

U.S. Fish & Wildlife Service

Dungeness

*National Wildlife
Refuge*



*“In every outthrust
headland, in every
curving beach, in
every grain of sand
there is a story of
the earth.”*

— Rachel Carson



Introduction

At Dungeness National Wildlife Refuge one of the world's longest natural sand spits softens the rough sea waves to form a tranquil bay, fertile tideflats, and beaches of sand and gravel. Here wildlife find food, a place to rest, and protection from winds and pounding surf. Recognizing the area's importance to wildlife, President Woodrow Wilson declared Dungeness Spit and its surrounding waters a National Wildlife Refuge in 1915.

The "Blue Goose," designed by J.N. "Ding" Darling, has become the symbol of the National Wildlife Refuge System.



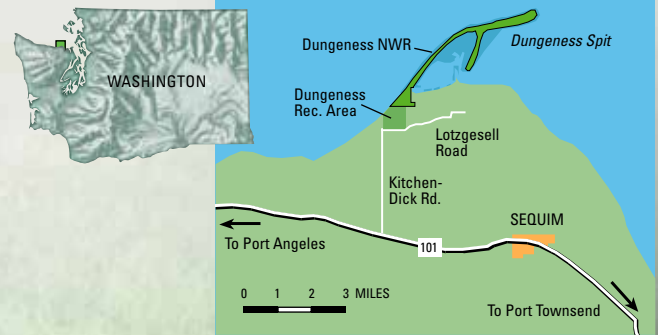
Dungeness is one of over 500 refuges in the National Wildlife Refuge System. A network of lands set aside specifically for wildlife, the System is our living heritage, conserving wildlife and habitat for generations to come.

Activities

Dungeness NWR is open to the public year-round. Hiking, wildlife watching, and photography are popular activities on the Refuge. Some areas are closed seasonally or permanently to protect sensitive species.

Location

West of Sequim on Highway 101, turn north on Kitchen-Dick Road. Continue 3 miles to Dungeness County Recreation Area. Pass through the recreation area to reach the Refuge parking lot.



Dungeness Spit

©Long Bach Nguyen

History of the Refuge



S'Klallam people digging clams.

©North Olympic Library, Bert Kellogg Collection

Traditional S'Klallam Use

For thousands of years S'Klallam people visited Dungeness Spit to gather shellfish, hunt waterfowl, and bury their dead. In 1872 the S'Klallam were forced from their villages along the Dungeness River by Euro-American homesteaders and spent a difficult year living on the Spit. In 1875 they bought 222 acres to establish the settlement of Jamestown east of the Dungeness River. The tribe secured Federal recognition in 1980.

A Beacon for Mariners



The New Dungeness Lighthouse
USFWS

On December 14, 1857 the New Dungeness Lighthouse became the first operational light in the Salish Sea. The lighthouse was 100 feet tall at first, but was lowered to 63 feet in 1927 because of cracking in the tower. Originally equipped with an oil-burning light and a bell, these signals were progressively replaced with newer technology and power sources. The lighthouse was placed on the National Register of Historic Places in 1993. Today visitors may hike to the lighthouse and enjoy breathtaking views from the signal tower.

The Market Hunting Era

Many people depended on the rich bounty of fish, shellfish, and waterfowl in the waters surrounding Dungeness Spit for their livelihood. In the late 1800s and early 1900s, this was a prime area for waterfowl hunters who supplied restaurants in Seattle.

A new invention — the power boat — allowed these “market” hunters easy access to flocks of brant that wintered in the area.



Ornithologist Walter Taylor reported, “During the months of November and December, 1913, and January and February, 1914, no less than 3,000 black brants are reported to have been killed in the vicinity of Smith Island [20 miles from Dungeness] by hunters who pursued them by the use of power boats, most of the birds being killed in the kelp beds offshore.”

Public concern over rapidly dwindling numbers of geese and ducks led to the establishment of Dungeness NWR in 1915.

Crabbing on Dungeness Bay,
ca. 1900.

©North Olympic Library,
Bert Kellogg Collection



Habitats of the Refuge

The Power of Erosion

About 10,000 years ago, melting glaciers left thick deposits of sand and gravel along this shoreline. As waves carved steep bluffs from these deposits the material was gradually pushed north and east from the headland, creating Dungeness Spit. Weather and waves continue to erode away the bluffs feeding the five-mile-long Spit, causing it to lengthen about 13 feet (4.4m) per year.

Dungeness Spit and the bluffs overlooking it create a variety of habitats that are home to 244 bird species, 18 types of land mammals, and 11 marine mammal species.

Refuge Diversity



Bald eagle
Peter Davis/USFWS

Forest and Bluffs

On the bluffs above the Spit, coniferous forests host black-tailed deer, songbirds, and raptors. Tree snags are convenient lookouts for bald eagles. The bluffs are home to pigeon guillemots that burrow into the sandy soil and glaucous-winged gulls that roost on the outcroppings.

Dungeness and Graveyard Spits

A line of driftwood above the high-water mark stabilizes the Spit and provides shelter for shorebirds, as well as perches where peregrine falcons scan for prey. On the ocean side of the Spit, dunlin, sanderlings, and black-bellied plovers probe the sandy beaches for invertebrates.



Semipalmated plovers
©Dow Lambert

Harbor seals rest and nurse their pups at the tip of Dungeness Spit. The unique habitat of Graveyard Spit is protected as a Research Natural Area.



Western sandpiper
©Dow Lambert

Tideflats

Nutrient-rich sediments accumulate on the lee side of Dungeness and Graveyard Spits. Although the mud appears lifeless, millions of worms, clams, and crustaceans burrow beneath its surface. When low tide exposes the mud, shorebirds such as dunlin, sandpipers, and whimbrels eagerly probe for this hidden bounty.

Dungeness Harbor and Bay

Protected from heavy surf and fertilized by nutrients washing down from the land above, Dungeness Bay and Harbor teem with fish and invertebrates. Eelgrass beds in the Bay provide food for brant, and a nursery for young Dungeness crab, flounder, salmon, steelhead, and cutthroat trout. In winter, flocks of waterfowl, loons, and grebes find food and shelter here.



American wigeon
©Dow Lambert

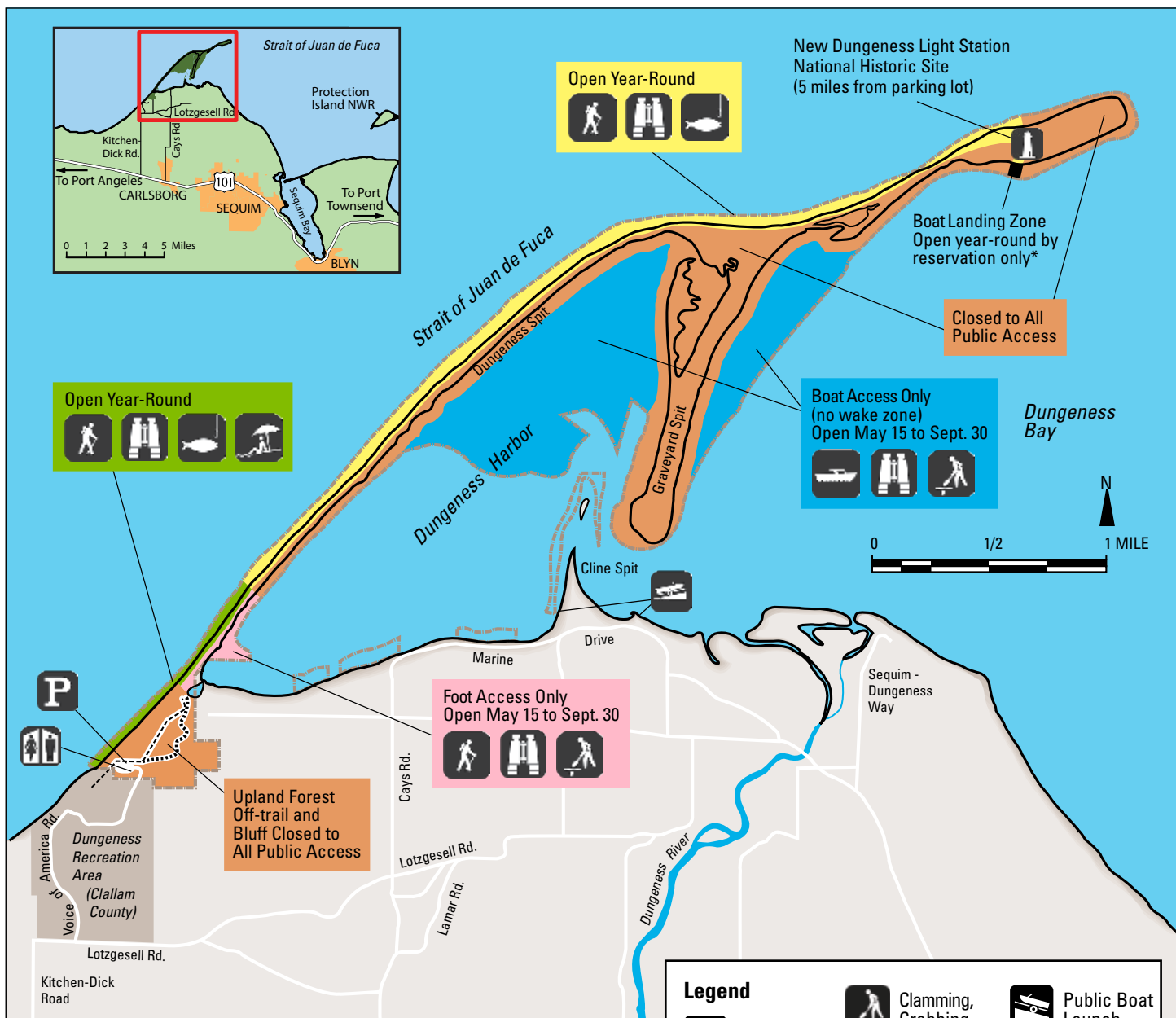
Climate Change

The low lying habitats of Dungeness are at risk of significant impacts as the earth warms and climates shift. Higher temperatures melt polar ice caps, causing sea levels to rise which is of particular concern for this delicate environment.



Dungeness Spit and bluffs
©Dow Lambert

Olympic Mountains as seen from the Dungeness Spit. Sue Mayo/USFWS



Dungeness National Wildlife Refuge protects critical habitat for wildlife and provides viewing opportunities for people. To ensure that wildlife continue to have a place to rest and feed, some recreational activities are allowed only in selected areas during certain times of the year. Areas of the Refuge are closed to provide sanctuary for wildlife during critical feeding, resting, and nesting times.

Legend

- | | | | | | |
|--|----------------------------------|--|--------------------|--|--------------------|
| | Hiking | | Clamming, Crabbing | | Public Boat Launch |
| | Wildlife Observation/Photography | | Saltwater Fishing | | Parking |
| | Boating (no wake zone) | | Primitive Trail | | Restrooms |
| | Beach Use | | Main Trail | | Boat Landing Zone* |
| | | | Refuge Boundary | | |

*By reservation; call 360/457 8451

Wildlife Highlights

Waterfowl

Dungeness National Wildlife Refuge lies on the Pacific Flyway, a migration route travelled by birds between their nesting and wintering grounds. The Refuge's combination of mild maritime climate, shelter from storms, and abundant food also makes it an ideal winter home for waterfowl. About 8,000 ducks and 1,500 brant spend the winter here.



Harlequin ducks are one of several sea ducks seen on the shoreline of Dungeness Spit.

©Dow Lambert

Early in the fall, green-winged teal and mallards feed on aquatic plants and invertebrates in the shallow water of Dungeness Harbor. American wigeon visit Graveyard Spit at low

tide to graze on sea lettuce and eelgrass. When winter rains begin, these ducks visit fields and wetlands on the mainland to feed on grain and tender grasses, returning to the Refuge at night to roost.

Diving ducks, such as bufflehead, surf scoters, red-breasted mergansers, long-tailed ducks, common goldeneye, and harlequin ducks hunt for mollusks, crustaceans, and small fish in the shallow waters of Dungeness Harbor and Bay. When resting, they “raft up” in large flocks offshore. In spring the courtship antics of bufflehead and scoters enliven the waters of Dungeness Harbor.

A pair of green-winged teal dabble for tiny animals in wet mud.

©Francis Caldwell



Brant

Brant are small (about 3 pounds) dark-colored geese that rarely stray far from salt water. Special glands remove salt from the seawater they drink. Eelgrass, a plant that grows in shallow bays, is their favorite food. About 1,500 brant winter at Dungeness NWR from October to February. In March they are joined by brant migrating north along the coast with numbers



Brant
©Dow Lambert

peaking at around 4,000 in late April. By mid-May they have left for their nesting grounds — the coastal tundra of Alaska, Canada, and Siberia.

In the fall the entire Pacific population of brant (about 140,000 birds) funnels into Izembek National Wildlife Refuge in Alaska. For a few weeks they fatten on eelgrass. Then most fly 1800 miles (3000 km) to Baja California — the longest nonstop migration of any goose. Smaller groups stop further north, including at Dungeness NWR.

Once tens of thousands of brant wintered in the Salish Sea, but today only 8,000 do so. Their numbers are reduced by human disturbance, coastal development, and loss of eelgrass beds.

Bufflehead and other ducks use Dungeness Bay and Harbor as safe shelter in winter.
Peter Davis/USFWS



Shorebirds

In spring up to 25,000 shorebirds stop at Dungeness NWR to feed and rest on their migration northward. For a brief interval they stop to feed on invertebrates in Dungeness' tideflats then continue their journey.

Unlike the fleeting burst of spring, the fall migration begins early and lasts several months. The first fall migrants appear in late July. About 12,000 shorebirds stop here in late summer and fall. Most continue south, as far as Peru. A few thousand dunlin, sanderlings, and black-bellied plovers will spend the winter here.



Whimbrel
©Dow Lambert

Shorebirds have a wide variety of foraging strategies so many species can feed in the same area without competition. Least sandpipers and black-bellied plovers pick invertebrates from the surface with their short bills, while long-billed whimbrels and dowitchers probe for worms, clams, and crustaceans buried deep in the mud. Turnstones, true to their name, flip over pebbles and flotsam with their stout wedge-shaped bills to find small animals hidden underneath.

Black oystercatcher
©Dow Lambert



Other Birds

Summer birds nesting on the Refuge include seabirds such as double-crested cormorants, black oystercatchers, glaucous-winged gulls, and pigeon guillemots. Rhinoceros auklets forage in the deeper waters of Dungeness Harbor and the Strait of Juan de Fuca. Look for red-throated loons, horned grebes,



In spring, pigeon guillemots nest in Refuge bluffs.

©Dow Lambert

pelagic cormorants, and gulls in the winter. Bald eagles are frequent visitors to the Refuge and roost in the trees overlooking the bluffs. Peregrine falcons hunt waterfowl and shorebirds from driftwood perches on the Spit. Many species of songbirds, such as Wilson's warblers, Pacific-slope flycatcher, and rufous hummingbirds, can be seen and heard in the woods during spring and summer months.

Mammals

Harbor seals haul out on the tip of Dungeness Spit and pup here in July.



Harbor seal pup
Peter Davis/USFWS

Orca and gray whales are sometimes seen from the Strait-side of the Spit. Columbia black-tailed deer, common in forests of the Refuge, are drawn to the salty shoreline at dawn and dusk.

The eelgrass beds in Dungeness Bay and

Harbor are a nursery for young salmon, steelhead, and cutthroat trout that began their lives in the Dungeness River. Eelgrass beds are also home to the area's popular namesake Dungeness crab. Common saltwater fish found on the Refuge include starry flounder, English sole, sculpins, and surf smelt.

Fish and Invertebrates

Dungeness Harbor's tideflats are rich in clams: butter, Washington, softshell, and horse clams are some common varieties.

Wildlife Viewing Tips

Watching wildlife can be a rewarding endeavor. Here are some basic suggestions for successful viewing.

- Move quietly and maintain distance between yourself and the animals. Although animals often disappear when you arrive, they may return shortly if you are quiet and still.
- For the best viewing of brant and shorebirds, walk 2-3 miles out on the ocean-side of the Spit and watch for birds on the bay-side, using driftwood as a blind. Be sure to stay out of closed areas.
- Use binoculars or spotting scopes to clearly view wildlife from a distance.
- Bring a field guidebook to help you identify various species, what habitats they prefer, when they are active, and what they eat.

- Plan your visit according to the season and time of day. Mornings and early evenings are generally best for seeing wildlife. Fall and winter are the best times for seeing waterfowl. Shorebirds are most abundant during spring and fall migrations.

Birders
USFWS



- Check your tide book. During low tide, shorebirds spread out on the tideflats to feed and may be difficult to see. At high tide they gather on the shorelines in large numbers. Conversely, brant feed on ingoing and outgoing tides, but roost on the shoreline during low tide.



Sanderlings. ©Dow Lambert

Guide to Refuge Activities and Regulations

Hours	The Refuge is open daily from sunrise to sunset.
Entrance Fees	\$3.00 daily entrance fee covers up to 4 adults (16 and older). Children under 16 enter free. Refuge Annual Pass, Federal Recreational Lands Pass, Senior or Golden Age Pass, Access or Golden Access Pass, Military Pass, Volunteer Pass, and a Federal Duck Stamp also admit family or group (up to 4 adults).
Hiking Trails	An easy 1/2 mile trail takes visitors through the forest to an overlook on the bluff above Dungeness Spit. The trail continues down a steep hill to the Spit and becomes a 4.5 mile beach walk to the lighthouse (10 miles round trip). Please stay on designated trails (main or primitive trail) as the upland forest is otherwise closed to public entry to protect wildlife. The bluff areas are unstable and extremely hazardous. They are closed to the public.
Boating	From May 15 to September 30, boating (no wake) is allowed up to the 100-yard buffer. Refuge waters are closed to boating from October 1 to May 14.
Boating Access	Public boat launches are located off-Refuge on Cline Spit and the Dungeness Landing which can be accessed from Marine Drive. Boats may land only at the designated landing site directly south of the New Dungeness Lighthouse from 9 am to 5 pm (winter hours may vary). Advance reservations required; call 360/457-8451.
Fishing and Shellfishing	The Strait side of Dungeness Spit is open to saltwater fishing year-round, except for the area beyond the lighthouse. Tidelands in Dungeness Bay and Harbor, excluding closed areas shown on the Refuge maps, are open to shellfishing May 15 to Sept. 30. Access east and west of Graveyard Spit is by boat only. Washington State fishing regulations and health closures apply. All oysters are privately owned and may not be harvested.

Beach Use

Recreational beach use is allowed in the green zone year-round. Jogging is allowed only on the beach adjacent to the bluffs west of Dungeness Spit. Only hiking, wildlife observation and photography, and fishing are allowed in the yellow zone.

Closed Areas (Year-Round)

Graveyard Spit, portions of Dungeness Spit, a 100-yard buffer zone around these areas, and all bluff areas are closed to public entry.

Prohibited Activities

To minimize disturbance to **wildlife**, some uses are not allowed including, but not limited to: **jet skiing and wind-surfing** on Refuge waters, **pets, hunting, bicycling, kite flying, flying machines, ball-playing, Frisbees, fires, camping, and disturbing or removing any resources** from the Refuge (except for fish and shellfish during designated seasons).

Marine Mammals

Harbor seals and their pups rest on Refuge shores and should not be approached or disturbed. They are protected by the federal Marine Mammal Protection Act.

Camping

No camping is allowed on the Refuge. For information on camping call the Dungeness Recreation Area, 360/683 5847.

Lighthouse Tours

Daily tours of the historic New Dungeness Lighthouse are offered from 9 am to 5 pm by volunteers of the New Dungeness Light Station Association (winter hours may vary).

Accessibility

Visitors should examine their own abilities and limitations before visiting the Refuge. Consult tides for hiking conditions. Contact the Refuge office for suggestions on using the area safely.

Volunteer Program

Dungeness Refuge has an active program of volunteers helping with public information, education, maintenance, and wildlife protection. If you would like to become involved, call the Refuge office.

The New Dungeness Lighthouse with Mt. Baker in the background. ©Dow Lambert

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<http://www.fws.gov/washingtonmaritime/dungeness/>

Washington Relay Service
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U.S. Fish & Wildlife Service
<http://www.fws.gov>

Refuge Information
1 800/344 WILD

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