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Reefs for rockfish: A collaborative approach to monitor populations and increase awareness in Howe Sound.

Amanda Weltman

Ocean Wise Conservation Association, amanda.weltman@ocean.org

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SCAN ME

Reefs for Rockfish: A Collaborative Approach to Monitor Populations and Increase Awareness in Howe Sound



Amanda Weltman Ocean Wise Research Institute, Ocean Wise®, Vancouver, British Columbia

Background

- Rockfish *Sebastes sp.* populations in Howe Sound, British Columbia reached historic lows in the 1990s due to overfishing, illegal poaching and habitat loss
- In 2007, Rockfish Conservation Areas were established in B.C., yet populations have not fully rebounded
- Artificial reefs are one conservation tool that can increase biodiversity and habitat availability for rockfish
- Incorporating art into reef design can enhance people's connection to nature and rockfish conservation

Project Objectives

1. Will rockfish use sculptures as habitat?
2. Are some reef designs more effective as rockfish habitat than others?
3. Is art an effective tool to connect people to nature?

Methods

- Ocean Wise collaborated with Kwantlen Polytechnic University and the University of British Columbia to design sculptures that incorporated rockfish habitat qualities
- We made two artificial reefs with the sculptures: Porteau Cove in July 2019 and Reef 2 in February 2020
- Divers do ongoing biodiversity surveys to determine the location and abundance of all species on each reef
- We engage the community with the reefs through in-person talks, social media, YouTube and public signage

Preliminary Results

- 9 sculptures were successfully created and installed at our two reef sites as new potential rockfish habitat
- Since July 2019, divers found 27 species from 8 phylum at the Porteau Cove reef. 7 were fish species, but no rockfish have been sighted yet
- Biodiversity monitoring is ongoing at Porteau Cove by Ocean Wise and citizen science divers. Surveys are planned to start in late 2020 at Reef 2



Figure 4: Four of the nine sculptures used to create the artistic artificial reefs.



Figure 1: Map of Howe Sound, B.C. and the two artificial reef general locations shown as red squares. Image provided by Google Maps.



Figure 2: A diver conducting a biodiversity survey on the Porteau Cove reef.

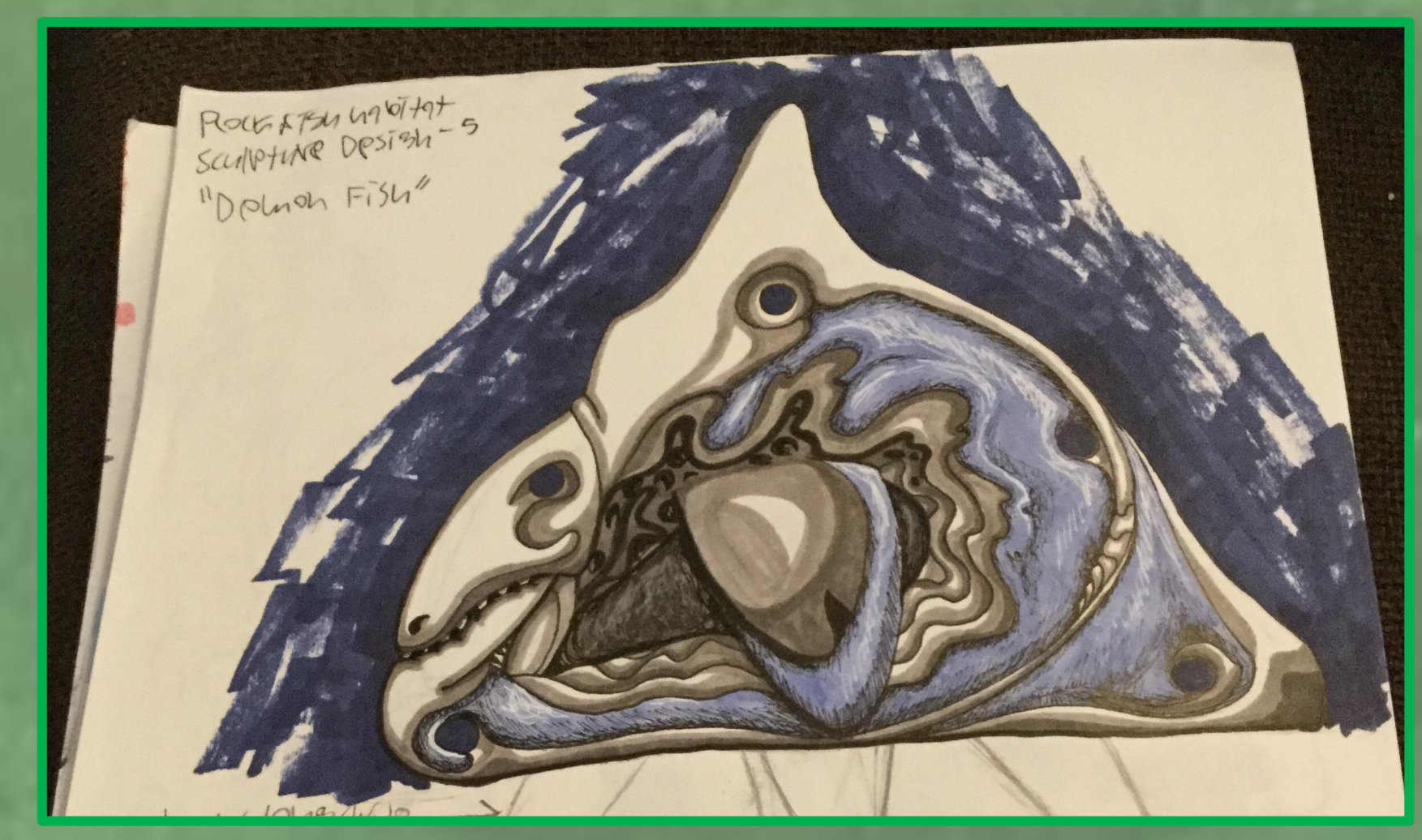


Figure 3: A preliminary art design for a sculpture seen in Figure 4.

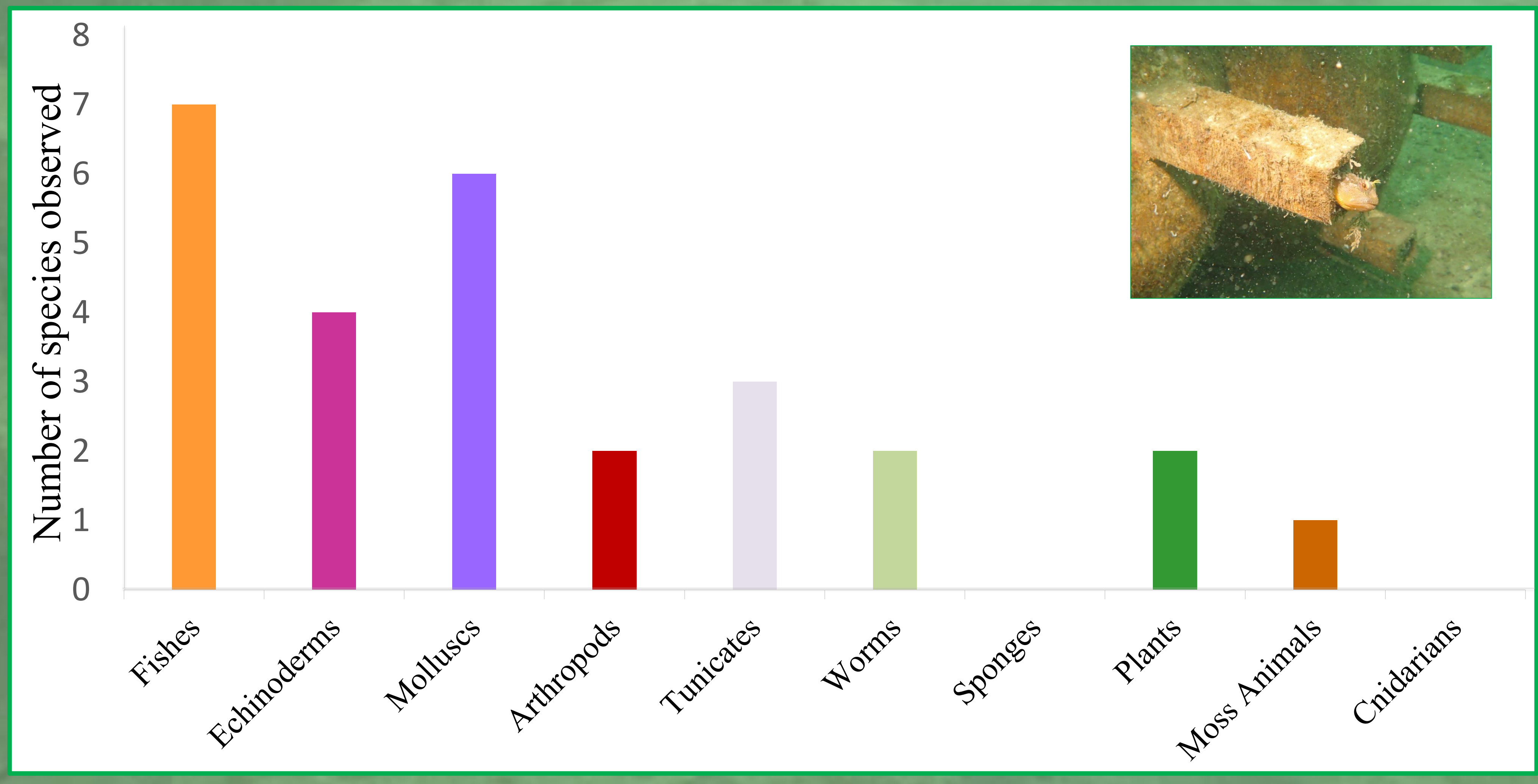


Figure 5: The abundance of species observed at Porteau Cove from July 2019 – February 2020. Photo inset: A sculpin found inside a sculpture in 2019.

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