Eelgrass: A Climate Hero Webinar

Nov. 24, 2020, 6:30 – 8:00 p.m.

Speakers: Aimee McGowan, Victoria Postlethwaite, and Nikki Wright

Questions and Answers[1]

Do the grasses we see in sweet water also do the same as the eelgrass in salt water?	CO2 concentrations in most freshwater ecosystems are several times higher than in the ocean, as these systems are supersaturated with CO2 and act as CO2 sources to the atmosphere (unlike oceans, which are CO2 sinks). However, macrophytes species, such as water hyacinths and water-lilies, are know to take up CO2. Keep in mind, there are many variables that impact an aquatic plant's ability to uptake and store CO2. Rivers, for example, are a patchwork of different zones that vary in hydrologic processes, climate, etc., and, therefore, may have different carbon inputs and CO2 processing rates. Research conducted in the US suggests that freshwater inland wetlands can store significant amounts of carbon, known as teal carbon, and could be an important inclusion in carbon-offset programs. See the following link for more information wetlands in the US: https://www.nature.com/articles/ncomms13835
How do the carbon sediment storage data compare to the similar project done in the K'omoks estuary?	The project done in the K'omoks estuary also found that each of their sites were highly variable in terms of carbon storage, and they saw similar rates of carbon storage. More information on their results: https://projectwatershed.ca/wp-content/uploads/2020/05/Project-Watershed_NAPECA-Final-Report-ComoxValleyEelgrass.pdf
Is it true that we have a mixture of native and invasive eelgrass? If so, how can I tell the difference and are the invasive species a problem?	Yes, we do. One of the most commonly distributed invasive species of seagrass in the Pacific Northwest is Zostera japonica (it's native to coastal eastern Asia). Z. japonica have much narrower and shorter blades than Z. marina. Online you can find a lot of great articles on this species of seagrass and its adverse impacts on native species. A few examples: https://www.nwcb.wa.gov/pdfs/Japonica_White_Paper and https://www.eopugetsound.org/articles/ecological-effect-nonnative-seagrass-spreading-northeast-pacific-review-zostera-japonica

[1] Due to time limitations not all questions could be answered during the webinar.

Is there any assistance if we wanted to grow (plant) seagrass in our local area? i.e. Keats Island (Howe Sound)	Plumper Cove on Keats Island has received a transplant in 2019. Monitoring results show it is expanding. A debris clean-up occurred off the BC Parks dock in September with the support of BC Park and the local community.
Any comparison of carbon sequestration rates of eelgrass vs. diatoms or coccolithophores?	Diatoms play a major role in storing carbon in the ocean. They convert carbon from the atmosphere into organic carbon and then this carbon falls to the deep ocean and is stored there. They are estimated to account for about 40% of carbon storage in the ocean, more than seagrass. Coccolithophores also are important, but they predominantly use ocean carbon by creating their coccoliths out of carbon (and calcium).
How do docks affect eelgrass? What should be considered when governments review dock applications?	Docks shade eelgrass and prevent them from full productivity. If they absolutely need to be constructed over eelgrass habitats, there are some designers who are experts in this.
When the Sechelt Inlet eelgrass rehab project has run its' course, will there be any on going health monitoring done by your groups or local citizens, etc?	The publications available on this topic are through the Stewardship Centre for B.C. https://stewardshipcentrebc.ca/
Can you share the two-stage anchoring method to reduce eel grass damage? This would be helpful for Ruxton Island, particularly in Naylor Bay where the map shows a large eel grass bed.	We will post the design on the SeaChange web site: www.seachangesociety.com
Have you been able to stop anchoring in eelgrass areas?	Anchoring in the nearshore is not regulated and one can moor or anchor anywhere. A Voluntary No Anchor Eelgrass Zone would help many bays and estuaries that contain eelgrass habitats.
South Pender Local Trust Committee changed their bylaws to make docks subject to a rezoning application. This hasn't been standard in the Islands Trust area. They did this to protect eel grass beds for example. How could the rest of the Trust Area do the same?	Each Local Trust Committee is responsible for adopting and amending their on land use bylaws. Different Local Trust Committees take different approaches to how they regulate private docks. Any local trust committee could decide to make protection of eelgrass a priority, and direct staff to undertake similar bylaw amendments as was undertaken on South Pender Island. Trust Council could make eelgrass protection a directive policy of the Islands Trust Policy Statement, and that would require local trust committees and Bowen Island Municipality to consider means to address eelgrass protection.
I have an eel grass bed off my property on Ruxton that is not mapped. Would be interested in how to preserve.	The brochure distributed by Islands Trust will help with finding ways to protect the eelgrass habitat in front of your house. Reducing fertilizers etc. and storm water filters also help.