



Ocean Outbreak: Confronting the Rising Tide of Marine Disease

Drew Harvell

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Drew Harvell's *Ocean Outbreak* is an engaging, eye-opening report on the diseases affecting the health of the ocean.

The world's warming waters precipitate marine disease, and Harvell—relying on her own knowledge and timely research—presents a sobering study of outbreaks among coral, abalone, salmon, and starfish to demonstrate the current peril. Each outbreak is covered in detail, explaining causes and effects in layperson's terms. Compelling black-and-white photographs dramatize the impact of diseases on sea life.

Perhaps most interesting are Harvell's first-hand accounts of studying marine diseases. In researching coral outbreaks, she participated in Hydrolab, a federally funded underwater laboratory. Subsequent underwater research on sea fans resulted in the exciting realization that corals have an immune system that seems to be able to fight off disease. Still, heat stress and lethal diseases are a deadly combination.

An epidemic that was killing off starfish results in an equally fascinating story, especially since Harvell's team was able to identify the likely villain but couldn't stop it. She chillingly points out that the "threat of the imminent extinction" of corals and starfish "and their cascading ecological impacts" should be of great concern to all of humanity. Also referenced are plastics and bacteria associated with human diseases that are injurious to the ocean's overall health. A strong closing case is made for improving monitoring systems and responding to infectious diseases in the ocean.

Harvell writes from a scientist's perspective, yet her style is down to earth and her prose is accessible. As such, she achieves her essential objective of making the public "more aware of the seriousness of the threats that ocean pathogens pose to our food supplies, economies, livelihoods, and health."

BARRY SILVERSTEIN (May/June 2019)

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