

Brigade Reef RCA Project Outline – February 2018

Purpose and objective:

We aim to extend the designated Rockfish Conservation Area boundary at Pam Rocks to include Brigade Reef (Fig 1). This reef is rich with biodiversity and critical habitat for rockfish and other rocky reef species, therefore protecting it will improve marine ecosystem health and advance marine habitat protection in Howe Sound.

Project strategy and plan:

We will use a combination of citizen science, community outreach, and stakeholder engagement to achieve our project purpose. Our strategies include: a.) gathering fish count and reef biodiversity data at Brigade Reef and the Lions Bay RCA; b.) gathering data on illegal fishing activity at Brigade Reef; c.) building strong co-management relationships among local communities, First Nations, and governments; and d.) reducing threats and negative impacts to the area's marine health (i.e. improve signage and awareness of illegal fishing activity).

Our project will occur over three years:

Phase 1: Project planning (September 2017 – February 2018)

- *Activities:* Present to Underwater Council of British Columbia (UCBC) to achieve support. Present to DFO to solicit feedback and acknowledgement of our activities. Arrange dive teams from UBC, SFU, and dive groups and companies throughout Vancouver. Train divers for rockfish identification and data collection protocols using Vancouver Aquarium and Hakai institute expertise.
- *Outputs:* Project plan, data collection sheets
- *Status:* Complete

Phase 2: Data collection and analysis (April 2018 – September 2019)

- *Activities:* Collect fish count and reef biodiversity surveys for Brigade Reef and Lions Bay RCA. Prepare report that analyzes and compares the data from the unprotected and protected areas. Host discussions with the local communities on reef biodiversity, values and threats associated with the marine environment, and best practices associated with fish conservation. Set up on-shore cameras to gather data on illegal fishing activity using the Galiano Conservancy Association's experience and expertise.
- *Outputs:* Education session with Brigade Bay community; report detailing status of reef biodiversity at Brigade Reef and Lions Bay, as well as fishing activity at Brigade Reef.
- *Status:* In preparation

Phase 3: October 2019 – March 2020

- *Activities:* Present report to DFO. Review and integrate feedback into final version.
- *Outputs:* Improvement of marine environmental health and protection in Howe Sound.
- *Status:* Not started.

History:

Howe Sound is an ecologically rich marine area that sits directly adjacent to the growing metropolis of Vancouver. As such, it is representative of many parts of the world, where development pressures are running headlong into ecological integrity. One of the critical manifestations of this conflict of interests is that of sustainable fishing and fish species survival and persistence. Howe Sound/Area 28 is closed to rockfish and lingcod fishing due to a drastic reduction in the abundance of these fishes in the late twentieth century that was caused by overfishing. In addition to this regional closure, there are currently nine RCAs in Howe Sound that are closed to hook-and-line fishing (Fig 2). Despite these designations, illegal fishing and poaching persists in Howe Sound due to a lack of awareness and enforcement of the protection. Accordingly, over the past decade several groups in Howe Sound, including the Underwater Council of British Columbia, Vancouver Aquarium, and Marine Life Sanctuaries Society, have conducted a series of education, outreach, and research efforts to investigate into the status and conservation of these valued species. The current project is one such of these initiatives, and will focus on Brigade Reef, as this area fulfills criteria for attaining protection: it is adjacent to a protected area, rich in marine biodiversity, accessible to diving, already has a mooring buoy in place, and located next to a community that is receptive to marine conservation efforts (Brigade Bay). Achieving a protected status will raise the profile of Rockfish Conservation Areas in Howe Sound, bolster support and awareness of conservation activities, and improve the survival of these critical and vulnerable marine species.

Key personnel:

- Fiona Beaty, UBC, project lead
- Glen Dennison, UBC, UCBC, Subsea Society of Howe Sound (SSHS), project oversight
- Luran Liggan, UBC & Hakai Institute, data collection
- Jessica Schultz, Ocean Wise, data collection
- Adam Taylor, UCBC, dive team leader and project oversight
- Rahim Kaba, UBC Aquasoc dive team leader
- Ivand Romagosa, Ocean Quest dive team leader

Project budget:

<i>Quantity</i>	<i>Details</i>	<i>Source</i>
\$300	3 * \$100/boat trip (gasoline)	Underwater Council of British Columbia

Figures:



Figure 1. The red arrow points to Brigade Reef in Howe Sound.

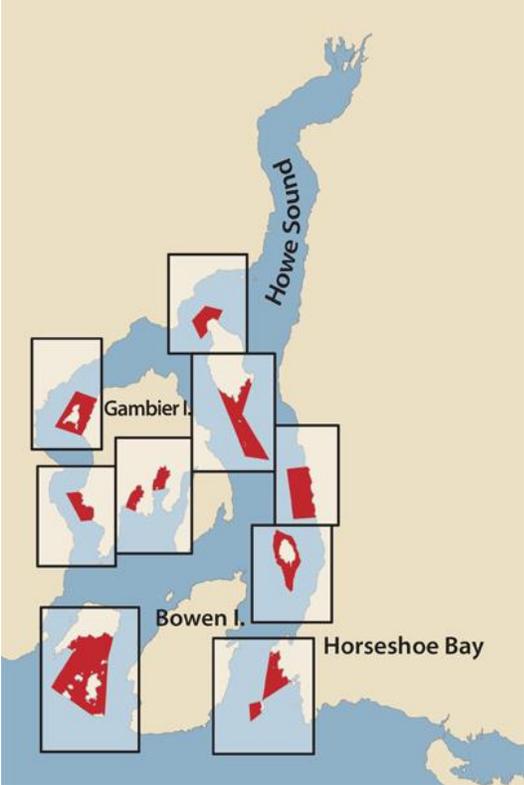


Figure 2. The nine RCAs currently designated in Howe Sound by DFO.