

Coburg Peninsula eroding

By Amy Dove - Goldstream News Gazette - April 04, 2008



Four-year-old Ethan Ewer balances on a newly exposed pipe at Coburg Peninsula.

Amy Dove

In the battle of nature versus infrastructure, Colwood has some tough decisions to make.

A report by Seabulk Systems outlines a potentially grim fate for Coburg Peninsula, the stretch of land encasing the Esquimalt Lagoon. The underlying message is it just isn't clear what the pace of erosion will be and how much damage future winter storms may inflict on the unique landform.

"We just don't know," said Michael Baxter, city engineer. "The big question is what really is at risk — for most of the infrastructure we don't know."

Colwood commissioned the report early this year after a storm Jan. 4 washed three to four feet of sand off Gotha Spit at the north end of the peninsula. Without the spit, the bridge was exposed to more aggressive waves and debris.

On Jan. 18 holes appeared where the bridge joins the road as more powerful waters swirled the infill out. Approximately \$40,000 was spent on emergency repairs this winter.

Colwood staff reacted to the situation with emergency measures, piling riprap — large rocks — at the bottom of the bridge and alongside the ranger house to stop more sand

from eroding away. That measure bought them some time although the bridge isn't free from risk yet, Baxter said.

Now, the city needs to decide what to do in the future — whether that is a reactive or proactive response. There are multiple vested interests at the lagoon — it's a transportation corridor, a park, a migratory bird sanctuary and the location of thousands of dollars in municipal infrastructure.

The trick is going to be establishing priorities, said Judith Cullington, a parks and recreation committee member.

“We need to look as a community as to what is it we are trying to protect,” she said.

If it's the park as a recreational destination, what are the implications of having some of it wash away? If it's about the infrastructure, what effect could protecting those have on the natural environment? Cullington questioned.

“If we do one thing it has a nasty habit of leading to something else,” she said.

For that fact, it might be in the city's better interests to let nature take its course, said Coun. Jason Nault.

It is hard to say where the protective measures would stop and some of the suggestions in the report could bankrupt the city, he said.

“The spit has always been there,” Nault said. “(Maybe) what's happening is it is returning to it's natural form.”

Nature will prevail to some degree, said Coun. Cynthia Day, but the peninsula needs to be protected. The road is an emergency access point and the peninsula a recreational hub.

If erosion continues, the road, bridge and sewage pump station would be at risk to washouts from wave action. The pump house was identified as a priority for protection, however the road and bridge are also valuable assets, committee members agreed.

The report was reviewed by parks and recreation, as well as transportation and public works this week. Both are recommending council look into surveying the peninsula on a regular basis to establish the rate of erosion.

Consultations with various stakeholders including First Nations, provincial and federal governments will also be done. Further damage to the infrastructure will be dealt with as it happens.

The decision on how best to address the issues doesn't have to be made immediately, Baxter said, noting he will need direction before next winter. A plan is needed for the

peninsula to ensure money is being spent wisely — whether that be in advance of a storm or after it.

“How large do you want that bill to get?” he questioned committee.

The item will now be sent to council for a decision.

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The options

The report by Seabulk Systems outlines seven different solutions to the erosion. They range from the “do nothing” approach to building 16 breakwaters off the shoreline.

The report states that by doing nothing people could expect to see “continued deflation of the beach and recession of the shoreline toward Ocean Boulevard.”

It is also suggested that the remaining beach will become rockier as sand is washed away.

Options range from the extreme of barging in sand to maintain the beaches for \$2.5 million to more than \$10 million for the breakwaters.

At the cost of the beach, the infrastructure could be protected by placing large rocks along the water’s edge. Known as armouring, the process would put remaining sand at risk of washing away thus hardening the beach. The rocks would, however, protect the road and bridge. At high tide the beach would be inaccessible. This option is believed to cost \$2.1 million.

There are only two options that would see the beach stay the way people have come to appreciate it. Installing 16 breakwaters along the peninsula, at the cost of \$4.8 million, would protect the infrastructure will creating smaller beaches known as pocket beaches.

Alternatively nine breakwaters could be installed for \$11.8 million creating similar effects. Both these options are listed as unlikely due to cost prohibitions.

A sandy affair

The shoreline between Esquimalt Lagoon and Albert Head Lagoon is the defining feature of each.

A naturally eroding bluff has been supplying sediment to the two lagoons for more than a century. A natural sediment transport system washes sand and gravel away from the bluffs and towards the two lagoons. When the mine opened on Metchosin Road more

than a century ago, the natural process was altered.

It's possible the peninsula naturally has more gravelly shores, said Natalie Bandringa with the Esquimalt Lagoon Stewardship Initiative, noting the mine would have dropped some fine sediment into the water thus creating sandier beach.

With the gravel mine no longer in operation and the Royal Bay development set to expand to the shoreline, it is imperative that the shoreline is protected, Bandringa said. The worst thing that could happen would be to harden the shoreline, thus stopping the natural transfer of sediment.

"That's the only way the spit will be preserved is that system," Bandringa said.

"It's all about working with nature, not fighting it."

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