Is natural recovery occurring at historic log storage sites in Howe Sound?

Herb Herunter  
*Fisheries and Oceans Canada, Canada,* herb.herunter@dfo-mpo.gc.ca

Steve Macdonald  
*Fisheries and Oceans Canada, Canada,* steve.macdonald@dfo-mpo.gc.ca

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Herb Herunter, Terri Sutherland, and Steve Macdonald

Fisheries & Oceans Canada
Center for Aquaculture & Environmental Research
4160 Marine Drive, West Vancouver, BC V7V 1N6
herb.herunter@dfo-mpo.gc.ca
Government of Canada

Salish Sea Ecosystem Conference
Seattle, April 4-6, 2018
Log Handling Areas

- Log dumps
- Boom assembly areas
- Boom storage
Wide spread on the BC coast
• over 940 LHA leases
• ~9000 hectares of coastal nearshore

Log Handling and Storage Tenures of BC
-from BCMCA atlas
Howe Sound Industrial History

- Britannia Copper Mine (1900-1974)
  - largest copper mine in British Empire
- Squamish chlor-alkali plant (1965-1991)
- Port Mellon pulp mill 1909-present
- Woodfibre pulp mill (1912-2006)
  - Liquefied Natural Gas proposal
- Logging since the 1880s
- Gambier Island log storage since 1940s
Gambier Island 1987

Active storage sites
- Halkett
- Port Graves
- Center Bay
- West Bay
- Mariners Rest
Gambier Island 2016

Active storage sites
- Mariners Rest

Cessation of use
- Halkett 1987
- West Bay 1984
- Center Bay 1998
- Port Graves 2006
Gambier Island Preliminary Study Sites

Reference
- Halkett Dock
- Smugglers Cove

Years since cessation
- Halkett (30Y)
- Tug Boat Bay (20Y)
- Port Graves (12Y)

Active
- Mariners Rest (0Y)

Q1: is wood debris present?
Q2: are there measurable gradients?
Methods

**Drop camera**
- Wood waste cover
- Epifauna

**Sonar**
- Sidescan
  - Debris presence
  - Sea floor rugosity
- Knudsen Pinger
  - Debris layer depth

**Benthic Grab**
- Grain size & % wood
- Organic Carbon
- Oxidation-Reduction Potential
- Sulfides
- Carbon-Nitrogen ratios
- Infauna
Smugglers Cove Ref

Tug Boat Bay 20Y

Port Graves 12Y

Mariners Rest 0Y

Sidescan Sonar
Q1: is wood debris present? √
Q2: are there measurable gradients?
Wood Debris
Size Fraction

>19mm

9.5-19mm

2.36-9.5mm

Reference
Halkett 30y fallow
Mariners Rest (0Y)
Preliminary Conclusions
Q1: is wood debris present? ✓
Q2: are there measurable gradients? ✓

Future sampling will include:
• Replicates and increased geographic and temporal scope
• Pore water quality
• Epifauna/Infauna
• Low frequency sonar
Thank you

Acknowledgements
Brian Hendriks
Steve Healy
Erik Olson
Sheila Thornton