

Explanation of the aerial oblique photo of Point Wilson. The view is to the west.

Source: <http://apps.ecy.wa.gov/shorephotos/scripts/photosearch.asp?id=JEF0614>

1. The Port Townsend Marine Science Center's NHE building
2. Kinzie battery (Coastal Artillery bunker)
3. RV park; it now covers much of the drowned "Forbes' Forest" <<*our informal name, which is not sticking – a nice honor, feel free to discard it – I had a * here for the footnote at the bottom*
4. The now-submerged portion of Forbes' Forest.
5. Wooded wave-cut bank now protected by the Point Wilson sand spit <*behind the RV park*
6. Eroding beach. The beach as a whole is slowly moving south (left). <*North Beach*
7. Accreting beach; the beach is slowly growing to the south as sand is added. <*the part of the beach near the tip of the point*

Evolution of Point Wilson

As the abundant sediment supply moving north from eroding bluffs to the south of this view began to develop a protective barrier east beach, a tidal marsh formed in the area between 3 and 4. It may well have been protected by a beach or bar on the north. By about 2,500 yr ago, a sparse forest had grown up along the marsh rim. (Historic paintings and photos of the pre- and early Fort Worden spit show trees out onto the spit acreage.) In the last century or so a local brick-making venture and the Army modified the surface, filled the marsh, and leveled the area; this has become the RV park.

Thousands of years ago, however, the north-facing bluff was farther north. We get hints of this position from the very large rocks along North Beach or just offshore; they were brought here by glaciers and left in or on the bluffs, since then falling to the beach. Wave erosion and debris slides are slowly eating away at the bluff and moving its face south. The beach to the east is fed by sands in the bluffs and coarser beach debris moving slowly east. The beach as a whole is migrating south and has crossed over part of the old marsh-rim forest. Today, at low tides, limbs and logs from the ancient forest can be seen among the boulders in the surf zone. It is likely that the combination of a small elevation in sea level (neotectonics?) and compaction of marsh peat is responsible for the position of the submerged trees, ¹⁴C dated at ~2500-2300 yr old. (The beach east of the Keystone ferry terminal is the product of a similar overriding event.)

The bluff behind the RV park is stable and vegetated because it has been protected from erosion by the sediments that have moved up from the south. There is some seismic evidence that a fault lies near the foot of this slope, more likely out in the sound; that might explain the straight north-south face of the bluff. And there are tantalizing hints of a break in the beach sediments to the north. Most geologists think that what looks like a fault contact at the corner of the bluff where one accesses the beach is actually the plane along which sediment that has accumulated on the slope is slipping downhill. You can see places in the 'cove' west of this 'corner' where a skin of sediment and plants is sliding off the bluff face – it is a similar sort of slope failure.

Today, the southward migration of the beach is threatening the Coast Guard facility. Rip-rap is barely protecting the buildings from flooding at stormy high tides. Strong currents off the tip of the point may have been the reason for Native Americans portaging canoes along the low spot from North Beach county park to Kah Tai lagoon, which used to be connected to Port Townsend Bay.

*The late Robert B. Forbes grew up at Ft. Worden and was the State Geologist for Alaska in the 1980s; he was interested in mineralogy and our local geology. He was responsible for our having the first dates on the trees.