

SeaChange Marine Conservation Society



**2016 – 2017 Annual
Report**
www.seachangesociety.com

WHO WE ARE

SeaChange Marine Conservation Society was established in 1998 as 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

Nikki Wright

A small group of 4th graders is gathered near the inlet in SNIDŪĒĒ (*Place of the Blue Grouse* or Tod Inlet), listening to the story of the past and present of this very special place. I pause in my narrative, considering whether to tell my inner thoughts about this long journey, and decide to confide that, at times, the work has been difficult and discouraging. The native plants take time to take to their new home, droughts delay their growth, cement debris remains in the soils, the shore is degraded and void of life. I ask them, "What do you do when you feel such anger and hopelessness?" and with a slight pause, one student quietly responds: "You act".

Since that day, I have often asked this question of students who visit the inlet during EcoRowing, and invariably they have similar responses. They are eager to make a difference in their world. They know, even at their young age, they could join the ranks of many, many people who intend to tip the balance towards a more hopeful future for themselves and the earth. The most important message SeaChange delivers is that it is vital we show up and try.

This last year has been a very productive and engaging time for SeaChange. In the following report you might find our accomplishments impressive. Small groups of committed individuals can make a very large difference. However, this work could not have been realized without the support of local community volunteers, our financial supporters, both locally and federally, and a highly qualified Board and staff who constantly "show up and try".

Thank you.



This report is dedicated to present and future earth stewards.



SeaChange accomplishes much because of the dedication of the
SeaChange Board of Directors and staff, SeaChange volunteers, Coast Salish, Cowichan, Tsleil-
Waututh and Squamish First Nations

All donors and funders
BC Parks
Lenny Ross
Educators within School Districts #61 & #63 and the WSÁNEĆ School Board
Seagrass Conservation Working Group
Department of Fisheries and Oceans Canada
Capital Regional District Parks staff
Local Businesses
Coastal Photography Studio
Dr. Leah Bendell and Dr. Sherryl Bisgrove, Simon Fraser University
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:

Conservancy Hornby Island, Cowichan Community Land Trust, Friends of Tod Creek Watershed, Friends of
Semiahmoo Bay, Gabriola Eelgrass Mappers, Galiano Conservation Association, Habitat Acquisition Trust,
Maple Bay Community Association, Mayne island Conservancy Society, Moonstone Enterprises, Pender Island
Conservancy Association, Peninsula Streams Society, Raincoast Conservation Foundation, Saanich Inlet
Protection Society, Seaquaria in Schools, Squamish River Watershed Society, Thetis Island Nature
Conservancy, and World Fisheries Trust.



Photo: Coastal Photography Studio

Achievements over the last fiscal year

July 1, 2016 – June 30, 2017

Education

Over 1,000 students of varied ages participated in SeaChange environmental programs over the past year.

EcoRowing is in its 14th year. It all started in Esquimalt Lagoon with SeaChange staff and a group of educators from School District #61 brainstorming with Lenny Ross, an educator at Strawberry Vale Elementary and founder of the Colquitz Watershed Stewardship Education Program. Together we rowed on the water and sat on the docks and in the dry spots of the wetland imagining the possibilities for middle school students to row in the lagoon learn and reflect in the local wetland and test water quality on the docks.

Five years ago we moved the program into Tod Inlet (SNIDZET- pronounced *sngheet kwith*) because of its protection from strong winds. SeaChange has had the opportunity to reach over ten thousand elementary and middle school students. In 2016-17, we welcomed 21 classes.

Other educational programs included Camosun College, Redfish School for Change and the Chinese Youth Leadership program through the University of Victoria, and the University of Vancouver Island's Tamagawa program. We have offered year-round field trips to many other individuals participating in local environmentally focused conferences.



The Community Mapping students, under the guidance of Ken Josephson, have continued to support the educational programs in SNIDŹEŁ by the creation of brochures, web sites and maps. Ken has been the instigator to place the intricate history of SNIDŹEŁ on the CRD Victoria and Region Community Green Map:

crdcommunitygreenmap.ca/story/many-perspectives-tod-inlet-snidzet.



Conservation

SeaChange participated or initiated over 20 community forums over the past year for the conservation of the Salish Sea

SeaChange engaged in many community events over the year, including Ocean's Day at the Gorge Waterway, World Ocean's Day at the Victoria Fishermen's Wharf, CRD Marine Day at Witty's Lagoon and the Thetis Island Nearshore Workshop in April of 2017. In partnership with the Peninsula Streams Society, SeaChange staff led tours to Tod Inlet to demonstrate the newly restored shore with a bus load of people interested in the restorative work accomplished in the Tod Creek watershed.



A map of shoreline sensitivity to sea level rise in the Cowichan Estuary, one of the many impacts challenging salmon in the watershed

Native eelgrass habitats (*Zostera marina*) were mapped by the SeaChange mapping crew in Cowichan Bay to further conservation and research in the estuary.

SeaChange staff described the details of its conservation initiatives to several local and regional communities, including the CRD Integrated Watershed Management Program, the Cowichan Water Board, Oak Bay municipality, Camosun College, the Sidney Anglers Association and the Salish Sea Marine Nearshore Survival Project, of which SeaChange has been a part for the last five years: (<https://www.psf.ca/what-we-do/salish-sea-marine-survival-initiative>),

Forums included a gathering of conservation groups working together for a National Marine Conservation Area in the southern Salish Sea and the North Saanich Resiliency Stakeholders meeting of concerned citizens about the impacts of rising sea levels in North Saanich.



Trying to understand how it all works

Restoration

SeaChange completed several marine and backshore restoration projects in Tod Inlet and in other coastal communities

Beach Enhancement Project in *SNIDØEL*



Family Day at the restored beach in Tod Inlet, February 2017

SeaChange managed a beach enhancement project in *SNIDØEL* resulting in the deposition of 2250 cu. m of gravel and 350 cu. m of sand on the shore. This work was the outcome of many consultations with the Tsartlip community, BC Parks and coastal engineering professionals. Over the last 19 years, SeaChange staff have witnessed children, dogs, family members and boaters stand (not sit) on the beach and at times, dig into the eroding and contaminated backshore sediments. For over 100 years, these sediments, the debris from the cement and clay manufacturing days (1904-mid 1950's), created a brownfield of a former shellfish harvesting site and severely impacted the marine life in the estuary.

The actual restoration of the beach took place in one 21 hour period on February 10th 2017; from 5 am to 10:30 pm. Monday, February 13th was Family Day. Groups of children were sitting on the shore on safe, uncontaminated gravel, or building sand castles further up from the water. Everyone interviewed about their response to the new shore said that at first they were surprised, then very pleased to see a welcoming beach rather than a rocky, unwelcoming and jagged shore.

The purpose of this restoration was to support a healthier marine habitat on the shore and in the shallow waters of the inlet, and demonstrate to the public how erosion can be slowed down by beach nourishment as an alternative to hardening of the shoreline (construction of walls or placement of rip rap). More restoration is planned for the estuary and will be part of the 100 Year Plan to bring back the marine diversity of the inlet.

Underwater Debris Removal

The SeaChange SCUBA dive team and *RV John Strickland* crew removed over 130 T of underwater debris from the estuarine marine environment of Tod Inlet to improve water quality and sediment health for marine life. The work was completed by the end of March 2017. The area of removal included the underwater environs near the entrance of the Park boundary to the mouth of Tod Creek within the inlet.



Eelgrass Restoration and Monitoring

During the summer of 2016 SeaChange completed eleven eelgrass transplants in areas within protected bays and estuaries in the southern Salish Sea, totaling 866m². Three of the eleven sites were in BC Provincial Parks. We selected these sites as water quality is increased in more protected areas where backshore development is limited.

During the summer of 2017, all 23 transplant sites within the Salish Sea were monitored. Monitoring data will be posted on the Strait of Georgia Data Centre website (sogdatacentre.ca) with a complete report of all eelgrass recovery work accomplished since 2014.

Based on shoot density and area extent, 65% of the 23 transplant sites can be considered successful and 35% as failures. The majority of the transplants (17) were installed in degraded seabeds affected by logging storage, mining or cable placements.



Volunteers in Squamish during an eelgrass transplant in July, 2017

Terrestrial Restoration

SNIDZĒŁ Restoration Project



The SNIDZĒŁ Restoration Project entered its sixth year with a lot of activity. We had many volunteer groups from University of Victoria, Camosun College and the Green Teams coming in to help us clear and maintain our new and established restoration sites. We had another great event with Peninsula Streams during the annual Creatures of Habitat Day featuring almost 200 kids from Bayside Middle School helping restore the land! We have also continued to bring the high school

classes from ŁÁU, WELNEW Tribal School out on regular restoration days all through the school year through the partnership of the PEPÁKEN HÁUTW (Blossoming Place) Program. These days are extremely meaningful as the WSÁNEĆ youth steward this very sacred place in their home territory while developing their own restoration skills and practical work experience.

SeaChange also kept up our regular Saturday volunteer days, where many students from our programs and community members from across the region come together to pull invasive species and plant native plants at SNIDZĒŁ. These days are always so much fun and we are so grateful for the sense of community that has been growing around these days over the years.

Lastly, at the end of our year the next big phase of our project received approval from EcoAction and Vancity! The SNIDZĒŁ Resiliency Project (2017-2019) now employs six WSÁNEĆ youth and community leaders for two years to do restoration and cultural programs at SNIDZĒŁ. This crew is led by Judith Lyn Arney, SNIDZĒŁ Restoration Coordinator. This marks an exciting step for our work at the inlet, as we move forward in partnership with the WSÁNEĆ First Nations to heal this special place.

Judith Lyn Arney

Future Plans

Education



SeaChange will deliver EcoRowing programs in the fall of 2017 and the spring of 2018. Native plant restoration, marine studies, canoeing or rowing, ethnobotany and a SENĆOŦEN language learning component will be offered to elementary and middle school students within the Greater Victoria School District.



Plans will commence to construct a Teaching House in SNIDZET to replace our ageing Nature Float. The structure will house an integrated First Nations and Western marine science and indigenous language lab.



SeaChange will continue to develop robust, relevant and interactive environmental programming for all ages.

Conservation



SeaChange will work with Cowichan Tribes to monitor hydrogen sulfides in the in the Cowichan Estuary to research mitigation strategies for higher eelgrass productivity.



SeaChange will pursue funding support to further the conservation of nearshore marine habitats within the Salish Sea and build upon the network of coastal communities established over the years.



SeaChange will continue to participate in the Saanich Inlet and Cowichan Stewardship Roundtables.



The Seagrass Conservation Working Group, of which the SeaChange Executive Director is Co-Chair, will continue conserving nearshore habitats through inventories, nearshore restoration and public education.

Restoration



SeaChange will continue to partner with Simon Fraser University and other universities and colleges to support applied research of the limiting factors of eelgrass growth in degraded log storage sites.



We will continue to restore and monitor eelgrass habitats within the Salish Sea in collaboration of coastal communities.



Judith Lyn Arney will continue to coordinate the native plant restoration in SNIDƷEƷ with the support of community volunteers and WSANEC (Saanich) First Nations communities.



The beach enhancement project in Tod Inlet will continue to restore the shore to health.



SeaChange will partner with First Nations to hold a feasting event in celebration of the return of a Welcoming Figure carved by Charles Elliott in SNIDƷEƷ in the spring of 2018.



SeaChange will increase its capacity for marine conservation, education and restoration by continuing to employ part-time staff for administrative and field work.

Photos: All photos taken by SeaChange staff unless otherwise noted



Cover page: All Hands on Deck to restore eelgrass in Tod Inlet Pg. 3: Indigo Conner Pg. 4: Seastar on eelgrass blade Pg. 5: SNIDƷEƷ sign at the Inlet Pg.5: Students removing invasive plants in SNIDƷEƷ Pg. 6: Beangka Elliott demonstrating uses of native plants to students in the Chinese Youth Leadership Program Pg. 6: Nikki talking to community members about the reasons for the beach restoration in SNIDƷEƷ Pg.6 Shoreline sensitivity to sea level rise map Pg. 7: EcoRowing students peering through an aquarium of eelgrass Pg. 8: 3 beach restoration photos of Tod Inlet Pg. 9: 4 photos of debris from Tod Inlet Pg. 10: Squamish community volunteers restoring eelgrass habitat in the Squamish River Estuary Pg. 11 Work crew in the SNIDƷEƷ Resiliency Project Pg. 11 Welcoming Figure in SNIDƷEƷ from the past.

Funding Sources for SeaChange Marine Conservation Society 2016 - 2017

Grants

Environment Canada	SNIDØEŁ Resiliency Project
Greater Victoria School District	EcoRowing in SNIDØEŁ
Ministry of Environment	Permits to work in SNIDØEŁ; In-Kind support for Conservation
North American Partnership for Environmental Community Action (NAPECA)	Tod Inlet Beach Enhancement
Pacific Salmon Foundation (Salish Sea Marine Survival Project)	Eelgrass inventories, research and restoration
Recreational Fisheries Conservation Partnerships Program	Marine debris removal in SNIDØEŁ
Service Canada	Summer staffing for the stewardship of SNIDØEŁ

Other Funding

Donations through Canada Helps	Core expenses
BC Parks	In-Kind consultations/permits
CRD Parks	Marine Day at Witty's Lagoon
Horne Coupar Barristers & Solicitors	1% for the Planet - core expenses
Individual donors	Core expenses
<i>Not Just Pretty</i> Clothing Store	1% for the Planet - core expenses
Roy Group	1% for the Planet – SNIDØEŁ programs
Private donor	Leveraged funding for summer staff and programming
Sidney Anglers Association	Eelgrass restoration
Squamish River Watershed Society	Eelgrass restoration/monitoring in the Squamish Estuary
University of Victoria Geography Department	In-kind labour & equipment Coastal Community Mapping & GIS support
User Fees	EcoRowing in SNIDØEŁ, Ethnobotanical tours, beach programs
SCUBA Diving contracts	Eelgrass compensation projects and other contracts

Supportive Local Businesses

Mitchell Farms
Zanzibar Restaurant
Sherwood Marine
Tonelli's Delicatessen
Brentwood Bay Village Emporium
Level Ground Trading
ACE Courier
B & C Food Distributors
Breadstuffs Bakery

Horne Coupar Barristers and Solicitors
Island Blue Print
Mill Bay Marina
Not Just Pretty Modern Clothing
Pixelart Computers
Polster Environmental Services Ltd.
Roy Group
Russell Nursery