

# Observations of Deep Coral and Sponge Assemblages in Olympic Coast National Marine Sanctuary, Washington

## Cruise Report: NOAA Ship *McARTHUR II* Cruise AR06-07/07

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### REVIEWERS AND AFFILIATIONS

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### REVIEWER COMMENTS (IN NO PARTICULAR ORDER)

#### Reviewer 1 of 3:

1. This paper represents a good assessment of the subject described in the title. It exhibits original and novel observations and research. The text is carefully written and the illustrations are informative. My specific comments are minor.
  2. Page 2 (3<sup>rd</sup> paragraph), Page 16 (3<sup>rd</sup> line), Page 36 (figure caption), Page 37 (3<sup>rd</sup> line): *Lophogorgia* is a junior synonym of *Leptogorgia*, therefore *Leptogorgia chilensis* is correct, and *Lophogorgia chilensis* is incorrect). Change *Lophogorgia* to *Leptogorgia* throughout the text.
  3. Page 44 (References), add: Cairns, S. and G. Williams. 2005. North Pacific Octocorallia (Hokkaido through Alaska). Octocoral Research Center Website, <http://www.calacademy.org/research/izg/AlaskanOctocorals.htm>. This reference should be cited in the text.
  4. Page 27 (caption); What is meant by *S beringi* (variant *S. borealis*)? Should it read: *S beringi* ssp. *borealis*?
  5. There seem to be an inordinate number of figures featuring *Paragorgia* in comparison to representations of other taxa. Is this necessary?
  6. Table on page 18: perhaps *Various species* should be used in place of *spp*, and *Undetermined species* should replace *sp*.
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### **Reviewer 2 of 3:**

The report is a good description of the cruise, the results and the analysis completed. I offer the following comments.

Page 9 - In the discussion of untrawlable strata there is a statement that “untrawlable areas are avoided for scientific trawling but not necessarily by commercial trawling.” The discussion should include the description of the standard scientific and commercial trawl gear. For example, most bottom trawling currently permitted by federal regulation requires small footrope roller gear designed to avoid the substrate described in this paragraph.

On both pages 9 and 10 there are references to areas being open to tribal fishers only. A brief description of how regulations for tribal fishing in adjudicated fishing areas are developed and how the regulations may differ from non-tribal regulations would be helpful.

On page 40, the report states that: “We observed corals and sponges supporting diverse assemblages of invertebrates and fish.” The word supporting suggests more than can be determined from the limited observations during the cruise about the relationship between coral and the diverse assemblages of invertebrates and fish observed. A better choice would be associated with as used later in the paragraph.

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### **Reviewer 3 of 3:**

This is a well-written, concise, and superbly illustrated account of a two week ROV cruise in, and adjacent to, the Olympic Coast National Marine Sanctuary. The authors methodically explain how the hard substrate sites were chosen and the results of previous exploratory cruises in the region. They fully map the region, showing the entire region, the side scanned areas, and finally the 15 station that were investigated. They appear to have followed Etnoyer et al. (2005) for the proper procedure for collecting and preserving corals. They photographed the specimens before collecting as well as on board; they collected data pertaining to temperature, current speed, and dissolved oxygen. In my opinion, they did an excellent job in obtaining identifications from various taxonomic experts, which is often not an easy task. They discussed and illustrated each site individually, noting its physical and biotic components. Finally, they included a short section of evidence of Man (pollution) and associations between fish and invertebrates.

I have rarely seen such a thorough cruise report, unless it was published as a book or an historic document. I commend the authors on an interesting and cohesive report. My following constructive criticism is minor: *Lophogorgia chilensis* should be *Leptogorgia chilensis* (Verrill, 1868), as the genus *Lophogorgia* is no more. They refer to *Lophelia* as forming reefs on page 37 but forming lithoherms on page 38. I think the latter word is better, as a reef implies a shallow-water structure. Finally, it would be nice to have a complete station list providing latitude, longitude, depth, etc. for all 15 stations as an appendix.