
Scant Emphasis on Marine Biodiversity

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Since the terms "conservation biology" and "biological diversity" first appeared in print (Lovejoy 1980; Norse & McManus 1980; Soulé & Wilcox 1980), marine biological diversity has attracted far less conservation priority than it merits. This is a serious oversight. Estuaries, coastal waters, and oceans have high, probably unequaled, taxonomic and ecosystem diversity. For example, the phylum Cycliophora (Funch & Kristensen 1995) is only the most recently discovered of 16 animal phyla known only from the sea; at the fundamental level of higher taxa, the sea is far more diverse than Earth's other realms. The sea offers unique insights for conservation biologists. Biologists have scarcely begun to document marine invertebrate neofunctions (Carlton 1993); better knowledge would be valuable because this group has the best-documented paleoextinction record (Heywood 1995). Like the land, the sea is experiencing unprecedented threats from overexploitation, physical alteration, pollution, alien species, and global atmospheric change (Butman & Carlton 1994; Norse 1993), and prospects for stemming biodiversity loss depend on what scientists can tell policy makers and the public.

To quantify coverage of marine biodiversity in our science's literature, we scrutinized all issues of *Conservation Biology* from vol. 1 (1) through vol. 9 (5), and Meffe and Carroll's (1994) highly regarded textbook. We examined all papers in the journal's editorial, essays, notes, comments, review, contributed papers and diversity sections and used individual pages of text, excluding literature cited and index, as the units of measurement in the textbook. We categorized papers and pages as marine, freshwater, or terrestrial if any of these realms constituted $\geq 90\%$ of the unit of measure. We categorized papers or pages as general if they did not mention any of the realms or devoted $>10\%$ of their space to each of two or more realms.

Of the 742 papers in *Conservation Biology*, 37 (5%) are marine, 69 (9%) are freshwater, 496 (67%) are terrestrial, and the rest are general. There was no discernible trend in marine emphasis with time. Of the 524 text pages in the book, 15 (3%) are marine, 32 (6%) are fresh-

water, 238 (45%) are terrestrial, and the rest are general. The marine:freshwater:terrestrial ratios for the journal and textbook are similar, approximately 1:2:13 and 1:2:16, respectively. The biologically diverse and seriously threatened marine and freshwater realms get little coverage.

This disparity points to no causal mechanism, but the authors in Soulé and Wilcox (1980) did their research on land, which suggests our science exhibits the founder effect; conservation biology has not deviated from the course they set. Marine scientists, on the other hand, may not yet be fully aware of the conservation implications of their work. It is unlikely that marine manuscripts get less favorable treatment than others; the editors of *Conservation Biology* have expressed strong interest in publishing more of them.

The three realms are different in crucial ways that affect conservation, so extrapolation from the land to the sea is not always valid. The scant emphasis on the Earth's largest biotic realm suggests that conservation biologists and marine scientists will find rich opportunities for research in marine conservation biology.

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