ABUNDANT OR RARE? A HYBRID APPROACH FOR DETERMINING SPECIES RELATIVE ABUNDANCE AT AN ECOREGOIONAL SCALE

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Everyone knows what abundant and rare species are, but quantifying the concept proves elusive. As part of an EPA/USGS project to assess near-coastal species vulnerability to climate change affects, we designed a hybrid approach to determine species relative abundance at an ecoregional scale as defined by the Marine Ecoregions of the World (MEOW). Over the continuum from absent to very abundant, many different phrases have been used to describe abundance. To resolve this conundrum, we developed a hierarchical abundance schema, with three levels of detail. We then developed guidance for interpreting natural history text in terms of relative abundance within a habitat and across the entire ecoregion. Recognizing that not all data are created equal, we combined as many sources as possible including quantitative data, qualitative data, expert opinion, frequency of occurrence in online biodiversity databases, and known spatial distribution using a weighted approach to identify a species' abundance relative to other species in the same taxon/guild within the ecoregion. A key factor in assigning the relative abundance at the ecoregional scale is not only the species' abundance within a particular habitat but the area of the habitat; species very abundant in a limited habitat may be rare at the ecoregion scale. Details of this methodology, results of applying it to the 74 rockfish (*Sebastes spp.)* and 388 brachyuran and lithodid crabs in the 12 ecoregions from the Beaufort Sea to the Gulf of California, and the web based Coastal Biological Risk Analysis Tool (CBRAT) will be presented.