

THE COASTAL TERRACE

The Fort Ross terrace is the youngest (somewhat over 80,000 years old) of a series of ancient wave-cut structures lifted up from the ocean floor. It is covered with grasses over the yellow clay soil. Today, shrubs and small trees also inhabit the young terrace; coyote bush, bush lupine, bracken fern and wax myrtle dominate. The low-lying Pt. Reyes ceanothus with its dark blue flowers is found on the terrace. Foot-tangling vines of the small native blackberry and the introduced Himalaya blackberry thrive, as does poison oak.

The state flower, the poppy *Eschscholzia californica*, is one of the most obvious wildflowers. Lupine, orange monkey flower and Indian paintbrush prefer the cliffs and roadcuts. Purple Douglas iris forms extensive mats on the hills and fields.

The topsoil is shallow and underlain with impermeable clay. Small resident birds and mammals are numerous—blackbirds, rabbits, gophers, moles, mice and deer. Raccoons are common, and the gray fox is becoming more common again; many dens of pups can be found in the area. There are skunks, both striped and spotted. The ring-tailed cats, small mammals once trapped along with foxes, raccoons and skunks, are also now more common. They are splendid climbers and predators of birds. Small groups of feral pigs, a legacy of the Russians and later ranchers, roam the foothills. Fort Ross has its own herd which plows up the grasslands and steals apples from the old Russian orchard. The small coastal black-tailed deer are usually numerous enough to become pests. Their fawns are preyed upon by bobcats, which are often seen in daylight hours in the foothills. Mountain lions are more secretive, but a few are resident on the coast. There are even signs of black bear, which, heavily hunted in the early ranching days, have been rare until recently. Coyotes are common inland, but are seen here only occasionally.

Many songbirds are found on the terrace—the house finch, blackbird, Steller's jay and several kinds of sparrow predominate. In the summer, gold finches (wild canaries) feast on thistle heads, and hummingbirds are much at home on the coastal terrace. Towhees, nuthatches and valley quail raise families in the brush. At least five kinds of swallows come in the spring to nest, often raising two or three families. In the winter, robins and juncos are common. American egrets and great blue herons hunt in damp places on the terrace.

Black shouldered kites, kestrels and red-tailed hawks hunt overhead. Other large hawks are also found—harriers, red-shouldered hawks and an occasional golden eagle. There are several species of owls. The mischievous black raven is a predator and, like the turkey vulture, a scavenger. Both are year-round residents. Like most areas of our world, Fort Ross has lost bird species. The California condor lived here well into the last century.

Small amphibians and reptiles also like the grassy terrace. Several kinds of lizards bask in the sun. There are no rattlesnakes on the cool coast, although they like the higher, warmer elevations. Garter snakes are common, however, and are welcomed in gardens. Rubber boas and gopher snakes occur more rarely. Frogs and toads are becoming rare, with the exception of the small, noisy tree frog, *Hyla*.

The notorious wood tick gets the most publicity of local bug life. Several varieties are common, and they do bite. Sow bugs and earwigs are very populous. A few mosquitoes live near standing water right on the coast; they thrive on the ridge above. Honey bees find the coast climate too cool, but bumble bees, *Bombus vozniesenskii*, thrive. California's flies and spiders like it here, and in summer beach flies sometimes get wafted up to the terrace from mounds of decaying seaweed on the sands below.

WOODED SLOPES

The Bishop pine grows close to the ocean and is often shaped by its winds. It fills in open fields easily after fires, or when lands are no longer grazed or farmed. Thus Bishop pines have become quite dominant on the coastal plain in the last few decades. Alder and willow flourish along the local streams, and redwoods venture quite close to the shore on the damper, protected slopes. Two tree varieties introduced during the ranch era have become overly successful around the fort—the Monterey cypress and Australia's eucalyptus. Although invaluable as windbreaks, they do not reflect the true historical vegetation.

As the land rises, leafy trees and shrubs take over, and are soon mixed with evergreens. Manzanita, buckeye, maple, madrone, California bay or pepperwood, salal and huckleberry seek out particular habitats. Salmonberry and thimbleberries grow in sunny corners. Columbine, not eaten by deer, likes shady places. Oaks provide dark cover and a deep carpet of leaves on steep creek banks. The tan oak, valuable to the Kashaya for its acorns and to the ranchers for its bark and wood, occurs from the lower slopes to the ridge tops. The silk tassel tree, *Garrya*, can also be seen in this community.

The magnificent coastal redwood forest community is an impressive and awe-inspiring one. The trees are immensely tall, long-lived and self-renewing. They love the foggy coast and thrive farther inland even during hot dry summers. In the heavy needle bed under the redwoods grow a variety of small interesting plants, among them several ferns, wood sorrel (*Oxalis*), trillium, and adder's tongue. Calypso orchids live under Douglas firs. The heavy duff and moist atmosphere create an ideal situation for mushrooms and other fungus. Wild azaleas seek out spots of light in the heavy tree cover.

Other cone-bearing trees also exist on the edges of the redwoods. Douglas fir and grand fir are the major components of the mixed evergreen forest which continues up onto the coastal ridge. In the lower canyon of Fort Ross Creek can be found a few samples of the less common California nutmeg. Named for its nutmeg-like cone, it is actually related to the yew.

THE MARINE ENVIRONMENT

The Pacific Ocean is the dominant agent in the climate and topography of the coast. It can be a ferocious force, with long, strong swells, high winds and wide tidal fluctuations. And it is cold—50° in summer, a little warmer, 54°, in the winter. From November through February, storms coming in off the ocean bring almost forty inches of rain, often in heavy downpours brought by gale-force winds. Occasionally, strong local hurricane-like storms occur. These storms cause streams to erode their banks, trees to be uprooted, and cliffs to crumble. The rocky shores are battered and their marine residents often dislodged and thrown onto the beaches with mounds of kelp, driftwood and flotsam. It is a beautiful shore, but not always a hospitable one.

There are a few offshore rocks near the fort. One large group of islets is a seasonal home to two kinds of sea lions. Both the large buff Steller's and sleek, dark California sea lion can be seen seasonally fishing or just lolling in our offshore waters. Smaller rocks host the nests of seabirds—chiefly gulls, murrelets, oyster catchers and cormorants. Some low-lying rocks serve as hauling out spots for harbor seals, especially in summer. A sizable colony of these appealing mammals inhabits the sandy mouth of the Russian River ten miles down the coast. Other marine mammals are casual visitors. Solitary young male elephant seals, part of a recovering population, can sometimes be found resting on the sandy beach at Fort Ross. The sea otter is no longer resident here. One must travel south to Monterey to see these them.

Offshore, but often visible from land, are even larger mammals. Gray whales migrate south from the Bering Sea to Baja California from December to March. After calving, when they make the return journey, they are closer to shore and thus more easily seen. The males return first, beginning around April, followed by the females and young. Occasionally a solitary gray will linger along the coast

during the summer, feeding in the shallow water. Lately, a group of blue whales has been seen every fall at varying distances from shore; they winter off Mexico and Costa Rica. Humpback whales make occasional appearances, as do fin, Minke and orca whales. Shy harbor porpoises can sometimes be seen quietly rolling in the water, their backs breaking the surface.

For over a century, salmon, lingcod and many varieties of rockfish have been avidly sought by people fishing off the rocks or from small boats. Though still a rich area, the waters here have been greatly depleted.

Marine plant colonies are especially productive on this part of the coast. Mats of the bull kelp, *Nereocystis lutkeana*, form each spring and summer just offshore, to be broken up by winter storms and piled on the beaches. The palm tree-like *Postelsia* covers many lower rocks where there is especially strong wave action. The feather boa kelp, *Egregia*, is also very common. Low tides reveal quantities of bright green sea grasses. Tide pool rocks are encrusted with colorful pink coralline algae.

The Northern California rocky intertidal zone is famous for its diversity of plant and animal life. Many colorful and intricate tidepool inhabitants can be observed by any curious person. Abalone, mussels and limpets can be found. Sea stars and chitons survive in great numbers. Large, offshore sea urchins are rarer and smaller than before, as they are currently being heavily harvested; intertidal urchins are still plentiful. Young fishes also make their homes in the tidepools.

The Pacific waters off Fort Ross are rich in bird life. Immature brown pelicans fly north each spring, feeding as they go, and head south again in the fall. Migrating flocks of geese, Brant and many shorebirds are to be found. Great blue herons hunt from rafts of kelp, and are permanent residents along the shore, as are varieties of gulls and other nesting birds. Loons are temporary visitors. The powerful osprey fish just off shore, and can be seen in spring and summer carrying their catch (or nest material) to their nests high in snags in the forest. Most of these fishhawks fly south for the winter, but occasionally one will winter here.