WASHINGTON, DC, December 19, 2008 (ENS) – More than four years after two independent expert panels urged the Bush administration and Congress to immediately overhaul the nation's oceans policy, few of their recommendations have been implemented and the state of the oceans is deteriorating rapidly.

Overfishing, pollution and climate change are wrecking havoc with ocean ecosystems and driving species into extinction, leaving scientists and advocates fearful for the future absent dramatic action to change course and desperate for leadership from President-elect Barack Obama.

"We need a statement from the new administration that the United States is ready to bail out the oceans to protect marine biodiversity and related economic opportunity worldwide," said Michael Hirshfield, chief scientist and senior vice president of the North American arm of Oceana.

Hirshfield is hoping for "concrete action" early in the Obama administration, such as an executive order calling for a new oceans policy stating the nation's intent to manage the oceans for long-term sustainability, rather than short-term profits.

Such a statement must be followed up by aggressive and decisive actions by Congress to help reach this goal, he said.

"We need a change in attitude from our government - we need a new national policy that puts the long-term health of our oceans first," said Hirshfield. "Achieving this goal soon will provide long-term economic benefits."

The early signs from the president-elect provide cause for optimism, Hirshfield said, particularly the decision to put marine biologist Jane Lubchenco in charge of the National Oceanic and Atmospheric Administration.

A vocal critic of overfishing, avowed conservationist and supporter of marine protected areas, Lubchenco also served on both the Pew Oceans Commission and the U.S. Commission on Ocean Policy - the two panels that crafted hundreds of recommendations for a fundamental overhaul of U.S. oceans policy.

The choice of the Oregon State University professor is a "clear signal from the administration that they are going to put the long-term health of the oceans first," Hirshfield told ENS. "They couldn't have picked anyone better."

While Lubchenco's nomination has provided new hope for ocean advocates, that optimism is sobered by new and emerging evidence that the decline of the oceans is accelerating.

The latest statistics on fishing worldwide present a dour outlook, as industrial outfits have become devastatingly successful at plundering ocean species. The United Nations Food and Agriculture Organization estimates that more than 75 percent of the 600 fish species it monitors are fully exploited or depleted.

A new peer-reviewed study published this month suggests the fish in large marine ecosystems are being caught at rates that
are at least double the level considered sustainable.

Fishing is decimating large iconic species such as tuna, swordfish, marlin and cod - some researchers estimate only 10 percent of all such large fish remain.

"We are fishing down the food chain," said Jeremy Jackson, director of the Scripps Institution Oceanography's Center for Marine Biodiversity and Conservation.

Furthermore, harmful fishing practices are ravaging sensitive species such as sea turtles, sharks and dolphins, while also destroying fragile underwater ecosystems.

The area of the sea floor ravaged by trawling "rivals all the forests ever cut down by humans in history," Jackson said at a National Press Club press conference December 16.

Overfishing is clearly a global issue, Jackson said, but the United States needs to show leadership and get its house in order.

U.S. fisheries tend to be managed "by wishful thinking," Jackson said.

There is a major gap in data about the state of U.S. fisheries, but what is known is worrisome - nearly half are below healthy levels and about a quarter are still being overfished.

"The economic pressures to keep on fishing have overwhelmed common sense," said Dr. Jackson, who added that the lack of progress stems only from "greed and our inability to alter our behavior."

As the oceans are being depleted of key species, they are also suffering from continued and increasing pollution from human activities on land. A key concern is over-enrichment with nutrients such as nitrogen and phosphorous, which degrade ecosystems and cause massive dead zones across broad areas of coastal waters.

Researchers have identified more than 400 dead zones throughout the world, stretches of water that lack enough oxygen to support marine life.

And the problem is actually "much more pervasive than inventories would suggest," said Donald Boesch, president of the University of Maryland Center for Environmental Science.

Boesch said new evidence suggests the metric for defining dead zones underestimates the harm to marine life and cautions that healing degraded marine ecosystems may be more difficult than originally thought.

Researchers are finding that "the longer ecosystems are degraded, the harder they are to recover," he told reporters.

This doesn't bode well for stalled recovery efforts in the Chesapeake Bay or the Gulf of Mexico, which annually suffers from a dead zone in excess of 7,500 square miles.

Boesch lamented efforts to quell the huge dead zone, saying "very little has been done except more studies to see if the problem is real."

Tackling the pollution that plagues U.S. estuaries, coastal areas and lakes, will require tighter controls on fertilizer use and advance pollution controls on sewage treatment plants, Boesch explained.

"While various plans and goals are in place … concerted actions to implement them have fallen well short," he said, adding that "time is running out."

Potentially overshadowing concerns about pollution and overfishing, however, is the sense of "increasing alarm" about climate change, said Jeff Short, Oceana's Pacific Science Director.

The oceans absorb some one-third of the carbon dioxide being emitted into the atmosphere, a process that is fundamentally changing the chemical balance needed for many marine species to survive.

High carbon dioxide levels in the ocean are increasing the acidity of seawater, which in turn makes it harder for coral and other organisms to form their skeletons and shells.
The atmospheric levels of carbon dioxide are currently at about 385 parts per million, rising at some 2 to 2.5 ppm annually, and the increases are already being blamed for the loss of some coral reefs.

Recent research estimates the world has lost nearly 20 percent of its original coral reefs since 1950.

And when those levels hit 450 ppm - in about 25 years if current trends continue - "the tropical reefs will fall apart" and shellfish populations worldwide could dramatically decline.

Of further worry are the feedback effects created by the close connection between the state of the oceans and the climate.

The increasing acidification of the oceans will reduce their ability to absorb carbon dioxide from the atmosphere. Scientists predict acidification will occur most rapidly in the oceans near the poles, where signs of warming are already evident.

An area of sea ice about a quarter the size of the United States has been lost since the 1950s and researchers with the U.S. National Snow and Ice Data Center this month concluded that warming in the Arctic is accelerating.

The loss of sea ice in the Arctic is exposing more of the ocean to solar radiation, causing it to warm and prevent new ice from forming, potentially further accelerating climate change.

"We are breaking the planet's thermostat," Short said.

The daunting nature of climate change and the vastness of the oceans make both issues difficult for politicians and the public to grasp, Hirshfield acknowledged.

"Oceans are out of sight, out of mind," he told ENS. "We are dealing with people's ability to grasp immensity. People stand at the beach and look out at the vastness of the ocean and it is just really difficult to grasp the scale and impacts of human activities."

The same problem is "at the core of climate denial," Hirshfield said.

And similar to climate change, he added, U.S. leadership is vital if the world is to begin to address the crisis plaguing the world's oceans.

"We also need to take some action here - to think globally and act locally," he said. "We are going to have extinctions, we are going to lose pieces of the ocean ecosystem. But you look on land and just because we have degraded lands, cut down and cleared forests doesn't mean we don't fight even harder to protect what is left. It is all about leaving as much intact for future generations as we can."

-- By J.R. Pegg, ENS Washington Bureau Chief
Copyright Environment News Service (ENS) 2008. All rights reserved.