

Town of Gibsons Eelgrass Mapping Project Recreational Water Lease Area - November 2013

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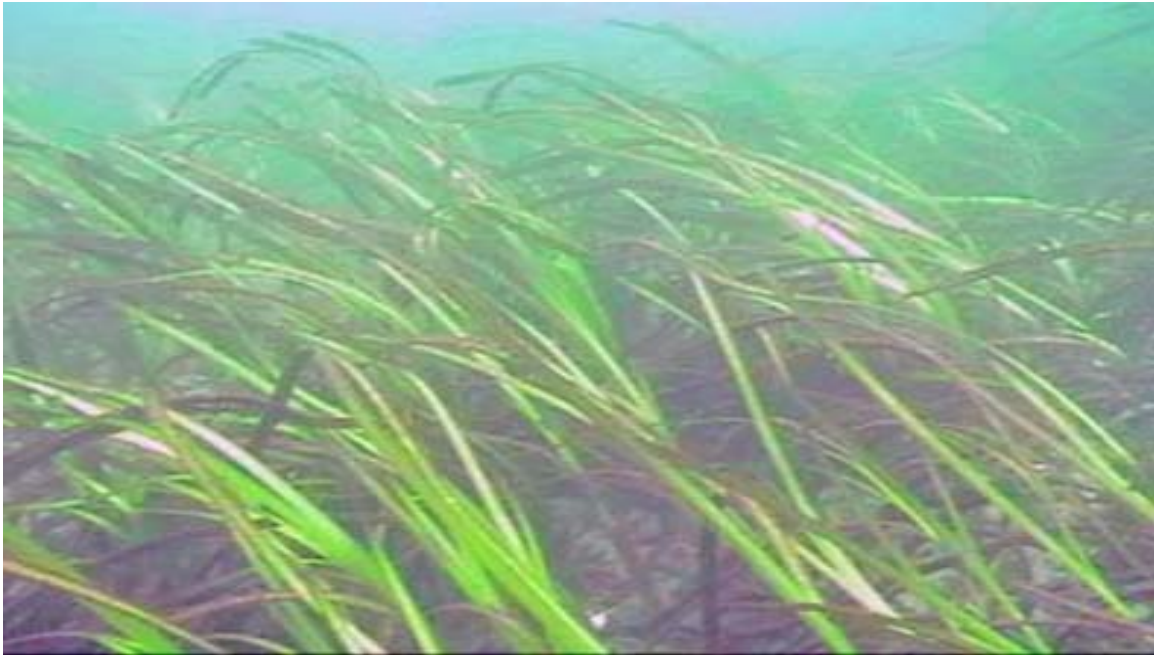
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Overview

Interest in mapping of eelgrass on the Sunshine Coast began in 2001. It was discovered that Fisheries and Oceans Canada had no information on the size and location of these very important, very sensitive, “meadows of the ocean”. At the time, there was a definite interest in mapping and ground truthing the accuracy of current features of the Sunshine Coast. Dave Nanson, past Habitat Biologist with DFO on the Sunshine Coast, Cheryl Trent, GIS mapper, and myself took on the task. Protocols were set up in 2002 by Cynthia Durance of Precision Identification, sponsored by Environment Canada and the Canadian Wildlife Service, in the manual *Methods for Mapping and Monitoring Eelgrass Habitat in British Columbia*.

“Field Methods for Mapping and Monitoring Eelgrass Habitat in British Columbia was designed to provide readers with a basic understanding of eelgrass (*Zostera marina* L.) ecology and to provide a standardized set of methods to map, classify, and monitor eelgrass habitat on a local level. The mapping and monitoring system described herein enables community groups and other agencies to contribute consistent and reliable data to a central database.” (2002, *Methods for Mapping and Monitoring Eelgrass Habitat in British Columbia*, preface.)

The harbor in Gibsons had been the recipient of eelgrass transplants as compensation for impacts of the breakwater in the harbor in the mid 1980’s. (pers. com. Cynthia Durance) .

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Methodology – surveying is done to level one status, using underwater camera and boat or kayak. Eelgrass points were taken every one meter at a minimum.

Background information – Eelgrass mapping for the town of Gibsons was first done in 2005. Subsequent mapping is indicating an enlargement in the size of the polygons, in spite of moorage and dock placements, which create shading and scouring within eelgrass beds.

Eelgrass beds serve to stabilize shoreline substrates and moderate shoreline wave action. They serve as refuge areas for marine life , nurseries and feeding areas, and marine corridors.

Shoreline Ethics – Rowing was the main means of mapping, as this provides the least impact on the eelgrass, and most accuracy.

Staff Training - Staff and volunteers are fully trained in the mapping protocols according to the Field Methods for Mapping and Monitoring Eelgrass Habitat in British Columbia .
<http://www.cmnbc.ca/sites/default/files/Eelgrass%2520Mapping%2520Methods.pdf>.

Materials – Underwater camera, either SplashCam or AquaVu, depth sounder, and Garmin GPS (WAAS enabled, minimum 6 satellite reception) were utilized.

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Evaluation -

The following map includes some of the original data points taken in 2005 (yellow), to point out the expansion in polygon size (eelgrass bed) since that time, especially along the NW shoreline.

Expansion is most dramatic in this area, although evidence points to expansion or maintenance of size of eelgrass beds in most areas mapped during 2005 and 2006. All beds were densely populated, with greater than 75% coverage by eelgrass shoots in most areas.

Note the area around the can rock marker off the Headlands. Due to weather and tides, we were not able to map this area at a similar low tide level as 2005. *This will be done next spring with the low daytime tides and compared to 2006 data.*

There is one buoy outside the breakwater in Gibsons Harbour located within an eelgrass polygon. This should be removed immediately.

Data and map files to be submitted separately to mapping department upon request.

