

DISCUSSION

The best overall predictors of biotic groups identified in this project were used to generate this CMECS (Madden and others, 2009) biotope map. However, the nature of the biological data gathered in this study makes it difficult to define clear biotopes. It was difficult to see or identify many organisms in the video, with an average of only 3-4 taxa per sampling unit. It was hard to characterize biotic assemblages. Some biological clusters of taxa were identified statistically (table 2, in accompanying pamphlet), and some of these groupings were found at consistent depths and (or) with predictable substrates. Taxa notably more common included barnacles, all types of algae (green, brown, red, and Lamnarians), scallops, and urchins. Taxa seen to the south but notably less common in this map area were ceratahd anemones, ratfish, the scudlar *Medusaria* sp., the anemone *Metridium* sp., and flatfish and rockfish. The maps are not fine-grained enough to capture the physical variation seen within one-minute video units. Our biological data suggest that to some degree these combinations of physical parameters correspond to biotopes; in other words, that there is some level of predictability about the associations of plants and animals that will be found with different combinations of geological and oceanographic parameters. Depth zones in the biotope map are based on previous analysis by Dethier (1993). The maps would be improved if data on water chemistry (salinity) and energy (currents) could be included. To really define biotopes, however, it is likely that a collection method capable of also capturing smaller and infaunal biota is needed. Much of the diversity of subtidal organisms in Puget Sound consists of small organisms living in the sediment, so that video observations capturing primarily large and colorful taxa are limited in their ability to quantify the elements really needed to map the biotic communities and relate them to physical features. The groupings in the Admiralty Inlet map area did not bear any resemblance to groupings to the south. Given that the substrate in the Admiralty Inlet map area were quite different from the southern areas, this differentiation is not surprising.

Characteristic taxa for all the identified biotic groups are shown in the pamphlet (table 2, in accompanying pamphlet). Group C is characterized by Bivalvia, Rhodophyta, Zosteraceae, and Chlorophyta. Group D is characterized by Hydrozoa, Lamnaria, Rhodophyta, Phaeophyta, and Chlorophyta. Group E is characterized by Rhodophyta, Hydrozoa, encrusting, and Lamnaria. Group F is characterized by Hydrozoa, bony fish, and Subellifera. Group G is characterized by Hydrozoa, Corals, and Peccinidae. Group H is characterized by Balanus, Rhodophyta, Porifera, and Pycnospodia. Group I is characterized by Hydrozoa, Pilosouca, Balanus, and Hydrozoa. Group J is characterized by Balanus, tubeworm, Hydrozoa, red urchins, and Hetericia.

REFERENCES CITED

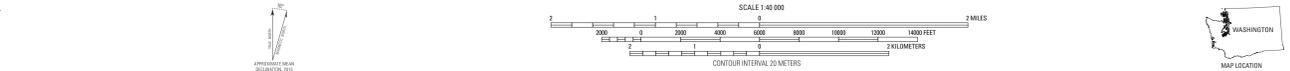
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EXPLANATION

- UNKNOWN GRAIN SIZE UNCONSOLIDATED SEDIMENT**
- 0 to 14 meters depth, no biotic groups.
  - 15 to 24 meters depth, no biotic groups.
  - 25 to 49 meters depth, no biotic groups.
  - 50 to 149 meters depth, no biotic groups.
  - Over 149 meters depth, no biotic groups.
- FINE UNCONSOLIDATED SEDIMENT**
- 0 to 14 meters depth, biotic group D.
  - 15 to 24 meters depth, biotic groups C and D.
  - 25 to 49 meters depth, no biotic groups.
  - 50 to 149 meters depth, no biotic groups.
- COARSE UNCONSOLIDATED SEDIMENT**
- 0 to 14 meters depth, biotic group E.
  - 15 to 24 meters depth, biotic group E.
  - 25 to 49 meters depth, biotic groups E and J.
  - 50 to 149 meters depth, biotic groups G, H, I and J.
  - Over 150 meters depth, no biotic groups.

Offshore shaded relief bathymetry from NOAA's National Ocean Service. Onshore elevation data from Puget Sound Lidar Consortium. Onshore imagery from NAZSL's Landsat 7. Universal Transverse Mercator projection, Zone 10N. NOT INTENDED FOR NAVIGATIONAL USE



Biotope mapped by G.R. Cochran, 2012. Bathymetric contours and bathymetry from NOAA NOS hydrographic surveys. Topographic DEM by D. P. Finlayson, 2005. GIS database and digital cartography by G. R. Cochran, 2013. Manuscript approved for publication April 13, 2015.

CMECS Biotope Component Map of the Admiralty Inlet Map Area, Washington

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