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New Book, Listening to the Sea, Calls for Action

Surfers are getting sick. Marine mammals are getting viruses. Some fish are disappearing and many are contaminated by pollution. How bad is the problem and what can we do?

Listening to the Sea, a new book by Robert Jay Wilder, a researcher and faculty member at the University of California, Santa Barbara (UCSB), presents a compelling and scholarly analysis of the daunting challenge of the environmental protection of our oceans.

Describing the history of the relationship between humans and the sea, the science of marine life and the deep interconnectedness of all life, Wilder paints a picture of our oceans that calls for stewardship, while exposing the many ways in which society has so far bungled the job -- in spite of its best attempts. Overfishing, pollution and habitat destruction are still rampant.

We need a more comprehensive approach, according to Wilder. He states, "... despite a few successes to the contrary, the goal of (anti-pollution) laws still remains elusive. This has happened largely because environmental laws have emerged in startling piecemeal fashion; they are not integrated to wisely prevent harm, nor do they address the causes of ecological harm at the source."

He explains further that regulations do not take into account the fact that prevention is far more successful than remediation after harm is done. Thus the dominant approach is still to dilute pollutants, by releasing them into coastal seas, or secreting wastes away in the depths of the ocean. But, he warns, "those short-term responses will in time come back to haunt us: merely diluting or hiding waste is not the answer."

Wilder's picture of coastal pollution isn't a pretty one: "Southern California's population of 15 million contributes daily runoff to what is an ultimate downhill trash bin -- the sea," he says. "Runoff comes from countless sources such as parking lots and streets, as well as farms, which contribute pollutants from pesticides, herbicides, and nitrogen-laden fertilizers. Each day Santa Monica Bay receives sewer waste piped throughout 5,000 miles of storm drains in the 414 square mile Los Angeles watershed. On a dry day, roughly 200 drain outlets spew 10-25 million gallons. On a rainy day, this release spikes to 10 billion gallons."

According to Wilder, nearly 160 toxic chemicals are being released into Santa Monica Bay, including those linked to car exhaust, old tires, used motor oil, and chemicals used for dry cleaning and household purposes.

"Now dolphins off the coast of Southern California are found to have the most DDT ever measured in any marine mammal in the world," said Wilder. "Similarly, all fish sampled in San Francisco Bay were found to have high levels of polychlorinated biphenyls (PCBs), a potent carcinogen that was once commonly used in industry."

Developments such as the "Law of the Sea" -- the United Nations treaty regarding fishing, conservation of marine resources, development of offshore minerals and more -- are not providing any answers, according to Wilder. "'The Law of the Sea' has been hardly helpful in the cause of marine conservation," he states. "International treaties have been slow to understand true threats to the sea and are largely permissive by allowing the most egregious damage to simply continue."

And he believes these "answers" are adding to society's complacency. "Because most people assume the governments have the situation in hand, they have not been concerned with or demanded better ocean policy," he says.

Wilder believes that preventing pollution is "smarter, cheaper and greener" than the existing framework of waste management and cleanup. He advocates for new ideas that encourage a cyclical approach to manufacturing; for example, using the effluent

from one process as useful inputs for another process.

He mentions the case of Dydee Diaper of Massachusetts as another encouraging type of pollution prevention, one that successfully involved its customers. When the diaper-cleaning company was cited by the Massachusetts state water resources authority for exceeding the discharge limit for zinc in its wastewater, it discovered that the zinc was coming from the use of certain baby creams by consumers. An outreach campaign to encourage consumers to switch to non-zinc creams resulted positively and with savings. Zinc levels dropped and the company was able to avoid the cost of a new treatment system.

In an encouraging final chapter on solutions, Wilder sums up, "Education must be the key to building wisdom about the hidden realm."

Wilder has received a host of enthusiastic endorsements of Listening to the Sea. For example, Elliott A. Norse, president of the Marine Conservation Biology Institute says, "'Listening to the Sea' is that rarest of books: an insightful, meticulous, up-to-date examination of a crucial topic that is also very clearly written. Focusing on the pernicious mismatch between fragmented ways humans govern our activities in the sea, and the biological vulnerability of marine species and ecosystems, it calls persuasively for marine management based on biological realities, and points to new solutions that are 'smarter, cheaper, and more effective.' In the two decades since I began in marine conservation, I haven't seen a marine policy book so sane, so compelling."

Wilder, who holds both a J.D. and a Ph.D., is a researcher at UCSB's Marine Science Institute, and is on the faculty of UCSB's Environmental Studies Program. He has been a Fulbright fellow, a National Academy of Sciences Young Investigator, a Sea Grant fellow, and an American Association for the Advancement of Science fellow at the Environmental Protection Agency headquarters in Washington, D.C.

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