

## **Ocean bioacoustics, Human Generated Noise and Ocean Policy**

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The recent release of the U.S. Commission on Ocean Policy (USCOP) report, just a year on the heels of the Pew Ocean's Commission report, has alerted policymakers and the public about the precarious biological health of our oceans. The extents of the damage done to the sea by human enterprise are both deep and far reaching. Because of the economic, as well as the environmental reach of our ocean management practices, changing ocean policy to stem the damage will require dramatic measures and sacrifices by every ocean stakeholder – from Indiana farmers to coastal businesses, from scientific researchers to fishing and other extraction industries.

While both reports discuss “ecosystem based management,” what is missing from both reports is a ‘global’ environmental framework. The discussions bind all stakeholders into a body of water called “the ocean,” but there is a critical feature of the ocean that is given short treatment in both reports. This feature is so ubiquitous in the sea that it is still mysterious; it is so pervasive, that it is not often considered an autonomous element of discussion. Most animals in the sea depend on it, but we know next to nothing about how living organisms use it. This feature is the way the ocean transmits sound.

We know from recent studies that ocean habitats are being seriously compromised by human generated noise – in evidence through stranded whales, and more recently, high fish mortality and low productivity in fishing areas due to seismic exploration and civil engineering. Due to the ubiquity of sounds and noises in all of our ocean enterprises, legislating anthropogenic sound promises to be a Byzantine endeavor. This paper examines some of the known challenges to crafting ocean noise policy.