



Comox Valley Project Watershed Society Box 3007, Courtenay, BC, V9N 5N3
Phone: (250) 703-2871 Email: projectwatershed@gmail.com
www.projectwatershed.ca

FACT SHEET

Comox Valley Project Watershed Society Efforts in Blue Carbon, Sea Grass, Kelp, and Salt Marsh Restoration

Blue Carbon and Estuaries in the Pacific Northwest

Blue Carbon refers to the long-term storage of carbon in sediments underlying marine and aquatic plants. The sea grass/eelgrass (*Zostera marina*) and salt marsh habitats are known to sequester and store carbon at very high levels compared to vegetation on land. The Comox Valley Project Watershed Society has developed a community-based protocol to allow coastal organizations in the Salish Sea to assess and identify Blue Carbon opportunities in their local estuary. We developed a method to map eelgrass and salt marsh with minimal technical expertise yet provide very accurate results.

We hypothesized that carbon sequestration is influenced by local geography and hydrology so that different areas of the estuary sequesters carbon at different rates and much of the carbon associated with eelgrass plant material is carried out of the estuary and deposited elsewhere. These factors should be considered when selecting an area to carry out Blue Carbon projects and eelgrass habitat restoration.

Empirical observations suggest that during storms and heavy wave action sloughed eelgrass may become buried under sand/silt above the high tide line, and hydrological assessments and observations on secluded shorelines have revealed major dumps of eelgrass detritus. We have initiated a pilot study sampling sediments from shoreline and other areas in the estuary to assess sea grass DNA distribution. We tested for the presence of a *Z. marina* DNA signature in shoreline sediments and core samples taken from various areas.

About our Society

The Comox Valley Project Watershed Society is an environmental stewardship group on Vancouver Island. It has an all volunteer board with professionals from a number of key areas to facilitate stewardship especially of the class 1 K'ómoks Estuary. In addition to our board we have a staff of four including a biologist and an expert in environmental science and mapping. Our Society is supplemented with a number of additional volunteers and contractors which help make our organization successful. Our funding comes entirely from external grants prepared by staff and volunteers in the Society.

From 2013 to present (with an annual budget of \$500,000 per year), we have focused our restoration and research activities on estuarine restorations of shorelines, sea grasses and kelp. We have conducted some research activities on Blue Carbon and Carbon dioxide burial and have recently posted two reports to NAPECA (North American Partnership for Environmental Community Action) and a Report on shoreline burial and

DNA detection of sea grass) which is available at <http://projectwatershed.ca/project-watershed-blue-carbon-report-accepted-by-cec/>

Our Society is continually looking for funding and contract opportunities. **The key Project Watershed members of our scientific team and their email contacts are**

- Paul A. Horgen, Board Chair, Ph.D. Professor Emeritus University of Toronto: cell, molecular, and microbiology p.horgen@utoronto.ca
- Dan Bowen, Technical Director: shoreline and salt marsh restoration including green shore and breaching strategies danbowen@shaw.ca
- Bill Heath, Ph.D Aquatic Biology: kelp restoration billh895@gmail.com
- Tim Ennis, Conservation Biologist: Latitude Conservation Solutions Consulting, ecosystem restoration time@telus.net
- Don Castleden, Chair Estuary Working Group: expertise in First Nation and Community Relationships djcastleden@shaw.ca
- Bill Heidrick, Vice Chair: riparian restoration and maintenance t.w.h@shaw.ca

Volunteer and Contract Science Collaborators

- Christine Hodgson, M.Sc. Science Lead, NAPECA Blue Carbon Project: cchodgson@live.com
- Angela Spooner, M.SC. Sylvan Island Environmental Consulting: sea grass restoration and carbon sampling spoooux@gmail.com
- Royann Petrell, PH.D. Professor Emeritus, University of British Columbia: Biological Engineer and sea grass specialist royannjean@gmail.com
- W. Hintz Professor, University of Victoria Genomics and Molecular biology: whintz@uvic.ca

Project Watershed Staff

- Jennifer Sutherst, M.Sc., Staff Biologist and Estuary Coordinator estuary.projectwatershed@gmail.com
- Caila Holbrook, M.Sc Environmental Science and Mapping maps.projectwatershed@gmail.com
- For more information, we invite you to contact any of the individuals listed on this Fact Sheet or general inquiries to Lisa La Rose, Program Coordinator ad.projectwatershed@gmail.com