

Pacific Salmon Foundation: Marine Reference Guide supports Coastal Resilience



Ben Skinner
bskinner@psf.ca

Kyla Sheehan
ksheehan@psf.ca

Presented at: AVICC 2024



THE STRAIT OF GEORGIA DATA CENTRE

Data Centre Objectives

- Identify and obtain information resources relevant to the Strait of Georgia.
- House a secure archive for the data.
- Provide an open access data system.
- Provide map-based displays of the data.



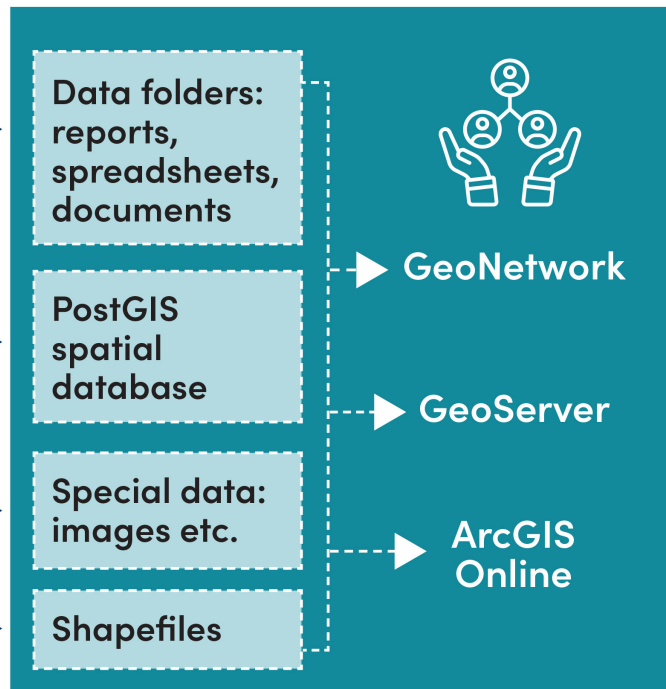
sogdatacentre.ca



STRAIT OF GEORGIA DATA CENTRE | **ROLE AND ARCHITECTURE**

REAL WORLD DATA (EXAMPLES)	
Fish and fish health	Ocean variables: temp, salinity, oxygen, chemicals
Aquatic harvest	Bathymetry and coastlines
Invertebrates	Weather and climate
Plankton and algae	Hydrography: tides, currents, waves
Marine mammals	Rivers and streams
Birds – marine, nearshore	Anthropogenic uses – shipping, recreation, cables, pipelines
Hatcheries and aquaculture	Acoustic data
Anthropogenic disturbance	Satellite remotely sensed data

INTERNAL SYSTEM STRUCTURE



FRONT-END APPLICATIONS

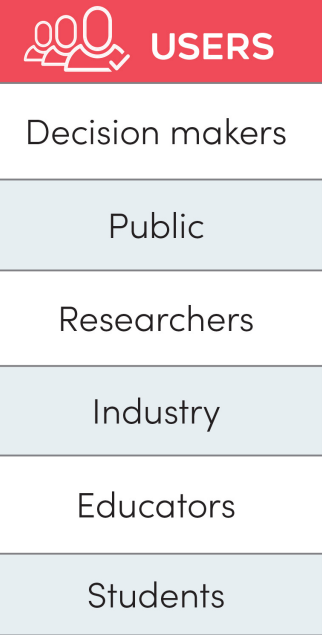


PSF Marine Data BC Portal

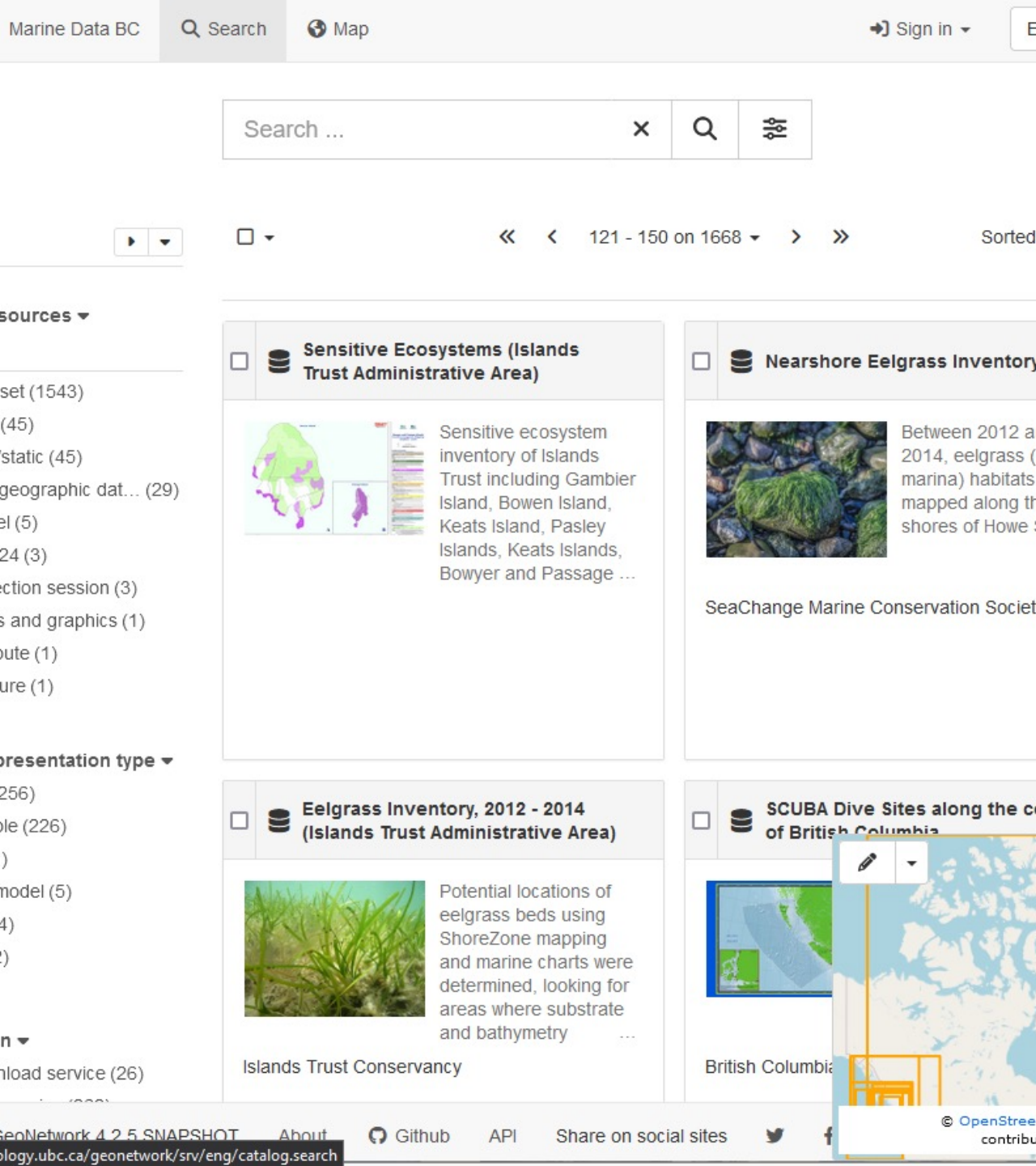
Make-Your-Own-Map GIS Users

PSF Map Catalogue

- Story maps
- Interactive maps
- Marine Reference Guide



PACIFIC SALMON FOUNDATION



Marine Data BC Portal

- 1650+ datasets referenced within the portal.
- Either direct data downloads or linkage to the source portal.
- Provides a map tab in which you can load datasets for a visual representation.

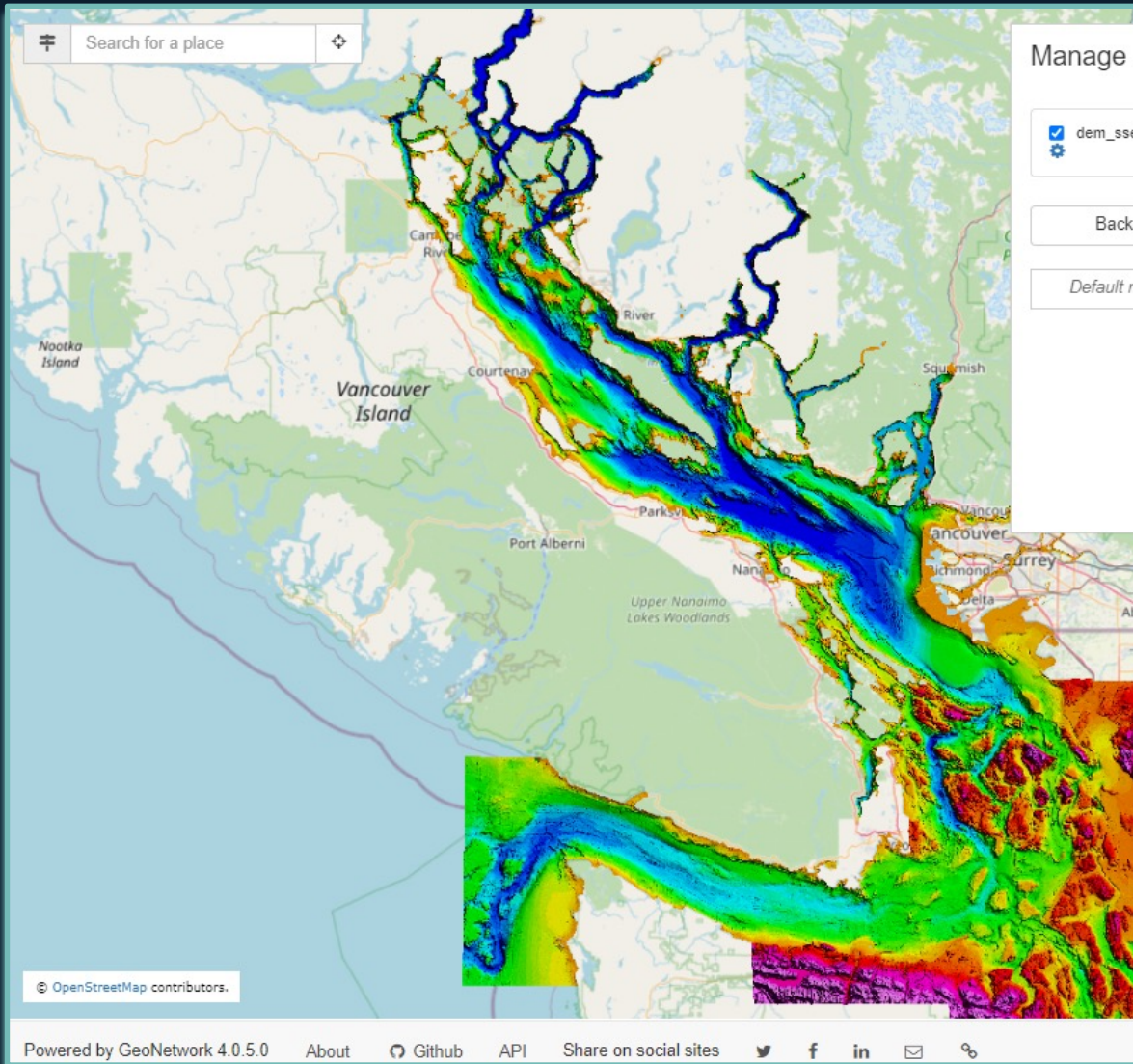


PACIFIC SALMON
FOUNDATION

Marine Data BC Portal Cont'd

Image-left:
Make-your-own-
map

Image-below:
Metadata record





Back to search < Previous Next >

Bull Kelp Surface Extent at Select Sites in the Southern Gulf Islands 2010-2021

This dataset contains a record of surface extent of bull kelp at select sites in the Southern Gulf Islands. All of the 2010-2018 data was recorded in the nearshore waters of Mayne Island. In 2019 and 2020 the monitoring program was expanded in collaboration with the Galiano Conservancy Association, Pender Islands Conservancy Association, and Saturna Island Marine Research and Education Society to include additional sites around those islands. We anticipate annual monitoring of select sites will continue on an annual basis.


ongoing

Download and links


	Guidelines and Methods for Mapping and Monitoring Canopy-forming Kelp in British Columbia Guidelines and Methods PDF Report Guidelines and Methods PDF Report https://soggy2.zoology.ubc.ca/geonetwork/srv/api/records/1e92e7a8-b7d6-47bc-ad97-18887397108b/attachments/Kelp_mapping_methods_Mayne_Island_Conservancy_2021.pdf	Download
	Kelp Attribute Table Summary PDF Document with Attribute Table Description PDF Document with Attribute Table Description https://soggy2.zoology.ubc.ca/geonetwork/srv/api/records/1e92e7a8-b7d6-47bc-ad97-18887397108b/attachments/Kelp_Attribute_Table_Summary.pdf	Download

Download > Display mode >

Overview



Spatial extent

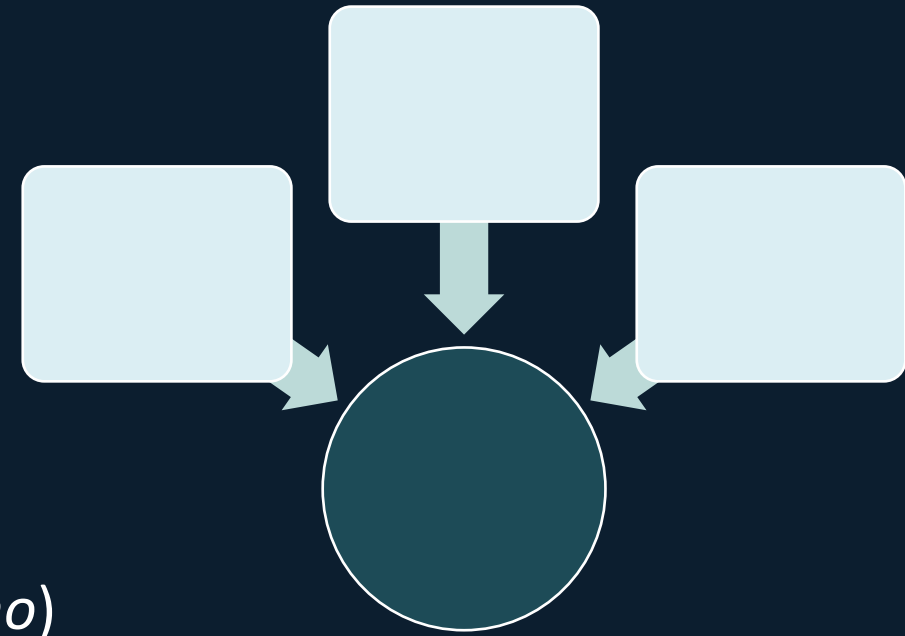


Resource events

Data Sources

- Data available through the Data Centre are acquired from various sources, like:

- Municipal data portals (e.g., Zoning – *City of Nanaimo*)
- Government of Canada Open Data Portal (e.g., Herring Spawn Events – *DFO*)
- Non-for-profits (e.g., Hazardous Debris in Estuaries - *Rugged Coast Research Society*)
- Province of BC Data Catalogue (e.g., Obstacles to Fish Passage)





Legend

- Aquatic Conservation NGOs (BC)
 - Aquatic Conservation NGOs (BC)
- Clean Marine BC Marinas (SOG)
 - 3
 - 4
 - 5
- Coho Salmon Spawning Streams (SOG)
 - Coho Salmon Spawning Streams (SOG)
- Protected and Conserved Areas - Marine (SOG)
 - A - Park
 - C - Park
 - National Park
 - Conservation Area
 - Privately Owned Conservation Area
 - Other Effective Area-Based Conservation Measure
 - Ecological Reserve
 - Nature Reserve
 - Wildlife Management Area
 - National Wildlife Area
 - Migratory Bird Sanctuary
- Depth Contours (m) - Generalized (SOG)
 - Depth Contours (m) - Generalized (SOG)

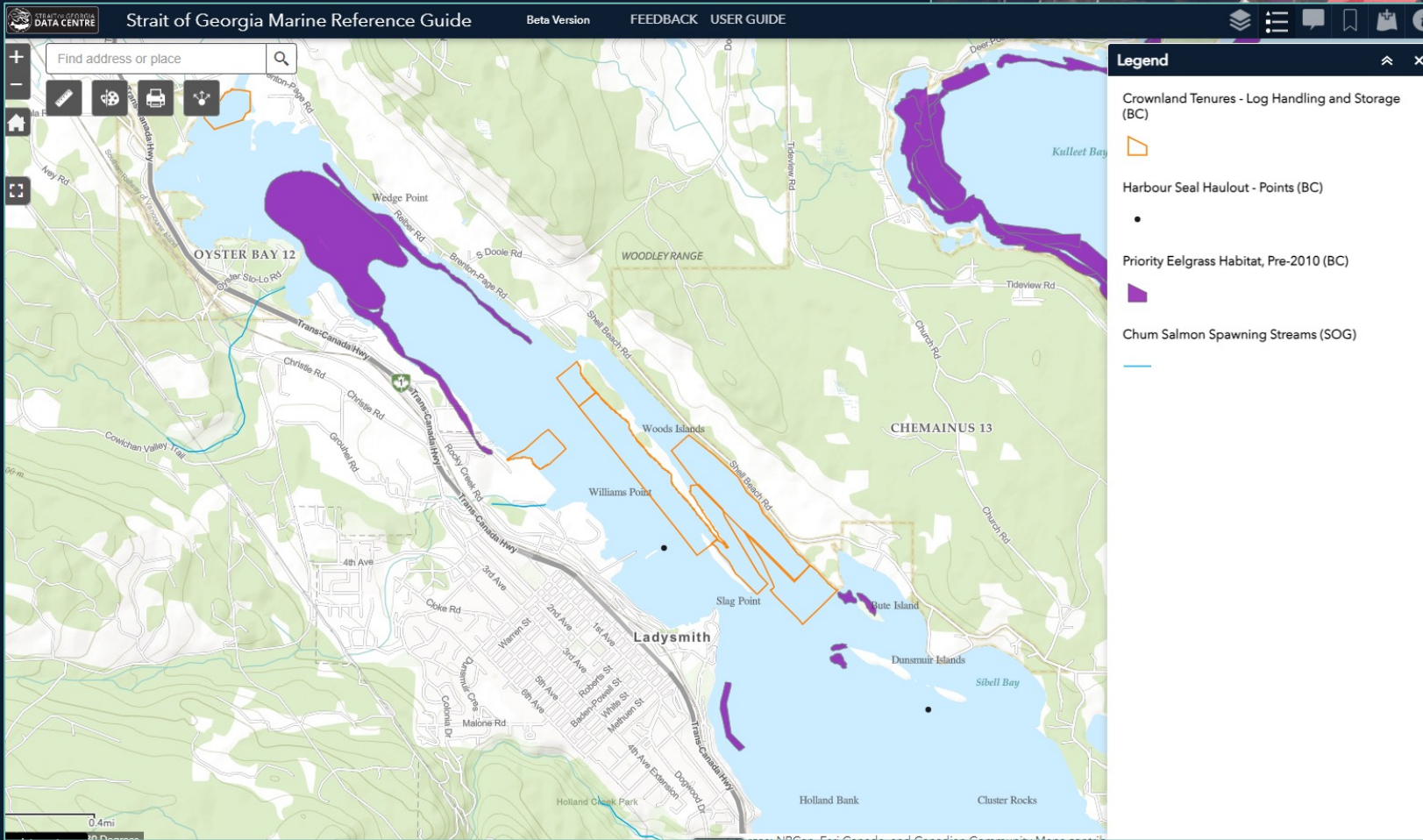
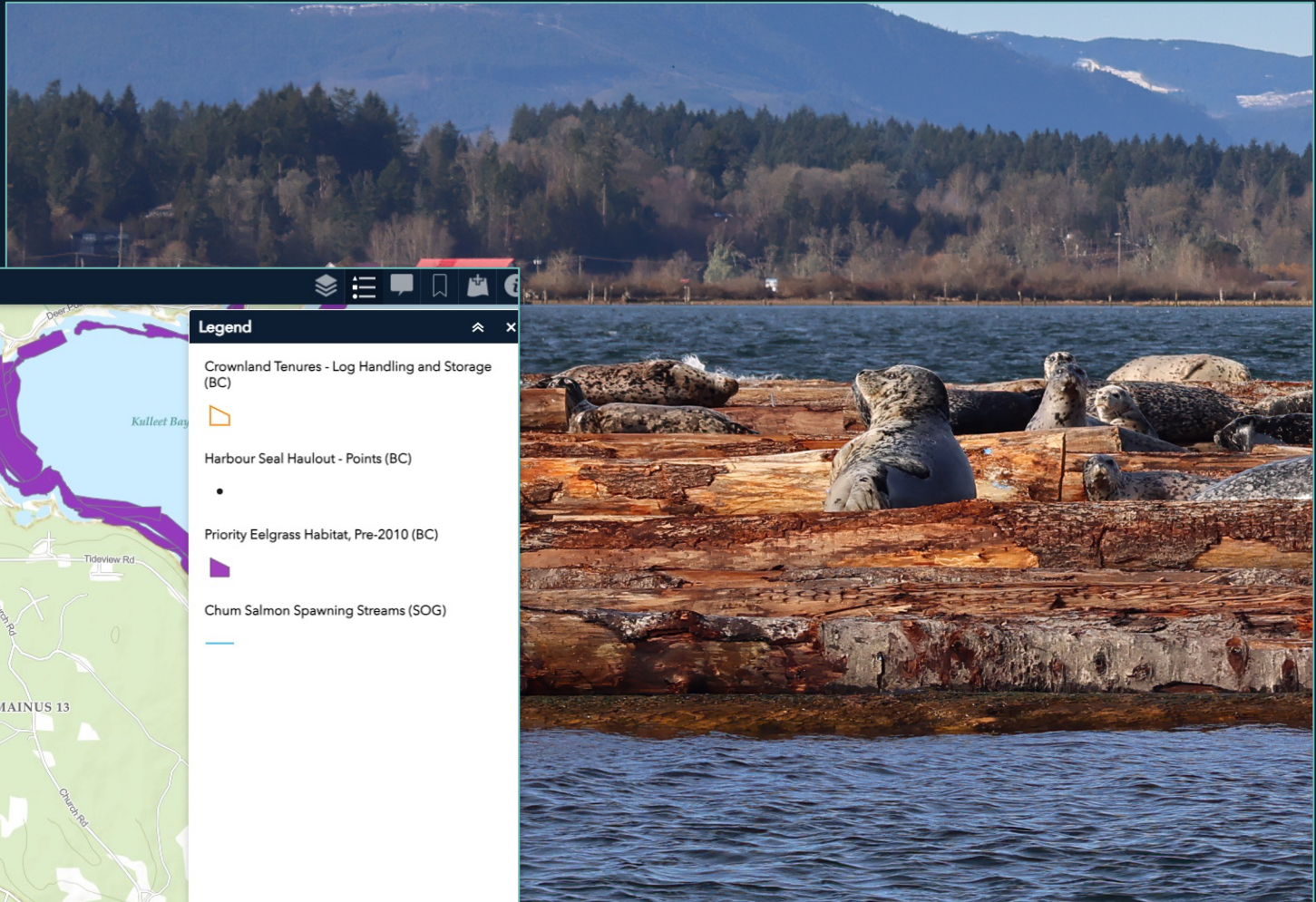
The Strait of Georgia Marine Reference Guide (SOG MRG)

Strait of Georgia Marine Reference Guide (SOG MRG)

- An interactive map with over 450 layers of marine information.
- Visualize and compare layers to form an image of the Strait of Georgia ecosystem.
- Serves as a digital mapping library for educational & decision-making purposes.
- Data topics range from ecology to oceanography to human use.



SOG MRG – Juvenile Salmon & Nearshore Habitat

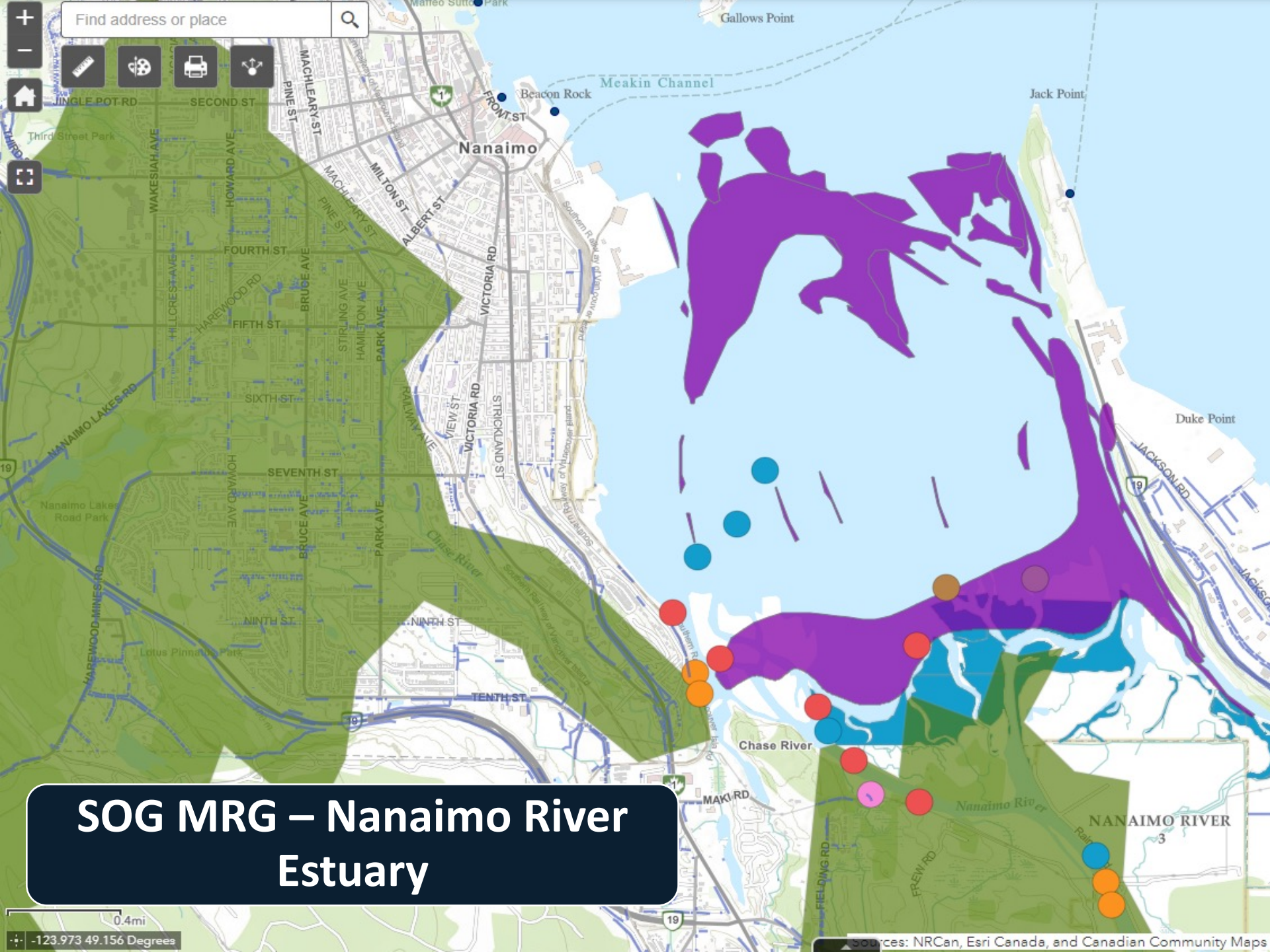


PACIFIC SALMON FOUNDATION

SOG MRG - Municipal Data Snapshot

Municipalities & Regional Districts in SOG MRG	Municipal & Regional District Datasets in SOG MRG
36 from around the Strait of Georgia	178 from around the Strait of Georgia
10 from Vancouver Island or the Gulf Islands	80 from Vancouver Island or the Gulf Islands





Legend

- Stormwater Channels (Nanaimo)
- Hazardous Debris in Salmon Estuaries (ECVI)
 - Material
 - Creosote Piles
 - Other
 - Creosote Logs Bottom
 - Docks/Floats
 - Wood Waste
 - Abandoned Dock
 - Machinery
 - Tire
- Ferry Terminals (BC)
- Priority Eelgrass Habitat, Pre-2010 (BC)
- Chinook Salmon Spawning Habitat by Watershed (SOG)
 - Chinook
- Protected and Conserved Areas - Marine (SOG)
 - A - Park
 - C - Park
 - National Park
 - Conservation Area
 - Privately Owned Conservation Area

SOG MRG – Nanaimo River Estuary



Layer List

- CITY OF VICTORIA
 - Fences and Retaining Walls (Victoria) ...
 - Footpaths (Victoria) ...
 - Green Stormwater Infrastructure (Victoria) ...
 - Natural Areas (Victoria) ...
 - Stormwater Discharge Points (Victoria) ...
 - Stormwater Gravity Mains (Victoria) ...
 - Tsunami Hazard Line (Victoria) ...
- DISTRICT MUNICIPALITY OF WEST VANCOUVER
- CITY OF WHITE ROCK
- PHYSICAL
- LANDSCAPE AND HYDROLOGY
 - Detailed Land Cover (Salish Sea Bioregion) ...
 - Major Watersheds (BC) ...
 - Salish Sea and Fraser River Watersheds ...
 - High Resolution Watersheds (BC) ...
 - Lakes (BC) ...
 - Lake - Definite

SOG MRG – Victoria Spotlight



WELCOME TO YOUR SHORELINE PROPERTY!

As a shoreline property owner, the actions you take **CAN HAVE TREMENDOUS BENEFITS** for Pacific salmon, shorebirds, and all the animals, plants, and landscapes that make our coasts so spectacular. As an added bonus, many of the actions that support coastal life also have financial and aesthetic benefits for your property!

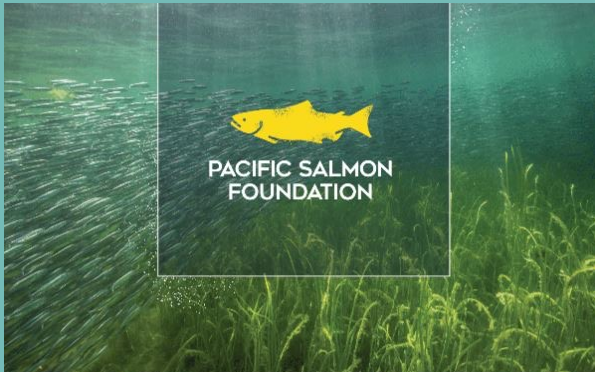
Learn how nature-based solutions can save you money, protect your investment, and **BOOST YOUR PROPERTY VALUE!**

SAVE MONEY ON YOUR WATER BILL!

A garden filled with native plants will require far fewer inputs like irrigation, fertilizers, and pesticide sprays since they are suited to local conditions. You will save money and time with these low maintenance plants. Not to mention, native flowers and shrubs are beautiful!

RESILIENT COASTS FOR SALMON

Learn more: resilientcoasts.ca



RESILIENT COASTS FOR SALMON

Nature-based solutions for climate change

Vol. 3 | November 2023

MARINE SCIENCE PROGRAM resilientcoasts.ca

RESILIENT COASTS FOR SALMON



resilientcoasts.ca



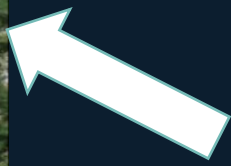
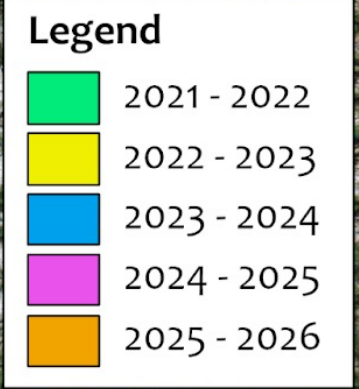
Where's Wilbur? Right here!! Victoria Harbour #PSFWilbur




PACIFIC SALMON FOUNDATION

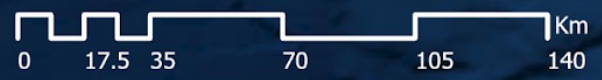
Resilient Coasts for Salmon

Sites by Project Year



Year four:

Comox to Port McNeill



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Coastal modifications:
seawalls, rip rap, etc.



Log accumulation on beaches



Overwater structures



Shoreline Mapping Initiative

Boat-based Mapping

- 360° camera
- High resolution camera
- Captured from Nanaimo to Comox in 2023
- Ground truthing via tender, kayak, on foot





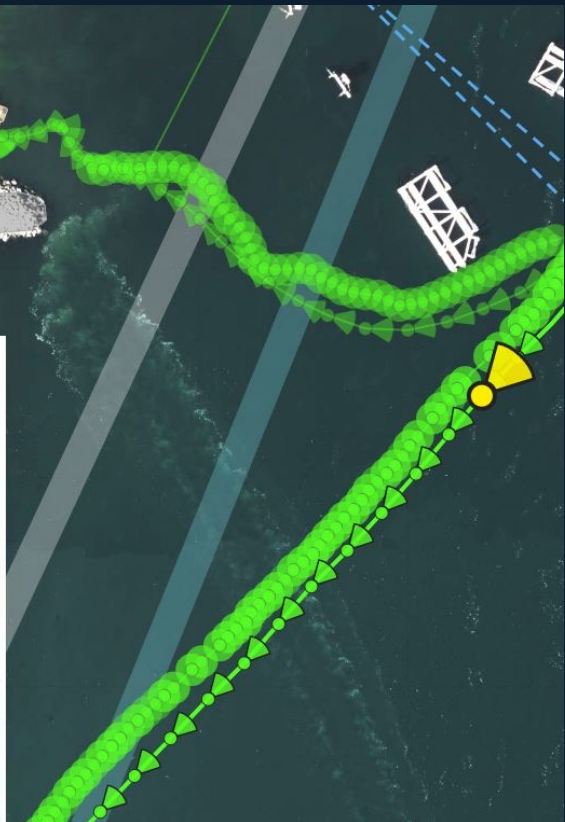
2:24:00 PM
09/23/2021

48° 59.7' N
123° 48.4' W

342°

A circular compass rose with a blue arrow pointing to 342 degrees. The degrees are marked from 0 to 360 in increments of 3.

Data Digitizing





Pacific Salmon Foundation

@PacificSalmonFoundation

515 subscribers

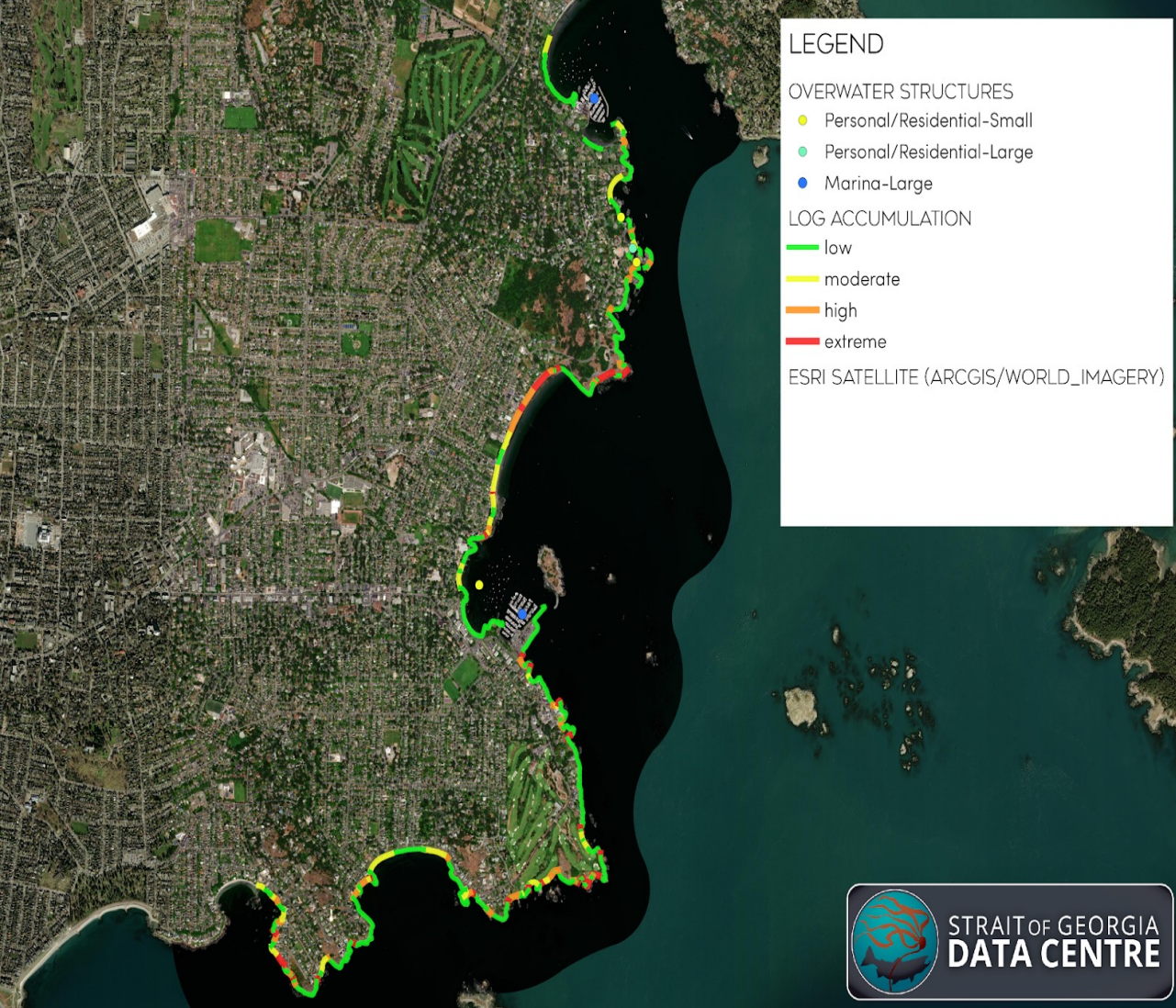


Mapping Info Video



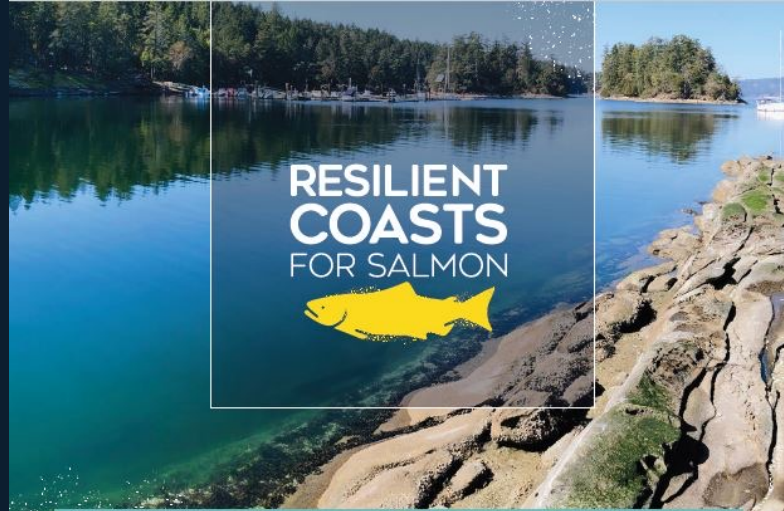
PACIFIC SALMON FOUNDATION

Community Reports: Oak Bay



PACIFIC SALMON FOUNDATION

Shoreline Mapping Workshops



FIELD GUIDE TO SHORELINE MAPPING



PACIFIC SALMON
FOUNDATION



The project was undertaken with the financial support
of the Government of Canada
Le projet a été réalisé avec le soutien financier
du gouvernement du Canada



STEWARDSHIP CENTRE
FOR BRITISH COLUMBIA

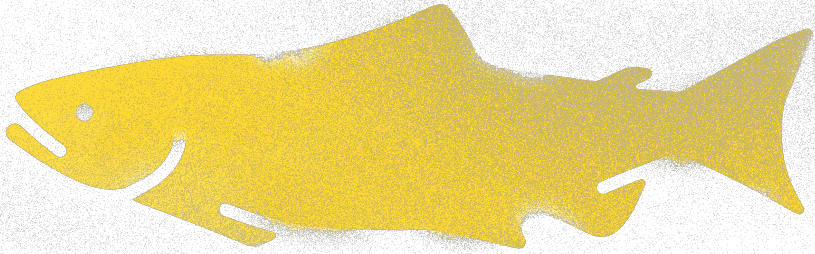


GREEN
SHORES

resilientcoasts.ca



PACIFIC SALMON
FOUNDATION



Kyla Sheehan

Pacific Salmon Foundation
Project Manager,
Resilient Coasts for Salmon
ksheehan@PSF.CA
www.resilientcoasts.ca

THANK YOU

Ben Skinner

Pacific Salmon Foundation
GIS Specialist,
Marine Science Program
bskinner@PSF.CA
www.sogdatacentre.ca



PACIFIC SALMON
FOUNDATION