

Trustee Notebook *By Laura Busheikin*



Islands Trust

The Water Are Rising—What to do?

The seas are rising. Predictions vary, but the Province of BC is telling us to plan for one metre of sea level rise by 2100 and two metres by 2200, according to the document *Climate Projections for the Islands Trust Area*.

Also, extreme weather is on the rise, meaning shorelines are increasingly under attack from stormy seas and stormwater run off. This added stress can intensify erosion. This is, understandably, a bit scary for waterfront owners. Will their property disappear in front of their eyes?

It's also scary for anyone who cares about shoreline ecology. Island beaches provide essential habitat for fish, mollusks, plants, insects, birds, and other creatures of land and sea, including species at risk such as the Great Blue Heron. As these species comes under threat, all the creatures up the food chain that rely on them (salmon, herring, orcas, humans) also suffer.

As well, shorelines throughout the Salish Sea are rich in cultural heritage, from clam gardens to fish weirs to middens. First Nations people have had a close relationship with these areas since time immemorial. The shorelines of the Trust Area have stories to tell and these also need to be protected.

What to do?

For one, don't build a wall. While seawalls, breakwaters, bulkheads, and groynes (all classified as "hard armouring" technologies) might seem like a logical choice, they are often detrimental to the shoreline ecology and, in the long run, actually make erosion worse, because they reflect and concentrate wave energy.

A beach, left to itself, is a dynamic system with its own intelligence. Wind and waves continually reshape the shore in a natural give and take. Waves take sand away, waves bring it back.

A sea wall, or other hard armouring, interrupts that system. When waves hit a sea wall, they are bounced back to sea with intensified force, scouring the beach and ocean floor in front of the wall. The natural processes which would redeposit much of the lost sand after a storm don't happen. Also, seawalls increase erosion at the ends of the wall, which might be on a neighbour's land.

In contrast, "soft" approaches, using a principles known as greenhores, can actually improve the ecological health of the shoreline. A greenhores project uses natural materials such as sand, gravel and plants to absorb and dissipate wave energy. It's a more effective way to counter erosion, and at the same time, it maintains and enhances habitat and reduces pollutants entering the aquatic environment.

Also, a soft approach preserves the natural aesthetic of the shoreline and allows easier access for human activities

such as walking, birdwatching, kayaking, foraging, or simply sitting and enjoying the splendour.

If you're interested in exploring this option, find out more information at the Stewardship Centre for British Columbia, stewardshipcentrebc.ca. A greenhores approach can cost 30 – 70% less than a hard armouring approach, according to research cited by the Stewardship Centre.

There are many ways to be kind to your shoreline. Here are some tips:

DON'T

- ❑ Remove logs, vegetation, or rocks. These play a key role in the integrity of the shoreline and provide habitat for many important critters.
- ❑ Dig, ditch, or move soil or sand around. This can radically change natural processes, leading to habitat loss and increased erosion. **Furthermore, this is illegal without a permit. The area below the high-tide line is owned by the Provincial government, and some shorelines are in Islands Trust development permit areas.** To find out more, contact the Islands Trust Gabriola office and/or Front Counter BC.
- ❑ Clear your property right up to the high-tide line. The natural vegetation stabilizes the soil, minimizes harmful run-off, provides habitat, and safely absorbs toxins.

DO

- ❑ Create views by strategic limbing and trimming, not tree-cutting; trees are superheroes at maintaining stability and ecosystem health
- ❑ Site your house and outbuildings well back from the shoreline to minimize your impact and guarantee their safety in the long term
- ❑ Read and respect the regulations about setbacks from the sea (page 14 in the Denman Island Land Use Bylaw at islandstrust.bc.ca/island-planning/Denman/bylaws/)
- ❑ Learn more. For practical, science-based information on how to plan, build and live sustainably on a waterfront property, check out this publication:
 - *Coastal Shore Stewardship: A Guide for Planners, Builders and Developers* at http://stewardshipcentrebc.ca/PDF_docs/StewardshipSeries/Coastal.pdf