



Western Washington University  
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Salish Sea Ecosystem Conference

2018 Salish Sea Ecosystem Conference  
(Seattle, Wash.)

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Apr 6th, 1:45 PM - 2:00 PM

## Identifying areas of high conservation value in Howe Sound to strengthen regional marine spatial planning

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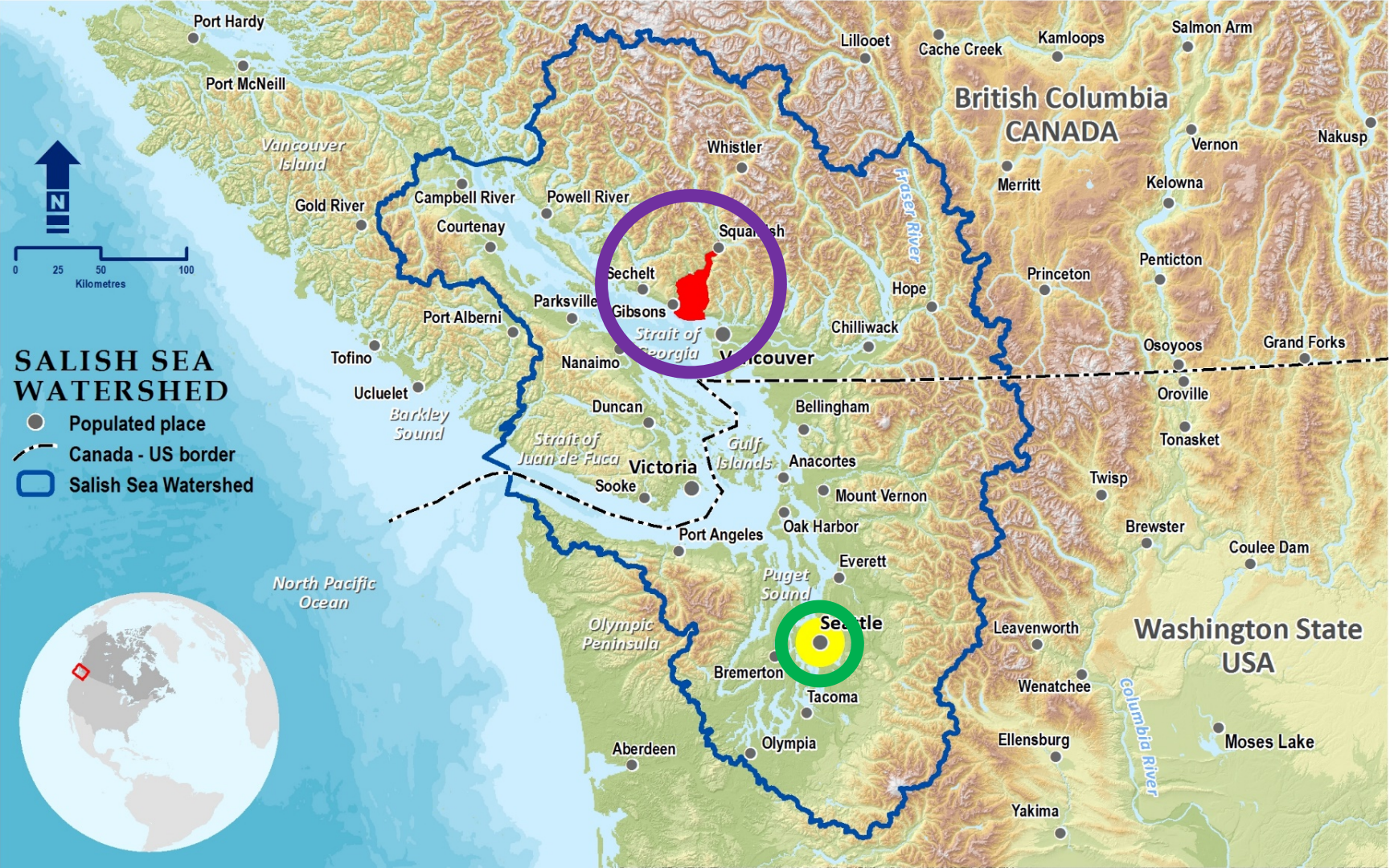
Beaty, Fiona; Schultz, Jessica; and Wareham, Bill, "Identifying areas of high conservation value in Howe Sound to strengthen regional marine spatial planning" (2018). *Salish Sea Ecosystem Conference*. 562. <https://cedar.wwu.edu/ssec/2018ssec/allsessions/562>

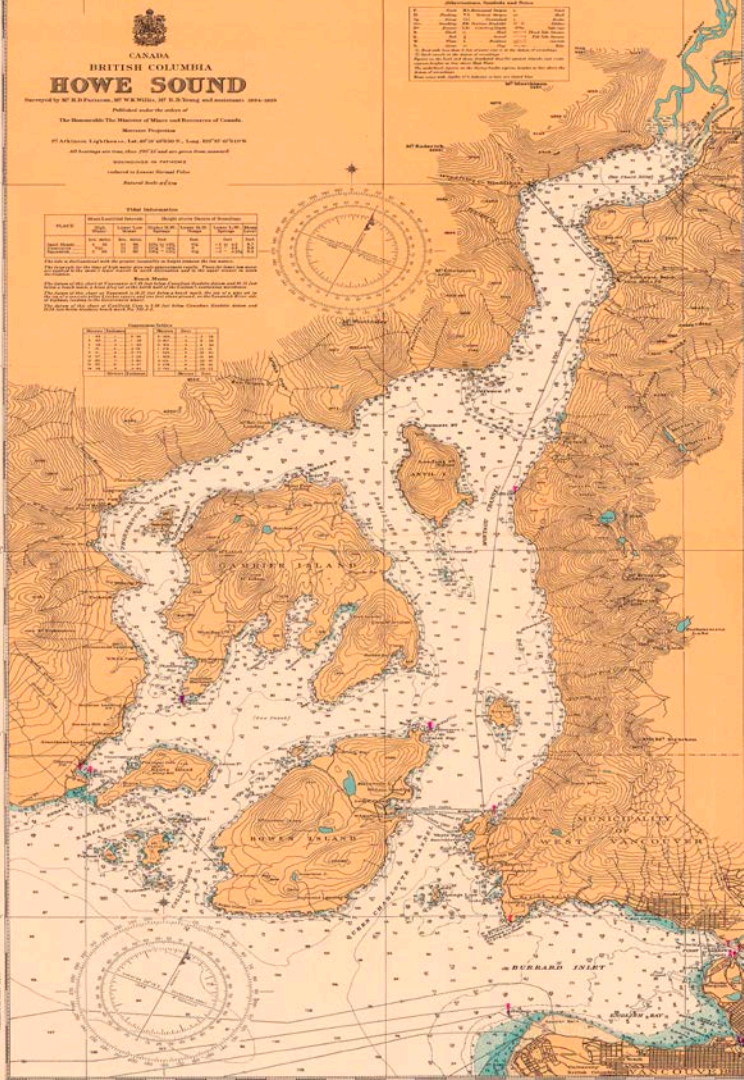
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# **Howe Sound/Atl'kitsem marine conservation assessment**

**Fiona Beaty, Ocean Wise  
Bill Wareham, David Suzuki Foundation**





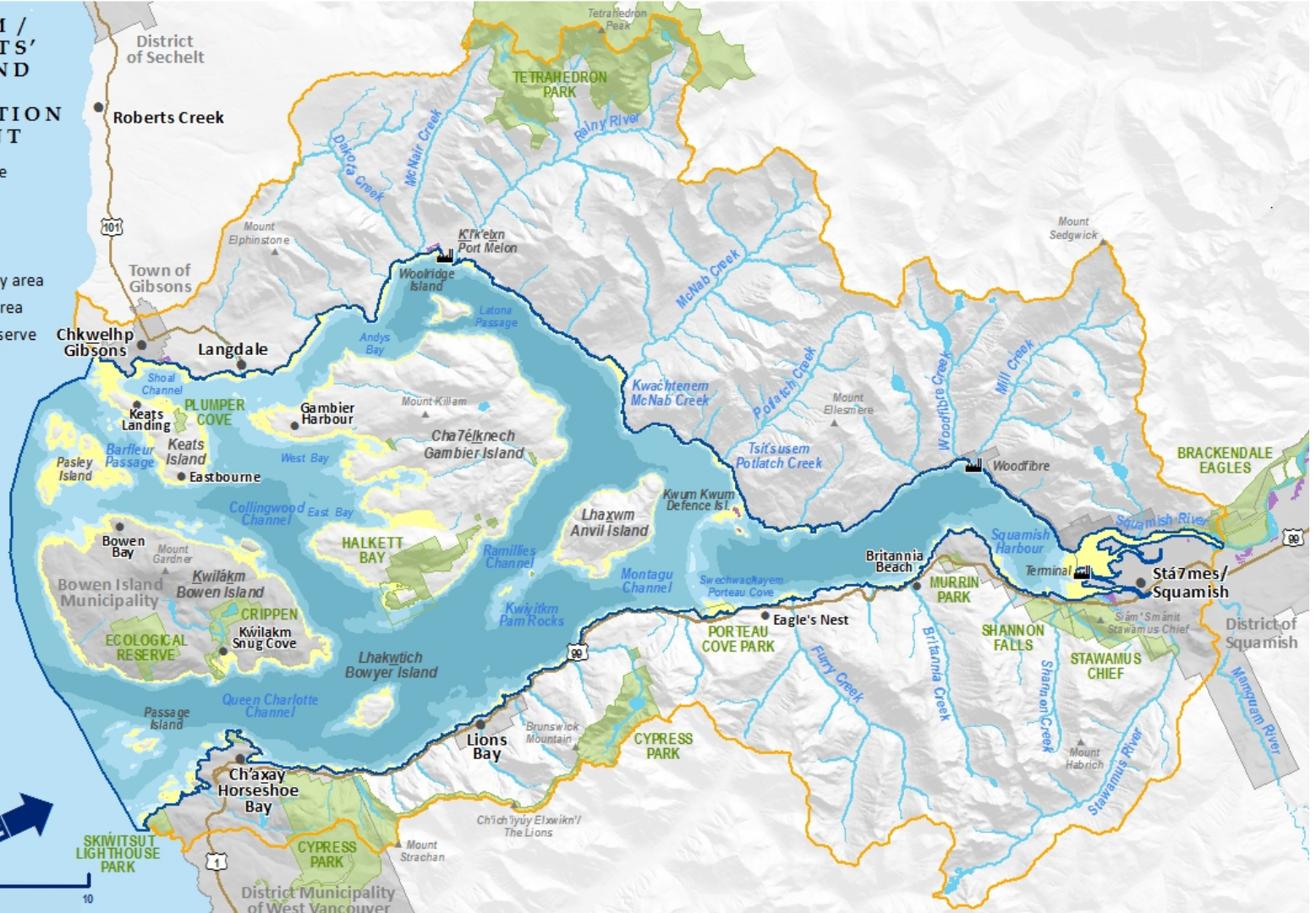
# Risks of coastal development



# ATL'KÍTSEM / TEXWNÉWETS' / HOWE SOUND MARINE CONSERVATION ASSESSMENT

- Populated place
- Industry
- Highway
- Watercourse
- ▭ Terrestrial study area
- ▭ Marine study area
- ▭ First Nation Reserve
- ▭ Municipality
- ▭ Park

- Depth zones (metre)
- 0 - 30
  - 30 - 50
  - 50 - 100
  - 100 - 200
  - >200



## Project Goal

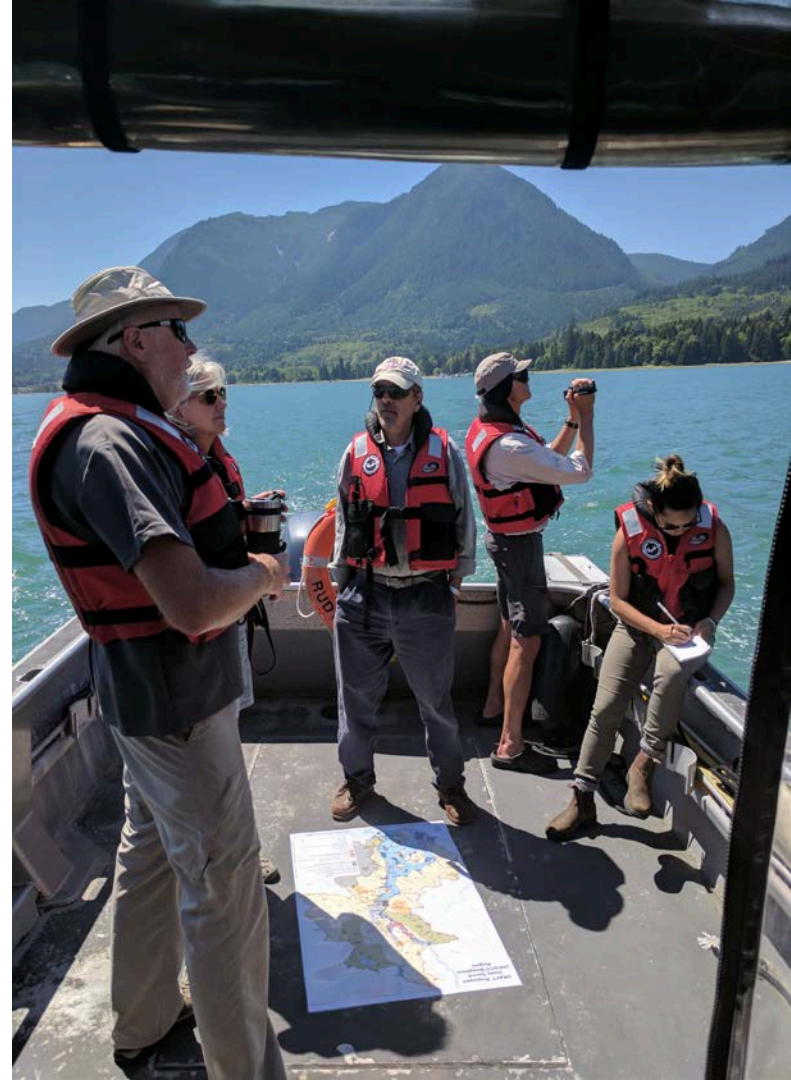
*Define a path for improving/maintaining the ecological health of the Howe Sound marine environment*

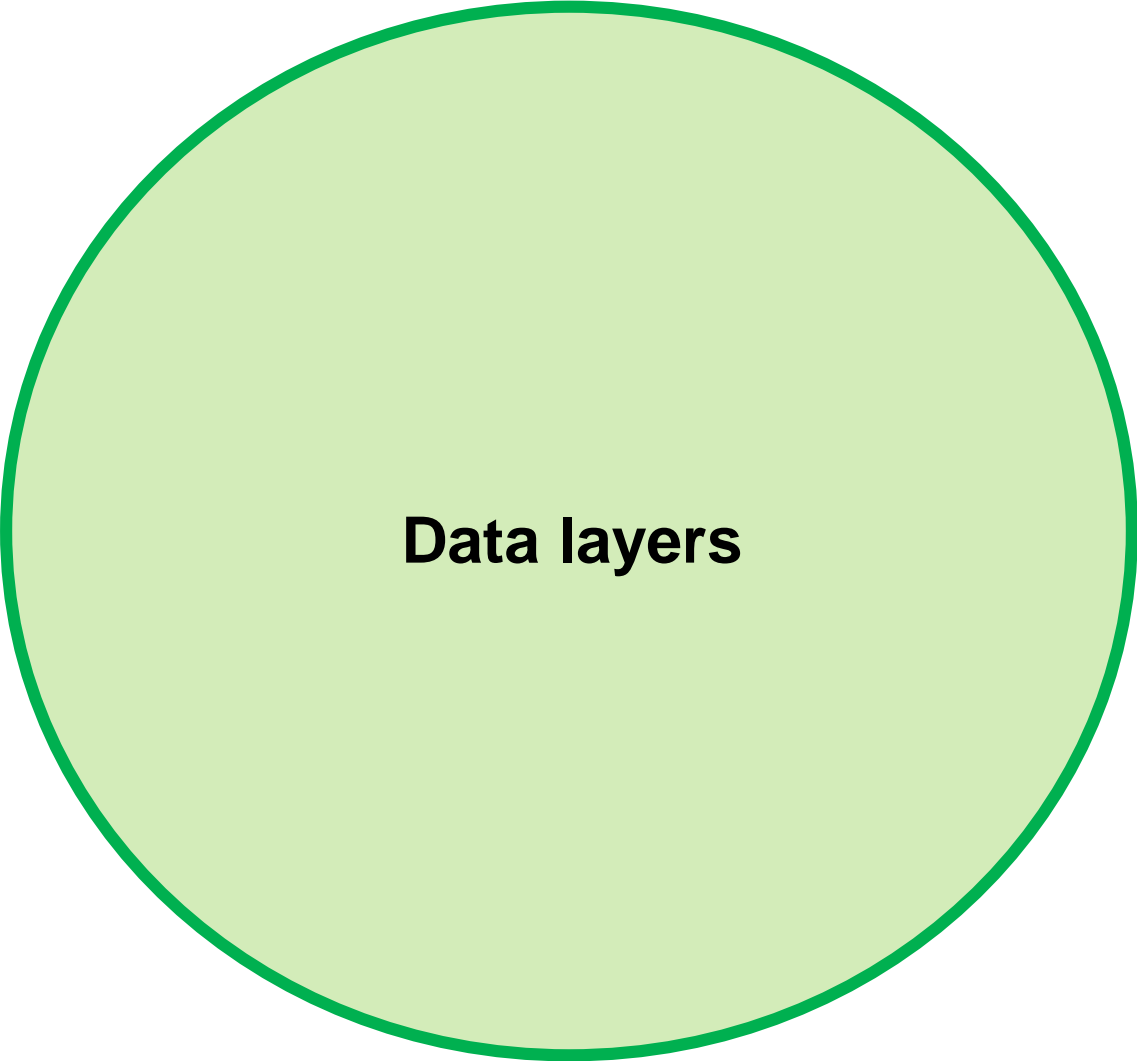
## Project Objectives:

- 1. Consolidate data for ecological/cultural values in Howe Sound.*
- 2. Identify areas of priority conservation needs and opportunities.*
- 3. Establish an online tool that catalyzes and guides conservation action.*

# Project Activities

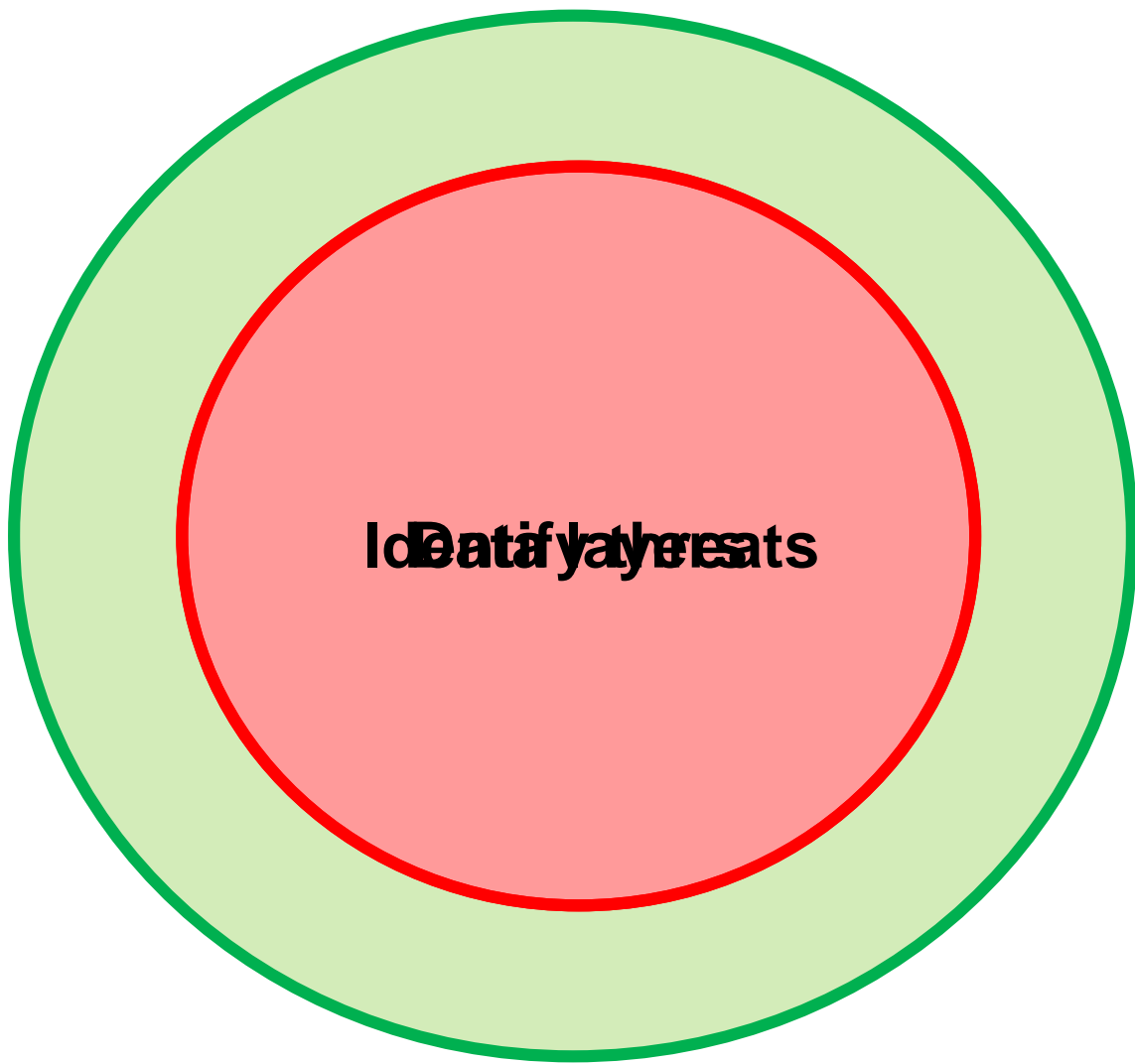
- Field trips, interviews
- Partner with Squamish First Nation to assess and document cultural data
- Science forum
- Collate data into spatial data layers
- Conduct conservation analysis (values/threats/priorities/designations)
- Produce an interactive online map



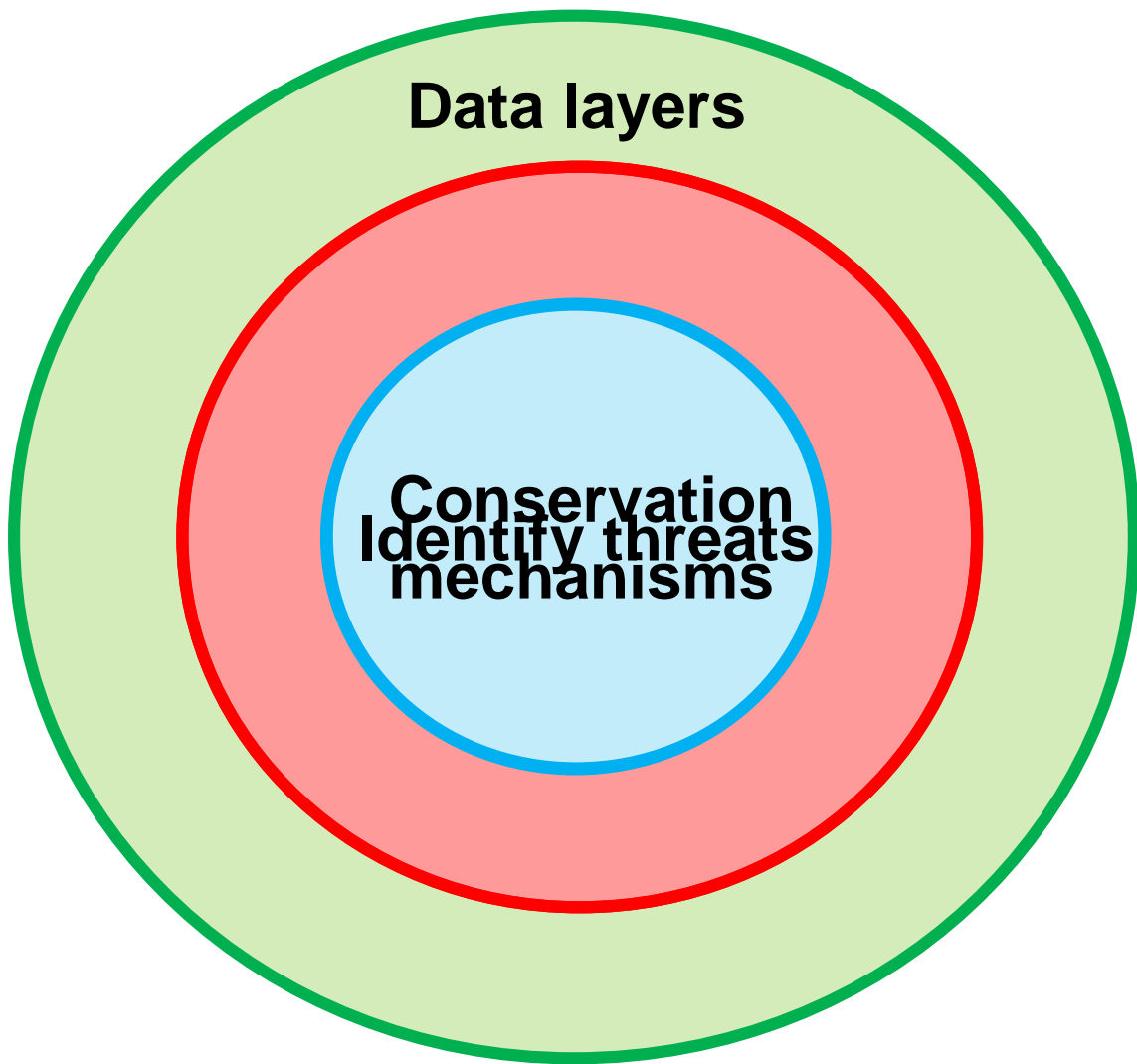


**Data layers**





**Identify threats**



**Data layers**

**Conservation  
Identify threats  
mechanisms**

# Spatial data layers

## **Ecological:**

- forage fish
- eelgrass
- glass sponge reefs
- bird colonies and distributions
- harbour seal haulouts
- clam beds
- herring spawning sites
- critical habitat for fish and invert sp.
- marine mammals

## **Physical:**

- shoreline classifications
- watershed rivers and streams
- bathymetry
- coastal vulnerability and shoreline sensitivity
- geological periods of rocks

## **Human-use:**

- diving spots and ship wrecks
- ferry terminals
- anchorage & moorings, docks
- industrial centres
- recreational fishing areas
- forestry tenures and log storage
- crown tenures (residential, industrial, commercial, environment)
- municipalities
- land use zoning and bylaws (including marine conservation, park, and recreation zones)

## **Area designations:**

- focal areas
- existing protected areas (RCAs, Provincial parks, fisheries closures)
- protected land areas (nature reserves)

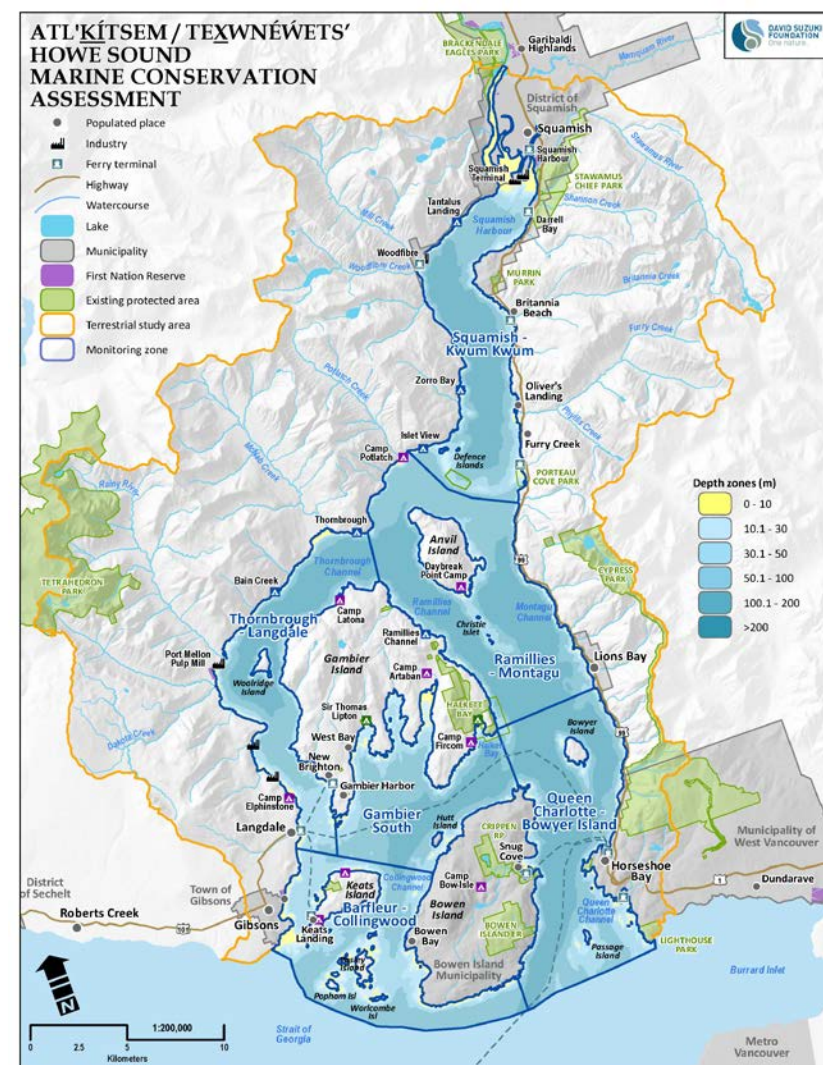
# Field trips and interviews

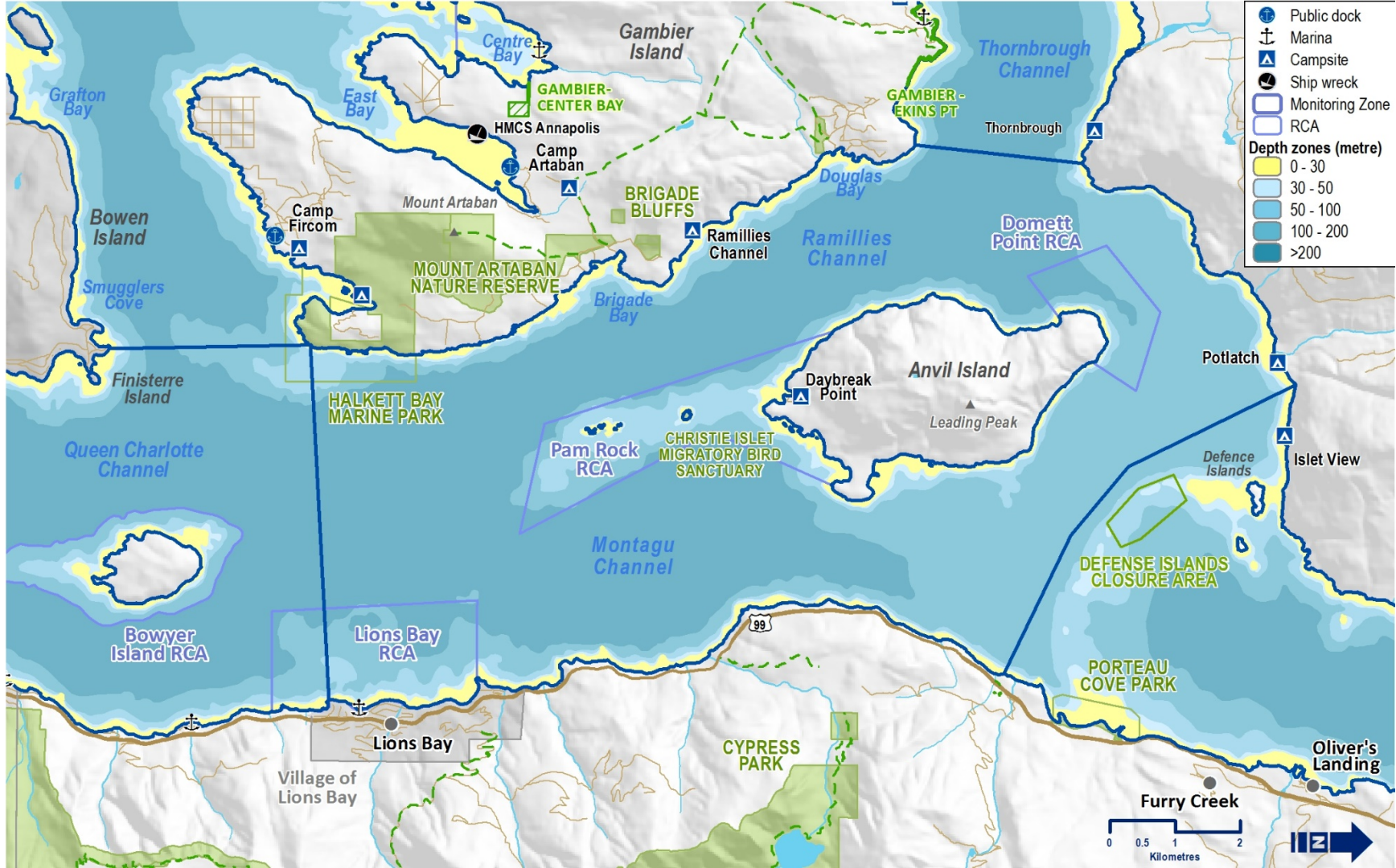
## Goal:

Identify diversity of values associated with Howe Sound's marine environment (ecological, cultural, social, economic, historical, conservation)

## Outcome:















Integrated discussions about marine habitat use, protection, and restoration









-  Ferry terminal
-  Marina
-  Recreation anchorage
-  Recreation camp
-  Boat launch
-  Bathymetry contour (m)
-  Focus area
-  Protected area
-  Rockfish conservation areas
-  Herring spawning site
-  Forage fish
-  Eelgrass
-  Clam bed
-  First Nation Reserve

# Our conservation assessment process

1. Identify diversity of values associated with Howe Sound's marine environment
  - a) Ecological
  - b) Economic
  - c) Cultural
  - d) Social
2. Map data associated with diversity of values
  - a) Existing spatial data
  - b) Local ecological knowledge
  - c) Traditional ecological knowledge
  - d) Other (non-spatial data etc.)





# Our conservation assessment process

## 3. Review, define, identify

- a) Threats and areas of conflict
- b) Priority areas
- c) Priority activities
- d) Integrated assessment

Climate change

Absence of collaborative planning

Unprotected sensitive habitats

Pollution and contamination

Unmanaged population growth

Unawareness of best practices

Limited monitoring and enforcement



# Our conservation assessment process

4. Recommend appropriate management activities

a) Legal tools

b) Stewardship

c) Protection

d) Multi-stakeholder roundtables

5. Motivate Stakeholders to Implement recommendations



Photo credit: Marcin Chady

# Integration with Howe Sound initiatives

**June 2015**  
Howe Sound  
Knowledge  
Holder's Workshop

**June 2017**  
Howe Sound  
Marine Conservation  
Assessment

**April 2018**  
Howe Sound Marine  
Reference Guide

**2018?**  
Squamish Marine  
Use plan

**February 2017**  
Ocean Watch Report  
Howe Sound Edition

**July 2017**  
Ocean Watch  
Task Force

**April 2018**  
Regional stakeholder  
conservation initiatives

# Acknowledgements



**DAVID SUZUKI  
FOUNDATION**  
One nature.



**COASTAL OCEAN  
RESEARCH INSTITUTE**  
AN OCEAN WISE INITIATIVE

GORDON AND BETTY  
**MOORE**  
FOUNDATION



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