

Forging an Ocean Ethic

by Peter Borrelli

Current events of the past year continue to bear out the blunt truth that public policies toward our oceans are at best utilitarian and at worst exploitive. Eventually, just about every pollutant on land makes its way to the sea or falls out of the sky. At sea our problems are generally out of sight and out of mind until one day we are rudely reminded that they are not; by an oil spill, dead whale, collapsed fishery, or even by news that deep ocean currents which affect the weather are being disturbed by human induced greenhouse gases.

It's an old story, but it is also 2004, not 1904, and if we are smart we won't have to spend the better part of a century figuring things out, as we did on land. Of course, as a nation we still don't fully embrace the wisdom of Aldo Leopold, who coined the phrase "land ethic," and any presidential candidate in 2004 who gets teary eyed about biodiversity is still likely to be among the ranks of the unemployed by summer.

There are positive signs, however, that elected officials, resource managers, user groups, and the general public sense that America's oceans are in crisis. Last year the Pew Oceans Commission called for the most significant changes in national ocean policy since the nation's first review of ocean policy in 1969 by the Stratton Commission. The fundamental conclusion of the bipartisan, independent study group was that "...this nation needs to ensure healthy, productive, and resilient marine ecosystems for present and future generations. In the long term, economic



sustainability depends on ecological sustainability."

To achieve this objective, the commission called for the enactment of a comprehensive National Ocean Policy Act administered by an independent national ocean agency, establishment of regional ocean ecosystem councils to develop and implement enforceable regional ocean governance plans, and creation of a national system of fully protected marine reserves. Later this year the U.S. Commission on Ocean Policy is also expected to recommend a reorganization of the federal bureaucracy, renewed commitment to sustainable development, and expansion of oceanographic research.

Meanwhile, in Massachusetts the Environmental Affairs Secretary Ellen Roy Herzfelder has established the Ocean Management Task Force. Its charge is to define the state's "guiding principles for the use of state waters and ocean resources" and to make recommendations as early as this winter on improved methods of ocean governance. In its first draft the task force echoed the findings of the Pew Commission by declaring that ocean management should "...embody an ethic of ocean stewardship that protects the public trust, values biodiversity, respects the interdependence of ecosystems, fosters sustainable uses, makes use of the best available information and encourages public participation in

decision-making."

The task force's major recommendation is that the Commonwealth should enact legislation creating a new comprehensive planning process for ocean resources. Whether or not this happens the task force is clearly and strongly calling upon the state to manage ocean resources as public trust uses "for the use and enjoyment of its citizens, now and in the future." Remarkably, the task force's ocean ethic extends beyond societal needs and includes protection and enhancement of the abundance and diversity of marine life. More specifically, the task force concludes that the state should "...ensure that [existing] environmental agencies have the statutory authority to designate and protect areas that have special, sensitive and/or unique estuarine and marine habitat and life..."

The clear intent of designating planning areas or use zones [my words] is to develop a management and regulatory regime that ensures compatibility of uses. Just as we try not to put chemical plants next to elementary schools, we should not be locating sewage outfalls near public beaches or dredging fragile fisheries habitats.

Once the task force issues its final recommendations there will be opportunity for public comment. It will then fall to Secretary Herzfelder to advise Governor Mitt Romney on the next course of action. My New Year's wish is that the governor takes up the challenge and the Bay State becomes a national leader in enlightened ocean governance.

For more information about the Massachusetts Ocean Management Task Force, visit the following website: www.state.ma.us/czm/oceaninitiative.

Cape Cod Baywatch

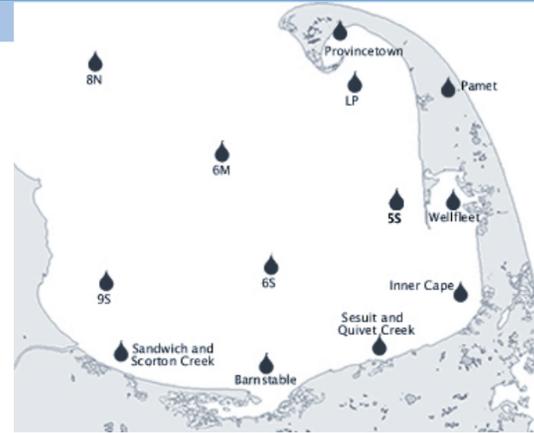
Maggie Geist, executive director of the Association to Preserve Cape Cod, recently called upon lawmakers to create a water resources authority to implement a regional sewer plan for Cape Cod. Excessive nutrient loads, Geist points out, are overwhelming the capacity of some Cape Cod estuaries to assimilate those contaminants. The resulting condition, known as eutrophication, has been seen with increasing regularity in the Cape's harbors and beaches. Here at the Center for Coastal Studies, researchers are just beginning to understand the extent of the problem.

We must remember that there is no "off-shore" to dispose of our wastewater. Preliminary data suggests that tertiary treatment may be required to halt excessive nutrient loading of Cape Cod estuaries. The data CCS and others are collecting will guide decision-makers as communities develop plans to preserve the estuaries for which Cape Cod is so well known and loved. Once informed by good science, we will have some tough political choices to make to protect Cape Cod's resources.

Coastal ecology is the founding discipline of CCS, and Associate Scientists Dr. Gregg Moore and Jamus

Collier are doing research that keeps CCS active in decisions about preserving the Cape's marine and wetland resources. Their research is being used to help prioritize at-risk estuaries, to learn how to restore wetlands more effectively, and to provide baseline data from which to assess changes to the resources. CCS is taking a scientific approach to understanding the impacts of the Cape's development and coastal ecology is the primary research group addressing this issue.

More than three years ago, CCS started the Cape Cod Bay monitoring program to guard against unforeseen effects of the Boston outfall tunnel. Human activities like the outfall pipe have ecological impacts and the question is a matter of the scale of those impacts. After many hours at sea and in the laboratory pursuing answers to questions about the scale of the impact from the outfall pipe, our data is still inconclusive. We understand the



CCS sampling stations

gradients in physical, chemical and biological properties around the outfall. What we have yet to decipher are the complex ecosystem effects. We cannot say with any scientific certainty how the outfall pipe is impacting biota downstream in Cape Cod Bay. What we are doing is continuing to collect data so that we will be in position to understand the dynamics of the system should detectable changes occur at any time.

CCS's Cape Cod Bay research is now more than an independent eye on the outfall, it is a comprehensive study of ecosystem processes and water quality indicators with stations located throughout Cape Cod Bay and within each of the harbors and estuaries that line the bay shore. At each station we measure parameters that provide insight into whether a sample is ocean water or whether it is mixed with fresh water from land-based sources. In the Cape's harbors and estuaries ocean water is mixed with fresh water from groundwater discharge and overland flow. Overland flow deposits pollutants from our roads, parking lots and yards into the marine environment. Cape Cod groundwater has been loaded with nutrients from septic systems and when it is discharged into salt marshes and tidal creeks these nutrients enter the estuary. There is no easy fix for these problems, or for eutrophication once it begins. That is why CCS supports taking immediate steps to ensure that protection of the Cape's estuarine resources becomes a regional planning priority.

Citizen Scientists Wanted

Understanding an ecosystem as complex as Cape Cod Bay requires more than the numbers recorded by our scientific instruments. To really understand Cape Cod Bay we need your help. Every fisherman, bird-watcher, beach walker, kayaker, and armchair ecologist has something to add to the monitoring of Cape Cod Bay.

This spring CCS will launch an initiative to give the public opportunities to get directly involved in the work of monitoring Cape Cod Bay. We'll be calling on all of the friends of Cape Cod Bay to pull out their hip waders and their favorite field guides and start working with us to gain a greater understanding of the ecology of

Cape Cod Bay and to raise awareness about the resources that need protection and the practices that threaten those resources. We recognize that ultimately, it is the public's strong support that allows CCS to act as an effective advocate for conservation.

Each little cove and creek of the bay contains an entire season's worth of natural beauty. Each creek, salt marsh, and mid-bay station can also provide a wealth of data about the processes that drive this ecosystem, and we hope that you will join us in this effort.

If you are interested in becoming a part of the Cape Cod Bay Monitoring Program, please contact Jan Young at 508-487-3622, ext. 110 or jeyoung@coastalstudies.org.

Pacific Life Foundation

Friends

Thousands of miles may separate the Center for Coastal Studies from the California-based Pacific Life Foundation – a key contributor to CCS programming – but both organizations stand side-by-side working to conserve and protect marine mammals and the environment.

"Collaborations are key to the future success of many conservation endeavors to help humans and mammals," says Bob Haskell, the President of the Pacific Life Foundation, established in 1984 as the philanthropic arm to its parent company, the Pacific Life Insurance Company.

"Even though our Foundation is located near the Pacific Ocean, what happens in all of the world's oceans is of great importance to us," adds Haskell, who also serves as the Senior Vice President of Public Affairs for Pacific Life Insurance.

"The company endows the foundation, and its 2003 year-end principal was \$33.7 million," says Haskell. "Contributions to community needs in 2003 totaled \$3 million and were designated in the areas of health and human service, education, arts and culture, and civic, community and the environment."

In 1999, Pacific Life incorporated the humpback whale into its well-recognized logo. It stands to reason that CCS - whose mission statement reaches into the realm of humpback whale conservation – is a grateful beneficiary of the Pacific Life Foundation.

"We admire the strength, power, and persistence of the humpback," explains Haskell.

Haskell – who joined Pacific Life in 1983 – says everyone can support conservation work.

Recent Marine Mammal Research

The Society for Marine Mammalogy sponsored its 15th Biennial meeting in Greensboro, North Carolina, this past December.

The Biennial gives the scientific community an opportunity to share research with peers, develop new projects, meet with colleagues and network. Before the conference, abstracts of current, unpublished research are peer reviewed. Scientists may be asked to share their findings

during oral or poster presentations. The following papers by CCS staff and others were among those chosen for presentation (CCS staff names shown in boldface). For abstracts of each, please visit our web site at: www.coastalstudies.org/research/2003biennial.htm

Spatial and temporal distribution of North Atlantic right whales in Cape Cod Bay, USA, 1998-2002 and implications for management of fishing practices. **Owen C. Nichols**, Robert Kenney, Moira Brown.

The seasonal occurrence of Northern right whales in a critical habitat: when, why and how many? Christopher W. Clark, **Moira Brown**, **Stormy Mayo**, **Moriah Bessinger**, **Owen C. Nichols**, Robert D. Kenney.

Paternity in Gulf of Maine humpback whales supports random mating with respect to feeding ground origin. **Pauline Kamath**, M. Bérubé, David K. Mattila, **Jooke Robbins**, P. Palsbøll.



Bob Haskell, President of the Pacific Life Foundation

"Individuals can learn how their daily activities (water use, food choices, trash disposal) affect the environment," he clarifies. They might consider donating their time, talent or dollars to conservation agencies such as the Center for Coastal Studies."

It is Haskell's hope that "the conservation programs and awareness continues to gain momentum in the U.S. and across the globe," says the Orange County, California native.

"This can be accomplished in many ways," he adds, "including involving more youth in conservation efforts and more collaboration between private and public agencies."

New telemetry analysis tools for entangled whales. **Robert Bowman**, Tora Johnson, Edward Lyman.

The success of a disentanglement event may depend upon the species. **Scott Landry**, **David Morin**, **Robert Bowman**, Dana Hartley, David K. Mattila, **Stormy Mayo**.

A comparison of entanglement rates between North Pacific and North Atlantic humpback whales. David K. Mattila and **Jooke Robbins**.

Whale watching from a mother's perspective: positioning of humpback whale mother/calf pairs in relation to vessels. **Rebecca Lester**, **Jooke Robbins**, and David K. Mattila.

Determining pregnancy status of free-ranging whales by quantifying progesterone in blubber biopsies. Mackenzie L. Sheridan, **Jooke Robbins**, Moira W. Brown, Mansour, A. H. Atef, Donald W. McKay, and Jon Lien.



Long Point in sea smoke.