

# SHEMYA ISLAND

## *Nature Discovery Guide*





**On the Cover:**

Arctic Fox (c Dirk HR Spennemann: [www.ausphoto.net](http://www.ausphoto.net))

Kamchatka Thistle (c Kazuya Numazawa)

Emperor Goose (c Fiona Grant Photography)

Harbor Seal (c Steve Ebbert)

Common Snipe (c Glen Tepke: [pbase.com/gtepke](http://pbase.com/gtepke))

**This Page:**

Sanderlings (c Glen Tepke: [pbase.com/gtepke](http://pbase.com/gtepke))



## Welcome to Your Wildlife Refuge and Eareckson Air Station

Shemya Island is part of the Alaska Maritime National Wildlife Refuge, established to conserve marine mammals, seabirds and other migratory birds, and the marine resources upon which they rely. The Refuge's 3.4 million acres are spread along most of the 47,300 miles of Alaska's coastline and include more than 2,500 islands, islets, spires, rocks, reefs, waters and headlands, which provide essential and protected habitat for some 40 million seabirds, representing more than 30 species, and for endangered and declining marine mammals. Like a bridge between continents, the Aleutian Islands are also an important resting and feeding stop for many migratory birds. The Refuge's job is to monitor this rich ecosystem, learn more about it through research, and control and prevent invasive species.

Shemya Island is also the site of Eareckson Air Station, which might at first seem incompatible with its role as a haven for wildlife. However, the Department of Defense has integrated the conservation of biological resources with the dynamic requirements of military missions, and manages installation wildlife populations and habitats in cooperation with the Refuge. One important wildlife management goal is to reduce the risk of bird strikes on the runway and its approaches, primarily for the safety of aircrews and passengers. By enforcing state laws against acclimating wildlife to humans (for example, feeding foxes or geese is prohibited) and conducting long-term ecosystem monitoring and management (such as strategically planting less palatable grasses to discourage geese from feeding near the runways), not only does the Air Force achieve safety goals, but wildlife also benefits.



Tufted Puffins  
(Greg Thomson/USFWS)

## Explore Shemya

Wildlife observation, photography, hiking, camping, fishing, cross-country skiing and beachcombing are all ways for you to enjoy the island's unique environment. Shemya's rich coastal zone provides food and shelter for a variety of marine birds, seals, and sea lions throughout the year. Over 200 species of birds have been observed, and large numbers of seabirds, shorebirds, waterfowl, and songbirds visit the island, especially during spring and fall migrations. Here you have a chance to see birdlife, including Eurasian species, not found elsewhere in North America. There are hundreds of species of plants on the island, including several Kamchatkan meadow plants that don't grow any further east than Shemya. Several species of whales migrate past the island, and the arctic foxes are great fun to watch, especially when the pups emerge from their dens, playful and curious.

This guide will hopefully enhance your understanding and appreciation of Shemya's natural resources and environment. Use the map in the center to locate good spots for viewing different types of birds and marine mammals, and the photos throughout to identify some of the unique wildlife thriving in the far reaches of the Aleutian Islands--plants and animals few people have the opportunity to see. Make the most of your time on the island--get out and enjoy all that Shemya has to offer!



Glaucous-winged Gulls  
(Mike Schwitters/USDA-WS)



## Tundra ~ Shemya's Coat of Many Colors

Most of Shemya is covered by a cloak of maritime and alpine tundra--a mixture of mosses, lichens, and over 200 species of vascular plants, including Asian species such as the showy Kamchatka thistle. The tundra may look at first like a uniform carpet, but its diversity is unveiled in all its glory as the seasons change. If you are on Shemya long enough, you will see the starkly dramatic grays and whites of an austere Aleutian winter transformed into the lush greens of verdant summer, and frozen wastes of ice turned into ponds and wetlands. Fall creeps slowly in, with fading wildflowers giving way to plump berries and a blanket of rich reds and golds. In any season, peek into the understory or explore the different plant communities found in wet areas, along the coast, and on upland slopes. You'll be amazed by the variety of plants (and probably find some interesting bugs!). There are no native trees in the Aleutians; those you see on Shemya are Sitka spruce, planted on several islands during the WWII era.

If you are lucky enough to be on Shemya in mid-summer, you'll experience an exhilarating explosion of color as the island dons a resplendent mantle of wildflowers. Look for arctic chrysanthemums along the lagoon near Alcan Harbor; Kamchatka thistles and eared Indian plantain mixed with umbels on the coast and around the abandoned runways; lovely blue oysterleaf blossoms, violet beach peas, and brilliant yellow ragwort adorning the beaches; delicate pink Siberian spring beauties and pale purple geraniums along the northeast coast and on upper bluffs and interior slopes; bright white dwarf dogwood blossoms (and their red berries in fall) and yellow avens sprinkling the crowberry mantle of the interior; willowherb flowers, buttercups, chocolate lilies, wild iris, and bog orchids brightening the damper areas. Other conspicuous wildflowers to look for include





monkshood, lupine, anemones, dandelions, arnica, and cinquefoil. Less showy but still lovely are the various umbel blossoms like sprays of white lace amidst the lush green summer grasses, the knobby flowers of pearly everlasting, and the dainty flowers of chickweed, yarrow, and wormwood. Look closely to find tiny purple gentians, speedwell, starflowers, and Aleutian violets. In poorly drained areas a drab sedge meadow may be transformed in summer by the russet tufts of cottongrass in flower. You may find twisted stalk growing in sheltered drainages, a-dangle with bright red berries that taste like watermelon; in late summer the crowberries nestle black and succulent waiting to be eaten, and in fall the blueberries ripen, dusty violet and sweetly plump.



Seaside Ragwort  
(Greg Thomson/USFWS)



Dogwood in Crowberry patch (c Lisa Spittler)



Twisted Stalk (c Roger Steeb)



Crowberry (cc Dave Dunford)



Blueberry (cc Jon Atli)



Nootka Lupine (Jason Gilsdorf/USDA-WS)



## Plants You Can Use

Many plants on Shemya have fascinating traditional uses or are edible. There are a number of good books available with identification keys and recipes if you are interested in treating an ailment the Aleut way or enjoying some fresh wild produce. It doesn't take long to collect the ingredients for a spring salad of tender newly sprouted greens, a summer feast of sauteed fiddleheads and putchki stalks, or a fall stew hearty with chocolate lily bulbs and other roots. Perhaps you'd like to try weaving a basket or a floor mat for your room--Aleuts traditionally wove the ubiquitous beach wildrye into baskets, sleep mats, wall dividers, hand mitts and foot coverings. Some were woven tightly enough to contain or to repel water.



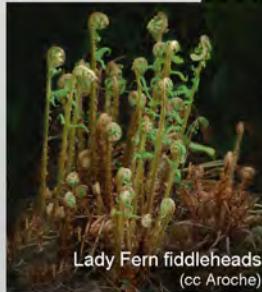
Cow Parsnip (*Putchki*) and Beach Wildrye (c Don Croll)



Chocolate Lily (cc Денис Анисимов)



Lady Fern (J.S. Peterson/  
USDA-NRCS PLANTS Database)



Lady Fern fiddleheads  
(cc Aroche)



Aleut basket (c. 1910)



# Baby Greens Salad, Aleutian Style

In spring and early summer, pick the young tender leaves of these six common and easily recognizable plants for a salad so delicious plain old lettuce will never satisfy you again. And healthy, too: the leaves of all are high in vitamins A and C. Sea-beach sandwort, handily located right along the coast, was used in the early days of Arctic exploration to cure scurvy among the crew. The flowers are edible as well, so enjoy your salad with a colorful garnish of pink, purple, and yellow blossoms.



Dandelion (cc Arnoldius)



Scurvygrass  
(Greg Thomson/USFWS)



Beach Lovage (c Don Croll)



Aleutian Violet  
(Robb Kaler & Leah Kenney/USFWS)



Siberian Spring Beauty  
(Scott Freeman/USFWS)



Seabeach Sandwort (c Dag Kvammen)



# A Guide to Some of Shemya's Plants...



Mosses, Lichens and Club Mosses  
(Scott Freeman/USFWS)



Field Horsetail  
(c Don Croll)



Common Mare's Tail  
(cc RI)



Lady Fern  
(Scott Freeman/USFWS)



Foxtails  
(c Joe Verfaillie / jverfail@berkeley.edu)



(cc Michael Jutzi)



Arctic Bluegrass  
(Scott Freeman/USFWS)



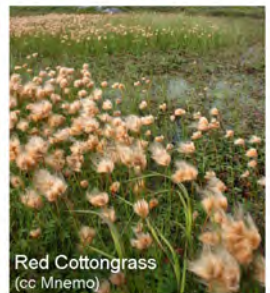
Pacific Reedgrass  
(c JJ Frost)



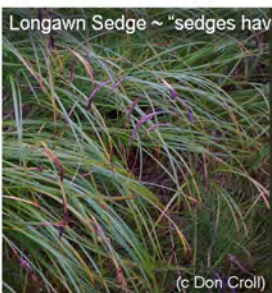
Beach Wildrye  
(Scott Freeman/USFWS)



Red Fescue  
(cc James Lindsey at Ecology of Commanster)



Red Cottongrass  
(cc Mnemo)



(c Don Croll)



(Scott Freeman/USFWS)



Arctic Rush ~ "rushes are round"  
(Scott Freeman/USFWS)



# ...and Wildflowers



Oysterleaf  
(c Dag Kvammen)



Speedwell ~ 3 species  
(Scott Freeman/USFWS)



(Robb Kaler & Leah Kenney/USFWS)



Wild Iris  
(Kaler & Kenney/USFWS)



Monkshood  
(Kaler & Kenney/USFWS)



Lupine  
(cc Jutta234)



Geranium  
(Kaler & Kenney/USFWS)



Dwarf Gentian  
(Freeman/USFWS)



Aleutian Violet  
(Freeman/USFWS)



Kamchatka Thistle  
(c JJ Frost)



Fireweed  
(cc Kallerna)



Woolly Lousewort  
(Kaler & Kenney/USFWS)



Keyflower  
(cc Σ64)



Kamchatka Rhododendron  
(Freeman/USFWS)



Wedgeleaf Primrose  
(Freeman/USFWS)



Beach Pea  
(Kaler & Kenney/USFWS)





Crowberry ~ tiny flowers  
(cc Peter Llewellyn)



Willowherb  
(Freeman/USFWS)



Siberian Spring Beauty  
(c Roger Griffith)



Blueberry  
(Kaler & Kenney/USFWS)



Alpine Azalea  
(Kaler & Kenney/USFWS)



Bog Orchid  
(Freeman/USFWS)



False Hellebore  
(cc Σ64)



Arctic Starflower  
(Freeman/USFWS)



Twinflower  
(cc Henripekka Kallio)



White Clover  
(c Don Croll)



Seabeach Sandwort  
(Freeman/USFWS)



Twisted Stalk  
(Greg Thomson/USFWS)



Wild Celery or Angelica  
(Freeman/USFWS)



Hemlock Parsley  
(Freeman/USFWS)



Wormwood  
(cc Christian Fischer)



Oldwoman  
(J.S. Petersen/  
USDA-NRCS PLANTS Database)



Cow Parsnip or "Putchki"  
(Freeman/USFWS)



Beach Lovage or "Petruski"  
(Freeman/USFWS)





Pearly Everlasting  
(c Don Croll)



Boreal Yarrow  
(c Don Croll)



Scurvygrass  
(Freeman/USFWS)



Eared Indian Plantain  
(Kaler & Kenney/USFWS)



Chickweed  
(Kaler & Kenney/USFWS)



Dwarf Dogwood  
(Greg Thomson/USFWS)



Arctic Chrysanthemum  
(Freeman/  
USFWS)



Narcissus Anemone  
(Kaler & Kenney/USFWS)



Dandelion  
(Freeman/USFWS)



Alaska Arnica  
(cc £64)



Yellow Rattle  
(Freeman/USFWS)



Seaside Ragwort  
(cc Oeuvre personnelle)



Aleutian Ragwort  
(Kaler & Kenney/USFWS)



Seep Monkeyflower  
(cc Takwish)



Calthaleaf Avens  
(Kaler & Kenney/USFWS)



Villous Cinquefoil  
(cc Chris Czajkowski)



Buttercup  
(cc Kristian Peters)



Chocolate Lily  
(c Lisa Spiller)



## Homes for Birds and Wildlife

Shemya's tundra includes several distinct plant communities used by different groups of birds. More than a third of the island is covered by roads and buildings, or disturbed and/or reseeded vegetation, a result of extensive habitat alterations and construction dating back to WWII. This might sound uninviting, but some birds find it irresistible--during spring migration, when most plants have yet to emerge, Aleutian cackling geese feed almost exclusively on the early sprouts of red fescue grass, and are thus often found in disturbed areas where this grass was a major component of reseeding mixtures used in the past. In order to discourage geese from frequenting the airfield, the Air Force has begun planting less desirable species adjacent to the runways.

The most widespread undisturbed plant community blankets Shemya's interior in most upland areas, and consists primarily of crowberry mixed with mosses and grasses, with scattered lichens, sedges, and forbs such as avens and dwarf dogwood. Crowberries are the preferred food of Aleutian cackling geese as they prepare for fall migration, and in years when berries are abundant, geese are found primarily in these upland areas. Much less widespread but similar to the crowberry community is a habitat preferred by migrating Pacific golden-plovers. Located primarily on the gentle upland slopes in the north central part of the island, this community is mostly lichens, with a mixture of crowberry and lowbush blueberry scrub, and a sprinkling of sedges, grasses, and dwarf dogwood.

The second-most-common undisturbed community is characterized by conspicuous beach wildrye, and is found in well-drained upland areas, particularly south of the main runway and north of the abandoned runways, and lining most of the coastline of Shemya. Both coastal and upland beach wildrye communities are often associated with forbs such as common wormwood, seaside ragwort, beach



Aleutian Cackling Geese  
(Jason Gilsdorf/USDA-WS)



pea, seabeach sandwort, and hemlock parsley, along with other grasses. Other coastal plants include oysterleaf, cow parsnip, cinquefoil, and various species of sedge. During summer, beach wildrye is often more than three feet high and usually very dense near sea level--the tussocks can be challenging to walk through.

Umbel patches, found in sheltered hollows in coastal bluffs and terraces and on embankments and mounded areas around the abandoned runways, are the favored foraging and resting habitat for passerines and a good place to see Arctic warblers, bramblings, Lapland longspurs, and song sparrows. This community consists of a well-developed overstory of large umbels (cow parsnips, wild celery and beach lovage), Kamchatka thistle and eared Indian plantain, shadowing an understory of grasses and small forbs.

Migrating shorebirds such as ruddy turnstones, common snipe and wood sandpipers are most often encountered on the southern beaches (particularly at the mouths of tidal rivers), and in poorly drained or partially flooded depressions scattered along the south and west sides of the island. This lowland wet grass-herb meadow community is comprised of lots of mosses, sedges and rushes, with a few grasses, horsetails, and forbs such as fringed willowherb and white clover. Shorebirds and dabbling ducks can also be found around lakes with shallow margins and emergent aquatic vegetation such as mare's-tail. Ducks and gulls often loaf on the open waters of the deeper lakes.

Peregrine falcons, ravens, gulls, and migrating raptors use many of the bluffs surrounding the island for lift when soaring and hunting. Intertidal areas and rocky shorelines surrounding the island are commonly used by gulls, common eiders, harlequin ducks, cormorants, and wintering emperor geese. During winter, when lakes and wetlands freeze, dabbling ducks are usually tucked into protected areas of the coastline. Most fox dens are located on the rocky coast along the north and west sides of the island, and foxes forage primarily in the intertidal zone. Offshore rocks and reefs serve as haulouts for Steller sea lions and harbor seals.



Dark-eyed Junco in umbel patch  
(Jason Gilsdorf/USDA-WS)

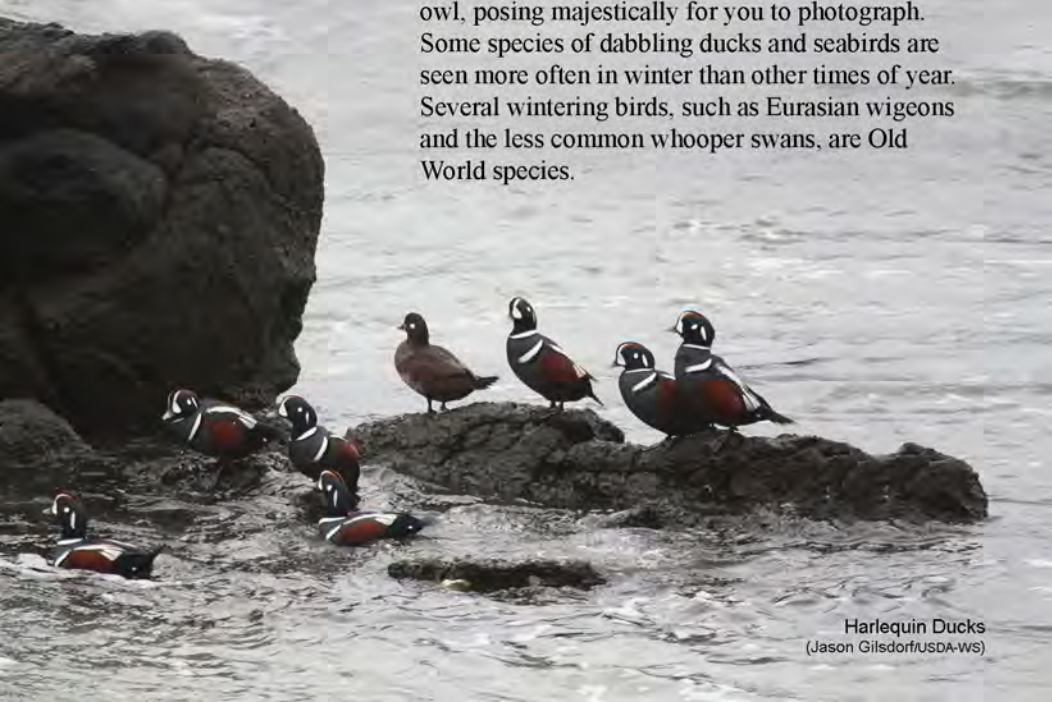


## Birds for All Seasons ~ More Than 200 Species

On Shemya, you have a wonderful opportunity to see a wide variety of birds. Large numbers of seabirds, waterfowl, shorebirds, and songbirds use the island at various times of year, with the greatest diversity occurring during spring and fall when many migrating species stop to feed on Shemya and nearby islands. Because Shemya is so far west (Kamchatka is only 500 miles away), you have the rare chance to observe birds you wouldn't see anywhere else in North America. Nearly half the bird species seen on Shemya have been Eurasian species or subspecies.

Several species remain year round on Shemya and can be easily seen in any season. Pelagic and red-faced cormorants perch on offshore rocks. Mallards and Aleutian green-winged teal dabble in lakes and intertidal areas. Common eiders and harlequin ducks forage in nearshore waters. Rock sandpipers, glaucous-winged gulls, common ravens, song sparrows, and snow buntings also reside on the island. Other species seen in all seasons, but not necessarily every year, are white-winged scoters, red-breasted mergansers, common loons, peregrine falcons, pigeon guillemots, ancient murrelets, gray-crowned rosy finches and common redpolls.

Many species spend their winters on Shemya but go elsewhere to nest. Most conspicuous are the emperor geese, the regal adults with white napes like ermine cloaks heading family groups of sooty-headed youths. Other wintering birds include sanderlings, little white ghosts like wraiths of wind-driven snow that skitter along the sea's edge chasing the waves in and out; flocks of northern pintail whistling and foraging in intertidal areas; diving ducks, Pacific loons, and grebes drifting on the lakes before they freeze and feeding alongside harlequins and eiders in nearshore waters; and the occasional snowy owl, posing majestically for you to photograph. Some species of dabbling ducks and seabirds are seen more often in winter than other times of year. Several wintering birds, such as Eurasian wigeons and the less common whooper swans, are Old World species.



Harlequin Ducks  
(Jason Gilsdorf/USDA-WS)



A few species spend only their summers on Shemya, including masses of Lapland longspurs, their tinkling songs and distinctive gliding descents synonymous with summer in the Aleutians. Many seabirds with breeding colonies on nearby islands can be observed in the summer, including black-legged kittiwakes, terns, murres, and horned and tufted puffins. If you have a spotting scope, albatrosses, shearwaters, and sometimes fulmars can be seen from shore, particularly when the seas are rough. Other birds usually sighted in summer include red-throated loons, Eurasian sky larks, slaty-backed gulls and parasitic jaegers.

## Why So Few Breeding Birds?

With all the available habitat on Shemya, it is likely the island's summer population once included large numbers of nesting gulls, geese and ducks prior to the introduction of foxes. Now, a few pairs of glaucous-winged gulls nest on offshore rocks the foxes can't reach, and only a few species of ducks (mallards, green-winged teal, and common eiders) nest annually in small numbers. Seabirds have also been driven off the main island of Shemya by foxes, but red-faced cormorants, and, less commonly, pelagic cormorants, tufted puffins and possibly pigeon guillemots still nest on islets off the north coast. Rock sandpipers nest in the interior of the island in small numbers. A few species of passerines nest, including song sparrows, Lapland longspurs, snow buntings and occasionally a pair of ravens. Small numbers of red-throated loons have nested successfully on the island at least once (they commonly nest on Shemya's fox-free neighboring islands). In some years a few sky larks can be seen during the summer; they have attempted to nest on Shemya on rare occasions (their closest regular breeding area is in Kamchatka). Otherwise, nesting on Shemya is confined to a few isolated attempts by various species. There aren't many places on the main island a hungry fox won't make off with eggs or chicks.



Arctic Fox carrying Murre  
(Greg Thomson/USFWS)

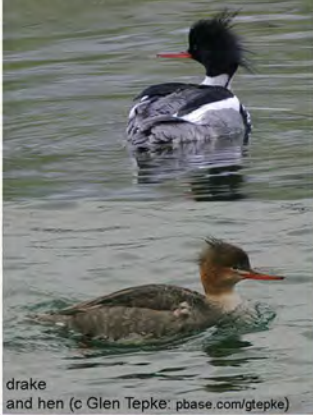


## Birds You Might See Any Time of Year

Mallards (about 20 birds) live year-round on Shemya, and up to 100 winter on the island. Most summers at least one pair nests successfully. Look for these familiar dabblers on lakes and in protected nearshore waters.



Red-breasted mergansers are not always present on Shemya, but you might see one in any season, normally on the sea but occasionally on lakes or ponds.



Greater scaup have nested at least once on Shemya. A few birds are present year-round and about 30 migrate through in spring and fall.



White-winged scoters are usually found in small numbers (< 10, a few more in spring) well offshore.



Harlequin ducks (left) and common eiders (below) are two of Shemya's most abundant and visible residents. About 100-200 harlequins can be found around the island, bobbing in the surf, diving actively, and perched on rocks. Additional harlequins come to Shemya to spend the winter--over 500 birds are seen in some years. You can see from 300-600 common eiders year-round in nearshore waters. They nest in small numbers every year. Look for groups of ducklings venturing out on the water in July.



Common Eider  
hen with two drakes (c John Puschock)



Pelagic Cormorant  
(c Steve Ebbert)



Red-Faced Cormorant  
(c Glen Tepke: pbase.com/gtepke)



Two species of cormorants are found around Shemya in numbers ranging from 100-300, depending on the season. Red-faced cormorants (right) roost mostly on rocks off the north coast and nest on a couple of sea-stacks well offshore. Pelagic cormorants (left) perch on rocks or feed in nearshore waters around the entire island and nest in small numbers. In spring you can watch adults gathering nesting materials, and in fall you'll see the juveniles closer to shore.



winter and summer (c Glen Tepke: pbase.com/gtepke)



Common loons can be found in small numbers on lakes and in nearshore waters. They seem inclined to nest but haven't yet.

summer (c Steve Ebbert)



winter (c Glen Tepke: pbase.com/gtepke)



Pigeon guillemots occur in small numbers (usually 1-3 birds, rarely more than 12) in nearshore waters, mostly in Alcan Harbor and along the north coast. A few probably nest on offshore rocks.



summer  
(c Steve Ebbert)



winter  
(c Glen Tepke: pbase.com/gtepke)

Ancient murrelets are small diving seabirds found reliably in spring and irregularly in other seasons. They nest in burrows on fox-free islands in the Aleutians. Look for them in Alcan Harbor and offshore along the south coast. Generally you'll see only a couple of birds, but occasionally up to 50.

Glaucous-winged gulls, one of Shemya's most common residents, nest on offshore rocks and islets. Their numbers peak in late summer, but hundreds of birds can be seen in every season.



Glaucous-winged Gull  
adult winter (top)  
immature (bottom)  
adult summer (far left)  
(all: c Glen Tepke: pbase.com/gtepke)







Rock sandpipers are Shemya's only resident shorebird. Look for them along rocky shorelines in fall and winter, and inland on breeding territories in spring and early summer. You'll generally see a few, and occasionally flocks of nearly 200 birds.

(c John Puschock)



(c John Puschock)

Peregrine falcons do not breed at Shemya, but adults are seen in every season, and usually at least one juvenile hangs around each fall. They are the only resident birds of prey in the Near Islands.

(c Steve Ebbert)

Snow buntings nest in rocky areas on the island. About a dozen pairs reside year-round, flocks of 100-200 birds are seen in fall, and about 30-100 winter on Shemya.



winter (above) and summer (right)  
(c Glen Tepke: pbase.com/gtepke)



(c John Puschock)



(c Glen Tepke: pbase.com/gtepke)

Common Ravens are curious, intelligent and playful—great fun to watch! At least one pair nests occasionally on Shemya, and you will usually find from 10-40 birds around the island.

Song sparrows nest on Shemya. You will find dozens of them, mostly along the coast.



(Jason Gilsdorf/USDA-WS)

(c Steve Ebbert)

Winter wrens prefer the steep bluffs and cliffs on the north coast. There are usually 1-4 birds around—listen for their chattering songs in spring and summer.



Common redpolls occur in variable numbers in any season. Generally you won't see more than a dozen at a time, but sometimes flocks of up to 40 and rarely up to 100 stop briefly on the island.



(c Andreas Klein)

Gray-crowned rosy finches winter on Shemya but are occasionally seen in all seasons. Look for them in rocky areas and around abandoned structures.



(c Isaac Helmericks)

(c John Puschock)



# Birds of Winter

Whooper Swan



(cc Pascal Alexandre)



(c Fiona Grant Photography)

Whooper swans are the national bird of Finland. A few of these Old World swans winter on Shemya at least every second or third winter and are occasionally seen later in spring. Look for family groups; whoopers pair for life, and their young stay with them over the entire winter, sometimes into subsequent years.

hen  
(c Glen Tepke: pbase.com/gtepk)



drake (cc CrazyM)



Black scoters winter in the Aleutians--an average of 50 but sometimes over 200 can be seen on Shemya. Look for the characteristically tightly packed rafts of these large sea ducks off the coast, where they dive for mollusks and crustaceans.



drake and hen  
(c Robert Fry)

Northern pintails winter in small numbers (15-20). These numbers double during spring migration and up to 100 migrate through in fall; an occasional bird is seen during the summer. A pintail banded in Japan in February 2006 was collected on Shemya the following May.

Eurasian wigeons are most abundant during spring and fall migrations (20-50 birds) but a few overwinter and can be found dabbling on lakes until they freeze and then in protected near-shore waters.



drake and hen (Jason Gilsdorf/USDA-WS)

Emperor geese rarely stray from coastal Alaska and eastern Russia, and are one of North America's rarest goose species. These small and regal geese pair for life, and nest primarily on the Yukon-Kuskokwim Delta. In early fall they migrate slowly south along the Alaska Peninsula and eventually to their wintering grounds in the Aleutian Islands. About 400 geese winter on Shemya. You may see them from October to

April, but peak numbers occur December through March. Look for family groups--the juveniles (far left) have sooty heads that gradually lighten over the course of the winter until they resemble adults (near left), with snowy mantles and pink bills.



(Schwitters/USPA-WS)



(cc Ork)



(cc Ork)



Emperor Goose (c Joe Meehan)



Pacific loons tend to stay well offshore and can be difficult to identify, but one is found at least every other winter, and additional birds may migrate through in spring.



winter  
(c Jukka Jantunen: Birdphotos.ca)



summer  
(c Glen Tepke: pbase.com/gtepke)

Common Goldeneye hen and drake



(c Robert Fry)

Common goldeneye (left) and bufflehead (below) are often found on Upper Lake when it isn't frozen, or the Lagoon, diving actively and flushing easily. You might see up to 30 goldeneye and 20 bufflehead on a winter day.

Bufflehead hen



Bufflehead drake

Long-tailed Duck drake with three hens  
(c Brian Stahls)

Bufflehead



(all bufflehead: c Glen Tepke: pbase.com/gtepke)

Long-tailed Duck drake



(cc Sammy Sam)

Long-tailed ducks can be found in tightly packed and loudly squabbling rafts in Alcan Harbor and along the southeast coast. An average of 20-40 of these diving ducks winter at Shemya; sometimes larger flocks are seen.







Horned Grebe

winter  
(c Glen Tepke: [pbase.com/gtepke](http://pbase.com/gtepke))

summer  
(c Glen Tepke: [pbase.com/gtepke](http://pbase.com/gtepke))

juvenile  
(c Robert Martinka)

Horned grebes (above) and red-necked grebes (below) are seen in small numbers (1-10) on ocean waters during winter. Juveniles of both species occasionally visit inland lakes in fall.



Red-necked Grebe

winter  
(c Glen Tepke: [pbase.com/gtepke](http://pbase.com/gtepke))

summer  
(c Glen Tepke: [pbase.com/gtepke](http://pbase.com/gtepke))

juvenile  
(Mike Schwitters/USDA-WS)

Sanderlings are found throughout the Aleutians from late August through mid-May; on Shemya generally fewer than a dozen can be seen skittering at surf's edge on the southern beaches.



Snowy Owl  
immature

(c Robert Fry)

(c Glen Tepke: [pbase.com/gtepke](http://pbase.com/gtepke))

Snowy owls that visit Shemya in winter and spring are likely part of a resident Near Islands population. Dark spots and bars are heavier on females and heaviest on young birds; old males can be pure white. You might see one of these large owls perched conspicuously on the tundra or hunting silently at night; on Shemya they've been observed preying on rats, ducks, and even foxes.



Snowy Owl  
adult (Jason Gilsdorf/USDA-WS)



## Shemya's Summer Birds

Lapland longspurs arrive in the Aleutians about the first of May and nest on most islands, including Shemya, then depart in September for wintering grounds in the lower-48. Their musical song is a welcome harbinger of summertime, and you won't have to look hard to find them everywhere on the island, perched conspicuously or singing liltingly as they glide. Youngsters fledge throughout July--look for begging chicks following their harried parents.



Lapland Longspur, male (left) and female (both: c Glen Tepke: pbase.com/gtepk)

(c Steve Ebbert)

Red-throated loons, often a pair, can be found on Shemya's lakes from May to October. They've nested successfully at least once and seem to be eager to try again. Look for them on Laundry Lake, and listen for them flying to and from the sea.



Sky Lark  
(cc Daniel Petterson)



Red-throated Loon  
summer plumage (c Glen Tepke: pbase.com/gtepk)



(cc David Iliff)

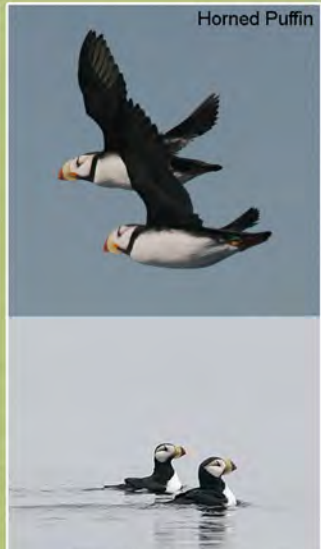
Sky larks are seen in spring and fall as well as summer on Shemya, though not every year. Up to four territorial males have been found on more than one occasion, singing from early May well into July, and it is likely this Eurasian species has attempted to nest on the island.

Tufted and horned puffins can be seen from May to September when they come in from the open seas for the breeding season. Usually less than a dozen horned puffins are observed during the summer. Tufted puffins can number in the hundreds in August, though counts of from 10-100 are more common. Tufted puffins nest on Hammerhead Rock, less than a mile off Shemya's west shore, and have been seen perching on the northern bluffs of the mainland, perhaps prospecting for nest sites.



Tufted Puffin

(top: c Glen Tepke: pbase.com/gtepk  
bottom: c Steve Ebbert)



Horned Puffin

(top: c Glen Tepke: pbase.com/gtepk  
bottom: c Steve Ebbert)



Common and thick-billed murres nest in mixed colonies on nearby islands. Common murres, sometimes over 100, are seen regularly just before and after the breeding season. Oddly, very few thick-billed murres have been observed around Shemya, and those mostly in winter.



Aleutian terns nest on neighboring Nizki Island and in the past may have nested on Shemya, where they sometimes seem to be prospecting for possible nesting grounds, circling and calling over the island throughout the summer. Small flocks are also usually seen passing through in spring.



Parasitic jaegers are seen in spring, summer and fall; generally one to three birds are found. In spring they appear to be exploring Shemya as a potential nesting island. Jaegers are aggressive and acrobatic hunters and menacing, swift and efficient predators, and very exciting to watch in flight. Some birds specialize in harassing other birds, relentlessly pursuing them in high-speed mid-air chases and forcing them to drop their food, whereupon the jaeger deftly swoops or somersaults down to catch the food before it strikes the ground or water. Prime targets are seabirds that nest in large colonies along the coast; terns, gulls, murres, kittiwakes, puffins and others are waylaid as they return to their nests with crops or beaks full of food for their young. Most parasitic jaegers in the Aleutians are dark, but occasionally light birds (passage migrants or non-breeders) are seen on Shemya.





Some pelagic birds are seen more often in summer simply because viewing conditions are generally better.

Laysan albatrosses can be seen far offshore, sometimes in the hundreds and occasionally in association with pods of orcas; they nest in the Hawaiian Islands and occur in the Aleutians year-round.



Look also for northern fulmars (both dark and light phases have been recorded at Shemya)-- with a spotting scope you might see a few birds offshore or a raft of thousands; they nest on sea cliffs in the Aleutians and throughout the Arctic.



Short-tailed shearwaters, one of the most numerous species of bird in the world, nest on islands southeast of Australia during our winters and are found in the Aleutians during spring, summer and fall. Vast numbers (millions, and a flock covering more than 200 square kilometers) are reported in some Aleutian passes. From Shemya's coast you can usually see hundreds and sometimes thousands, often when seas are rough. Sometimes in summer what looks like a black river of shearwaters flows past the island for a week at a time.



Black-legged kittiwakes are seen most often in late August and September, after chicks have fledged from nearby nesting islands, but single birds might be seen any time of year, and occasionally a large flock visits in summer. Look for them especially off the north and west coasts.



Slaty-backed gulls are an eastern Asian gull. About three birds are usually seen on Shemya late April to mid-June, and individuals are encountered throughout the summer and early fall.





## Spring and Fall Travelers ~ Some Amazing Journeys

You can rely on seeing a wide variety of species every year during spring and/or fall migrations, as birds travel between their wintering and summer nesting grounds. Some of these birds follow the Aleutians like a path between continents, and others alight upon the islands after long flights over open ocean. On Shemya you have the opportunity to see some of the most amazing of these travelers.

Pacific golden plovers winter in Hawaii and other Pacific islands. As spring approaches, adults don their tuxedo-like breeding plumage and birds form flocks, then begin their 3,000-mile journey to their breeding grounds in northwestern Alaska and eastern Siberia--one of the greatest annual transoceanic migrations on earth. One male was studied for 18 years--he returned to the same nesting area, year after year, which means he flew 18 round trips

to Hawaii, covering well over 100,000 miles in his life. The birds resting briefly on Shemya each spring (late May to early June) have been flying nonstop over open ocean for about two days, averaging 60 miles per hour. Fall migrants, especially the juveniles (which resemble birds in winter plumage), are in less of a hurry to set out on their long journey south--you will see birds throughout September and most of October, in all sorts of habitat.



Pacific Golden Plover  
(cc Ork)



Pacific Golden Plover, winter  
(cc Alnus)



Pacific Golden Plover, summer  
(c Isaac Helmericks)



One of the great wonders of the natural world is the migration of the Arctic tern, another spring and fall visitor to Shemya. Because it spends summer in the north and winter in the Antarctic, this bird experiences more daylight than any other creature--a lifetime spent in perpetual summer. Their annual round-trip migration between the North and South Poles is the longest animal migration known today, which is impressive considering the bird weighs less than four ounces, and even more remarkable when you consider that it is made far off-shore by a bird that is not a particularly good swimmer. Given their longevity (more



Arctic Tern  
(perched and flying  
c Glen Tepke: pbase.com/gtepke)

than 30 years), in its lifetime an Arctic tern makes the equivalent of three round trips to the Moon--more than 1.25 million miles! Shemya's neighboring islands have nesting colonies of Arctic terns, and you can usually see birds in late May, flying and foraging over the ocean. Look for them over Alcan Harbor and Loon Cove.

The fall migration of bar-tailed godwits from breeding areas in Siberia and northwestern Alaska to wintering grounds in New Zealand and Australia is unrivaled even by the Arctic tern. Terns land on the sea and feed during their migration, but bar-tailed godwits can't rest on the ocean and must fly 6,800 miles non-stop, relying on fat reserves to fuel them during the five- to six-day flight. These long-billed shorebirds gorge on clams before their migration, and put on so much fat their weight is doubled and they have a boxy appearance before they leave Alaska. Even bulging with fat, godwits are sleek flying machines, with a range long-distance jets would envy. They also seem able to predict the weather. Their departures are often associated with low-pressure systems, leaving on the back side of lows and having the advantage of strong tailwinds for hundreds of miles. Luckily for us, bar-tailed godwits take time out to stop in Korea and the Aleutians during their spring migration. You can see these incredible birds every spring on Shemya. Check the south beaches throughout May.



(c Glen Tepke: pbase.com/gtepke)



Bar-tailed Godwit  
female  
(c Isaac Helmericks)



Bar-tailed Godwit, males  
(c John Puschock)



# Bering Sea

Foxes forage all along the coast, but most dens are in rocky areas along the north and west shores.

1. Lagoon
  2. Jenny's Pond
  3. Upper Lake
  4. Dorothy/Jacki/Laura ponds
- † Aleut cemetery

North Point



0 0.5 1 mile

Pacific Ocean



Harlequin ducks and common eiders (all year) and emperor geese (winter) occur in all nearshore waters; look for birds perched on rocks along the coast.

- 5. Karlene Lake
- 6. Headquarters Lake
- 7. Grace Lake
- 8. Jeanne Lake
- 9. Hospital Lake
- 10. Scum Pond

Red-faced cormorants nest here

Look for sperm whales ~2 miles offshore

Ravens nest on this bluff

Nice tidepools on this bench

- 11. Valerie Lake
- 12. Twin Ponds
- 13. June Lake
- 14. Myrtle Lake
- 15. Sweeny Lake
- 16. Shank Pond
- 17. Penelope Lake
- 18. Jennifer Lake
- 19. Connie Lake

Brambling Bluff

Harbor seal haulout

Interesting birds perch on fence

McDonald's Point

Good place to see shorebirds

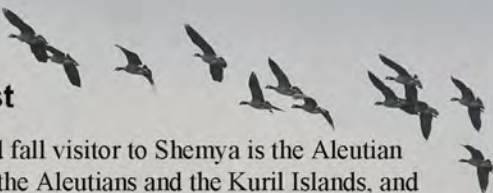
Good pond for waterfowl

Look for albatross and other seabirds offshore





## A Different Kind of Journey ~ From Endangered to Pest



Probably the most conspicuous spring and fall visitor to Shemya is the Aleutian cackling goose. This goose nests only in the Aleutians and the Kuril Islands, and was recently brought back from the edge of extinction. For many years the species was believed to have been wiped out completely by the foxes introduced to islands for the fur trade between 1750 and 1936, but in 1962 a remnant population of fewer than 300 birds was discovered on Buldir Island (80 miles southeast of Shemya), an island so remote and rugged it was never stocked with foxes. Re-establishment efforts were begun promptly, primarily by restoring nesting habitat by eradicating foxes from Aleutian islands. The "Aleutian Goose" was listed as Endangered in 1967 under Federal laws that predated the Endangered Species Act of 1973. By 1990, the population had grown to over 6,000 birds, and the species was downgraded from Endangered to Threatened. By 2001, the population had rebounded to well over 30,000 and was subsequently de-listed as an Endangered Species.

The success of the recovery program had one undesirable consequence, however: it resulted in a bird-aircraft strike hazard problem for Eareckson Air Station. Since they've begun nesting again on nearby islands, increasing numbers of Aleutian cackling geese now visit Shemya--the island has habitat well suited for geese and provides good foraging in the spring and fall. In an effort to keep goose numbers on Shemya low and discourage them from nesting on the island, foxes were allowed to remain. An effective hazing program and habitat modification (planting less desirable forage plants near runways) have also contributed to ensuring the safety of air operations.



Aleutian Cackling Goose family group  
two adults + juveniles (no white neckband)  
(Mike Schwitters/USDA-WS)

In spite of the presence of foxes, which once nearly spelled doom for the species, you will see hundreds of Aleutian cackling geese descend upon Shemya in mid-April through June, as they stop to feed and rest on their journey from wintering areas in California to their nesting grounds on nearby islands. Look for them in

disturbed areas, where they feed on the fescue grass that greens up before much else is growing. From mid-August to mid-October, after the goslings can fly, the geese return to Shemya, feeding during the day and commuting to neighboring fox-free islands to sleep at night. Crowberries are the preferred food in the fall, and you'll see more geese in upland interior areas where berries are abundant. Look for family groups amidst the hundreds of geese fattening up for their southward journey.



Aleutian Cackling Goose  
(three adults and flock in flight)  
c Glen Tepke: pbase.com/gtepkc



## Exotic Old World Visitors

For serious birders, the Eurasian species are most alluring, and during spring and fall Shemya is a great place to see migrating birds rarely found in North America. Check the ponds and lakes. You have a good chance of spotting some of the more regularly seen Asiatic waterfowl, such as whooper swans and smews in spring, Baikal teal in fall, and falcated ducks, gargany and tufted ducks in either season. Look carefully along the coast and in disturbed and marshy areas for Old World shorebirds. Species seen both spring and fall include lesser sand plovers, wood sandpipers, gray-tailed tattlers, whimbrels (Eurasian subspecies), long-toed stints, dunlins (at least some are the Eurasian subspecies), and common snipes. You might also find common green-shanks in spring, and juvenile ruffs and sharp-tailed sandpipers in fall. Other fairly regular spring and fall Old World visitors to Shemya include black-headed gulls, and passerines such as Siberian rubythroats, rustic buntings, and bramblings.

And then there are the "accidental" vagrants, exhausted Old World migrants blown out to sea by westerlies, stopping gratefully for a rest on Shemya. Many species have shown up more than once but others are a one-time anomaly. Just think, if you go out birding after a spring or fall westerly, you might be the one to spot a new bird for Shemya, or even all of North America! Serious birders spend enormous amounts of money for just such an opportunity to add rare Asiatic species to their North American sighting checklists--if Eareckson Air Station was open to the public it would be a world-class destination for birders. You will have to look carefully because juvenile birds, and adults that have molted out of their easily recognizable breeding plumage by the time of fall migration, may be a challenge to identify.



Eurasian Bullfinch  
(cc Siga)



Red-flanked Bluetail  
(cc M. Nishimura)



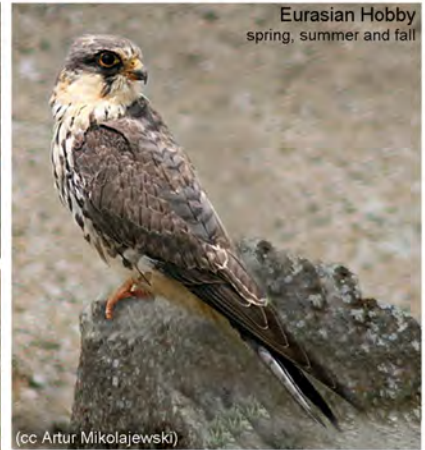
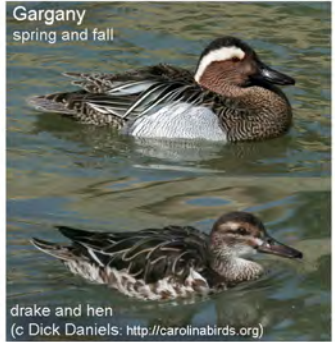
Terek Sandpiper  
(c John Puschock)



Reed Bunting  
(cc Artur Mikołajewski)

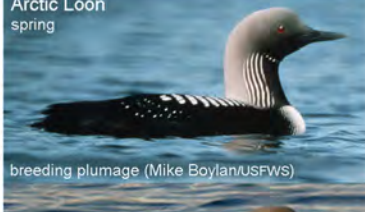


# A Gallery of Migrants ~ Shemya's Regular Spring/Fall Visitors





**Arctic Loon**  
spring



breeding plumage (Mike Boylan/USFWS)



non-breeding (c Christian Kerihuel)

**Black-bellied Plover**  
spring



breeding plumage  
(c Glen Tepke: pbase.com/gtepke)



non-breeding (c John Puschock)

**Lesser Sand-plover**  
spring and fall



(c John Puschock)

**Semipalmated Plover**  
spring



(c Glen Tepke: pbase.com/gtepke)

**Gray-tailed Tattler**  
spring and fall



(c John Puschock)

**Common Sandpiper**  
spring



(cc Marek Szczepanek)

**Red-necked Stint**  
fall



(c Glen Tepke: pbase.com/gtepke)

**Wandering Tattler**  
spring and fall



(Ray Buchheit/USFWS)

**Red-necked Stint (juvenile)**  
fall



(c Don Cunningham)

**Little Stint**  
spring and fall

**Sharp-tailed Sandpiper**  
fall



(c John Puschock)

**Whimbrel**  
spring and fall



(c Steve Ebbert)

**Common Greenshank**  
spring



(c John Puschock)

**Pectoral Sandpiper**  
fall



(c John Puschock)

**Wood Sandpiper**  
spring, summer  
and fall



(c Isaac Helmericks)

**Long-toed Stint**  
spring and fall



(cc Alnus)



**Ruddy Turnstone**  
spring and fall



breeding plumage

non-breeding



(all: c Tom McCarthy)



**Dunlin**  
spring, summer  
and fall



breeding plumage  
(Ray Buchheit/USFWS)



non-breeding  
(c Glen Tepke: pbase.com/gtepk)



**Ruff**  
fall

non-breeding  
(c John Puschock)

**Long-billed Dowitcher**  
fall



(c Glen Tepke: pbase.com/gtepk)

**Common Snipe**  
spring and fall



(both: c Glen Tepke: pbase.com/gtepk)

**Red-necked Phalarope**  
fall



male, breeding plumage



female, breeding plumage



non-breeding

(all: c Glen Tepke: pbase.com/gtepk)

**Red Phalarope**  
fall



male, breeding plumage



female, breeding plumage



non-breeding

(all: c Glen Tepke: pbase.com/gtepk)

**Black-headed Gull**  
spring and fall



breeding plumage  
(c Steve Ebbert)



breeding plumage  
(c Fiona Grant Photography)



non-breeding  
(c John Puschock)



Herring Gull  
spring and fall



adult, breeding plumage  
(c Glen Tepke: pbase.com/gtepke)

juvenile



(c Robert Martinka)

Short-eared Owl  
spring



(c Glen Tepke: pbase.com/gtepke)



(c Tom McCarthy)

Northern Wheatear  
fall



male, breeding plumage (cc Philippe Kurlapski)

Siberian Rubythroat  
spring



male



female

(both: cc Robert tdc)

Eastern Yellow Wagtail  
spring



(cc Andreas Trepte, www.photo-natur.de)

(c Steve Ebbert)



(c Glen Tepke: pbase.com/gtepke)

Eyebrowed Thrush  
spring and fall



(c John Puschock)

White Wagtail  
spring and fall



breeding plumage  
(cc Andreas Trepte, www.photo-natur.de)

Olive-backed Pipit  
spring and fall



(cc J. M. Garg)

American Pipit  
spring and fall



(cc mdf)

Rustic Bunting  
spring and fall



(Jason Gilsdorf/USDA-Ws)



Brambling  
spring and fall  
male, breeding plumage



female (both: c John Puschock)



# Grab Some Binoculars and Go Birding

See how many different birds you can spot! The photographs included here will help you recognize the more common species, but if you are serious about identifying birds in the field, you should be sure to take binoculars and a good field guide (such as the latest edition of National Geographic's *Field Guide to the Birds of North America*). Another great resource, devoted entirely to Shemya, is M.T. Schwitters' excellent report *Bird Species Found at Shemya Island, Alaska, 1999-2007*, with detailed accounts of every species ever seen on the island, including photographs of birds in various plumages and records of where and when they've been observed in the past. A copy is available in the billeting office.

## Bats? No!

Once in a while people think they've seen bats on Shemya, fluttering around lights in the dead of night. These are probably Leach's or fork-tailed storm-petrels, small elusive seabirds with a characteristic stiff-winged, fluttering flight. Both species nest in the Aleutians and are mostly nocturnal.

They are attracted by bright lights, such as those around parking areas, hangars, or the pier when a barge is in port. Once a bird is drawn in, it sometimes becomes disoriented and collides with lights or other structures. You might find one in the morning, sitting stunned or confused, unable or unwilling to fly away. If uninjured (and not yet devoured by a fox!), the bird will often recover. Put it in a box in a dark, cool, quiet place until nightfall, then take it to an unlit coast with no predators in sight and let the bird sit gently in the palm of your hand. After a few moments of getting its bearings, the bird will silently flutter back out to sea.



Fork-tailed (left) and Leach's (right) Storm-petrels (montage; original photos c Michael Woodruff)



## Paws on the Tundra

Arctic foxes are one of the most visible and charismatic residents of Shemya, but they have not always lived here. In the Aleutians, there are no native land mammals west of Umnak Island--only animals that could fly or swim reached these remote islands. Prior to WWII, many Aleutian islands were stocked with foxes for fur ranching. Blue-phase Arctic foxes from Russia's Commander Islands were introduced onto Shemya Island in 1911. Introduction of these non-native predators had catastrophic consequences for nesting bird populations, as foxes feasted on the seabirds, waterfowl, ptarmigan and songbirds that had evolved without defenses against mammalian predators. The result was a dramatic change in the fauna and flora of the islands. In the early 1960s the Refuge began systematically eradicating foxes from Refuge islands in order to restore native bird nesting habitat. To date, more than 41 islands or islets comprising over a million acres have been cleared of foxes, and the recovery of native bird populations has been spectacular.

## Foxes ~ An Unlikely Ally

Ironically, the foxes on Shemya are considered an asset for the very reason they have been such a problem on other islands: they keep bird populations in check. Though they rarely prey on adult gulls or geese, the obvious lack of nesting gulls and geese on Shemya is directly attributed to the foxes' presence. The resultant absence of fledging gulls and geese learning to fly greatly reduces the bird-aircraft strike hazard during summer. Thus, foxes play an important role in making Eareckson Air Station safer for aircraft operations. For this reason, in 1988 an agreement between the Air Force and the U.S. Fish and Wildlife Service resolved that foxes would be allowed to remain on Shemya.

Foxes are easiest to see in spring during mating season (mid-April to early May), when males are territorial and pairs engage in entertaining antics. Lone foxes foraging along the coast can be seen throughout the year. Most dens are located on





the rocky north and west coasts of the island. Pups first begin emerging from their dens at about three weeks of age (generally late June to early July), and are fully weaned about a month later. Foxes on Shemya forage mostly in the intertidal zone, eating small fish or invertebrates trapped in tidepools, sea urchins, seaweeds and hopping isopods found in piles of rotting kelp. They also prey on eggs and chicks of birds attempting to nest on Shemya, and scavenge seabird or marine mammal carcasses that wash ashore. Their winter coat, once prized by fur trappers, is beautifully thick and ranges from blue-grey to pale gold, but as foxes molt into their short dark brown summer coats they can look a bit mangy, and have hence earned the nickname "scruffies".



Pups!  
(Greg Thomson/USFWS)



(Jason Gilsdorf/USDA-WS)



(Jason Gilsdorf/USDA-WS)



"Scruffy"  
(Jason Gilsdorf/USDA-WS)



Winter Coat

(c Sabine Reuss)



(Greg Thomson/USFWS)



(c Valerie Abbott)



## A Hard Life for Foxes

A study in 2006 revealed that foxes on Shemya have a hard life. Adults were very thin, with minimal muscle and virtually no fat. Most had extremely worn-down teeth and infected gums, and some had tumors. On the positive side, Shemya's foxes did not suffer from any canine diseases nor have high levels of contaminants in their tissues, and displayed enough genetic diversity to sustain a genetically healthy population for many generations to come. In 2006 eleven foxes were fitted with numbered plastic ear tags in order to help estimate population size and survival rates. An additional 25 foxes were tagged in 2008, and the study will continue in 2010. You can assist in this important research by reporting when you see a tagged fox on Shemya. Please note as much information as you can, including the date, time and general location (for example, "along the beachfront road at the west end of the island").



number in black lettering. Most of the red tags also have "UCB" written on them. Numbers can be very difficult to see, especially in winter when foxes have a thick coat of fur, but if you have a spotting scope or binoculars, give it a try! Make a note of whatever you can see with regard to the color and number. Remember: ANY information is very helpful, even if you cannot see all the details. Please e-mail your sightings of tagged foxes directly to the lead researcher of the Shemya Island Fox Project, Dr. Paula A. White, at [paw@carnivoreconservation.com](mailto:paw@carnivoreconservation.com).



Tagged foxes have a colored and numbered plastic tag in the left ear only. Females have white tags, and males have yellow tags. If a fox was tagged in 2008, the back piece of the tag (visible on the back of the ear) for both sexes is red. The front of the tag has a one- or two-digit



"Yellow-82" (all photos this page: Jason Gilsdorf/USDA-WS)





## Keep Them Wild ~ Please Don't Feed Them

Knowing the importance of foxes to the safety of aircraft operations at Eareckson Air Station, and seeing how skinny some of them are, you might be tempted to feed them, but it is a violation of state law, and the Air Force enforces a strict no-feeding policy for foxes (and other wildlife) on Shemya. Foxes must rely on natural foods in order to play their role in preventing birds from nesting, thus reducing threats to flights into and out of Eareckson Air Station. Providing an artificial food can also lead to overpopulation and subsequent starvation or



disease, and some human foods can be harmful to foxes. In addition, foxes that are "tamed" by being fed become fearless and their approach might be misinterpreted as an attack by the next person. Foxes are wild animals, no matter how friendly they appear. You risk injury when you do not keep a respectful distance from any wild animal--they can misinterpret your actions, or they may not know where the food stops and your fingers begin. Encouraging foxes to frequent work areas and residential portions of the base leads to nuisances such as foxes urinating on anything left accessible or the more serious danger of collisions on the roads or runway. Please do not, under any circumstances, feed the foxes. Be sure not to leave food items anywhere these clever and nimble little foxes may be able to get them.





## Rats and Mice Threaten Wildlife

The rats and mice found on Shemya are not native. They are not part of the Aleutian landscape and change it in many ways, from eating bird eggs and native invertebrates to grazing on native plants. "Rat spills" have proven to be far more deadly than oil spills to island ecosystems, including island-nesting birds. Rats crawl into nesting burrows and along narrow cliff ledges, stealing eggs and killing chicks and adults.

Roof rats (also called black rats or ship rats) were introduced inadvertently to Shemya, probably during WWII by ships carrying rat-infested cargo. Rats not only harm native ecosystems, but could have economic and health impacts on Air Force facilities and personnel. Someday we hope they will be completely eliminated on the island. Their population fluctuates greatly: in some years they seem to have disappeared, only to be seen and trapped all over the place the following year. They've been captured in buildings and along the coastal roads. Roof rats are sleek and graceful and have pointed snouts, tails longer than their bodies, and large flimsy ears.



Norway rats (also called brown rats or wharf rats) are not currently on Shemya, but because many shipments to Eareckson Air Station originate in Seattle or pass through Dutch Harbor, both rat infested, they could invade the island. All the other Aleutian islands that have been invaded by rats have Norway rats, which are better adapted to the cold than roof rats and would be harder to eradicate. Norway rats are shaggy and stout and have blunt snouts, tails shorter than their bodies, and small sturdy ears.

Deer mice were also inadvertently introduced and have become established on Shemya. You might see them running across the roads at night, and sometimes mice are trapped in and around buildings, particularly in winter as temperatures drop. Further afield, their tracks have been seen in various places on the island, including along the north and southeast coasts and near Twin Ponds. These small mice can be grey, reddish or brown, and their long tails are distinctively dark on top and white on the bottom.





## People at the End of the World

People have lived on or visited Shemya Island for thousands of years. The island's cultural resources encompass both historic and prehistoric sites, including remnants of ancient Aleut villages dating from 3,500 years ago, an Aleut fur-trapping camp and cemetery from the early twentieth century, and important World War II and Cold War era artifacts and buildings.

The same features resulting in Shemya's bountiful natural resources have influenced the island's inhabitation by humans. Just as Shemya--a stepping stone in the chain of islands linking Asia and North America, and a speck of land in the midst of rich marine resources--provides important habitat for migrating, wintering, and breeding wildlife, so has it been important to humans, as productive hunting and fishing grounds for ancient Aleuts and, later, a strategic base for military operations. Ever since World War II, when the geography of the Aleutians led the Japanese to choose the islands as their northern invasion route to the United States, Shemya has played an active role in our nation's defense.

Although World War II and Cold War construction disturbed many prehistoric sites, archaeological features and artifacts still exist at ancient village sites around the island. It is illegal to disturb or vandalize historic or archaeological deposits or artifacts. If you see vandalism, disturbance or looting, or encounter artifacts, archaeological sites or human remains, please notify the Cultural Resources Manager at the 611th Civil Engineer Squadron.

Aleut Graves



WWII Coastal Defense



"50-Cal Beach"



Cold War Pillbox and WWII Hangar  
(c Dirk HR Spennemann: www.ausphoto.net)



## Giants ?

In the 1960s well-known zoologist Ivan T. Sanderson related a curious story about a letter he received from an engineer who was stationed on Shemya during WWII. While building an airstrip, the engineer's crew bulldozed a group of hills and discovered under several sedimentary layers what appeared to be human skulls and leg bones of enormous proportions. The crania measured from 22-24 inches from base to crown, about three times the size of an average adult. Such a large cranium would imply an immense size for a normally proportioned human. Also of note was that every skull had been neatly trepanned (a hole cut in the top), a process dating from Neolithic times that is portrayed in cave paintings as a cure for epileptic seizures, migraines, and mental disorders. Sanderson tried to find proof of this incident, and eventually received a letter from another member of the unit who confirmed the report. In both accounts the bones were said to have been collected by the Smithsonian Institution, but this was never confirmed.





## Marine Mammals in Trouble

Harbor seals, Steller sea lions and sea otters were historically the most abundant marine mammals found around Shemya, feeding in nearshore waters and hauled out on shorelines and offshore rocks, but all three species have declined drastically in recent years, not just at Shemya but throughout the Aleutians. The western population of Steller sea lions is now listed as endangered, and the southwest population of sea otters is listed as threatened. Both of these populations include all of the Aleutian chain.

### Seals Can't "Walk"

Adult harbor seals weigh about 180 pounds and are usually a mottled grey or brown that appears much darker and sleeker when wet. Pupping usually occurs between May and mid-July and is not restricted to rookeries as for many seals and sea lions, but can occur at any haulout, and it is not uncommon to see a single adult with a pup and no other seals around. They feed on a variety of fish, including walleye, pollock, cod, capelin, herring, salmon, octopus, and squid.

In the last few years up to 60-80 harbor seals have been seen around Shemya in spring, and about 30-60 in fall. You can see them hauled out on the rocks off the



northeast coast during low tide or foraging in nearshore waters around the island. They are very curious, and occasionally when they see a person will follow along just offshore--generally all you'll see is the rounded top of a sleek grey head, with big dark eyes silently watching you; then the seal quietly sinks into the water and disappears with barely a ripple.



Harbor Seals  
(cc Per Harald Olsen)



## Sea Lions Have "Ears"

Sea lions, unlike harbor seals, have external ears, and their rear flippers turn forward allowing them to shuffle along with a gait similar to land mammals, rather than squirming and humping awkwardly along as seals do on land. They are called sea lions because the disproportionately large and coarsely haired necks and shoulders of adult Steller sea lion bulls give them the appearance of having lion-like manes. Their fur is a golden color, which can range from very dark brown or red when wet to light cream when dry. The average adult male is over 10 feet long and weighs over 1,200 pounds, more than twice as much as the average adult female. Sea lions also differ from harbor seals in that they congregate at established rookeries from mid-May through July to pup and breed; the nearest rookeries to Shemya are located on Attu, Agattu, and Buldir islands (30-80 miles away). Steller sea lions eat a variety of fish, including pollock, flounder, herring, cod, salmon, rockfish, and invertebrates such as squid and octopus, and they generally forage from the intertidal zone out to the continental shelf.



In 1959 and 1979, 2,500 and 1,500 adult Steller sea lions were counted, respectively, around Shemya, but no more than 100 have been seen at one time in the last decade.



In recent years up to 50-80 sea lions haul out on the largest and most distant rock off the north coast during spring. In other seasons you are more likely to see smaller groups or individuals foraging around the island. When swimming they are easy to distinguish from seals: they'll generally lift their snouts out of the water to get a look at you rather than lurking with their chins still submerged like seals. Look also for a brownish color, a pointed snout, and small protruding ears.





## Sea Otters ~ Gone for Good?

Sea otters are members of the weasel family and are related to mink and the smaller river otters. Adult sea otters are about 4.5 feet long; males weigh up to 100 pounds and females average 40-60 pounds. Their hind feet are webbed and their front feet are able to manipulate food handily, but they are slow and cumbersome on land and rarely venture



far from the sea. Sea otter fur, considered the finest in the world, consists of dense dark-brown underfur and sparse guard hairs that can be dark or pale or silvery, giving them a frosted look; often the heads of older otters are lighter than their bodies. Sea otters don't have the heavy layer of insulating blubber that characterizes most marine mammals, but are able to stay warm in cold seas because of the air trapped in their fur. Otter pups, born in any season but most commonly in spring, can be seen riding on their mother's chest as she floats on her back; they look nearly as big as their mothers by the time they are weaned. Sea otters feed on sea urchins, crabs, clams, mussels, octopus, other marine invertebrates, and fishes, which they dive to collect and then eat on the surface, lounging on their backs and deftly handling the food with their forepaws.

No sea otters have been seen at Shemya recently, but in the recent past they were found in all coastal waters around the island, resting in kelp beds on the southwest coast and foraging along the north coast where they were often seen hauled out on offshore rocks and tidal benches. Sea otters were historically an important part of the marine ecosystem in the Aleutians, but were decimated in the late 1700s by Russian fur hunters. Populations increased after sea otter hunting was prohibited in the mid-1900s, and up to 124 otters were counted at Shemya in the early 1990s, but this was followed by a sharp decline. Only two or three otters were observed during surveys in the early 2000s, and none has been reported since the spring of 2005.

The nearshore environment of Shemya has been affected by the absence of sea otters. When there are no otters to prey on sea urchins (one of the otters' favorite foods), sea urchins multiply and eat all the kelp, creating sea urchin "barrens". Invertebrates are deprived of the shelter of the kelp forest they need to survive. Fish that normally feed on the invertebrates in the kelp forest must go elsewhere to feed, which can in turn affect the seals and eagles that eat the fish. This is a good example of how every species in an ecosystem has an important role to play. As John Muir put it, "When one tugs at a single thing in nature, he finds it attached to the rest of the world."



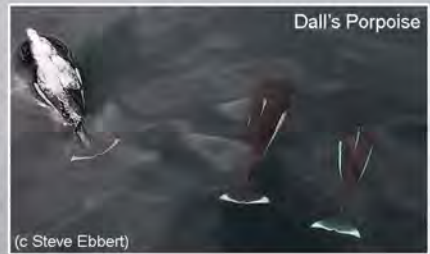


# Spotting Whales and Porpoises

Occasionally on days when sea and weather conditions are favorable you can see whales and porpoises from shore; binoculars will help. Orcas, also known as killer whales, are recognizable by their tall black dorsal fins. They sometimes approach fairly close to shore, often in small family groups, and can be seen year-round. Male sperm whales spend their summers in the North Pacific and Bering sea, and solitary whales are seen around Shemya between April and September, generally swimming about two miles off the north coast. On nice days their characteristically forward-angled spouts are visible, and if you're patient you may be rewarded with a sight of the whale's flukes as it dives after breathing on the surface for awhile.



Humpback, blue, right, Minke, and fin whales feed in the area during summer, but are more difficult to see from land. Stejneger's beaked whales are occasionally observed in nearshore waters, and every few summers small numbers ground themselves and die on Aleutian beaches. Dall's porpoises, present year-round in the Aleutians, can sometimes be seen swimming offshore. In fall 2007 hundreds were spotted off the northwest coast, some engaging in high-speed chases while others leisurely arched along. They are fast, vigorous swimmers and create rooster-tails of spray at high speeds.



Since 1985 at least five dead whales have washed ashore on Shemya. While the Marine Mammals Protection Act allows taking parts from marine mammals, the Endangered Species Act prohibits taking parts of threatened and endangered animals (including many species of whales) unless permitted and for scientific or educational purposes. If you find a beached marine mammal, contact the National Marine Fisheries Service to determine the requirements before removing any part or taking samples.



# Fishing's Best Done in Saltwater

There are many small lakes and ponds on Shemya, but people rarely fish in them. There are no salmon runs on the island (though lots of pink salmon and a few red, silver and dog salmon spawn on nearby Agattu and Attu islands). Up until the mid-1970s rainbow trout were stocked in several of Shemya's lakes, and in 1985 silver salmon were introduced to Middle and Lower lakes. All of the permanent lakes are inhabited by three-spine stickleback, and at least some have small juvenile salmonids, Dolly Varden, and coastrange sculpin, all of which provide a nice source of food for waterfowl but aren't much fun for the angler. Dolly Varden of a size worth fishing for occur only in the small steam below Lower Lake.

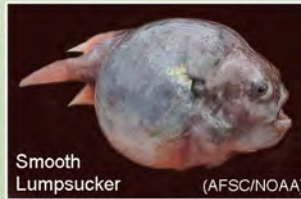


Saltwater fishing is mainly off the dock (off-limits during winter and when ships are in), though a few intrepid souls have braved the slippery boulders along the north shore to cast into tidal areas, where foxes occasionally catch fish trapped in tidepools. Beware of treacherous footing on these rocks and the speed of the incoming tide. The most common species caught off the dock are greenling (kelp and rock), gray or Pacific cod, sculpin (Irish lords), some flounder, maybe some





Dolly Varden, and very occasionally a big (>100 lbs) halibut. Recreational fishing activities are managed by the Alaska Department of Fish and Game, and it is the responsibility of each angler to be aware of these regulations.



Every few years lancetfish wash ashore on Shemya, sometimes still alive but generally either dead or about to die. They are weird-looking predatory fishes, the only genus in the family of "scaleless lizards" (Alepisauridae). Very slender and long, up to 6.5 ft in length, they have huge mouths armed with several large fang-like teeth and lots of smaller teeth, and a long and very high sail-like dorsal fin (about twice as high as the fish is deep) that may not be obvious in a dead fish.





## Shemya's Wonderful Reef

Shemya Island is surrounded by a tidal bench, riddled with channels and pools and extending about a mile offshore. The bench supports a variety of colorful marine life and is an extremely productive feeding area for waterfowl. Tidepools offer you a glimpse of these nearshore riches. In addition to masses of green sea urchins, you can see several species of barnacles, blue mussels, chitons, sea snails, limpets; in the deeper pools you may see sea stars, anemones, hermit crabs, and occasionally a fish. Peek under rocks to find amphipods and isopods, including large scuttling sea slaters. Blue mussels are delicious--Shemya's have tested negative for contaminants and Paralytic Shellfish Poisoning (PSP) in the past, but there is no guarantee this sometimes deadly toxin won't occur in the future, so harvest with care! Definitely don't collect mussels from the northwest coast where oil continually washes ashore (presumably from a sunken ship).

Three species of kelp predominate in Shemya's near-shore waters--*Alaria*, *Fucus*, and *Laminaria*. With no sea otters to control the urchin population, kelp is now densest in areas exposed at low tide (where urchins are fewest), scarce in subtidal waters, and present but heavily grazed anywhere urchins can remain submerged most of the time (lower intertidal zone, channels and tidepools). Most seaweeds are edible (and delicious!). There are a number of good books available with recipes and identification keys.



Japanese Fishing Floats



Exploring the intertidal area can be fascinating and rewarding, but be careful, as the rocks are dangerously slippery, there are deep holes to fall in, and you must always be vigilant of the incoming tide. It is easy to get trapped by the sea as it rises. In addition to tidepooling, there are great opportunities for beachcombing on Shemya's long stretches of sand and gravel

beaches. Poke around in the rotting piles of kelp to uncover hordes of fleeing beach hoppers--a main component of the foxes' diet--and keep your eyes peeled for Japanese fishing floats, those coveted colored glass balls.





# Things to Look for on Shemya's Shores...



Beach Hoppers  
(c Jan Holmes/Periwinkle Press)



Moon Jelly



Helmet Crab  
(c Roger N. Clark)



Kelp Fly  
(c Matthew Jackson)



Sea Slater  
(c Dave Cowles:  
<http://rosario.wallawalla.edu/inverts>)



Northern Sea Hair  
(Mandy Lindeberg/NOAA)



Bladderwrack  
(Mandy Lindeberg/NOAA)



Sea Sac  
(Mandy Lindeberg/NOAA)



Snails with heavily grazed kelp (c Carolyn Kurlle)



Stiff Red Ribbon  
(Mandy Lindeberg/NOAA)



Mussels and Barnacles  
with grazed Ribbon Kelp  
(Mandy Lindeberg/NOAA)



Northern Rhizome Kelp  
(Mandy Lindeberg/NOAA)



Ribbon Kelp  
(Mandy Lindeberg/NOAA)



# ...and in the Pools and Channels of the Reef

Limpets on Encrusting Coralline Algae  
(c Carolyn Kurle)



Tunicates  
(c Carolyn Kurle)



Breadcrumb Sponge  
(c Carolyn Kurle)



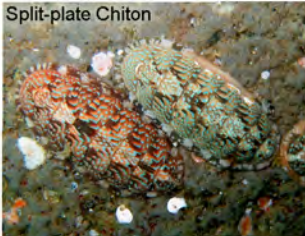
Black Leather Chitons



Six-rayed Seastar with Green Sea Urchin



Split-plate Chiton



Lined Blood Star with Cloud Sponge

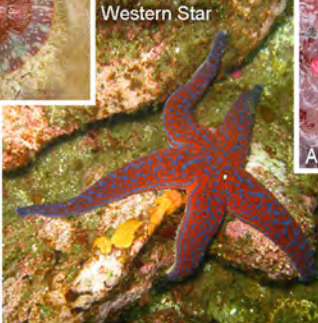


Hermit Crab  
(Jeff Mondragon: mondragonphoto.com)

Mottled Red Chiton



Western Star

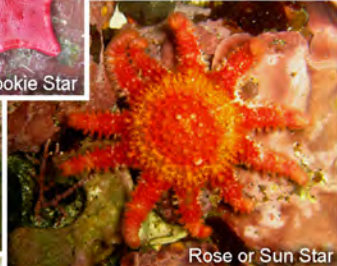


Arctic Cookie Star



Daisy Brittle Star with Green Sea Urchin

Scheffer's Aleutian Star



Rose or Sun Star



Brooding Anemones



Black Sea Cucumbers or Alaska Tar Spots



## Shemya: Bleak Rock or Black Pearl?

The Aleutians are a place people seem either to love or hate living, without much middle ground. Shemya, known as *The Rock* to those who would rather be anywhere else, and *The Black Pearl of the Aleutians* to those who relish their time here, is no exception. But either way, the islands get under your skin; even those who count down the days until their departure look back with nostalgia on their experiences and regret not appreciating how unique they were at the time. The more you get out and explore the island, the more likely you'll be one of those who enjoy living on Shemya and make the most of every day. Remember, you are one of a privileged few with the opportunity to spend time in the westernmost reaches of North America, where the waters of the North Pacific and the Bering Sea come crashing together, and the flora and fauna of East and West overlap with extraordinary diversity and richness. On nice days it is a joy to be out tramping in the hills or exploring along the coast, and on tempestuous days you will marvel in awe at the stunning power of the elements and the amazing ability of plants and animals to thrive in Shemya's sometimes hostile environment. So, Rock or Pearl? It's up to you. Hopefully this guide will inspire you to discover Shemya for yourself, and recognize it for the treasure it is.





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Red-breasted Mergansers  
(c Isaac Helmericks)



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