

# Esquimalt Lagoon Stewardship Initiative 2017 Annual Report



## Introduction

The Esquimalt Lagoon Stewardship Initiative (ELSI), supported by the Capital Regional District (CRD), is a coalition of community and environmental groups, institutions, governments and First Nations working together to protect, enhance and restore Esquimalt Lagoon and Coburg Peninsula.

After forming in 2001, ELSI developed a Stewardship Plan for Esquimalt Lagoon which provides the framework for a coordinated approach to environmental management of the area. The consensus-based steering committee is responsible for guiding the implementation of this plan. The initiative creates opportunities for collaboration on environmental projects and outreach activities, and provides a forum for exchange and sharing of information. A part-time ELSI coordinator, funded through the CRD, initiates and manages projects, seeks funding and coordinates the initiative.

In 2017 ELSI provided input to Colwood on their Official Community Plan review and continued the fish monitoring and water quality programs in the creeks entering Esquimalt Lagoon. Volunteers attended many community events with the ELSI display and watershed model and joined committee members on other regional initiatives at a volunteer appreciation barbeque held at the Gorge Waterway Nature House. ELSI also held a beach cleanup in partnership with the Greater Victoria Green Team.

## Vision

To protect, enhance and restore the health of Esquimalt Lagoon for future generations of people, plants and animals.

## Goals

- Promote and support lagoon stewardship and education
- Prevent further loss or destruction of habitat and wildlife
- Reduce contaminant inputs to the lagoon
- Promote environmentally protective recreation use in the lagoon area
- Promote environmentally protective land use

*Pictured above: The narrow strip of coastal dune on Coburg Peninsula is under pressure from sea level rise, increased storm surge incidents and trampling by human visitors.*

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# Highlights

## Water Quality

CRD staff collect water quality data annually from Colwood, Bee and Selleck creeks and a selection of stormwater flows that discharge into the lagoon.

In 2017 staff assessed six stormwater discharges in Esquimalt Lagoon for public health concern. None of the discharges were assigned a high public health concern rating. However, elevated E.coli levels (>200 CFU/100 mL) were occasionally found in Colwood Creek, Bee Creek and discharge 933 at the toe of the lagoon. Elevated bacterial counts were found in discharge 933 previously and bacteria of human origin was detected. It is likely that the source of bacterial contamination in this discharge is due to malfunctioning septic systems. Staff will continue to conduct source investigations.

In addition to regular sampling, CRD staff conducted extensive monitoring in the Colwood Creek watershed. Four locations were sampled weekly for five consecutive

weeks in the summer (August–September) and fall flush (October–November). Concentrations of bacteria, nutrients and metals were measured on each visit. Benthic (bottom-dwelling) invertebrates were sampled using the Canadian Aquatic Biomonitoring Network (CABIN) method at 2 locations in early September.

CRD also has a hydrometric station in Colwood Creek collecting continuous water depth data which is transmitted to FlowWorks, a web-based data management site that analyzes and reports monitoring data. Results from this monitoring work will be available in 2018.

ELSI volunteers conducted weekly water quality sampling in Bee Creek over 30 day periods during the summer of 2016 and winter 2017. Sampling was carried out at two locations above and below construction activities. Phosphorus, temperature and turbidity were at times above BC guidelines for protection of aquatic life.

However, comparison of the upstream and downstream sites indicates that it is unlikely that the concurrent construction activities were having an impact on water quality. These results warrant more study to determine if the observed water quality is impacting aquatic life. CRD staff will continue to monitor this creek.



*During the annual ELSI beach cleanup in September, volunteers discovered a fire burning in one of the beach logs and alerted the Colwood Fire Department.*





*ELSI members toured a site on Colwood Creek where a boarding school is being built. The creek runs through the centre of the property and members are concerned about impacts to riparian areas during and after construction.*

## Land and Water Use

The City of Colwood staff continued updating their Official Community Plan throughout 2017 and ELSI provided comments and feedback to staff and council.

ELSI strongly supported the incorporation of Green Shores principles for sustainable shoreline development into the OCP. Members also advocated for converting Ocean Boulevard along Coburg Peninsula to a one-way route for vehicular traffic with the other lane for pedestrians and non-motorized transportation.

ELSI continued to advocate for reducing foot traffic through the dunes, removal of picnic tables from the dune onto gravel areas and improved signage about the bird sanctuary and the fragile dune ecosystems at the lagoon.

## Stewardship and Outreach Events

ELSI teamed up with the Greater Victoria Green Team to hold the annual spring broom pull on Coburg Peninsula and a beach clean-up in the fall.

Volunteers attended several community events throughout the summer including: International Migratory Bird Day at Fort Rodd Hill, Mother's Day Paint-In at Royal Roads University, Canada Day at Fort Rodd Hill and the Eats & Beats at the Beach event in July. The interactive Esquimalt Lagoon watershed model was brought to all of these events.

ELSI participated in the Urban Sanctuary Project with other regional partners. In July, the capital region was officially declared the Greater Victoria NatureHood in recognition of the outstanding opportunities here for people to connect with nature in an urban environment such as at the Esquimalt Lagoon Migratory Bird Sanctuary.

## Fish Monitoring

2017 marked the worst year on record for fish monitoring, with very low numbers of fish observed.

In Colwood Creek this was likely due to high summer water temperatures and record low water levels. An upstream water license on Colwood Creek severely restricted the amount of water released to the lower reaches during the critical June—October period.

Much of the lower spawning region was reduced to a dry gravel bed in late summer and trapping was suspended for fear of increasing stress on the surviving fish. On the positive side, no bullfrogs were observed, perhaps due to unusually low water levels in summer. In winter, coho, cutthroat trout, sculpin, pumpkinseed fish and crayfish were observed in Colwood Creek.

In Selleck Creek no fish were trapped, possibly due to several factors: a man-made pond on Ocean Grove property that was stagnant in summer with large mats of algae; high water temperatures, low oxygen levels and evidence of bullfrogs which are known to prey on small fish. Conditions were better in Bee Creek where cutthroat trout populations remained stable. No coho were observed.

## Bee Creek Restoration

Residents are now living at Pacific Landing and many are interested in helping to enhance the Bee Creek riparian area. The property developers provided support for the removal of invasive plants, mainly Daphne, English holly and English ivy. Volunteers replanted with native plants such as Oregon grape in riparian areas, dune grasses in the Migratory Bird Sanctuary area and a pollinator meadow. ELSI continues to be an important community resource for the Bee Creek volunteers.



# Esquimalt Lagoon Stewardship Initiative

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## ELSI Partners

### Committee Members

- Canadian Wildlife Service
- Capital Regional District
- City of Colwood
- City of Langford
- Colwood Community Association
- Parks Canada
- Royal Roads University
- Victoria Natural History Society
- Local residents

### Advisory Members

- Esquimalt Nation
- Songhees Nation
- BC Ministry of Environment
- Department of National Defence
- Environment Canada
- Fisheries and Oceans Canada



## Focus for 2018

In 2018, ELSI will focus on:

- Reviewing and providing comments on development proposals in the lagoon area
- Working with Colwood and the Canadian Wildlife Service to incorporate interpretive signage at the lagoon
- Working with our partners to improve water quality in the lagoon and investigating nutrient sources entering the lagoon and its tributary creeks, and establishing water quality objectives for Esquimalt Lagoon
- Promoting activities that engage the community in stewardship of the Esquimalt Lagoon watershed

*Pictured above: Volunteers attended the Eats & Beats event on Coburg Peninsula, with the ELSI display and watershed model. Hundreds came to enjoy the beach, the music, the food and learn about the lagoon, its watersheds and the Migratory Bird Sanctuary.*

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