

Washington State Parks

LIME KILN POINT

S T A T E P A R K



Expect the

Lime Kiln Point State Park is a 36-acre day-use park set on the west side of San Juan Island. The park, which features a richly diverse environment, includes the remnants and landscape of a history filled with change, along the rocky shoreline and through the wooded uplands.

First-time visitors expecting to see a dense, wet, Northwestern forest are surprised when they enter the park through dry, open meadows. These meadows, like many of the other surprises at the park, are a result of the dynamic natural and cultural forces that have interwoven to create this unique place. Like the meadows, created in part by the dry climate of the Olympic Mountains rain shadow, and part by human intervention, the park is filled with places that exemplify the dual forces of nature

It began with rock

Rock is an element that weaves through the history of Lime Kiln Point and is linked to the draw of orca whales, the lighthouse, the lime kiln operations and plant communities.

Most geologists believe that the island is made of five separate land forms stacked in layers. Underfoot is a complex mix of igneous rock (once molten) and sedimentary limestone (formed from ancient marine life). The 250-million-year-old rock layer is much older than the Olympic Mountains to the west and the Cascade Mountains to the east. About 80 million years ago, these rock layers thrust westward over another land form that was driven beneath the margin of North America.

Beginning about two million years ago, a series of glaciers plowed and deepened Haro Strait as they moved south. Massive floods and erosion caused by retreating glaciers further cut and shaped exposed land.

unexpected



Oceanspray plant



The effects

Early tribes

Archaeological evidence suggests that during the last ice age, the first humans crossed over a glacial land bridge from Siberia to North America and migrated south. These early people began hunting and fishing the San Juan islands about 10,000 years ago.

Some local Native American tribes lived on the mainland and had semi-permanent camps on the islands to take advantage of the salmon runs and other food sources — one such camp was reportedly near the park. For the last 2,000 years, local tribes have maintained a salmon-centered culture.





of culture

Impacts on the land



Although Europeans may have explored the San Juan islands as early as the 1500s, the Spanish did not chart and name the islands until the late 1700s. An American expedition later surveyed the islands in 1841. By 1850, fur trappers who followed had decimated the beaver population. Around this time, permanent settlers also arrived and began clearing the forest for farming, introducing many nonnative species of plants to San Juan Island through their livestock.

In 1860, the lime kiln, from which the park is named, began operating. During the next 90 years, lime production would have a major effect on the landscape, where the hill-sides were quarried, roads and railways were constructed and much of the area was clear-cut to feed the kilns. A small industrial zone that included docks, warehouses, livestock barns, dynamite sheds, a post office and bunkhouse also appeared over the years.

A living mu

The park is a living museum. Complex interactions between natural and cultural forces are revealed through the unique mix of plants, animals, historic sites, buildings and artifacts.

The .8-mile interpretive trail leads north along the shoreline where you may see orca whales and other marine mammals, intertidal creatures and the historic Lime Kiln Point Lighthouse.

Further along, you will discover a renovated lime kiln, and then loop south through the upland. Interpretive signs and way-station markers explain the interesting features at the park. This symbol  indicates an interpretive panel, and this symbol  indicates an information post that describes the specific item (1-8) along the interpretive walk. To begin your interpretive journey, start at the trailhead located next to the entry panel and see the map and information on the following pages for details.



Red-shafted flicker (male)

seum

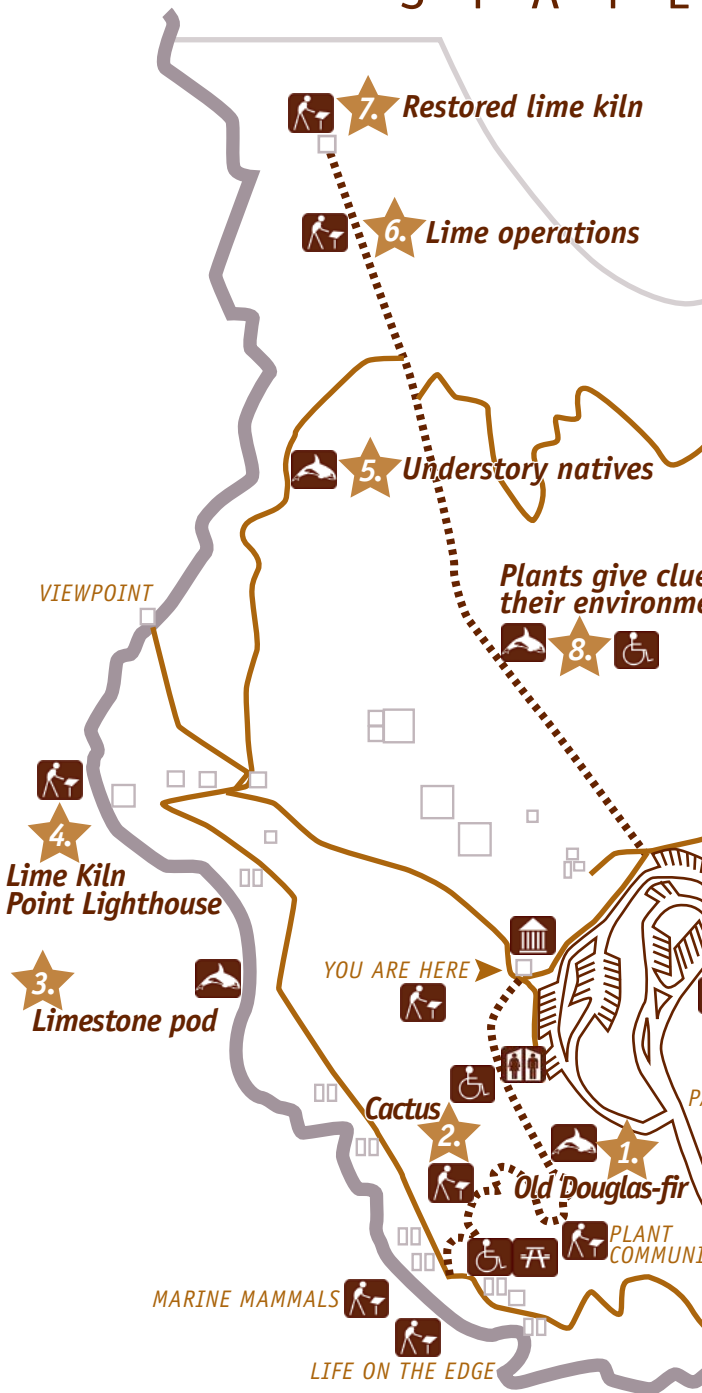


Orange honeysuckle in bloom



LIME KILN

S T A T E



N POINT

P A R K

LEGEND



Information post



Interpretive center



Interpretive site



Parking



Restroom



Wheelchair accessible



Picnic site



Shoreline



Accessible trail



Hiking trail



Park boundary

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ARK ENTRANCE

TIES



NORTH

WEST SIDE ROAD

DEADMAN BAY



1. History of a tree

Douglas-fir (*Pseudotsuga menziesii*) is the most abundant tree at Lime Kiln Point. This particular Douglas-fir is about 350 years old and may be the oldest tree in the park. Although there are much taller Douglas-fir in the upland, they are only 60 years old.

The high winds and thin rocky soils along the shoreline stunt the growth of this particular tree, causing multiple limbs to grow closer together and the trunk to twist and gnarl. Burn marks and breakage indicate that this tree has persisted through fires, storms and the clear-cutting of the forest to fuel the lime kilns. It was probably spared because the numerous knots made it too labor-intensive to cut.



2. Cactus on the island?

The brittle prickly-pear cactus (*Opuntia fragilis*) may look as if it belongs in the desert, but pollen records show it has existed in this region for at least 10,000 years. Found mostly in the San Juan islands, it grows farther north than any other species of the cactus family.

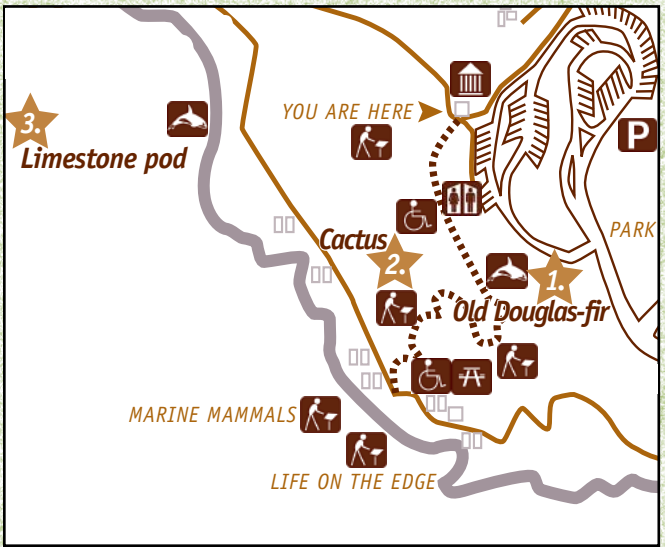
The cactus may have migrated from the south naturally as the climate changed 15,000 to 20,000 years ago, or it may have been introduced along southern trade routes by Native Americans. Tribes such as the Salish used the cactus for food, medicine, dye fixative, needles and fish hooks.

The brittle prickly-pear cactus is a small succulent less than 6 inches high, with green pads, needlelike spines and yellow flowers that bloom every few years in midsummer.

Seeds are typically sterile, so cacti reproduce when pads break off and take root. These pads roll down slopes, float and attach themselves to animals such as river otters. They then grow in desert-like micro-habitats where the soils are thin, acidic and dry quickly. Colonies may be seen growing on outcrops of the south-facing rock on the trail to Deadman Bay. Surrounding rocks retain heat and create high light intensity by limiting the growth of large plants.

Prickly-pear cactus





There has been a noticeable decline in the cactus population over the past several decades. It is not known why this cactus is disappearing, but it may be due to competition from nonnative species, climactic changes or fire suppression. Another possibility is that Native Americans may have actively tended these cactus colonies, which they used for many purposes. So the cactus may be declining because it is no longer tended with such intensity. Researchers also have found a correlation between cactus colony sites and known archeological sites. **You can help protect cacti by being careful not to trample or uproot the plants.**

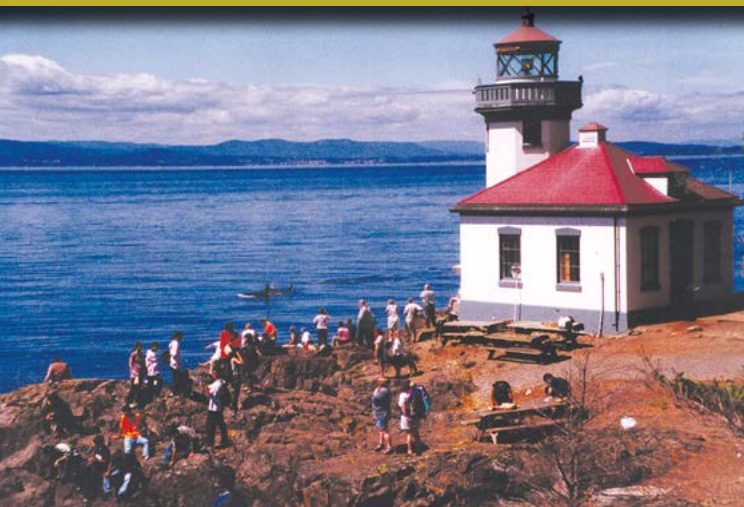


3. What do limestone and orca whales have in common?

Similar to orca whales, the limestone on this island is found in “pods” or small groupings. Limestone is commonly found in large deposits. A long and complex series of geologic processes, including sedimentation, folding, faulting and movement created these limestone pods. The pods are within volcanic basalt with ribbon chert, sandstone and argillite. They vary in size from the small one here to pods large enough to be mined for lime production. The former lime operation in the area mined a pod that produced more than one million tons of limestone. The remaining unmined limestone either contains too much magnesium and silica or was found in pods too small to be economically viable.

Limestone is a light colored rock that varies widely in purity. Made of ancient reefs of Paleozoic marine animals, it contains tiny fossils. If you look closely, you might see the grain-sized fossilized protozoan fusulinids called “Neoschwagerina.”

Some fossils are of Asian origin, making it possible that this land was once foreign to the North American continent. Most of the limestone found here had a high calcium content making it ideal for lime production.



4. Life at the lighthouse

A lighthouse keeper and assistant maintained Lime Kiln Point Lighthouse from 1919, when it was built, until 1962, when it was fully automated. The lighthouse keepers worked full time with numerous daily chores because the light and foghorn, which guided ships through Haro Strait, needed constant maintenance. Chores included fueling oil vapor incandescent lamps that provided the light source within a prismatic lens; winding the mechanism that turned the light; running the fog horn compressors; maintaining all the equipment; and keeping everything clean for unannounced visits by the lighthouse inspector.

The lighthouse keepers were stationed here with their families, who often assisted with the chores. Children went to school in Friday Harbor and spent time boating and fishing. One family member even remembers trading fish for pies with the neighboring lime kiln company's cook.

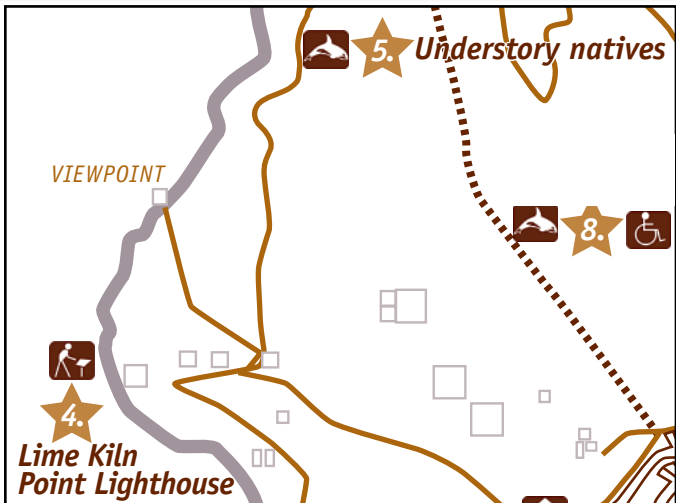
The families lived just up the hill from the lighthouse in two matching residences. The homes (also built in 1919) and the lighthouse are on the National Register of Historic Places.



5. Understory natives

Understory plants are shrubs, trees and other plants that grow up to 15 or 20 feet high, above the forest floor but below the forest canopy. Snowberry (*Symphoricarpos albus*), oceanspray (*Holodiscus discolor*) and hairy honeysuckle (*Lonicera hispidula*) are common native understory plants along this trail.

- Snowberry is a 3-foot-high, bushy shrub with pinkish, bell-like flowers and white, waxy berries.
- Oceanspray can grow to 15 feet and is recognized by its clusters of white flowers from May to July or brown plumes of seeds from late summer through winter.
- Hairy honeysuckle is a slender, trailing plant up to 12 feet long, with orange to purplish flowers and hairy young stems and leaves.



These species are typical of forests and woodlands on relatively dry sites within the rain shadow of the Olympic Mountains. Each has preferred conditions in the understory where it will dominate. For example, snowberry will not grow in extreme shade or in arid places, whereas oceanspray grows in dry woodlands. Hairy honeysuckle favors drier, more open areas and is most common where madrone is abundant in the canopy.

Honeysuckle berries





6. A tale of woe

In 1860, the first lime operation in the San Juan islands began at this site. E.C. Gillette and Lyman Cutler, the infamous pig shooter who ignited the Pig Wars, founded the San Juan Lime Company. By 1869, Augustin Hibbard took over the operation. During a confrontation with an employee, Hibbard was shot and killed in the former cookhouse located north of the lime kiln. Hibbard's heir, Thomas Maskey, took over the operation and then died just two years later.

After a period of dormancy, the company was revitalized with help from James McCurdy and N.C. Baily. By 1879, their management brought production to 20,000 barrels of high-grade lime annually. Then, misfortune struck again with the death of Baily and the demise of their new schooner, the Ontario, which crashed here on the rocky shore.

McCurdy continued the lime operation until it was acquired by Henry Cowell. Cowell sent most of the lime to his home town of San Francisco to help rebuild the city after the 1906 earthquake. By this time, production was up to 80,000 barrels per year. However, in 1923, the low supply of high-grade limestone, the economics of shipping and foreign competition shut down the lime operation. Although there was some pulp rock mining (used for roads and concrete) here in the 1940s, the lime kiln operations never reopened.



7. All things lime

Lime is one of the oldest chemicals used by humans. As far back as 2,500 B.C. in Mesopotamia, lime was used to make mortar. It also has shown up in many uses throughout history, including the following:

- Egyptians used it to build the pyramids.
- Romans used lime to make hydraulic cement, which sets underwater. The technology was lost and then rediscovered in the mid-18th century.
- In the Middle Ages, people used it to prepare pelts for tanning.
- During the Renaissance, lime was used to reduce soil acidity.
- People have used it medicinally as an astringent and antacid.
- The term "limelight" comes from an early use of lime as a source of theatrical lighting because lime becomes highly luminescent at high temperatures.

When lime operations began here in 1860, the San Juan Lime Company sold it principally for mortar. As industry developed, an increasing amount of lime sold for use in different types of manufacturing, such as a neutralizer in cooking wood pulp for paper and to remove impurities such as silicon and sulfur in iron and steel manufacturing.





8. What plants reveal

Plants provide clues to unravel the mysteries of the unique environment at Lime Kiln Point State Park. Similar to the old Douglas-fir previously mentioned, plants reveal the history and microclimate of the area. Plant communities in the park have changed rapidly in response to a slightly moister environment as well as numerous impacts from humans.

Historically, this area was subject to periodic burning by naturally occurring fires and by Native Americans to enhance food resources. Aggressive fire suppression over the past several decades may have helped young trees become established in areas which were traditionally meadow environments. Other recent impacts to the area include the introduction of nonnative plant and animal species, extensive grazing by sheep, clearing for a U.S. Coast Guard station, woodcutting and mining to feed the kilns and impacts from park visitors. The landscape is a result of the complex interaction between nature and humans.

As you travel through the park, you may notice the following plant clues:

- **Remnants of a meadow environment.**

Historical evidence suggests that this area was predominantly a meadow environment at one time.

- *Young trees colonizing the meadow areas.*

- *Fire scarring on large trees such as Douglas-fir at the beginning of this interpretive journey.*

- *Most of the trees in the park are less than 50 years old.*

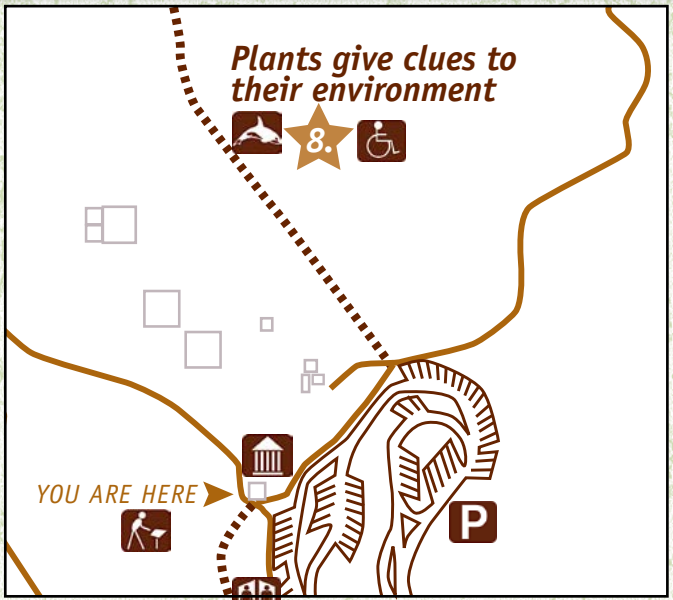
Imagine that all the trees less than 10 inches in diameter are gone — can you picture what this area looked like 50 years ago? Now picture what this area might look like in 100 years.

- *The large number of lower limbs on larger trees.*

This clue indicates that the area was open for much of the tree's life.

- *Young Douglas-fir growing up through madrones.*

If the area remains undisturbed, Douglas-fir will someday dominate the forest.

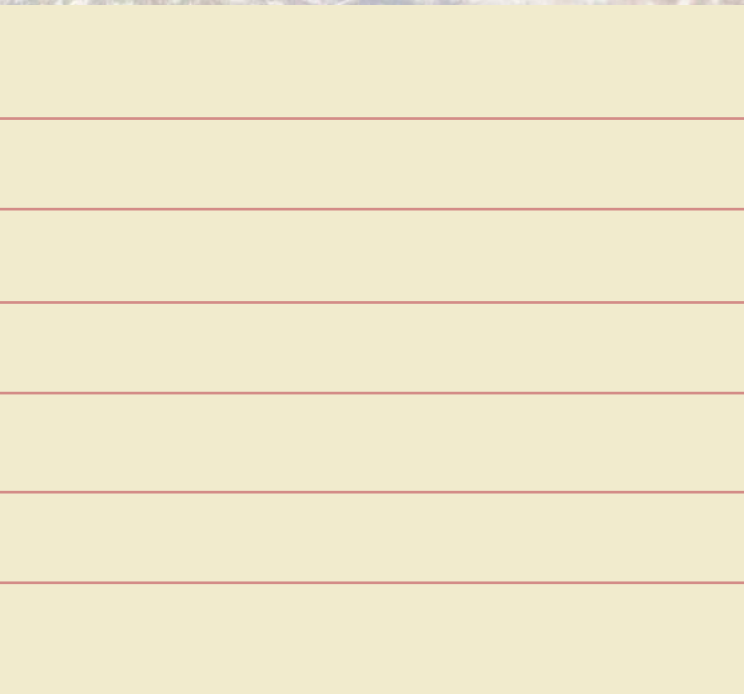


l i m e k i l n p o i



Notes:

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Help preserve the unique environment at Lime Kiln Point:

- Stay on designated trails.
- Don't remove plants, animals or historic artifacts.
- Keep pets on leash and pick up after them.
- Watch where you step — intertidal creatures are extremely fragile.



Lime Kiln Point State Park
 1567 Westside Road
 Friday Harbor, WA 98250
 (360) 378-2044

Open year round, 8 a.m. to dusk

Other local areas of interest: The Whale Museum, Cattle Point, American Camp, English Camp, Friday Harbor Labs, Roche Harbor, San Juan County Park and San Juan Historical Museum.

(Photographs on pages 3, 13 and 14 are courtesy of the San Juan Historical Museum.)

Washington State Parks and Recreation Commission

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