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Restoring the Shores of The Place of Blue Grouse
SeaChange Marine Conservation Society

Project Summary
Part I. Description

Participating organizations
- SeaChange Marine Conservation Society
- The Tsarlip Chief and Band Council
- BC Parks
- Department of Fisheries and Oceans
- Peninsula Streams Society
- Other three First Nations communities on the Saanich Peninsula (Tsawout, Pauquachin and Tsechum First Nations).

Background or problem statement
The shorelines in the populated regions of B.C. are subject to an ever-increasing number of small-scale developments and human-induced changes. A seawall hardens and straightens only a small portion of the shore. But, over time, small insignificant impacts, when combined with each other and those of other shoreline users, can have large consequences. Couple this with the fact that we tend to repeat these insults all along the coast and the scale of the problem becomes apparent. The cumulative impacts are synergistic and become a problem for the larger community – the Commons.

The shores of Tod Inlet were artificially created by the deposition of limestone waste, or "clinkers", a byproduct of the historical Portland Vancouver Cement factory operating at the site from 1901-1915. Although the damage happened over 100 years ago, there was no living marine community on the shore directly in front of the site, which is a very popular destination for thousands of hikers, school groups, recreational boaters and bird watchers annually.

The tides are rising in this calm estuary. With the combined sea level rise and the slow erosion from boat wakes. Sediments from the shore were slowly disintegrating into the inlet.The shore, if restored by placement of additional clean sediment, offers excellent opportunities for public education about effective restoration techniques rarely used to mitigate erosion within the Capital Regional District..

General description of the project
SeaChange Marine Conservation Society, a not for profit society in British Columbia Canada, restored the physical and biological function of a beach site through beach nourishment and marine riparian plantings in Tod Inlet (SṈIDȻEŁ - pronounced "sngeet-kwith"). The site is well known to visitors from around the globe. It was historically the site for a cement manufacturing factory at the turn of the 20th century and has been designated a BC Provincial Park (1994). Highly valued by the Saanich (W̱SÁNEĆ) First Nations for deer, bird, plant and marine harvesting, bringing the shore back to life is critical. This project demonstrates to thousands of visitors to this world famous provincial park the benefits of responding to rising sea levels with a softer approach than seawalls in low wave energy sites.

Description of outcomes and follow-up
SeaChange restored the physical and biological functions of a shore site through beach nourishment and marine riparian plantings in Tod Inlet (SṈIDȻEŁ). Beach nourishment enhanced food and spawning sources for intertidal life and migrating juvenile salmon. It also demonstrated one environmentally compatible solution to shore erosion caused by rising sea levels. Large-scale beach nourishment has been proven to be very successful in marine nearshore environments affected by high-energy waves in many places of the world. However, beach nourishment has not been piloted on small scales within the Capital Regional District.

Since this is a low wave energy site, the deposited sediment will move perpendicular to the shore regularly, but will not be transported away bya long shore current.

Products:
1. Concept and Design plans for technical specifications for restoration of site- John Readshaw, SNC Lavalin Coastal Engineer: John.Readshaw@snclavalin.ca
2. Geotechnical report: Ryzuk GeoTechnical Engineering & Materials Testing: 250 475-3131
3. Bathymetric survey data: DFO Canadian Hydrographic Service: 250 363-6360
4. Subtidal marine invertebrate video survey: SeaChange 250 652-1662
5. Subtidal, Beach and Backshore sediment analyses: SeaChange 250 652-1662
6. Operational and Safety Plans: SeaChange; 250 652-1662
7. Photos and videos of all construction phases and before and after images: SeaChange 250 652-1662.

Project Summary
Part II. Analysis

Successes
Strong, positive and long term working relationships with First Nations, BC Parks and other environmental conservation organizations made possible the success of this restoration work. Trust in SeaChange by First Nations communities to carry out the work in an environmentally responsible way was the result of over twenty years of working together. BC Parks also understands that without the stewardship capacities of local communities, the lands and waters within their jurisdiction would be in a poor state of health. Other environmental groups, such as the Friends of Tod Creek Watershed, Habitat Acquisition Trust Nikki Wright SeaChange Marine Conservation Society and Peninsula Streams Society helped with project implementation through volunteer recruitment and organizing public tours to the site as part of the Tod Creek Watershed tours. The Dept. of Fisheries and Oceans and the Canadian Hydrographic Service facilitated permits and the completion of necessary surveys.

Local community members laboured to restore the backshore vegetation to native plant communities.
Throughout the time of this project, and indeed, through all our conservation projects, community will, labour and skills make for successful initiatives.

Challenges
1. Working within a bureaucratic framework for establishing baseline sediment quality data.
2. Unseasonal weather conditions due to fluctuating climate patterns.
3. Conflict with local boat dwellers.
4 .Unexpected expenses, such as the cost of a geo-technical survey required for the design plan.

Lessons Learned
Projects that seem relatively easy to fix always have elements of complexity not foreseen until they are an essential part of the project completion.When I observed the shore site I thought initially it would be a relatively easy "fix" to work with the BC Parks staff to remediate, as long as we were able to procure the funds. What I did not realize was the complexity of having a BC Park designation for a contaminated site and the many steps necessary to produce a working design plan and obtain a permit to do the actual sediment deposition. The beach enrichment stage of the project was completed in just over a day, yet took more than three years in planning. The lesson learned is to stay cognizant of unforeseen social and ecological complexity in what may appear to be a simple restoration project.

What Next? What will you do and what should others do?
SeaChange will continue to highlight this beach nourishment project to the local communities within the Salish Sea (southern Georgia Basin) through on site tours, presentations, written materials, video and social media.We also plan on using the success of this partnership to advance further restoration of the shores and subtidal environment of the estuary for the community as a whole, but in particular for the Tsartlip First Nations, who used this site as a wintering village and harvesting site and are very eager to have a presence on and around the estuary once again.

For more information about the project please contact:

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