

The story is in the sand

A lot happens to sand at Island View Beach. Halfway between Cordova Spit and the cliffs of Cowichan Head, sand from Island View Beach flows like a sluggish river out to the spit and sandbars offshore. The rich intertidal life of the sands and cobbles faces the barrage of the sea, while the dunes and saltmarsh provide a shifting refuge for a rare community of plants and animals clinging between the two worlds of ocean and earth. It's a dynamic ecosystem – one of few like it in the Capital Region.



First there was heat

Volcanoes erupted frequently during the early years on what is now Vancouver Island. The island was part of a large, drifting piece of crust geologists call Wrangellia. About 100 million years ago, it collided with the ancient edge of North America. In the collision the island was crushed and deformed, its surface uplifted and eroded. The rocks of Mount Newton and Bear Hill are remnants of granite which formed the deep roots of some of those volcanoes. Towering Mount Baker to the east is evidence of more recent volcanism arising from the melting of the Pacific Ocean floor as it descends beneath the edge of the continent.

Then there was ice

For over two million years, much of the northern hemisphere was periodically covered with moving sheets of ice. During the latter stages of the last ice age, beginning about 30,000 years ago, a valley glacier called the Cowichan Ice Tongue reached as far south as nearby Mount Newton. As the ice melted, thick beds of gravel and sand were laid down. In these local gravels, bones of ice-age mammals such as mastodons have been occasionally found poking through the beach surface.

About 15,000 years ago, an ice sheet about one kilometre thick covered the surrounding hills. As the ice advanced, gravel and sand deposited from waters melting along its front were over-ridden by the ice and moulded into streamlined hills, called drumlins, oriented in the direction of the southward ice flow. James and Sidney islands, the two closest to the beach, and the ridge to the west behind Island View Beach, are such drumlins.

Finally water

About 12,000 years ago, melting icewater flooded the now-depressed land and submerged the peninsula. Salish First Nations people refer to this period in their oral history as “the time of chaos.” Flood stories document the re-emergence of the land, giving rise to the name of Saanich which means “land rising up.” The land literally rose up after the weight of the ice was removed. Mount Newton (“the first place of refuge”) and Bear Hill poked out as islands in the inland sea. The drumlins surfaced, geologically speaking, like whales. Lagoons drained and formed saltmarshes. Waves cut away at the base of the drumlins and formed the steep cliffs that you see at Cowichan Head to the south and James Island directly offshore. Finally, currents and tides started carrying the sand north down the beach to the spits and sand bars.

The Saanich People moved with the shorelines. They took advantage of the natural harbours that formed behind spits, living off the bounty of wildlife living on the sand and saltmarsh. They harvested clams, crabs, seabirds and plants of the saltmarsh and dunes for food and basketry.

Sea levels stabilised around 5,000 years ago. Great forests of western red cedar and sword fern grew up in the swamps. Douglas-fir climbed to 100 metres in height on the better drained soils of the drumlins. The dunes gradually reclaimed the sea with colonising plant species such as sand verbena and native evening-primrose. Both plants blew in or washed up from the unglaciated south.

Drilling for history – evidence of the rise and fall of sea levels

Scientists sampled the soil at two locations close to Island View Beach Regional Park. A 14-metre earth core was drilled on the sand spit north of the park access road. The medium to coarse sands in the core record a long period of beach-like environments at a time when the sea level was lower than at present. The sediments of the spit were swept here by waves and longshore currents from the sandy bluffs of Cowichan Head to the south.

West of the spit, scientists dug pits which revealed buried peat moss lying beneath a shallow layer of brackish-water mud. The peat, dated at roughly 2500 years of age, suggests a sudden down-warping of the land following a large earthquake. Evidence of similar events of about this age has been found at several locations on southern Vancouver Island and the Lower Mainland.

Within the intertidal zone at the north end of the Cowichan Head bluffs, researchers discovered fossil tree stumps carbon-14 dated at approximately 2040 years of age. These stumps provide further evidence of a rapid rise in sea level during the past 5000 years.



How to Get There

Established in 1966, Island View Beach Regional Park is located in Central Saanich, on the east coast of the Saanich Peninsula, about 16 kilometres north of Victoria.

To reach the park from Victoria, take the Pat Bay Highway (#17) to Island View Road, turn right (east) and continue to the end of Island View Road about two kilometres. Turn left on Homathko Drive and park. Allow approximately 45 minutes driving time from downtown Victoria.

If you're cycling on the Lochside Regional Trail, take the trail to Island View Road, turn east and continue about two kilometres to the end of Island View Road. Sorry, the sensitive dune environment doesn't support bicycle use. However, you can lock up your bicycle at the parking lot.

A Message to Park Visitors

Regional parks and trails belong to you. Regulations exist so that residents and visitors can enjoy and appreciate protected natural areas.

Obey all signs and:

- carry out all litter
- respect adjacent private property
- keep dogs under control (they are not allowed on the beach from June 15 to September 15)
- pick up your dog's droppings and deposit in garbage cans or pack out

The following are prohibited:

- motorised vehicles on park trails
- firearms and hunting
- alcohol consumption
- camping and open fires
- removal of any natural material or cultural objects from the park

Phone 1-800-663-5555 to report wild fires

What's Happening in CRD Parks?

Find out more about CRD Parks in the brochure Parks for All Seasons, or phone 474-PARK for 24-hour access to nature walks, and special park events. Or find us on the Web at www.crd.bc.ca/parks



Capital Regional District
PARKS

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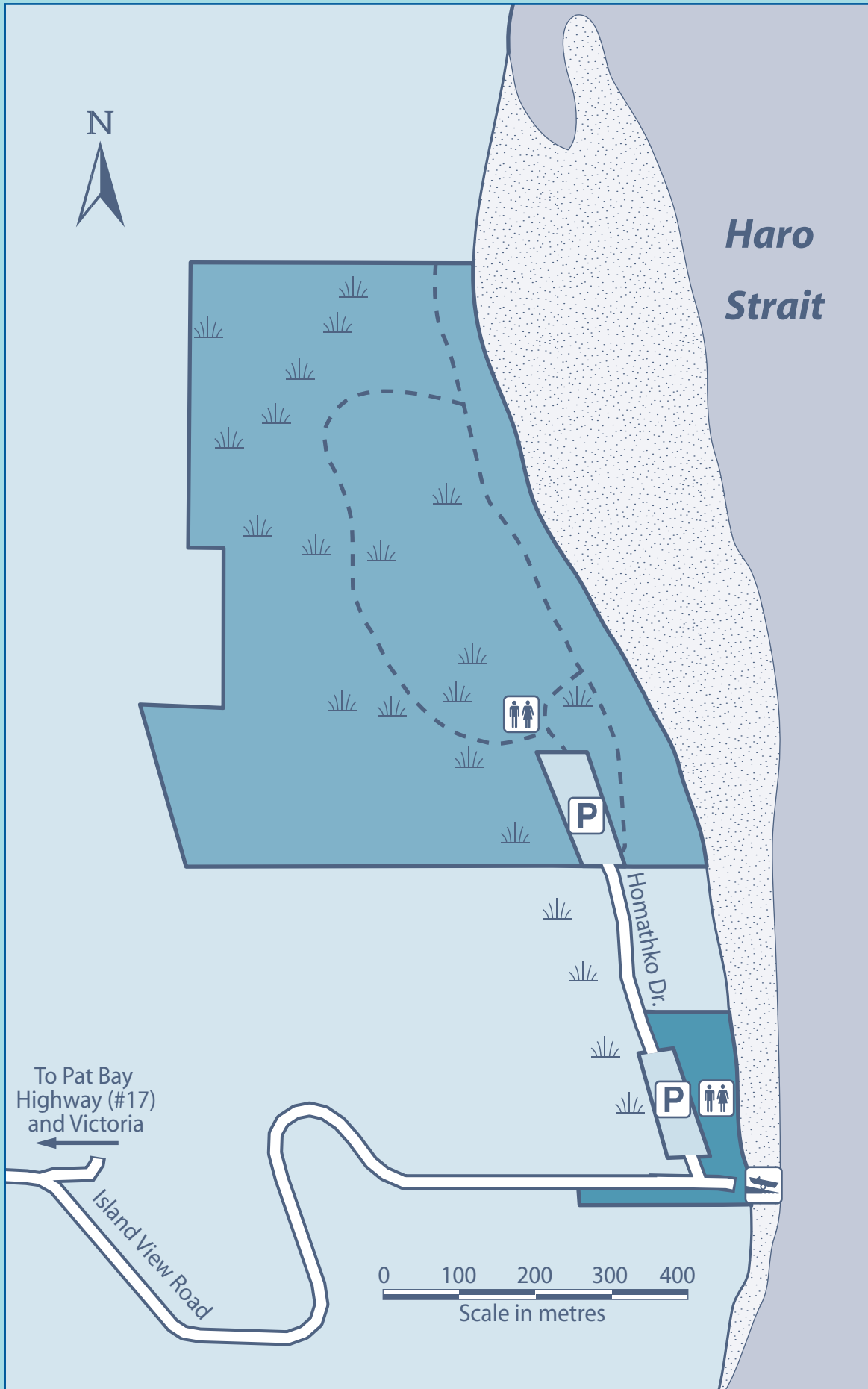
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ISLAND VIEW BEACH Regional Park



Capital Regional District
PARKS



Circle Walk








Explore Island View Beach Regional Park along a circle route. Head north down the beach, then join one of the access trails through the foredunes. Return by way of the inland trail through the old saltmarsh and backdunes.

Wildlife Viewing Tips

Seabirds and shorebirds land at Island View Beach during migration times in the spring and autumn. Migratory seabirds graze on the eel grass beds at low tide or probe for worms, clams and other creatures in the sand. They are often exhausted from their long travels and need all the nourishment and rest they can get. Watch these animals from a distance and keep dogs on leashes.

Some of BC's most threatened shorebirds nest on the ground on isolated rocky islets, spits and shorelines. Oystercatchers, for example, are one species at risk. They lay their well-camouflaged eggs in a *scrape* – nothing more than an arrangement of pebbles or even the bare rock itself. Oystercatchers also rely on distraction to fend off predators. Stay well clear of any bird displaying evasive behaviour and watch where you walk.

LEGEND

-  Toilets
-  Parking
-  Boat Launch
-  Park Boundary
-  Trail
-  Sandbar
-  Marshland

Sandy Shores

Life on a sandy shore pounded by waves has no chance of hanging on unless it goes underground or can fly away. In every handful of sand, you'll find hundreds of organisms from microscopic worms and diatoms to clams and shrimp, depending on where in the intertidal zone you look. Food for these creatures is gleaned from between the cracks of sand or combed out of the water by filter feeders. The narrow, specialised beaks of shorebirds probe the sand for these invertebrates. The tide line in spring and autumn is the best place to watch for these small birds. Keep your distance so you don't tire them out. Ensure dogs are leashed so that they don't chase these flocks of tiny birds.

Dune Systems

To people who study oceans, beaches appear to be a living thing. They constantly change. They advance and retreat. They are starved or nourished according to the currents, storms and prevailing winds. How much beaches build up depends on the supply of sand and logs they can store behind them and in front of them. In peaceful times, beaches store sand in the dunes. When the sea attacks, the wind carries sand from the berms and dunes to the foreshore to build up sand bars.

Dune Plants

A mound of sand held together in a jumble of logs and plant roots sits on the high tide line. This is called the berm. From the berm back across the dunes to the forest lies a succession of different plant communities. Each species has developed its own strategy for survival. The first plants you encounter on the berm are American searocket, orache and gumweed – hardy pioneers that withstand drought and wind blasts with their succulent or sticky leaves. Dune wildrye and bluegrasses anchor each other with underground stems called rhizomes. In the foredunes, silver sandbur and beach knotweed start appearing. Silvery hairs and curling leaves enable these plants to hold moisture. Bonsai-like Pacific crabapple trees cling as stunted shrubs just before the dune slack which is marked by large-headed sedge strung across the sand in lines. In the backdunes, the greatest number of the rare species occur, such as yellow sand verbena with its scented flowers and fleshy oval leaves. Please stay on the path so that you don't disturb these vulnerable plants.

