

SeaChange Marine Conservation Society



2020-2021 Annual Report

www.seachangesociety.com

WHO WE ARE

SeaChange Marine Conservation Society, established in 1998, is a charitable non-profit environmental organization. We educate children and the public about marine and watershed environments and conserve and restore marine habitats in British Columbia in partnership with coastal communities.

OUR GOALS

- *To educate the public regarding the effects human populations are having on marine ecosystems.*
- *To conduct education workshops for schools and the public on marine conservation issues.*
- *To organize expeditions for on-site interpretation of ecosystems for the public.*
- *To cooperate with other environmental groups to promote systemic change in the ways we make use of marine resources.*
- *To participate with other like-minded organizations to create marine sanctuaries, collect data and organize workshops and conferences on the importance of rehabilitating and sustaining marine biodiversity.*
- *To reverse the continual degradation of marine ecosystems through restoration, rehabilitation and/or conservation activities.*



Notes from the Executive Director's Seat



SNIDZEL (*snee-gwith*), Place of Blue Grouse

Over twenty years ago I sat on the shores of SNIDZEL, introducing myself. Without knowing its history, I knew it was a sacred place. I now realize everything that SeaChange has worked towards since 1998 started here –initial conversations with local First Nations communities, eelgrass transplants, marine vegetative restoration, outdoor environmental education programming, water and sediment quality testing and research, shore remediation, underwater debris removals, buoy installations to protect marine habitats, and collaborations with other organizations, communities and local governments.

But that is the “doing” list. It all really started with reflections, to listening in silence. Before SNIDZEL provided us the physical sites, it gave us the opportunity to reflect. The messages received were about patience, endurance, grace and adaptability.

When I looked upon the shoreline moonscape where we brought young students to board small boating skiffs, I realized it would look the same for the next one hundred years if human interference did not improve it. Little did I know then that it might take another hundred years to fully restore this estuary to a semblance of its former rich diversity.

But indeed that is what we plan for, as recovery takes time, patience and endurance – and adaptability as climate changes make themselves evident.

When I visit the shore filled with bricks and clinker, and the shallow “graves” of former cement structures on land, it is difficult to find equanimity. Loss of beauty, whether of a place, a person, one’s health, or material goods, engages us fully. We are now also experiencing collective grief for what we are losing on the global scale. But each loss requires patience, endurance, grace and adaptability. So it is with restoration of spirit and places.

This Annual Report is dedicated to all of us who suffer loss, and still find the courage to stand together with others to persist in what appears at times to be unsurmountable odds. Thank you for forming communities of recovery with us.

Executive Director

A handwritten signature in blue ink that reads 'Hilki Waujot'.

SeaChange accomplishes much because of the dedication of the

SeaChange Board of Directors 2020-2021

Rosaline Canessa, Doug Biffard, Ken Josephson, Lukas Gehring, Garry Fletcher, Pauline Finn,
Kathleen Fenner, Alisa Preston and Kitty Lloyd

And....

Alison Prentice, Administrative Assistant, Leanna Boyer, Communications Coordinator; all SeaChange Volunteers; Coast Salish, Cowichan, Tsleil-Waututh, shíshálh and Squamish First Nations; Jamie Smith, Justin Bland and Viktorie Kolatkova, SCUBA divers and eelgrass restorers, and the Salish Sea Regional Coordinators: Dianne Sanford, Anuradha Rao, Ann Eriksson and Fiona Beaty.



Coastal Photography Studio

All donors and funders

BC Parks

Lenny Ross

Educators within School Districts #61 & #63

Seagrass Conservation Working Group

Department of Fisheries and Oceans Canada

Pacific Salmon Foundation

Local Businesses

Coastal Photography Studio

University of Victoria Geography Department

Cynthia Durance, R.P. Bio., Precision Identification

...and all the environmental conservation groups with whom we have had the privilege of working:

BC Marine Debris Working Group, Conservancy Hornby Island, Cowichan Estuary Education Centre, Friends of Tod Creek Watershed, Gabriola Eelgrass Mappers, Galiano Conservation Association, Howe Sound Marine Reference Guide, Islands Trust Conservancy, Mayne Island Conservancy Society, Moonstone Enterprises, Pender Island Conservancy Association, Peninsula Streams Society, Saanich Inlet Protection Society, Saturna Island Marine Research Education Centre, Seaquaria in Schools, Squamish River Watershed Society, Thetis Island Nature Conservancy, and World Fisheries Trust.

Forest in
SNIDŪEL

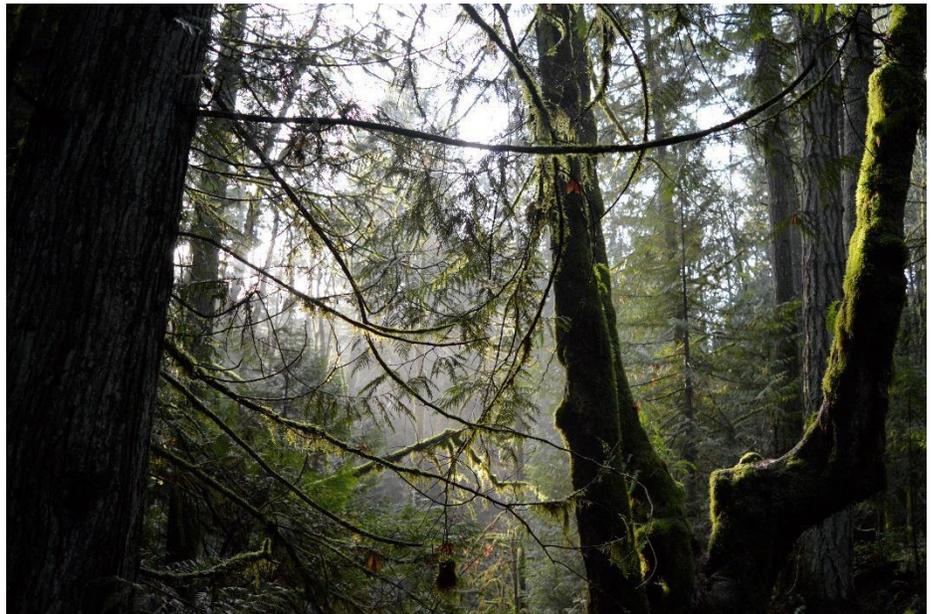


Photo: Wyn Crocker



Achievements over the last fiscal year

July 1, 2020 – June 30, 2021

Education

Digital environmental education has been the norm over the last year. EcoRowing was postponed in the spring of 2020.

Physically distant Ecological Learning was launched by Ken Josephson from the Geography Dept. of the University of Victoria. Ken is making live ZOOM presentations through walking outside using his cell phone. He has been successfully working with the UVic Global Community and with Sarah Jim in SNIDŒŁ. Back-up videos are front loaded to use if the connection with Ken is lost. There is a moderator to check the chat box and relay questions. It was suggested that someone should film Ken filming the environment. Tina from the Shaw Centre could do this. Ken also has a 360-degree camera.

Doug gave Lukas Gehring and partner Eva a boat tour of SNIDŒŁ, others joined by video link provided by Ken who joined them from onshore. Great to have connected with Rosaline from the UK during this tour.



The Teaching House has been gifted to the Tsartlip First Nations for land based cultural activities. Plans are moving ahead to transport it to its new home in to SNIDÇEŁ during the winter of 2021. Environmental education is planned for the spring of 2022 on the docks, waters and landscape of SNIDÇEŁ.

Restoration

SeaChange continued the Salish Sea Nearshore Habitat Recovery Project by restoring eelgrass and riparian areas within the Salish Sea.



A total of 8321 eelgrass shoots (832 m²) of eelgrass was transplanted with community support and over 37 metric tons (37,000 kg) of underwater debris was removed from four regions within the Salish Sea.

An additional 50 m² of eelgrass habitat was restored through the removal of creosote pilings in Indian Arm. A large multi-agency marine riparian project planning for Stanley Park is well under way. Monitoring of all eelgrass transplant sites on a six month schedule was completed with support from the Pacific Salmon Foundation.

One hundred and eighty-nine community volunteers gave their time during meetings and restoration events. Close to \$120,000 in labour and services are included as in-kind contributions in the form of accommodations, supplies, equipment and time, including: debris bins, tote bags, waivers for tipping fees, excavators, local government staff time for debris removals, work space for transplants, time for logistical planning, and boat moorage space.

Thirty-eight partnerships were sustained or newly developed in four regions, including those with industries, local and First Nations governments, private businesses, and agencies.



Legacy of this Restoration Project

SeaChange held many community meetings during this project, which formed the foundation for community based restoration decisions. Working with the Tsleil-Waututh Nation in Burrard Inlet was particularly successful because so many partnerships happened with municipal government, Parks Board, the Vancouver Port Authority and others to undertake a complicated project to remove and properly dispose of old pilings in Indian Arm.



Regional Coordinators made a significant difference in forging connections with local community partners and volunteers to accomplish all that has been completed. Some of this work was based on established partnerships and relationships through the Regional Coordinators. These relationships need to be nourished. We do not want to abandon how we do our work, as it has been shown to be effective in engaging many different people from many different parts of society. We want to

nurture and maintain a legacy of community circles, round tables, connections and partnerships that SeaChange has worked hard to establish over time. We believe this is what makes the essential difference in conserving biodiversity in the Salish Sea.

Cowichan Estuary Eelgrass Restoration

SeaChange has been working with Cowichan Tribes over the last four years to recover eelgrass habitats on the northern end of the Cowichan Estuary. During the last fiscal year, six thousand five hundred eelgrass shoots were planted in two sites. Site #TPON (near N1n), closest to the northern shore, and #TP4 further south.

The total area of the transplant was 300m², as eelgrass shoots were placed in a double density pattern to withstand the stressors at this site (high water volume and velocities during the winter months). Scientific literature suggests this method of transplanting at higher densities than 10 shoots/.25m² increases the likelihood of success.



Transplant site monitoring will occur approximately every two months, beginning in November 2020 to assess shoot densities in response to winter storm conditions. Depth of Disturbance rods were installed at the time of the transplants to measure sediment accretion at the sties from the Cowichan and Koksilah River systems.

As of the last monitoring event, three of the five sites are slowly growing and surviving the more intense and frequent storm events. Five Voluntary No Anchor Buoys will be installed near the transplants in the spring of 2022 to help protect the developing eelgrass beds.



The Saanich Peninsula Blue Carbon Recovery Project,

Roberts Bay in Sidney is part of the Shoal Harbour Migratory Bird Sanctuary designated as such in 1931.

The shore has been heavily impacted by the construction of sea walls. As winter storms increase in intensity, the beach is being squeezed. Mermaid Creek wetland is decreasing dramatically in size. Eelgrass habitat is moving more off-shore.



Planning is moving ahead to replant native vegetation in the wetland after establishing a small sediment barrier to shield the site from NE waves, which have been increasing in size and force during the winter months

Community Mapping Event Roberts Bay June 15, 2021

Seed funding has been procured from the World Wildlife Fund (WWF). Partners include local First Nations, Peninsula Streams Society, Coastal Ocean Resources Inc., the Roberts Bay Community Association and the Friends of Shoal Harbour.

Over the last 30 years Roberts Bay has undergone radical changes due to development and associated shoreline hardening. Qualitative visual observations from residents and long-term observers of the beach as well as from review of aerial imagery taken in past years (specifically ShoreZone images from 2004), indicate there have been changes both to the distribution and composition of the sediments on the beach as well as in the size and overall health of the salt marsh at the outlet of Mermaid Creek (on the south end of the Bay) and the eelgrass bed that is found in the nearshore environment.

This project would aim to locate and compile existing historic sediment and habitat data from Roberts Bay and acquire new data to quantify any observed changes as well as to provide recommendations for potential restoration activities. Those activities could include beach nourishment, salt marsh restoration and eelgrass restoration.

Beach Restoration in SNIDÆL Continues



Vancouver Portland Cement Plant 1904-12



Legacy of the cement industry



Deposition of sediment
February 2017



Shore shortly after deposition
of sediment



Drone image of shoreline in SNIDZEŁ Pano Skrivanos

In June of 2021, several truckloads of oyster shells were transported and distributed in the shallow subtidal zone in SNIDZEŁ in June of 2021. The objective is to provide surface area for shellfish larvae to settle upon, as well as to mitigate the contaminants in the seabed. This is part of the 100 Year Plan to recover the rich diversity of the Inlet. We partner with Peninsula Streams Society throughout this long term project.

Zoe Cilliers is completing her certificate of the Restoration of Natural Systems by providing the background research and assisting with the project design and monitoring.



Conservation

Twenty-three 'Anchor-Out-of-Eelgrass' signs were installed by community volunteers in the fourth year of the Salish Sea project, bringing the total to 43. Six 'Voluntary No-Anchor Zone' marker buoys were installed to designate an informal eelgrass protection area in Mannion Bay, Bowen Island, in collaboration with the Bowen Island Municipality and the Friends of Mannion Bay. Five mid-line floats to replace boat anchor chains were installed to reduce benthic scouring.

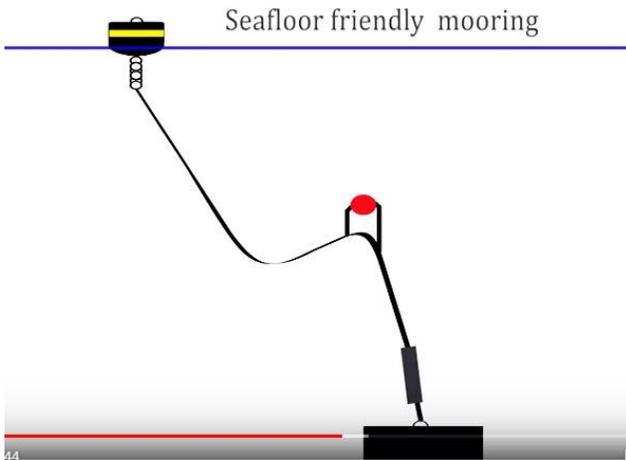
SeaChange also worked with its counterparts throughout the Canadian and US Salish Sea to ensure continuity in marker buoys design, management, and monitoring plans to ensure a larger scale success with messaging to boaters and positive compliance from both sides of the border. There are several Voluntary No-Anchor Zones designations in Puget Sound. Working with partners in Washington State is on-going, and may lead to other shared conservation initiatives.



The community model we have used for the last four years is successful in increasing wide-spread awareness and participation in marine nearshore conservation. This is illustrated by the number of community members engaged in Community Meetings and restoration events and the increasing interest in Citizen Scientist initiatives to help monitor the eelgrass transplants. A plan for such activity will be developed in this project's fifth year.

Videos about climate change and nearshore ecology are effective in building community engagement. The video about the challenges of climate change on nearshore ecology, co-created by SeaChange and PSF, is a good example (<https://seachangesociety.com/restorationpg/>). In the following months, SeaChange is producing short videos about nearshore ecology and issues for the public and schools.

It is hoped more boaters will become aware of eelgrass habitats and not anchor in the beds or use eelgrass friendly buoys if they already have established their boats in eelgrass habitat.



Conservation actions, such as signage, mid-line buoy systems and Voluntary No Anchor buoys will help prevent the need for future restoration. BC Parks is expressing interest in these initiatives. Educational outreach has been successful during the epidemic, as we have been able to reach more community members, regardless of their geographical location, through Zoom.

Saanich Peninsula Atlas of Shorelines (SIPAS) Revisited

Two summer interns surveyed specific areas of concern on the Peninsula by canoe the summer of 2020 to update data for several key sensitive sites surveyed during the SIPAS project completed in 2009. It is hoped we can continue completing the survey with additional funding over the course of the coming year. The Report is available on the SeaChange web site under Resources: www.seachangesociety.com

Saanich Peninsula Environmental Coalition (SPEC)

SeaChange helped to create a Bioregional Framework for the Saanich Peninsula with the goal of the principles within the document being integrated into the Official Community Plans (OCPs) of Central Saanich, North Saanich, and Sidney. The draft is available upon request. It is a comprehensive approach to environmental stewardship of the lands and waters of the Peninsula. First Nations consultations are a part of this process.

Contracts

SeaChange has had contracts this year with the 'Namgis First Nation in Alert Bay, providing training for eelgrass and kelp bed mapping; and with Cowichan for the Coastal Restoration Funded "Whole Watershed" project. In addition, Jamie Smith and Anu Rao completed an eelgrass survey contract for the City of Vancouver in the Vancouver Inner Harbour and False Creek. This project was administered by SeaChange.

Research

A graduate of BCIT estuarine restoration program is assisting SeaChange with improved site selection for eelgrass transplants in former log boom areas. The Pacific Salmon Foundation (PSF) is supporting this work which includes identification of indicator species of benthic invertebrates and the amount and depth of woody debris that may prohibit restoration efforts. The hope is to improve practical on- site decisions that could help others continue eelgrass recovery successfully.



Coastal Photography Studio

Maria Catanzaro and Jeff Skinner greatly improved the content and images of the SeaChange web site: www.seachangesociety.com

Thank you!



Funding/In-Kind Support

2020-2021

Ministry of Environment

Partnership Agreement for work in SNIDZEL; Cash and In-kind support for conservation activities

Department of Fisheries & Oceans

Salish Sea Nearshore Habitat Recovery Project (SSNHRP)

Pacific Salmon Foundation

Marine Conservation and Education

Province of British Columbia

Permits to transplant eelgrass in specific BC Parks

Roy Group

Education

Service Canada

Summer staffing for shore surveys in the Saanich Inlet

All One Fund

Marine Conservation

World Wildlife Fund

Marine Restoration

Supportive Local Businesses

Brentwood Bay Village Emporium

Frank Whites Dive Shop

Wilson's Dive Shop

Soap Exchange

Glass Foundry (Salt Spring Island)

Horne Coupar Barristers and Solicitors

Pixelart Computers

Polster Environmental Services Ltd.

And the many generous donations given for the 'Sarah V.' - the survey boat to be purchased in Sarah Verstegen's honor.

"If you look at the science that describes what is happening on earth today and aren't pessimistic, you don't have the correct data. If you meet people in this unnamed movement and aren't optimistic, you haven't got a heart..."

"What I see everywhere in the world are ordinary people willing to confront despair, power, and incalculable odds in order to restore some semblance of grace, justice, and beauty to this world."

— Paul Hawken, [Blessed Unrest: How the Largest Movement in the World Came Into Being and Why No One Saw It Coming](#)