

LAUNCHING A SEA ETHIC

BY CARL SAFINA

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THE OCEAN DISPLAYS TO us a dismissive, inscrutable exterior, all motion and mood, all mask and disguise, seemingly rolling on as always, its face silent about substance, its countenance mute on content, the extent of its wrinkles never varying over time. But don't underestimate her. Ninety-nine percent of Life's habitable volume is in the seas, and planet Earth would likely bear abundant and complex life if no emergent land existed. But without an ocean, this planet would merely spin unnamed three orbits from a star, its browned-out face its own sterile moonscape. How do we begin to *acknowledge* a debt of such magnitude?

Aldo Leopold's brilliantly articulated Land Ethic seems entitled to stop at the high-tide line. True, his essay "The Green Lagoons" shows clearly that water worked its magic on Leopold as lastingly as on many of us. But from Leopold's Wisconsin farm, oceans lay distant, out of sight and generally out of mind. Were he living now, though, he would probably have extended the vision of his great idea into the grand swirl and suck of the many-fingered tides and beyond. Leopold understood connections, and connectivity is perhaps the main single characteristic of Earth's singularly life-giving ocean.

Whether or not we can see, hear, or feel the ocean from our own home territory, the ocean certainly feels all of us. Between a third and half of the world's people now live within 50 miles of a coast-and few traveled people would find reason to dispute that estimate. In China, population density is three times higher in coastal areas than elsewhere. The collective weight of humanity may rest on land, but we levy heavy pressure on the sea. Marine fisheries contribute more animal protein to human diets than beef, poultry, or any other domesticated or wild animals. In Asia, more than one billion people rely on fish as their main source of animal protein. Most of us exert our most direct interaction with the sea through the fish we buy. And much of the human enterprise affects water quality. Even air quality affects water quality because what goes up alights elsewhere. We act as though the ocean is merely a source of raw materials and a waste sink largely because we lack moral standards encouraging us to see otherwise. We don't consider what we do to "the oceans" the same as what we do to ourselves, our families, our communities. Of course, we also inflict disregard upon the land, but we consider the sea even further outside of us rather than seeing ourselves within the ocean's life-sustaining envelope. Even many of us who maintain a nature ethic don't give the sea much thought in that context.

An ethical context is not a strategy or a prescription or remedy. An ethical context is a concept of relationship one we wish to acknowledge or one we seek to forge. One exemplary resonant ethic, embodied in the U.S. Constitution, is that all people are created equal and endowed by the Creator with inalienable rights. None of this is strictly true-people differ, and rights are won, not endowed-but this ethical conceptualization of what it should mean to be human provides a moral compass pointing to the framework for a truly great nation, striving for dignity and the fulfillment of human potential, with indefinite room for improvement toward that stated equal-rights ideal. It is perhaps no coincidence that a wilderness continent gave thinkers enough breathing room to articulate such lofty aspiration for a new society. Nor is it likely coincidental that a people who saw

their relation to each other in terms of equality and rights spawned the generosity of spirit embodied by luminous souls such as Theodore Roosevelt, John Muir, Aldo Leopold, and Rachel Carson.

Leopold's essay "The Land Ethic" unveiled an idea much bigger than just the dry land that covers less than a third of Earth's surface. It was really a recognition that his "search for a durable scale of values" led inexorably toward extending our sense of community beyond humanity to encompass people plus the whole living landscape. This land ethic's most fundamental corollary is its implication for right and wrong. An action is right, Leopold advised, when it tends to preserve the integrity, stability, and beauty of a living community, and wrong when it tends otherwise. Rightness is reckoned in terms of safeguarding the present and preserving future options not just for people, but for the whole living world that forms humanity's crucible, context, and endowment. Applying this in the real world is not always so simple, but conservation might be thought of as the effort toward what is right.

Aldo Leopold's land ethic is really a nature ethic that includes all forms of life in a concept of community. But Leopold seemed to land-lock his great idea. Perhaps he was too modest to see the reach of its implications, perhaps he was wise and patient enough to leave it for the rest of us to fully uncover its breadth. Maybe, like most people, he didn't give the ocean much thought because he was too busy fighting figurative (and in his case literal) fires closer to home. Whatever the reason, it's now apparent that we must extend our sense of living community below high tide—we need now a Sea Ethic.

Were it not for the fact that we are such visual creatures, our sense of community with the ocean should be easier and more intuitive to grasp than even our sense of the land, because our connection with the sea is more intimate. It has been playfully proposed that animals were invented by water as a device for transporting itself from one place to another. That's especially trenchant for those of us now living on land, because when animals left the seas in which life arose, they took saltwater with them, in their bodies—an internal environment crucial for cellular survival. We are, in a sense, soft vessels of seawater. Seventy percent of our bodies are water, the same percentage that covers Earth's surface. We are wrapped around an ocean within. You can test this simply enough: taste your tears.

But for most of us the ocean is different and unfamiliar, an alien place hostile to human colonization. The ocean differs from land in its *fluidity*. It differs from the atmosphere by its viscosity, hence buoyancy. The buoyancy and motion of water result in transportation capacity unmatched by land or air. This leads to a major life dispersal strategy - planktonic drift—that is essentially unparalleled ashore or even aloft.

The same fluidity that generates so much metaphor about life and time also closes the ocean's skin instantly to hide the tracks of vessels and the scars inflicted by humanity. This fluidity makes it *seem* that the oceans remain untrammelled, yet this very same fluidity that carries the ocean's plants and animals also smears and spreads the geographic footprint of people. Those effects originate from so many directions that they have become ubiquitous. The fluidity creates connectivity, not just among creatures but also in the transport of chemicals, contaminants, and trash, and the easy accidental introduction of alien species. And because the fluid surface is not friendly to fences, and animals roam massively within, it fosters creation of the largest

human commons anywhere: the waters of the continental shelves and high seas wherein is executed the largest-scale commercial hunting of wildlife on Earth.

Fluidity is the major difference between sea and terra firma. But similarities between land and ocean are more direct than might be seen on the ever-undulating surface. Ocean fishers speak less of waters than of fishing "grounds." When a professional fisher scans the sea, they do not so much see the water as envision the bottom contours and structures influencing the distribution of fishes. In the open ocean, structure is often comprised of a mosaic of water temperatures and their consequent frontal zones. But for most of the world's fisheries, on the shelves bordering all continents, the structures of interest are the submerged landscapes and topographies of the sea floor, the canyons and ranges and ridges.

These submerged fishing grounds are "wild lands" too though nowadays, one would need a pretty diluted definition of "wild" to describe any place in the sea. This is not meant as a pun. Daniel Pauly of the University of British Columbia estimates that humans extract fully one-third of the coastal oceans' productivity. Overfishing is a major global wildlife crisis as well as a threat to human food supply. Incidental kill or "bycatch" endangers certain seabirds, marine mammals, and turtles with extinction. While some large patches of forest remain intact, virtually all of the world's continental shelves bear the scars of the large trawl nets that are repeatedly raked across the bottom to take half the world's catch (like gathering wild mushrooms in the forest with bulldozers; it works, but it's heavy on the terrain and on other creatures). Warming is killing corals and melting ice caps, changing the heat balance of the entire world ocean and destabilizing major living communities, especially at higher latitudes. Toxins continue dispersing while trash piles up. Nutrients in unnatural concentrations are causing oxygen-depleted seafloor "dead zones." Toxic algae are increasingly blooming out of control and new diseases are appearing, some spreading to sea creatures from humans and our livestock. It may be uncolonized by people, but the ocean is hardly "untrammelled" wilderness.

Extending a sea ethic would mean recognizing the ocean's importance to the continued existence of life on our planet and to human futures. From this recognition would flow an appropriate sense of moral imperative, commitment, and urgency-urgency toward ending overfishing and wasteful bycatch and aggressively rebuilding depleted ocean wildlife populations, stabilizing human effects on world climate, slowing habitat destruction, stemming global transport and accidental introduction of "alien" species, curbing the flow of contaminants and trash, developing sustainable seafood farming, cultivating an informed approach to the seafood marketplace, and implementing networks of protected areas in the sea.

And as the world grows increasingly crowded and the seas increasingly pressured by conflicting users, it seems inevitable that the concept of zoning must move into the water, designating various places for certain kinds of fishing gear, certain regeneration areas for no extractive use at all, some places for seasonal closure to protect spawning aggregations or nursery areas where juveniles congregate, and certain areas for scientific study so that we may better understand the extent of our effects nearby.

All these kinds of concerns have their parallels and precursors ashore. People who think of themselves as conservationists carry a concern for wildlife, wild lands, habitat quality, and sustainable extraction as part of the collective ethic, their sense of right and wrong. It is high time to take these kinds of ideas below high tide, and a sea ethic

is the perfect vessel in which to begin the voyage.

Carl Safina grew up near the sea and started his scientific career studying seabirds. Since 1990 he has worked to highlight, explain, and solve problems facing the oceans' wildlife, including campaigns to ban high-seas driftnets, strengthen fisheries laws, conserve tunas, sharks, albatrosses, and other creatures, and highlight sustainable seafood choices. After a long tenure at Audubon, in 2003 he has founded Blue Ocean Institute to develop sources of information and inspiration about the seas. Safina is author of more than a hundred publications on ecology and conservation, including the acclaimed *Song for the Blue Ocean*. His most recent book is *Eye of the Albatross; Visions of Hope and Survival*.

Seals From a Sea Cliff

You swim today where yesterday I walked,
But there is more between us than the tides—
Where waves run over rocks you share
Clouds of air in water with watery air.
My world ends where the sea's unrest
Erodes but never climbs the slanted shore—
And fossil shells appear like flowers, pressed
From a field of stone that stands by more stone stressed—
What comes is built on what has come before.
What rises most between us is stone time
And time never was stone to wash away;
Though somewhere in the rocks remains a day—
An instant—when a being we both knew
Walked a cliff of layered lives, like memory,
And sniffed salt air, and contemplated blue,
And went on loving something of the sea.

Matthew Orr