public Access

Be Part of the Solution

State and Federal laws protect seabirds and other marine life from disturbances and harassment. Report incidents of disturbance and harassment to your local Fish and Wildlife Department.

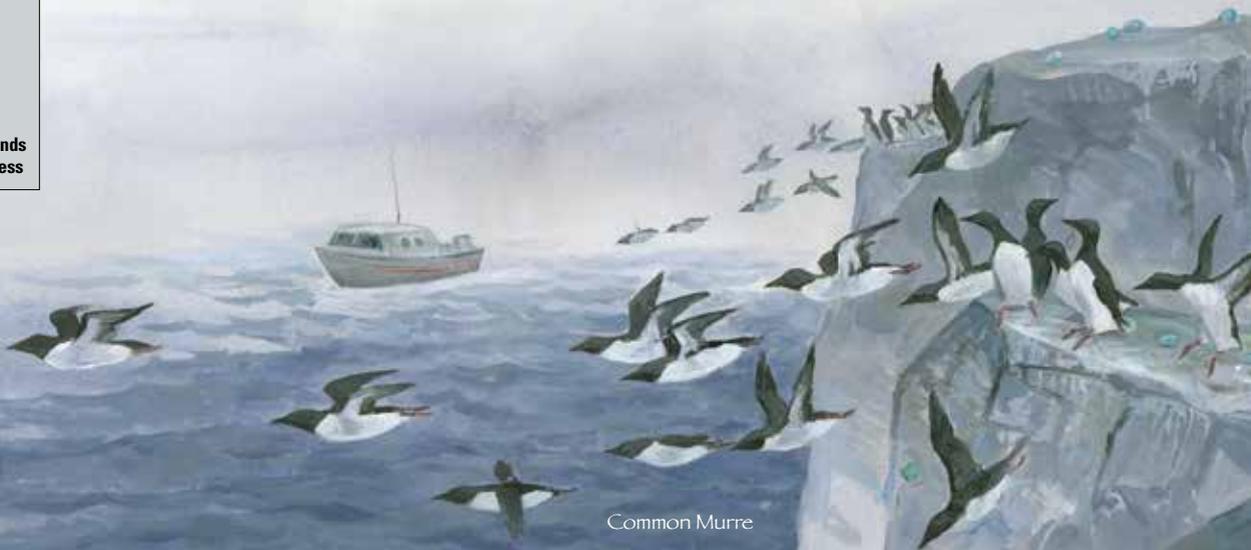
Boaters / Photographers / Wildlife Watchers

- Stay 500 feet back from coastal cliffs, islands, and rocks
- Steer your boat (including jet skis and kayaks) around bird flocks, not through them
- Never feed or touch marine wildlife
- Try to observe wildlife without them observing you
- Weight your fishing lines to avoid hooking seabirds
- Recycle or dispose of fishing hooks and monofilament line



Aircraft Pilots

- Maintain an altitude of 2000 feet above ground level or maintain 1/2 nautical mile lateral distance from all coastal rocks and islands
- Spread the word by encouraging other pilots to avoid disturbance



Common Murre

Introduced Predators

Seabirds nest in colonies located on islands and steep cliffs that are inaccessible to mammalian predators. But throughout the world the introduction of predators on nesting islands—whether accidental or intentional—has devastated some seabird populations. Rats, foxes, raccoons, feral cats, and even dogs have the ability to clear an island of seabirds and in severe cases cause colony abandonment.

Natural Predators

The most common natural predators of seabirds come from the air: Bald Eagle, Peregrine Falcon, American Crow, Common Raven, and gulls. Some pursue adult seabirds while others take advantage of unattended eggs and chicks.

Changes in the ecosystem can disrupt the natural order of predator and prey. Now banned, the once common pesticide DDT caused Bald Eagle and Peregrine Falcon populations to crash. On the North Pacific coast these predators have recovered and are increasing in number.

Western Gull

Common Raven

Adapting Anew to an Old Foe

Recently, Bald Eagle have moved into places they haven't been seen in years. Common Murre in these areas have little experience with Bald Eagle predation and often flee when eagles approach. Some murre are readapting to this historic predator. Instead of abandoning their nests, they sit tight and wait for the danger to pass.

Oil Spills

Oil spills are a serious danger to all marine life. Marine wildlife are physically susceptible as oil on the plumage of birds and fur of marine mammals results in the loss of insulative properties, causing the animals to chill and die in the cold ocean. Seabirds are also threatened when they ingest small amounts of oil when trying to clean their feathers. If ingestion doesn't kill them outright it weakens them and affects their fitness. Oil spills kill prey, leaving less food available to seabirds and marine mammals. Survivors can have decreased reproductive success, leading to long-term population effects.

This Common Murre is in grave danger from its exposure to oil. Oil spills threaten marine wildlife in numerous ways, including immediate loss of insulation, toxicity, and long-term effects on the food chain.



USFWS

Changing Ocean Conditions

Weather is a major factor in seabird success on the North Pacific coast. In productive breeding years, ocean winds cause an upwelling of cold, nutrient-rich water which results in a plankton bloom. Plankton are the base of the food chain upon which larger fish and ultimately seabirds depend. In El Niño years the ocean warms which alters ocean currents and prevents upwelling. This results in a crash in prey populations causing large-scale breeding failure and adult mortality in seabirds.

Expected rises in ocean temperature due to global climate change may be similar in effect to El Niño events. However, unlike El Niño which is a short-term natural phenomena that disrupts marine food webs periodically, global climate change represents a more pervasive and permanent change in the ecosystem, the consequences of which are unknown. In fact, climate change is often perceived to be a future threat, but the reality for our marine wildlife is that it is happening now and scientists are struggling to unravel the interrelationships within marine ecosystems to predict how those systems will respond.



Biologist surveys for Pelagic Cormorants.

Roy Lowe/USFWS



Audubon crew helps remove exotic vegetation from headlands.

David Leijig/USFWS

Conservation/Current Research

The world's oceans are an open and dynamic system that poses no physical barriers to the dispersal and migration of seabirds. Therefore, seabird conservation issues must be addressed globally to be effective. Many threats remain for seabirds, especially in areas of human habitation. Threats, including the continuing loss of nesting habitat, increasing nesting and habitat disturbance from recreational activities, growing coastal real estate development, and competition from expanding gull and eagle populations, all cause stress in seabird habitats.

The USFWS is the lead conservation agency for the protection and management of seabirds. The National Wildlife Refuge System protects the largest seabird colonies in the U.S. with over 80 percent of the breeding populations using refuge habitats. Conservation activities include restoring habitat, monitoring and inventorying seabird breeding populations, control and eradication of introduced predators and other invasive species, outreach and education to reduce or eliminate disturbance of colonies, and specific efforts related to endangered species management and recovery, oil spills, and contaminant issues.

As the human population continues to grow, and the use of marine resources increases, the need to conserve and protect seabirds and their habitats will become more challenging. Efforts to protect marine wildlife by the USFWS and others will continue and through these collaborative efforts millions of breeding and migrating seabirds will be enjoyed by future generations of Americans.



Dawn Grate/USFWS

Volunteers conduct surveys in coastal estuaries.



Amanda Gladics/USFWS

Researchers monitor seabird nests.



Volunteers help identify and quantify marine wildlife.

© Ram Papish



Be Part of the Solution

Volunteers play a vital role in the conservation of marine wildlife and natural resources. They perform a variety of essential tasks including assisting with environmental education and outreach, monitoring wildlife populations, and restoring habitat.

You can use your talents to help seabirds and marine mammals by volunteering at a National Wildlife Refuge in a position suited to your interests. To get started, visit the following sites:

The U.S. Fish and Wildlife Service Volunteer Website:
www.fws.gov/volunteers

The National Volunteer Opportunity Website:
www.volunteer.gov/gov/

Find a wildlife refuge to visit near you at the USFWS Pacific Region Website:
www.fws.gov/pacific

Funds and Partners

On December 22, 1998, the tug Ocean Service collided with the barge Nestucca, resulting in the spillage of more than 230,000 gallons of fuel oil into the Pacific Ocean near Grays Harbor, Washington. Shorelines within Grays Harbor and along 110 miles of the Washington coast were oiled including five National Wildlife Refuges. The resulting oil slick killed tens of thousands of seabirds. To mitigate for the loss, the U.S. Department of the Interior assessed natural resource damages and injuries from the spill and received settlement funds to help restore those resources. This educational brochure is one of several restoration projects designed to help restore and protect the natural resources lost as a result of the 1998 spill.

Preparation of this brochure was a U.S. Fish and Wildlife Service partnership effort among staff from the Oregon Coast, Washington Maritime, and Nisqually National Wildlife Refuge Complexes, and the Western Washington Fish and Wildlife Office. Artwork was created by Ram Papish and layout/design by InfoWright.



Watchable Wildlife

You can enjoy watching seabirds and other marine wildlife from established viewing areas on the mainland. Locations noted on the map include some of the best viewing sites on the coast. Here are a few tips to make watching wildlife enjoyable and rewarding:

- Plan your visit according to the season, tidal phase, and time of day
- Remember that wildlife is more active in the mornings and early evenings than in the afternoon
- Download a copy of the Oregon Coast Birding Trail www.oregoncoastbirding.com
- Downloading the Great Washington State Birding Trail wa.audubon.org/birds_GreatWABirdingTrail.html
- Keep voices down when approaching a viewing area to avoid scaring wildlife away before you get there
- Use binoculars and spotting scopes to bring animals "closer" to you without disturbing them
- Bring a field guide to help you identify species
- Avoid disturbing wildlife; public use on seabird nesting islands is closed to prevent disturbance
- Use caution on beaches and steep cliffs where strong currents and heavy surf can be extremely dangerous

