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Bull Kelp Restoration Project at Hornby Island, BC, Canada

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Bull Kelp Restoration Project, Hornby Island, BC

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Acknowledgements

• Project of Nile Creek Enhancement Society <nilecreek.org>

• Canadian Kelp Resources Ltd., Island Scallops Ltd., VIU Deep Bay Marine Station, Vancouver Aquarium, Conservancy Hornby Island

• Amanda and Rob Zielinski, Hornby Island Diving

• Kayt Chambers (Project Co-ordinator)

• Pacific Salmon Foundation (financial support 2011-2013)

• Puget Sound Restoration Fund (support to attend SSEC)

• Fisheries and Oceans Canada
Study area

Hornby Island, British Columbia, Canada

Denman Island
Hornby Island
Maude Reef
Wild kelp bed

eastern Vancouver Island
Kelp restoration

Bull kelp has been in decline in many areas, including central Strait of Georgia.

We are trying to learn:

• What is happening with local wild kelp populations (south Denman Island)? [Monitoring & mapping]

• How best to grow kelp ‘artificially’? [Culture & monitor]

• Can cultivated kelp reproduce and become self-sustaining? (And perhaps recolonize parts of the former habitat with some help?)
Growing kelp

- The system we are using to grow kelp is based on the system used by Dr. Louis Druehl of Canadian Kelp Resources Ltd.

- We designed and built a submerged grid structure (30m x 45m) at Maude Reef, Hornby Island (site of former kelp bed).

- Our intention is that the structure is strong enough to support mature kelp plants, can be used for multiple years, and is removable when the project is complete.
Growing kelp
Kelp restoration
Growing kelp

- Sori are collected from wild kelp

- They are taken to Canadian Kelp Resources where they are grown through the gametophyte stage

- New sporophytes are grown on fine string that is wound onto a short piece of pipe
Growing kelp

- The string is taken to the planting site and wound onto the culture rope that is attached to the grid.
- Then we hope for the best!
- We monitor by SCUBA each 2 months at the grid and at the Denman kelp bed.
Temperature and Light Intensity

2 sites (S. Denman Island and Maude Reef, Hornby I.)
2 depths (Bottom at 20’ below MLW; and at MLW)
Onset HOBO data loggers for Temperature (C) and Light Intensity (Lux)
15 minute sampling interval
Checked and cleaned every 2 months
Downloaded at end of Fall for analysis
Temperature and Light Intensity at Mid-water and Bottom depths at Maude Reef Kelp Grid, April 2013

Sampling events at 15 minute intervals with Hobo data loggers at bottom and 20 ft above
Combined Temperature and Light Data at Maude Reef for May 1-14, 2013

Sample intervals at 15 min from May 1 to May 14, 2013
New growth in 2014 on the culture grid
Next steps

- The Pacific Salmon Foundation has been a major source of our funding to date, but we were unsuccessful in a recent application for continued support. Continued effort is now all by volunteers.

- **CURRENT GOALS**
  - Monitor grid for 2014 growing season at Maude Reef;
  - Monitor at wild kelp bed (S. Denman I.);
  - Transplant trial, moving some mature plants to the grid
  - Develop a project summary document to share with other groups who are interested in kelp restoration
  - Fund-raising efforts for future work
Next steps

• It is encouraging that in the past two years the wild kelp in the central Strait of Georgia did better than it has in several years.
Thank you!

• QUESTIONS?