CALIDRIS Ecological SERVICES
wildlife - ecology - restoration

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May 11, 2025 Project No. 2024-056

Daniel May
Comox Valley Regional District
770 Harmston Road
Courtenay, BC
V9N 0G8

RE: EELGRASS (*Zostera sp*.) SURVEY OF THE PROPOSED SHINGLE SPIT BOAT LAUNCH

Dear Mr. May,

1.0 Introduction

Calidris Ecological Services Ltd. (Calidris) has been retained by the Comox Valley Regional District (CVRD) to provide permitting support to the proposed replacement of the Shingle Spit boat launch at Shingle Spit on Hornby Island, BC. A biophysical report was prepared to support a Request for Review (RFR) by Fisheries and Oceans Canada (DFO). Upon review of the RFR, DFO requested that an eelgrass (*Zostera sp.*) survey be completed within the project and construction footprint so that appropriate design and mitigation considerations could be applied to avoid impacts to this resource, if present. This letter describes the methods and results of the eelgrass survey as well as some specific mitigations that will be added to the project Environmental Management Plan (EMP) to protect the eelgrass in the area.

2.0 Methods

The eelgrass survey was conducted at on May 8, 2025 at an approximately 5 m tide. A 6.4 m Zodiac Hurricane with a two-person crew was used to access the site and conduct the survey. A Fish Camera™ (model MQmag07-DVR) was affixed to a boat-mounted downrigger ball and pointed at an approximately 45 degree angle towards the sea-bed (Photo 1). The camera was set to within one meter above the sea floor. Five transects were then conducted at various depths parallel to the shoreline. One additional transect was completed perpendicular to the shoreline along the northside of the breakwater, approximately where the new ramp and dock are proposed (Figure 1). A track-file was recorded on a georeferenced PDF map as each transect was being conducted. The track file was not properly started for the 6th (perpendicular) transect. This was added to Figure 1 as an estimate only.

One crew member piloted the boat while the second watched the camera screen and took a waypoint when eelgrass was detected. A number of additional point-checks were also conducted between the transects where gaps were noted. Where eelgrass was detected, point checks were done continuously working away from each detection in multiple directions so that the edge of

the bed could be fairly accurately delineated. Once the whole area was covered in waypoints, the outside edges of the eelgrass bed could be fairly well delineated by connecting the last point with detected eelgrass into a polygon.

A video of each transect was recorded, the recorded videos have been uploaded to the Calidris server in Courtenay and are available upon request.

Results

Conditions during the survey were a mix of sun and cloud, approximately 15°C with no precipitation and gusty northwest winds estimated between 4 and 10 knots within the survey area. Conditions were generally suitable for the survey but the wind did limit the crew's ability to conduct evenly spaced, perpendicular transects, particularly where there was a lee-shore along the breakwater. The survey was conducted between approximately 2 m and 5 m depth. As BC Ferries operations were ongoing during the survey, the crew stayed well away from the ferry terminal as a safety precaution.

The location of the transects are shown on Figure 1. Note that Transect 6 (shown in a dashed line) is an estimate, as the track function failed to record on the final transect. The aim of this transect was to assess any presence of eelgrass within the project footprint. None was detected.

One continuous bed of eelgrass was detected during the survey, the area of which is estimated to be approximately 200m^2 and is positioned approximately 22 m straight off from the end of the proposed ramp. There is a wooden piling just beyond the south end of the eelgrass patch that can be used as a good reference when working on the water (Photo 3). Note that the central area of this polygon supports a reasonable density of eelgrass (Photo 4) mixed with a lesser components of sea lettuce (*Ulva lactuca*) and Turkish towel (*Chondracanthus exasperatus*). The eelgrass, as well as other species become much less dense around the edges (Photo 5). All of the eelgrass detection points, including the more sparse, patchy areas surrounding the core area, are within the "Eelgrass - Continuous Bed" polygon indicated on Figure 1, with the exception of one minor additional detection on Transect 4 that was only identified after reviewing the video. This minor detection consists of a handful of individual eelgrass plants in dense sea lettuce (Figure 1). Much of the rest of the substrate consists of shell hash, cobble and a scattering of other seaweed species.

Note that the eelgrass thins considerably within the edges of the delineated polygon, all areas with some presence of eelgrass were included so this should be considered a conservative estimate of the distribution of eelgrass on the site at the time of the survey.

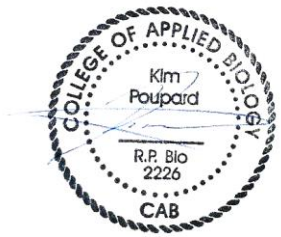
Recommendations

It is recommended that the project specific EMP be amended to include the following:

- No anchoring or contact with the bottom should occur within any area that supports eelgrass.
- Prior to anchoring a barge or other vessel involved with construction in the area, a quick pre-construction check of the bottom should be conducted to determine suitable anchoring locations and avoid potential impacts to eelgrass. A similar approach to the spot checks conducted for this survey will be appropriate.
- The CVRD should install signage at the boat ramp informing boaters of the sensitive eelgrass in the area and advising not to anchor within it.

4.0 Closure

We trust that the above meets your current requirements, should you have any questions or comments, please contact the undersigned.



Kim Poupard, R.P.Bio.
Calidris Ecological Services

Attachments: Figure 1
Photo plates

LEGEND

N

- Transects
- Approximate Transect
- Approximate Eelgrass - Continuous Bed
- Approximate Eelgrass - Additional Minor Detection

0 25 50 m

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COMOX VALLEY REGIONAL DISTRICT

Project
SHINGLE SPIT BOAT LAUNCH IMPROVEMENT PROJECT , HORNBY ISLAND

Title
SITE OVERVIEW

Drawn: BL 25-04-01	Scale: 1:1,000
Checked: KP 25-04-01	PROJECT: xxx-xxx
Approved: KP	**FIGURE: 1**

Photo 1-2. Showing the camera and downrigger ball setup used for the eelgrass surveys. Photo taken May 7, 2025.

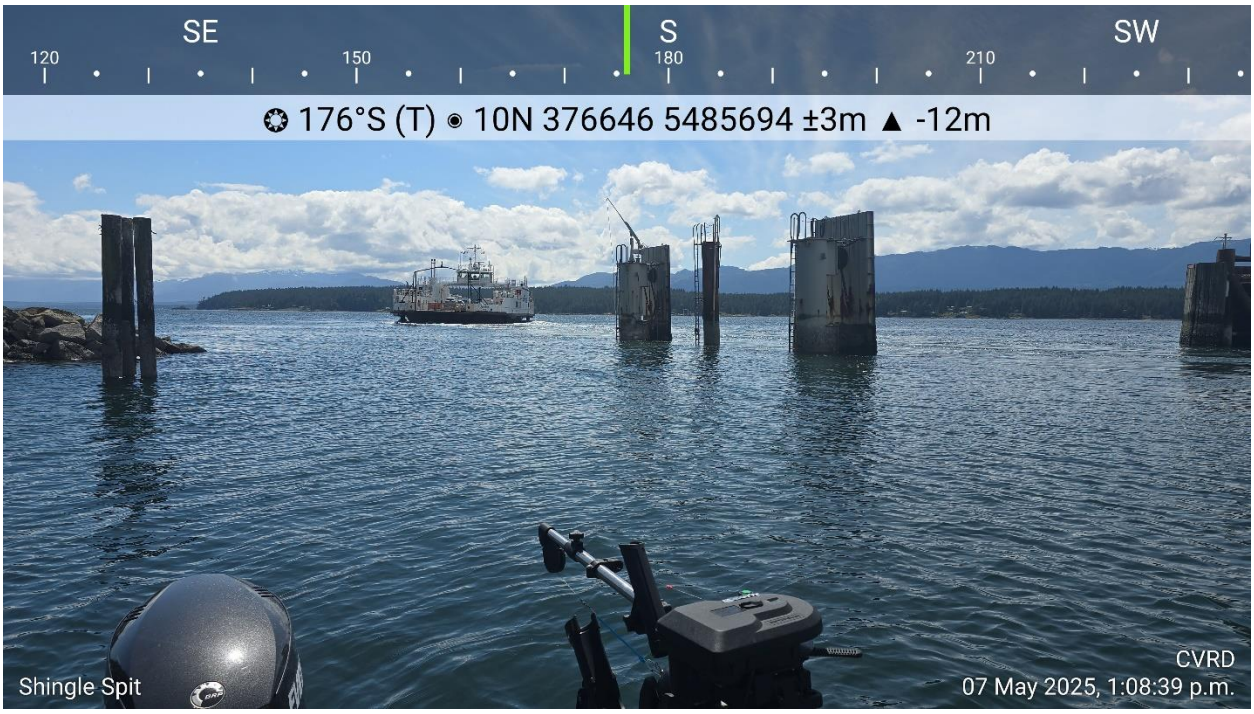

Photo 3. Showing the ferry leaving the dock (at right). The set of three pilings at far left of the photo roughly delineates the southern end of the eelgrass patch and can be used to as a quick reference when working above the water.

Photo 4. Dense eelgrass near the center of the eelgrass polygon. Photo taken May 7, 2025.

Photo 5. Showing low density of eelgrass at the edge of the polygon, note the muddy substrate, shell hash and trace Turkish towel. Photo taken May 7, 2025.

Photo 6. Showing range of ground cover outside of eelgrass polygon – mixed muddy/sandy substrate, shell hash, sea lettuce and what is assumed to be *Plocamium* sp.