

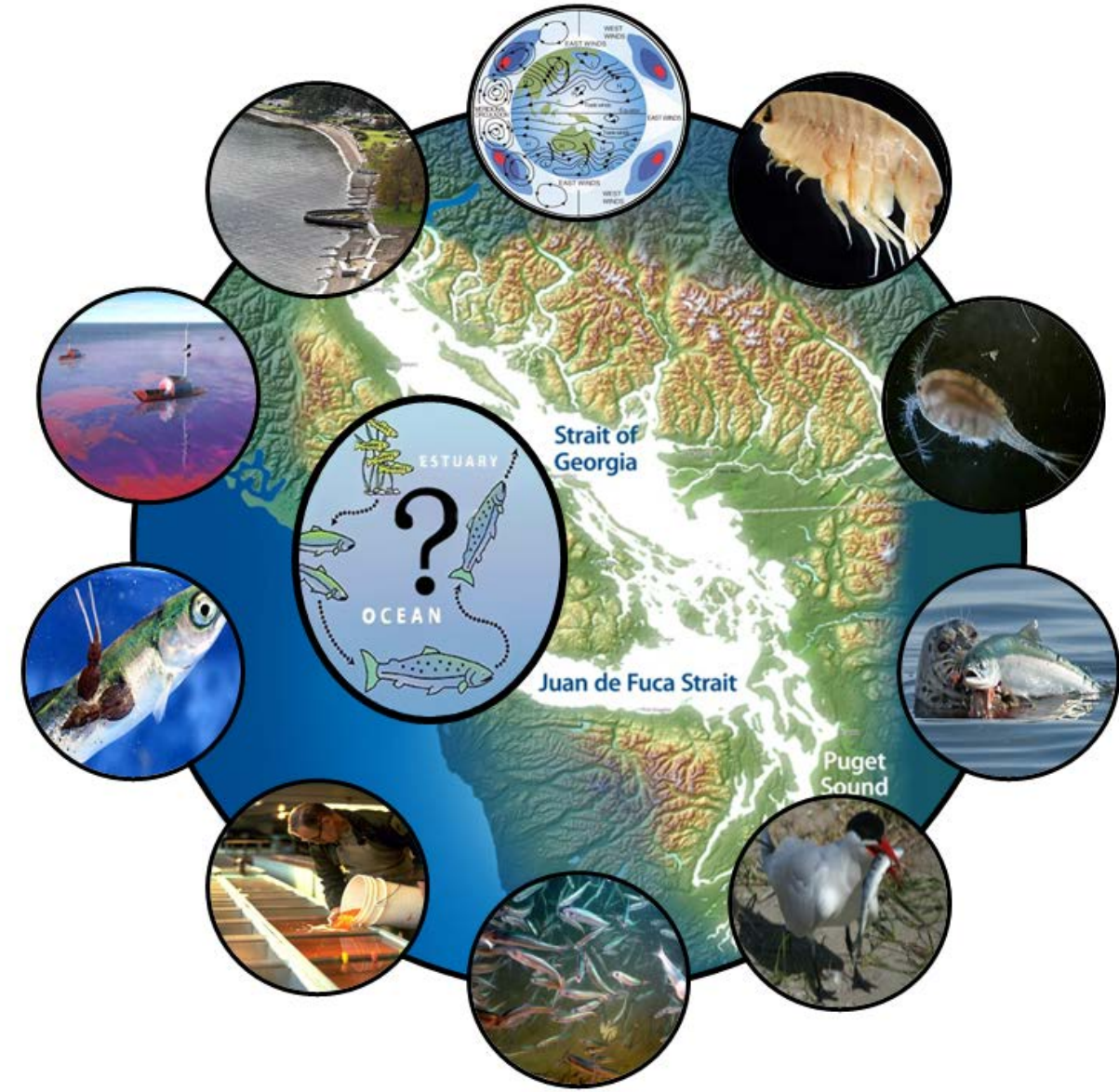
Monitoring of harmful algal blooms in the Strait of Georgia, Canada with a Citizen Science program 2015



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Strait of Georgia



marinesurvivalproject.com

Background

- Citizen science is defined as *“scientific work undertaken by members of the general public, often in collaboration with or under the direction of professional scientists and scientific institutions”* (Oxford English Dictionary)



Citizen Scientist Project - unique data on entire Strait of Georgia

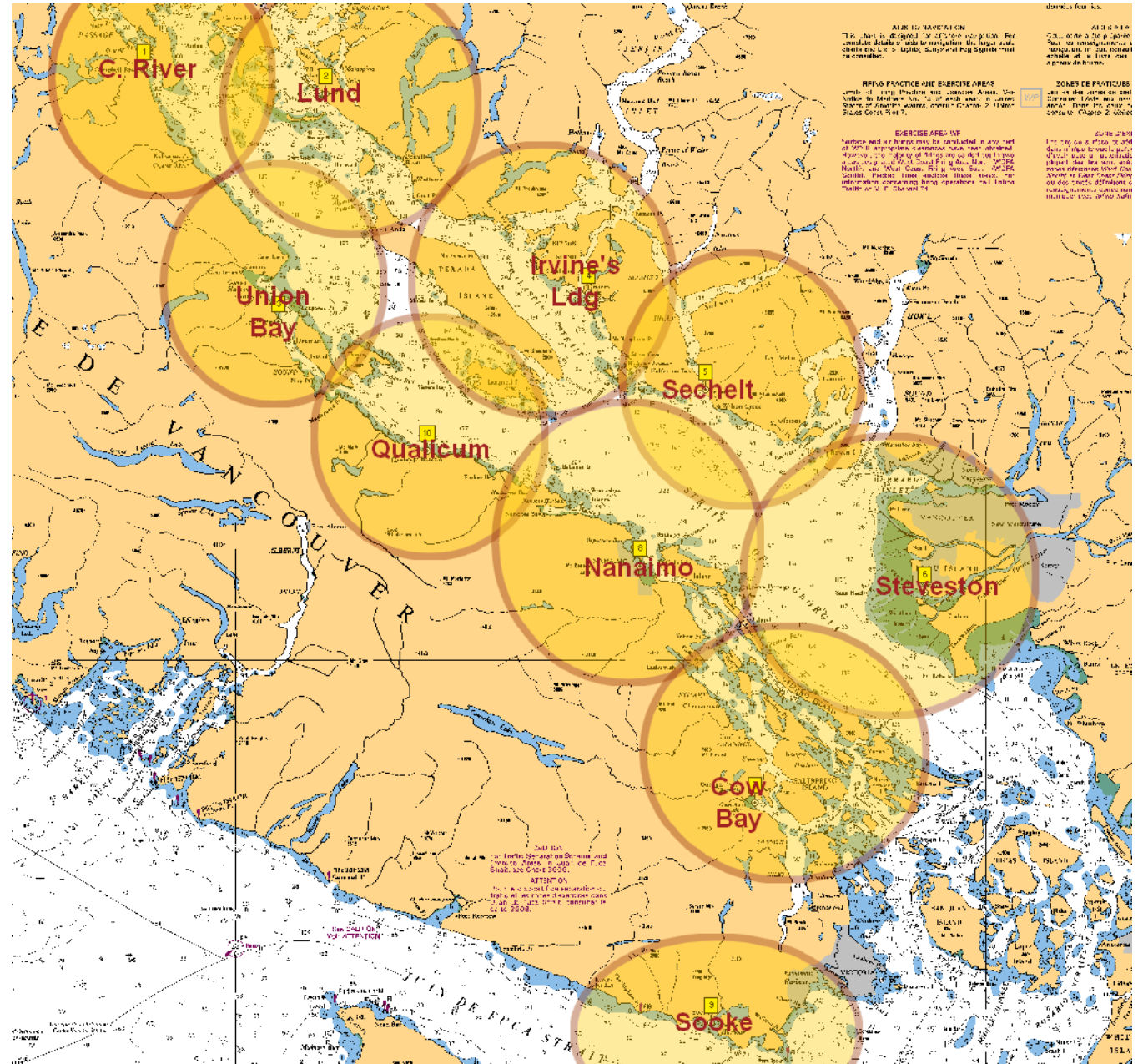
Video
~3 min

Citizen Science Project

<https://www.youtube.com/watch?v=bgdr2wkVhWk>

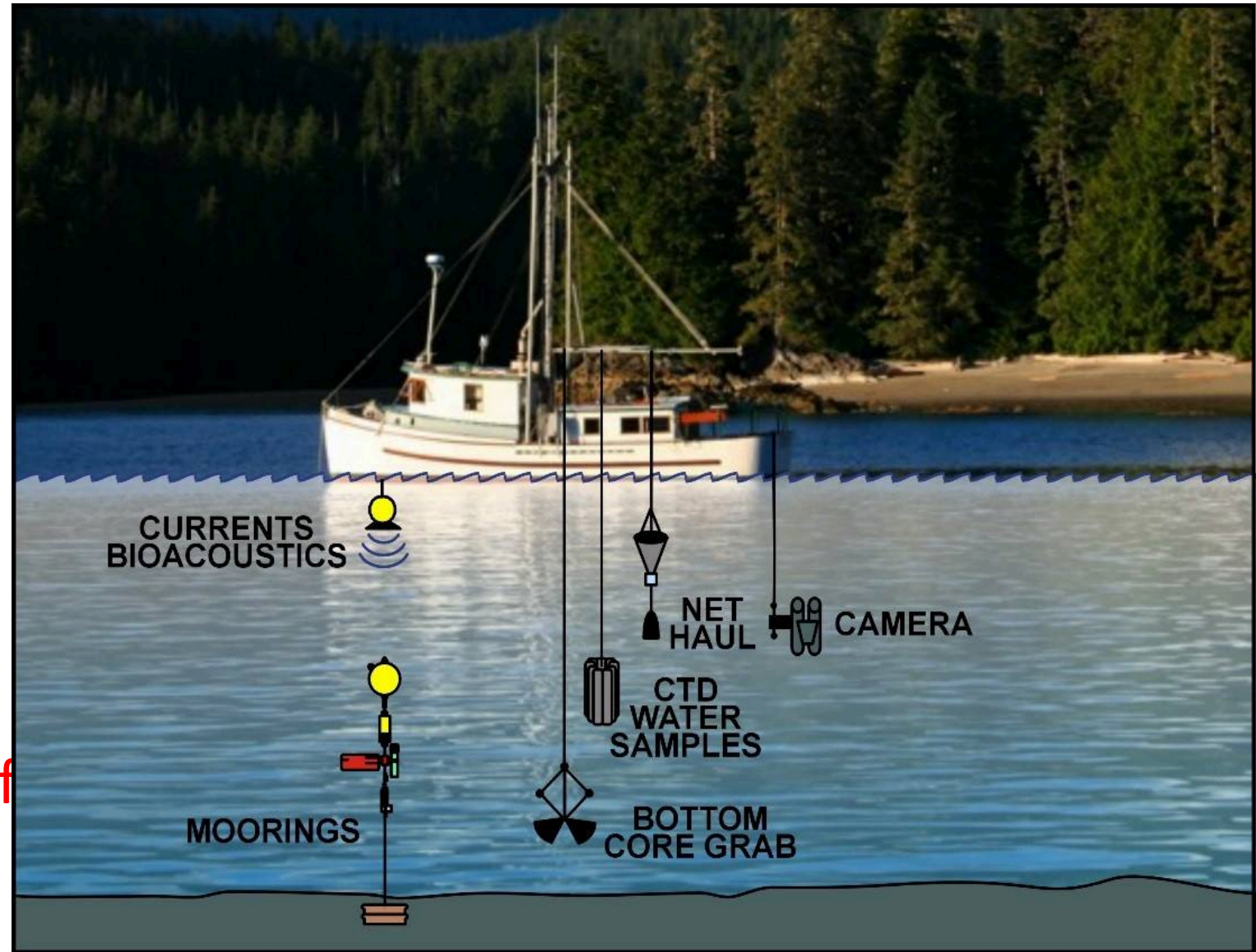
Sampling areas

- Citizen Scientists sample in: Victoria, Cowichan Bay, Nanaimo/Qualicum, Baynes Sound, Campbell River, Lund, Powell River, Irvine's/Sechelt, Steveston
- Sampling is done on the same day every 2-3 weeks between February and October



Sampling

- Properties/samples that are measured/collected are: conductivity, temperature, depth, dissolved nutrients, fluorescence, oxygen, zooplankton, phytoplankton, turbidity
- The majority of collected **data** can be found on the **Ocean Networks Canada** and **Strait of Georgia Data Centre** websites



Data – Ocean Networks Canada

HOME » DATA PREVIEW & SEARCH

The staff of Ocean Networks Canada have been working hard for the past year to improve access to [data tools on Oceans 2.0](#). First, an Oceans 2.0 account is no longer required to access many of the tools. Second, a new Data Preview application has been created to allow easy access to latest data across most locations in the Arctic, Pacific, and Atlantic observatories. We expect new users to find login-free access to latest data fun and easy to use. [Please give us your feedback!](#)

Ocean Networks Canada Data Preview

Sort by: Instruments by Location
Filter on: No Filter

Instruments by Location: Ocean Networks Canada - Pacific - Salish Sea - Strait of Georgia - East

OCEAN NETWORKS CANADA VENUS
Strait of Georgia East Node W/P at 100m: Temperature, Practical Salinity, Ooxygen and Sigma-T

Description: An in situ observatory in the Strait of Georgia, where the VENUS observatory

Data & Tools Section

- Highlights
- Products and Formats
- Data Quality
- Preview & Download
 - » Preview & Visualize
 - » Data Download Tools
 - » State of the Ocean
 - » Vertical Profiler Data
- Apps and Services
 - » Mobile Apps
 - » OPeNDAP Web Services
 - » Related Sources

www.oceannetworks.ca/

“Data preview and search” tab

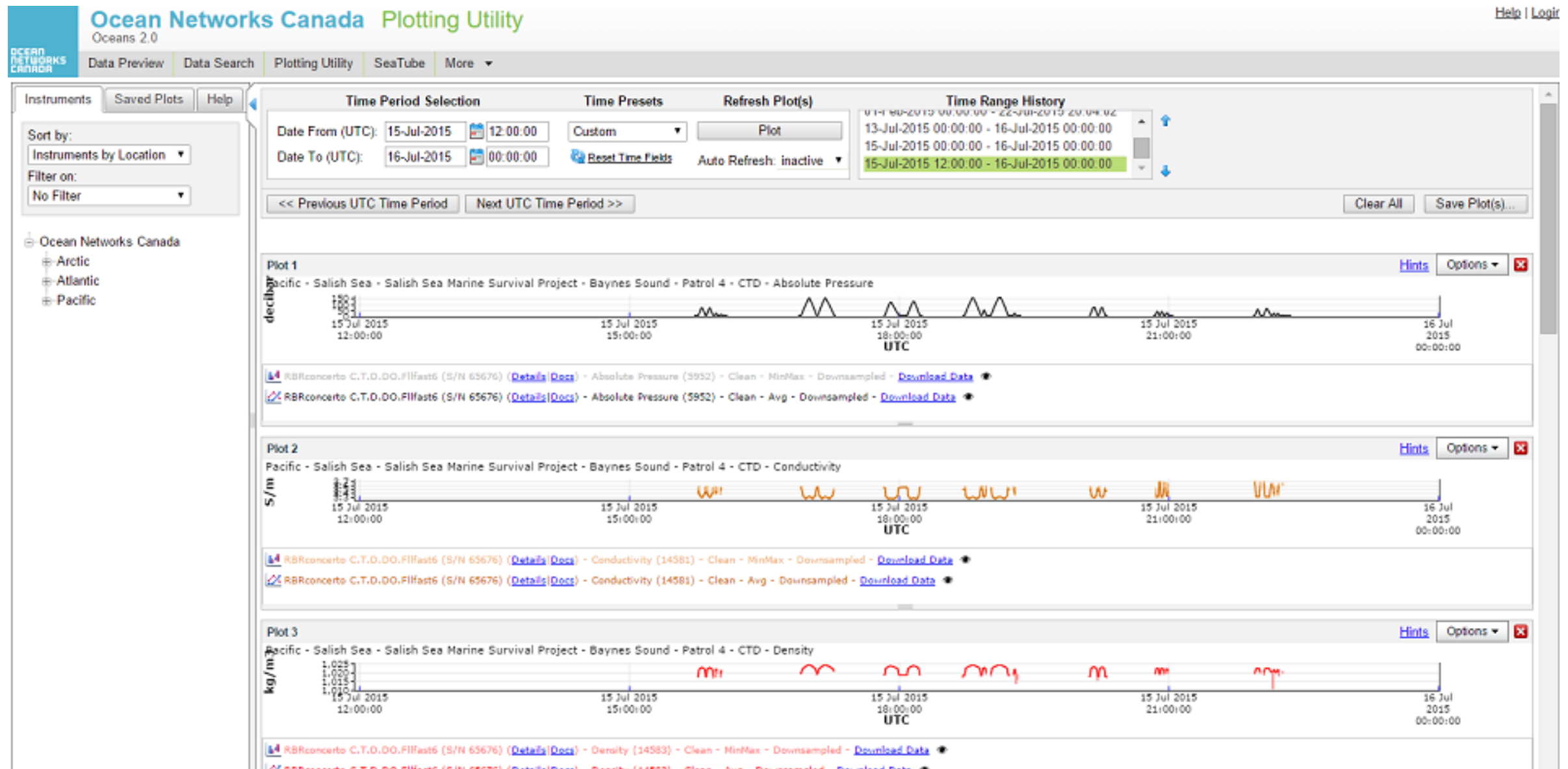
Register and log-in “Oceans 2.0”

Or

Contact Marlene Jeffries
(Data Manager)

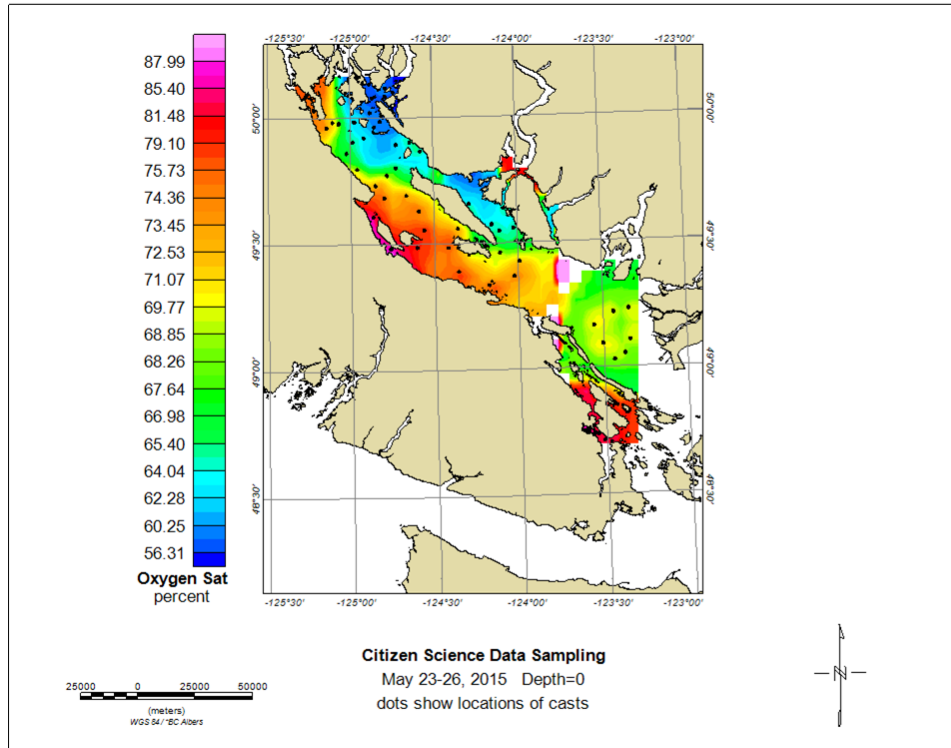
jeffries@uvic.ca

Sample of plotted data

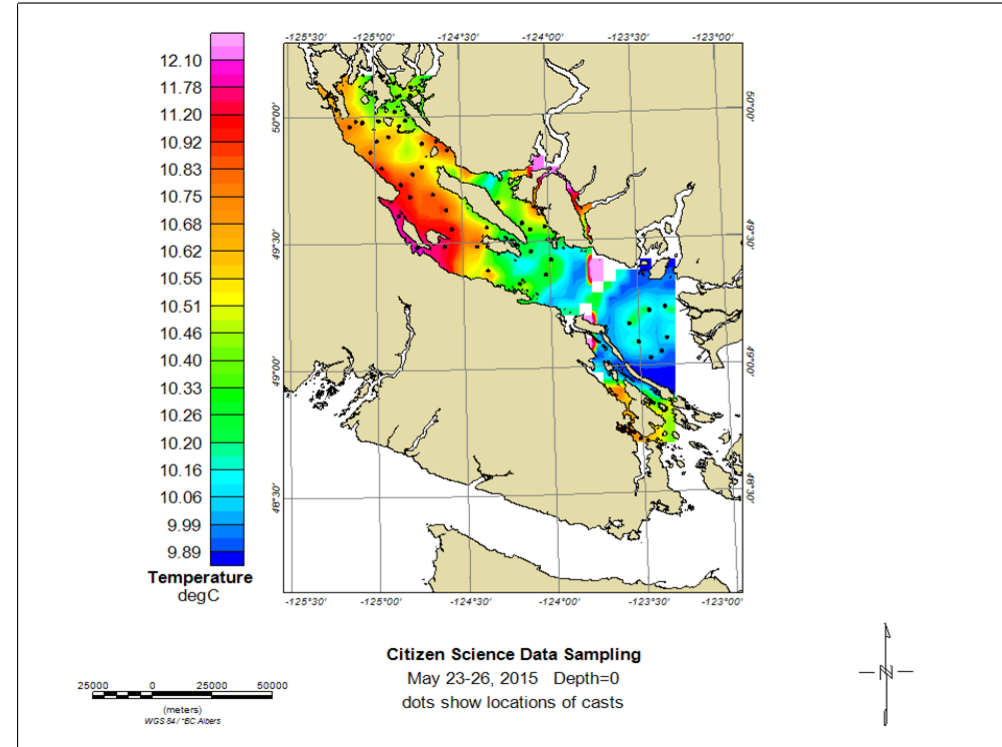


Strait of Georgia Data Centre www.sogdatacentre.ca

Dissolved Oxygen

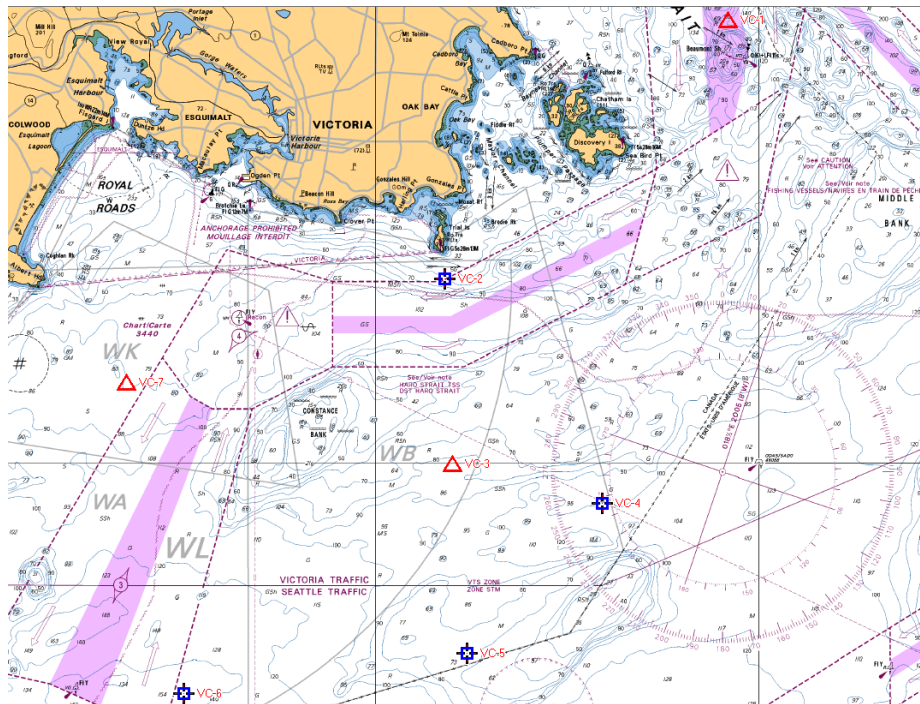


Temperature

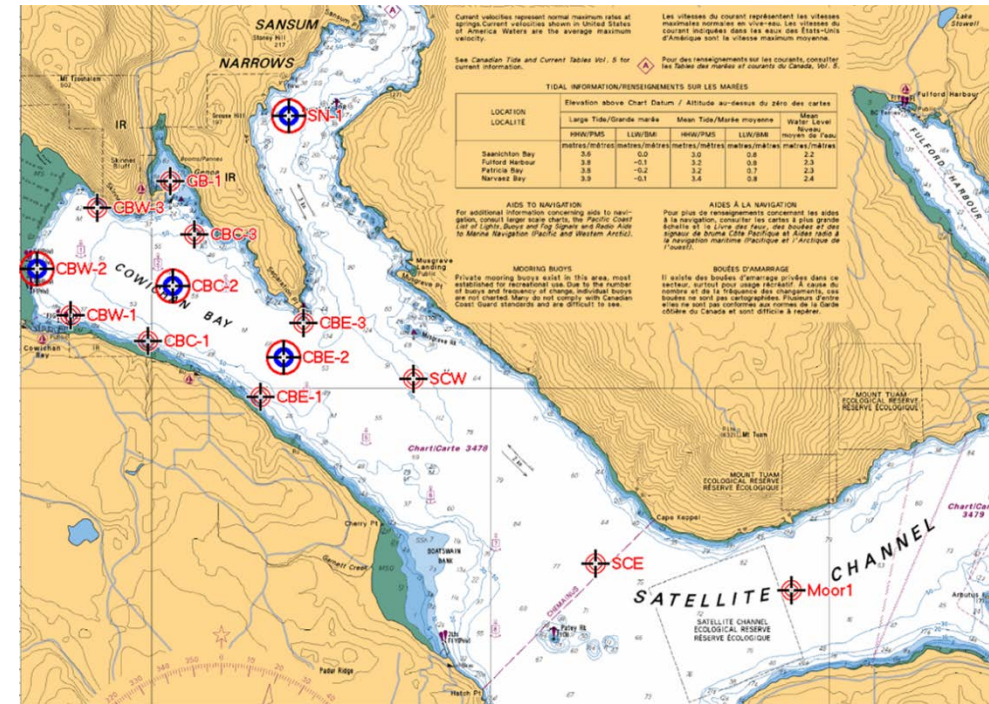


Phytoplankton sampling

- At each of 9 areas (Victoria, Cowichan Bay, Nanaimo/Qualicum, Baynes Sound, Campbell River, Lund, Powell River, Irvine's/Sechelt, Steveston) there are about 7 individual stations.



e.g. Victoria chart with sampling locations



e.g. Cowichan Bay chart with sampling locations

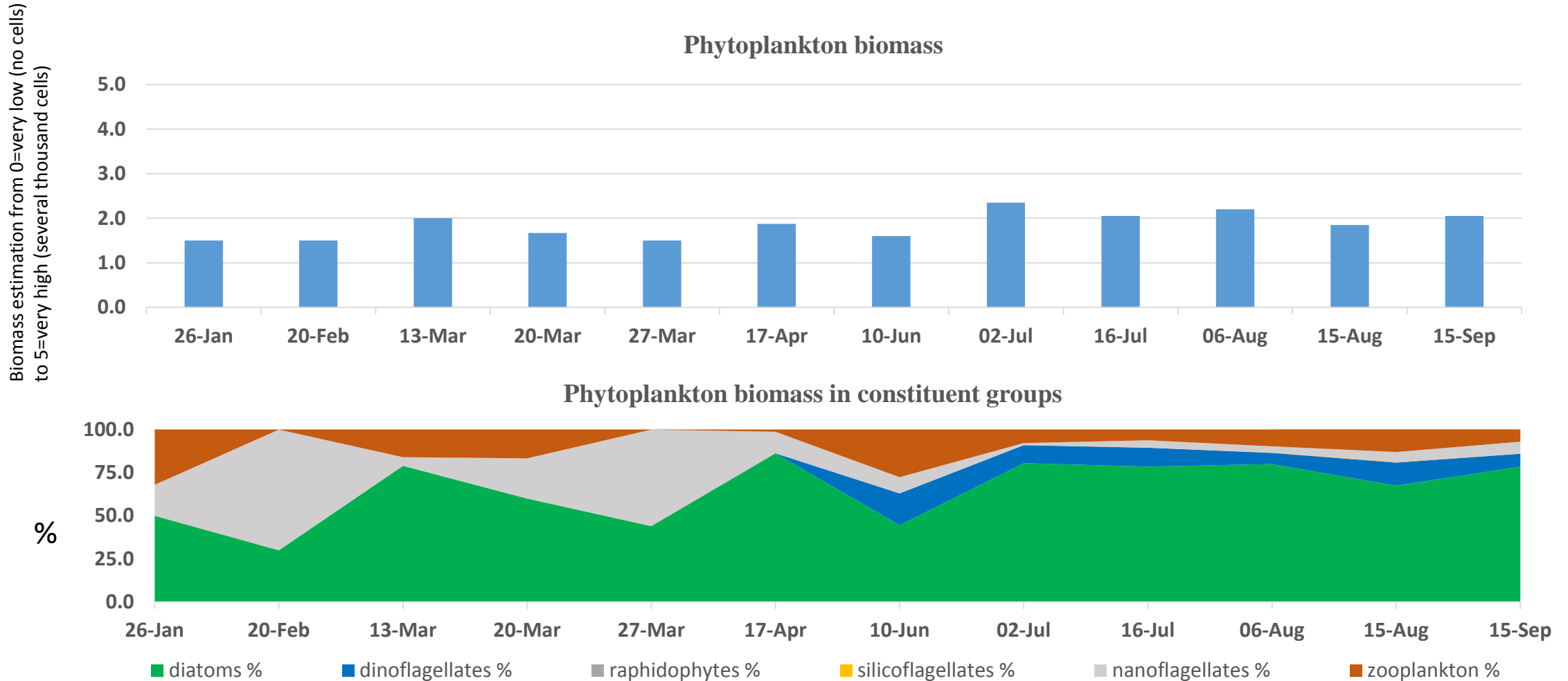
Phytoplankton sampling

- Most of the station sampling at the surface, 1 station at 0, 5, 10, 20 m
- Water preserved with Lugol's Iodine
- Processed under light microscope
- Biomass and constituent groups are estimated, dominant species & species known harmful to fish are enumerated
- To date 923 samples have been analyzed
- Several hundreds will be added by the end of the year



Data

- Example of phytoplankton data for Victoria area.



Biggest stories of 2015, Strait of Georgia

oceanography

- unusually warm sea surface temperatures
- warm winter, very little snow
- Early warm spring
- Very low Frazer River discharge

phytoplankton

- Unusually early spring bloom confirmed by both sample analysis and remote sensing
- No *Heterosigma* blooms were recorded throughout sampling period in the Strait
- Unusually long and persistent high concentrations of *Chaetoceros convolutus* and *C. concavicornis*

Stay in touch



Facebook page “**Phytoplankton - Citizen Science Program**” was created for informal communication between citizen scientists on the topics concerning phytoplankton in the Strait of Georgia

- Environmental data – Ocean Networks Canada <http://www.oceannetworks.ca/>
- Phytoplankton data – Coordinator of the Salish Sea Marine Survival Project: Isobel Pearsall pearsalli@shaw.ca
and/or Svetlana Esenkulova svesen@uvic.ca

Thank you