

T'aanuu is Haida for Eelgrass

The Seagrass Conservation Working Group (SCWG) is a consortium of stewardship groups, government agencies, First Nations and consultants working to conserve and protect seagrasses in British Columbia since 2001.

SCWG meetings are held quarterly in various sites of the Strait of Georgia. Our website is:
www.stewardshipcentre.bc.ca/eelgrass/index.html

Training manuals, maps and other documents are available on the Community Mapping Network. Website: www.shim.bc.ca

Contact the SCWG at: seachange@shaw.ca

Table of Contents

Eelgrass watershed	2
Ode to Rob Russell	2
Three estuaries	3
Stewardship	3
Healthy shorelines	4
Snail invades	4
Burrard Project	5
Student awards	5

Coastal Eelgrass Network is alive and well!

by Nikki Wright, Co-chair

Despite cutbacks on conservation in Canada, the BC Coastal Eelgrass Network is moving forward with mapping and restoration of eelgrass beds. Network efforts are especially important given the growing international significance of seagrasses and the declining health of coastal habitats.

In April, 22 members attended three days of training workshops at the Bamfield Marine Science Centre for the 2007 Third Annual Eelgrass Symposium. We spent time both on the shores practicing mapping



Headlines indicate significance.



Symposium participants head to workshop. (Photo: M. Deakin)

protocols and in front of lab computers, working out our kinks with data entering.

Hats off to Ramona de Graaf, Cynthia Durance, Leanna Boyer, Tom Bird and Michele Deakin for pulling it all off! Rudy North and the Pacific Salmon Foundation funded the event.

If you would like to view a summary of the proceedings, please check the SCWG web site: www.stewardshipcentre.bc.ca/eelgrass/index.html

Notes from Kitimat

by Dennis Horwood

A complete survey has been completed of the eelgrass beds at Bish Cove, the proposed site of a Liquified Natural Gas (LNG) plant.

During some very low tides in July 2006 and May 2007, we mapped almost the entire perimeter of the beds, by foot and boat. The area mapped totals approximately 24,000 m². Three transects were also made.

If the LNG plant does proceed, it is



Debris at Bish Cove. (Photo: D. Horwood)



Bish Cove eelgrass. (Photo: D. Horwood)

hoped there will be little disturbance to the beds overall. Potential impacts could occur when the dock itself is under construction. Later when 100' tugs are moving ships, the prop wash may increase the turbidity or movement of the sand itself, causing a loss of eelgrass.

At present, the bed is littered with wood debris as well as plastics and rubber (see photo). We hope that if the LNG project proceeds, funds will be set aside to clean up the bed of the debris.

Eelgrass makes its way to the watershed



Sandlance on Qualicum Beaches. (Photo: M. Deakin)

by Michele Deakin

Just where does a river end, and the ocean begin? It's long been a discussion between those in the restoration business and especially with streamkeepers and others involved in sustainable fish populations. Typically watershed restoration stops at the estuary, but not in the Englishman River, on Vancouver Island.

Several funders including Pacific Salmon Foundation, Vancouver Foundation, Shell Environmental Fund, Mountain Equipment Co-op and others

have supported the Mid-Vancouver Island Habitat Enhancement Society (MVIHES) for an estuary project. Part of the Englishman River Watershed Recovery Plan, this project will include a bio-inventory, a volunteer monitoring program, and a door-to-door campaign to help residents change their behaviour, and reduce their impacts on the estuary.

The Georgia Basin Living Rivers Fund has added support in order to provide a stronger link between the river and the marine. Workshops for, and mapping of, forage fish, the invasive plant Spartina, and hardened shorelines will be added to the project. Data from beach seining and eelgrass mapping will be incorporated. Research will summarize the latest thinking in management of the gateway where river meets marine.

MVIHES hopes that the resulting estuary management plan and watershed recovery work will reflect the whole ecosystem, top to bottom.



Ode to Rob Russell

Rob Russell, Senior Habitat Biologist with Fisheries and Oceans has retired. Rob has been active with the SCWG since its inception. An avid supporter of stewardship projects, Rob worked hard over the years to ensure a positive working relationship between the federal government and the various communities involved.

Not only that, he was responsible for creating more than 2 hectares (5 acres) of eelgrass, through transplants. According to one reference which is very conservative, the productivity of eelgrass is around $500 \text{ gC/m}^2/\text{yr}$. So, $20,000 \text{ m}^2 \times 500 \text{ gC/m}^2/\text{yr}$, would total about 10 million gC /yr. This means that Rob can retire content in the knowledge that he is responsible for sequestration of all that carbon every year – and that doesn't include the 14 transplants planned for this year. One of which is more than 2 hectares alone. We think he should get a tax break for this!

The SCWG and all of its members thank Rob for his dedication and inspiration. We wish him all the very best in his retirement.



Sandlance eggs. (Photo: D. Penttila)

City of Surrey working to save their shorelines

The Engineering Department of the City of Surrey has become very involved with issues related to eelgrass, spartina and healthy shorelines. They are expanding their environmental programs with staff, students and stewardship groups. Public education, planting and rehabilitation of the foreshore and estuary areas are some of the fields they are working in. The City will be taking a more year-round approach to this and other environmental work, and have new staff with a function to coordinate environmental education.

Well done Ramona!

Congratulations to Ramona de Graaf who received her Master of Science this year.

Her thesis was titled, The Fine-Scale Population Genetic Structure of the eastern Pacific Bay Pipefish, *Syngnathus leptorhynchus*.



Three estuaries project



Volunteers were eager to be a part of the action in Squamish as seen in this photo on a great sunny day in the presence of those majestic peaks. I guess someone has to do it... (Photo: N. Wright)

by Nikki Wright

Three estuaries in the Georgia Basin now have a little more fish and bird habitat, thanks to a grant from the Pacific Salmon Commission.

Cynthia Durance, with a WCB dive team, transplanted small plots of eelgrass in the Nanaimo and Squamish River estuaries, and in McKenzie Bight in the Saanich Inlet. All three sites are former log booming areas. If the transplanted shoots survive over a growing season, they may be candidates for future, larger scale transplants.



Cowichan River Estuary will embark on another transplant in the spring of 2008. They are awaiting word from potential funders. This community has been very successful in bringing volunteers out to help in past transplant endeavors. Recently they installed a beautiful sign at the local boat launching site informing the public of the importance of conserving eelgrass.

More than meets the eye: community participation in environmental stewardship

These are some highlights from a presentation by Veronica (Ronnie) Wahl, UBC at the GBPS Conference, Vancouver, March 2007. She researched why stewards volunteer.

There is not a lot in the literature about this, but what there is certainly indicates some common themes, as follows:

- Hands-on restoration builds a lasting tie to the land or sea, and this tie is stronger than what is possible to achieve with many forms of environmental education.

- People who drive through a natural area and do not stop and get out to look at things do connect to the area, but expect a very managed area. Those who do get out and hike often don't want a managed area, but can often go to the opposite extreme and will oppose even the removal of introduced species like English ivy.

- Even if people participate in one event, this will increase their ecological identity and has a strong potential to change their behaviour at home where they will likely recycle, pester neighbours and friends to do the right things, plant trees at home, etc. The more the individual participates, the more their behaviour will change.



Geocachers map at Rathetrevor Provincial Park. (Photo: M. Deakin)

- The research shows that stewardship is different from other volunteering in that the quality of the social experience and the teamwork is key, vs. other volunteer work in hospitals for example. Stewards want to feel part of a community of individuals.

Ms. Wahl concluded saying that just because people understand a problem

exists or understand the work needed to solve the problem, doesn't always mean they will volunteer. In this case there is usually some other barrier that prevents taking action, whether it is the cost of participating, the time to commute, or some other very basic barrier. Stewardship groups must work to remove barriers to taking action.



Healthy shorelines explored in Parksville

by Michele Deakin

Thanks to the active partnership, networking and training within the Seagrass Conservation Working Group, it was possible to initiate discussions with various landowners and government agencies regarding a significant shoreline erosion issue in the Parksville area. This informal discussion created the perfect opportunity to offer a public education session on healthy shorelines in June of 2007.

Partners included The Nature Trust of BC, Ministry of Environment, Fisheries and Oceans Canada, Mid-Vancouver Island Habitat Enhancement Society, Seagrass Conservation Working Group, City of Parksville, Regional District of Nanaimo, and the Town of

Qualicum Beach. These groups invited the Greenshores program to come and deliver a public event. Presenters included Brian Emmett, Coastal Marine and Fisheries Biologist; and Jim Mitchell, Coastal Engineer.

Seen as only the first in a series of targeted workshops, this public discussion provided background on how shorelines "work", why we need to ensure natural and healthy shorelines, and provided various options to consider in the context of the typical shoreline issues experienced in this region. A panel discussion provided plenty of time for questions and answers.

Based on information collected at this initial presentation, subsequent



Aerial view of Parksville Bay. (Photo: RDN)

workshops will be developed in order to meet the needs of planners, developers, residential landowners, the tourism industry, and other interested parties.

Healthy Shorelines – the Seagrass Conservation Working Group in action.

Snail invades the Pacific Northwest

By Dr. James T. Carlton
Professor of Marine Sciences,
Williams College, Williamstown,
Massachusetts

Last month a major new snail invasion was detected in the Pacific Northwest. Dr. Robert Hershler of the Smithsonian Institution is working on the identification of this snail; at the moment we are calling it "Assiminea" sp. (The genus name is uncertain, and thus the quotation marks, and the species remains unidentified at this time, but Dr. Hershler is pursuing the identification).

An estuarine, brackish-water snail, it was found in an upper estuary slough of Coos Bay, Oregon, in waters of about 10 ppt, I found it on July 5, 2007, by the *thousands * per square meter on emergent mud banks. Lower down on the same shore, on submerged stones, it co-occurs with *Potamopyrgus antipodarum*. In the middle of Coos Bay estuary, in higher salinity waters, is found both on supralittoral emergent shores, and in salt marshes, where it co-occurs with

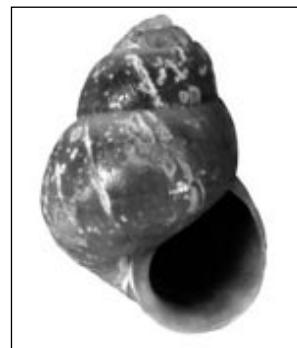


Photo credit:
Dr. James H.
McLean,
Los Angeles
County Museum
of Natural
History.

the native snails *Assiminea californica* and *Littorina subrotundata*, and the non-native snail *Myosotella myosotis* (=*Ovatella myosotis*; =*Phytia setifer*).

This is a small snail, about 5mm in height, with bulbous whorls, a broad inner aperture lip, light yellow bands at the top and bottom of the body whorl in younger shells, and with a highly eroded shell as the animal matures (see photo).

Very likely from Asia (Japan or China, perhaps) where very similar looking species occur, it was likely introduced through shipping. It is for this reason that it may be more widespread in bays and estuaries

along the coast. It should not be confused with the New Zealand Mud Snail (NZMS), *Potamopyrgus antipodarum*, or the native *Assiminea californica*.

The native *Assiminea californica* is smaller, narrower (less bulbous whorls), has a narrow inner lip, does not erode significantly as an adult, does not typically penetrate into very low salinity sloughs (such as where one finds *Potamopyrgus*), and does not occur in large, dense concentrations on supralittoral mud banks.

At these densities, we should expect some of the impacts associated with the NZMS. We do not know the exact diet of "Assiminea" sp., but it likely is a deposit-detrital feeder and microherbivore. It should be expected to compete with other snail populations at these densities, and perhaps displace or replace some native and introduced species.

Specimens have been sent to Dr. Hershler, and to Dr. James McLean of the Los Angeles County Museum of Natural History) for further study.



Exciting new eelgrass project in Burrard Inlet

by Rob Butler, President, Pacific Wildlife Foundation

The Pacific Wildlife Foundation in Port Moody, with advice from the SCWG, and support from the Pacific Salmon Foundation, transplanted a small plot of eelgrass in March 2007. They recently have been awarded funds through the Environmental Damages Fund to transplant in the eastern portion of Vancouver Harbour, in Burrard Inlet.

The following is an excerpt from their successful funding proposal.

"The PWLF home port in Burrard Inlet is the focus of several restoration projects involving herring spawning habitats and spawning streams. The current project aims to restore an eelgrass bed that flourished in eastern Burrard Inlet.

Eelgrass is a nursery for food fish that support higher trophic levels, including herring, salmon, rockfish, and fish eating birds including Western Grebe and Great Blue Heron. Western Grebe populations are declining along the Pacific coast and the Great Blue Heron is a COSEWIC species. We will transplant eelgrass to former habitats using proven techniques developed by the Seagrass Conservation Working Group.

We plan to evaluate the expansion of eelgrass, repopulation by eelgrass fishes, and recovery of two higher trophic predators, the Western Grebe and the Great Blue Heron. We plan to train and establish a cadre of volunteers who will participate in the fieldwork and become the eyes and ears of Eastern Burrard Inlet.

Support for this volunteer group will be ongoing via website and video on our website. Success of the project will be measured by expansion of eelgrass



Great Blue Herons feed in Parksville eelgrass. (Photo: M. Deakin)

and recovery of indicator fish and birds.

Eastern Burrard Inlet marine ecosystems have been degraded from industrial and urban developments. The purpose is to restore eelgrass beds in and near damaged sites, evaluate recovery and establish a cadre of volunteers to assist in restoration and track change over time. Although there are many local volunteers who act as stewards of the salmon bearing streams that flow into the inlet, their work stops at the estuary. There is a need for education, awareness and public interest and participation within and beyond the estuary."

Next SCWG meeting

The next SCWG meeting is on November 8th from 10am - 3pm at the Canadian Wildlife Service, 5421 Robertson Rd, Delta. Directions are available from Nikki at seachange@shaw.ca

Students receive award at PERS 2007

Rachel White, Hillary Harrop-Archipald and Keith Holmes received the Student Award at the recent PERS conference for their masters thesis presentation.

Rachel attended the recent SCWG meeting in Vancouver to present the project. A combined project, the three researchers looked at the Ucluelet area and integrated information based on eelgrass mapping, stream invertebrate inventories and stream morphology.

The town of Ucluelet will use the information as a baseline from which to evaluate the impact of a major development and golf course now being built.

Rachel plans to be involved with the SCWG so watch for updates on the project.

