



## Coral Reefs, Oceans and Conservation in the News July, 2009

This document is a compilation of highlights from news stories and press releases related to coral reefs, oceans and conservation, which appeared in the media during the month of July, 2009. The majority of stories are specific to Miami-Dade, Broward, Palm Beach and Martin counties; however, some are state, national and globally relevant stories.

You may view archives of **Coral Reefs, Oceans and Conservation in the News** as well as **Southeast Florida Reef News** online at <http://www.dep.state.fl.us/coastal/programs/coral/updates/>.

To go directly to news stories of interest, simply left click on the title in the table of contents below.

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## U.S. money going for reefs

THE MIAMI HERALD / By Cammy Clark / July 1, 2009

An underwater nursery project to restore the struggling coral reefs along Florida's southern coast and the U.S. Virgin Islands will receive \$3.3 million in national stimulus funding, according to an announcement Tuesday by the National Oceanic and Atmospheric Administration. The nonprofit Nature Conservancy will oversee the project, which expands four existing nurseries of staghorn and elkhorn coral and establishes two new nurseries. Over the next three years, about 12,000 corals will be grown to enhance coral populations at 34 degraded reefs from the Dry Tortugas -- 70 miles west of Key West -- to the waters off Broward County. The stimulus money pays for most of the salaries of 57 positions needed for the project.

Staghorn and elkhorn, which have been designated national threatened species, have suffered from coral bleaching due to warming sea temperatures, diseases, hurricane damage and other threats. But in good conditions, these corals can produce numerous branches and grow four or more inches a year.

"To conduct restoration of coral on this scale is unprecedented," said James Byrne, the Nature Conservancy's marine science program manager for Florida and the Caribbean.

"Coral reefs are one of the main attractions for tourism in South Florida and the U.S. Virgin Islands. Fish that rely on reefs for habitat feed millions of people worldwide and provide income for thousands."

NOAA was given \$167 million in February from the American Recovery and Reinvestment Act of 2009 to use for restoration of the U.S. coasts. Fifty projects out of 800 proposals were chosen, including three others in Florida.

The Indian River Lagoon Restoration in Martin County will receive \$4 million to restore oyster populations that contribute to the goals of the Everglades Restoration Project.

The Lost River Preserve will receive \$750,000 to remove exotic trees that will help restore 43 acres of fishing habitat near Tampa Bay. And the Northeastern Florida Wetlands Restoration project will get \$2.7 million to remove dredge soil to promote natural tidal flow.

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## **FISHING: Law to protect grouper series could help and hurt**

MIAMI HERALD / By Susan Cocking / July 5, 2009

A federal law has been approved to protect a variety of grouper species, but some say it will hurt Keys commercial fishing.

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It's official. All South Atlantic waters more than three miles offshore will be closed to all shallow-water grouper fishing from Jan. 1 through April 30, beginning in 2010.

The same waters will be closed to recreational fishing for vermilion snapper beginning Nov. 1 through March 31.

U.S. Secretary of Commerce Gary Locke last week approved a rule submitted by the South Atlantic Fishery Management Council and NOAA Fisheries Service intended to protect overfished species of snapper and grouper.

Besides the closures, the new rules also: reduce the aggregate grouper bag limit for recreational anglers to three fish per person per day, of which no more than one can be a gag or black; reduce

the recreational bag limit for vermilion snappers to five fish per person per day; and impose commercial quotas for gag and vermilion snappers. The grouper closure is aimed primarily at protecting gags, but it also includes black, red, scamp, red hind, rock hind, coney, yellowfin, yellowmouth and tiger grouper.

Jack McGovern, a biologist with NOAA Fisheries, said shallow-water groupers are particularly vulnerable during the winter and early spring months when they spawn.

"Grouper in general are vulnerable to overfishing," McGovern said. "A lot of grouper species form spawning aggregations and a lot of these are known by fishermen and there's evidence these aggregations have been fished out."

The Florida Fish and Wildlife Conservation Commission is expected to discuss whether to impose similar rules in state waters at its Sept. 9-10 meeting. But even if the FWC does nothing, the grouper and vermilion snapper closures still are binding in state waters to charter and headboat operators who hold federal snapper-grouper permits. Recreational anglers in state waters would not be affected.

"I think it's stupid," North Miami Beach charter captain Dennis Forgione said. "It's a poor excuse for trying to fix a fishery problem. The new bag limit should suffice. I guess it's going to be a really great May, providing everybody follows the rules."

Karl Lessard of Marathon, president of the Florida Keys Commercial Fishermen's Association, said his group had asked federal fisheries managers to keep South Florida waters open for shallow-water grouper fishing.

"In the Keys, we only catch 1 percent of the gag grouper harvested in the South Atlantic," Lessard said. "We asked them to break up shallow-water groupers into individual species. They said they didn't have the money or the time. We're a multispecies fishery down here. I hope it won't put our fishermen out of business. The guys from Stuart north are going to have major problems."

The vermilion snapper closure is expected to impact South Florida's party boats, which target the species mainly during the winter months.

"That's the height of my season. What am I going to fish for?" said captain Kenny Hawkins, who operates the Sea Legs party boat in Hollywood. "There's no shortage of vermilion snappers. The vermilion snapper fishing has been better in the past five years than I've ever seen it. They cut the [bag] limit in half that you could take, so why close the season for them? To shut something down, now we'll have to kill more of something else. You're going to see boats go out of business because of this."

#### NOTABLE

South Florida boaters, anglers and divers are going to have to take extra care to avoid damaging the region's endangered coral reefs under a new state law that took effect Wednesday.

The Coral Reef Protection Act beefs up the abilities of state and local government agencies to go after boaters who run aground or anchor on coral by establishing penalties for reef damage and mechanisms for repairing and mitigating the destruction.

The law allows the Florida Department of Environmental Protection to delegate authority to the Florida Fish and Wildlife Conservation Commission, coastal counties and other local governments to investigate reef damage, recover costs, restore the damaged reef tract and seek monetary damages from violators.

Boaters who run aground or damage reefs have 24 hours to notify DEP of the event and must remove the anchored or grounded vessel within 72 hours of the incident, provided the removal won't do further harm. Civil penalties range from \$150 to \$1,000 per square meter of reef damage.

Florida's coral reefs are worth more than \$6 billion to the local economy and support more than 60,000 jobs, according to a recent economic study.

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## **Federal stimulus money for Florida's reefs a sound investment**

**OUR OPINION:** Stimulus money to restore state's corals, seafood beds

MIAMI HERALD / Editorial / July 7, 2009

Federal stimulus money is paying for more than roads and bridges during this economic downturn. Ecological projects are part of the mix -- and that bodes well for Florida.

The National Oceanic and Atmospheric Administration received \$167 million in February from the American Recovery and Reinvestment Act, and Florida will get a fair share of that money.

The scope of the projects is reminiscent of work the Conservation Corps completed to stimulate the economy by creating jobs during the Great Depression. Those "make-work" projects had lasting value. Go to our national parks to witness the results of the Conservation Corps' work. They are a reminder of how integral our natural resources are to our economy and our social fabric.

They're also an example of how something good can come out of hard times. So it should be with today's stimulus dollars.

Coral reefs along the state's southern coast and the U.S. Virgin Islands will get \$3.3 million to expand four existing nurseries of staghorn and elkhorn coral and establish two new coral nurseries.

In the next three years some 12,000 corals will be grown to expand reef populations in degraded areas from the Dry Tortugas to waters off Broward County. The stimulus money will pay for 57 jobs needed for the work. The nonprofit Nature Conservancy will oversee the projects.

Staghorn and elkhorn reefs in the Keys can offer stunning views for divers and snorkelers -- and serve as sheltering nurseries for food. But they have suffered coral bleaching as the ocean warms up. Coral diseases, hurricane damage and ship groundings also take their toll.

So the two corals have been designated national threatened species. When growing conditions are optimal, however, the two species grow relatively quickly, four or more inches a year.

Florida got three other stimulus-funded NOAA projects. The Indian River Lagoon's oyster beds will be restored with \$4 million. This will contribute to the overall Everglades restoration plan.

The Northeastern Florida Wetlands Restoration project will get \$2.7 million to remove dredged soil to restore 1,000 acres of tidal wetlands and coastal marsh around Merritt Island and Cape Canaveral.

The Lost River Preserve will use \$750,000 to restore 43 acres of fishing habitat near Tampa Bay.

Using stimulus dollars to conserve resources that generate millions of tourist dollars also contributes to our food and water supplies and generates jobs. It's a sound investment for Florida's future.

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## **USVI delegate welcomes stimulus grant for coral reefs**

CARIBBEAN NET NEWS / July 11, 2009

WASHINGTON, USA -- US Virgin Islands Delegate to Congress Donna Christensen on Friday congratulated the Nature Conservancy on their award of approximately \$1.3 million to fund coral reef restoration in the USVI.

The group obtained funding under the American Recovery and Reinvestment Act from the National Oceanic & Atmospheric Administration.

Called the Threatened Coral Recovery project, it is a regional restoration effort aimed at aiding in the recovery of coral populations.

USVI Delegate to Congress Donna Christensen

"I am pleased that this grant aimed at ultimately restoring our fishing habitats which are vital to our tourism and agriculture industries was awarded," Christensen said.

“I congratulate the Nature Conservancy and their partners in NOAA, the National Park Service, and the VI Department of Planning and Natural Resources for successfully competing for stimulus funding,” she said.

The project is expected to establish two new nurseries in the waters surrounding the US Virgin Islands. According to the Nature Conservancy, the extensive reef system surrounding the US Virgin Islands is home to one of the most diverse population of reef fish in the Caribbean.

The Nature Conservancy is expected to hire in the areas of engineering, project management, contracting, planting and monitoring the project in the Virgin Islands and Florida, as well as projects in Alaska, Alabama, California, Florida, Hawaii, Louisiana, Virginia and Washington.

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## **A dive to help the reefs includes a rock star**

Aerosmith lead guitarist Joe Perry and wife take part

SARASOTA HERALD TRIBUNE / By Halle Stockton / July 12, 2009

SARASOTA - Aerosmith lead guitarist Joe Perry focused on combing ocean reefs for trash instead of perfecting guitar riffs Saturday.

Mark Rush of Aquarush Diving Co. organized the reef cleanup. The musician was not alone -- he was accompanied by his wife, Billie Perry, and about 85 other divers who dedicated the day to scooping up trash left in the waters off Lido and Longboat keys.

The Perrys, who have a second home on Longboat Key, found themselves with extra time this weekend after an Aerosmith concert in Tampa was canceled because lead singer Steven Tyler has an injured leg.

The pair read an article about the cleanup in a local magazine and decided to put their 25 years of diving experience to work for a noble cause.

"We yanked out a bunch of trash -- everything from a big chunk of fiberglass to 20 feet of rope on an anchor," Joe Perry said. "This is the kind of thing that makes people realize you can't just throw stuff off the side of the boat."

Billie Perry cut out several feet of fishing line from sponges that could entangle other marine life.

"That much line would definitely be hazardous for turtles or manatees," she said.

Strips of rubber, fiberglass, rope, bottles and more fishing line were among the pile of ocean pollution divers removed Saturday.

Mark Rush, a certified dive instructor and owner of Aquarush Diving in Sarasota, arranged the offshore reef cleanup in part because Mote Marine no longer had the means to do it. Mote had organized the event for the last three years.

The cleanup and the after-party helped raise money that will benefit Mote's Center for Coral Research, Rush said.

About 17 percent of the world's reefs are dead and the situation is worsening, Rush said.

Rush said he hopes to expand the event next year.

"The event makes people more aware of the reef, while also bringing the dive community together," he said.

The canceled Aerosmith concert was upsetting news for Atlanta native Wesley Pate, 17, who came to Southwest Florida for the concert but stayed to participate in the dive.

The guitarist said he rarely signs guitars, but made an exception for Pate on the condition that he not sell it.

"I have no intentions to sell this," Pate said, holding up the freshly-signed instrument. "Joe Perry is the reason I picked up a guitar."

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## **Coral Reef Protection Act now in effect**

Act raises awareness to help protect one of Florida's most valuable and endangered natural resources

BEACHES LEADER / By DEP Press Release / July 12, 2009

TALLAHASSEE – The Florida Department of Environmental Protection (DEP) is alerting boaters, divers and anglers that the Coral Reef Protection Act went into effect on July 1, 2009. The law, the result of House Bill 1423 passed during the recent legislative session, will increase the protection of Florida's endangered coral reefs by helping raise awareness of the damages associated with vessel groundings and anchoring on coral reefs off the coasts of Broward, Martin, Miami-Dade, Monroe, and Palm Beach counties. The law also authorizes penalties for the destruction of reef resources and provides for efficient repair and mitigation of reef injuries.

"The Coral Reef Protection Act will allow us to work with local and state governments to increase public awareness about coral reef protection and the likelihood that responsible parties who damage reefs are held accountable for their actions," said Lee Edmiston, Director of the Office of Coastal and Aquatic Managed Areas (CAMA) for the Florida Department of Environmental Protection (DEP). "The new law will also allow us to bring together experts to address reef damage in the most appropriate way."

Fishing, diving and other boating-related activities on Florida's coral reefs generate approximately \$6 billion dollars in sales and income for Florida's citizens and sustain more than 60,000 jobs annually according to report conducted by Hazen and Sawyer in association with Florida State University and the National Oceanic Atmospheric Administration. In the new law, the Florida Legislature identifies coral reefs as an extraordinary biological, geological and economic resource, and states that protecting coral reefs and enacting monetary damage restitution to the state are in Florida's best interest.

The new law will allow DEP to restore coral reefs by ensuring that those responsible for damaging coral reefs can face fines and penalties to help restore the damage. The law also allows the state to issue "first time" warnings in lieu of a fine to recreational boaters in certain instances, and specifies higher penalties for repeat offenders and for injuries which occur within a state park or aquatic preserve.

In keeping with the multi-disciplinary, multi-agency efforts necessary to protect this public resource, the law allows DEP to delegate authority through agreements with the Florida Fish and Wildlife Conservation Commission, coastal counties and other local governments to investigate reef damages, recover costs, provide restoration and seek compensatory mitigation.

The law clarifies and streamlines current DEP authorities and processes, while implementing many of the recommendations taken from a two-day public workshop held by DEP in Ft. Lauderdale in 2006. The workshop, part of a Southeast Florida Coral Reef Initiative local action strategy, compiled information on existing emergency response processes, identified deficiencies and developed consensus-based solutions among government marine industry representatives and other stakeholders to improve response to, and restoration of, coral reef injuries in southeast Florida.

CAMA manages three National Estuarine Research Reserves in the state, 41 aquatic preserves, the Coral Reef Conservation Program and the Florida Keys National Marine Sanctuary. CAMA's programs and activities are designed to help Floridians better understand and conserve the state's resources through research, education and preservation.

For more information on DEP's Coral Reef Conservation Program, visit [www.dep.state.fl.us/coastal/programs/coral](http://www.dep.state.fl.us/coastal/programs/coral). For more information on DEP's Office of Coastal and Aquatic Managed Areas, visit [www.dep.state.fl.us/coastal](http://www.dep.state.fl.us/coastal).

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## **Off Florida, a cemetery under the sea**

**Families wanting a unique burial for loved ones have their cremated remains placed in the Neptune Memorial Reef off Key Biscayne. The underwater cemetery has a growing popularity.**

South Florida Sun-Sentinel / By Robert Nolin / July 12, 2009

Reporting Off Key Biscayne, Fla. -- With a spray of water, Guy Gleichmann surfaces from a 40-foot dive during which he helped set his mother's remains in their final resting place: a sunken city where brightly hued fish shimmy among fantastical architecture.



Carey Wagner / South Florida Sun-Sentinel

Jim Hutslar, top, project manager of the Neptune Memorial Reef, dives with Guy Gleichmann, whose mother is buried in the underwater memorial.

"I didn't want to leave," Gleichmann says, doffing mask and mouthpiece. "It's so beautiful down there. It's so serene." The 48-year-old investment manager and diver from Pompano Beach, Fla., wanted a unique and accessible spot for his mother, Emma, who died in December at age 75. So he had her cremated remains mixed into concrete in the shape of a seashell, which was placed near the statue of a lion.

Ashes to ashes, dust to deep.

Emma Gleichmann was one of nearly 60 souls whose cremated remains rest in nautical sculptures on the sea floor about three miles off Key Biscayne at the one-of-a-kind Neptune Memorial Reef. The alternative burial option creates an environment for reef creatures and a destination for divers.

"It will always be a special place when I go diving, to come out here and be where she's at," Gleichmann says. "It just gives you a feeling that they're not totally gone."

The reef, a subsidiary of the Neptune Society, the nation's largest cremation company, opened in fall 2007 after four years of permitting hurdles. It encompasses 16 acres and features oversize sculptures: arches, columns, gates and benches, all designed by Key Largo artist Kim Brandell.

"I was trying to achieve some sort of sunken city, but not Atlantis," Brandell says, calling his architectural style futuristic rather than classical.

The scale is appropriately gargantuan for an undersea necropolis: 5-ton columns on 50-ton bases, arches soaring 25 feet. About a tenth of the underwater sculpture garden has been developed, says project manager Jim Hutslar. When the entire reef is completed, perhaps in 10 years, its rings and spokes will resemble a massive mandala. Leaping dolphins, chariots and Neptune himself are planned as future monuments.

In the company's Deerfield Beach plant, Hutslar mixes a client's cremated remains into special underwater concrete in 10-pound sculptures of starfish, shells and coral. Family members can watch or participate. Some place small tokens from the deceased in the mix -- fishing lures, angels or rosaries.

"Sometimes I warn the family," Hutslar says. "If you start crying, I may cry."

On the reef, the sculptures are affixed to pavers along paths or set into columns and statuary. They eventually will be covered with coral, but plaques reveal who resides there. The cost is \$2,600 for a standard placement of cremated remains. A cremation and placement package runs about \$4,000.

Appealing to sea lovers, the reef is home to the remains of boat captains and divers. Others desire a unique alternative to the graveyard. "We're seeing a lot of baby boomers because it's different," says Stephen Ziadie, Neptune Memorial Reef's chief operating officer.

Fish swarm there by the hundreds; an eel and two stingrays have taken up residence. "As I'm working, they're around my hands, trying to see what I'm doing," Hutslar says.

Of the 1,200 spots in the reef's initial development, more than half have been sold, he said. The company doesn't own the site -- it's in international waters -- but has federal and state permission to build on it.

Hutslar makes several maintenance dives to the reef each week, and places the remains of five to six people there a month. Nine family members of one woman learned to dive so they could watch him set her sculpture. "They all got certified for that one event," he says.

Ron Hink, 54, of Fort Lauderdale, suggested the reef for his mother, Edith, when she was in a hospice. "She just lit up and said, 'Gosh, I love the idea. I've always lived on the water, and I'll have waterfront property,'" he recalls.

Hink bought space in a column for himself, his wife and two kids. "One by one we'll all go there," he says.

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## Oceans hold the solution to Earth's woes

MIAMI HERALD / By Sam Waterston / July 17, 2009

Name the problem, and for the United States, the oceans have been a great and generous solution. They've been a highway for goods and people, connecting us to the world, and a barrier against foreign invasion, protecting us from the world; a source of food and wealth, going back to our earliest beginnings, when whale oil lit our houses and when cod were so plentiful in New England that huge specimens were commonly stacked like cordwood on New England docks and wharves and still there were so many that you could walk on their backs across some harbors.

Until the recent unrelenting hammering by our technologically impressive, very efficient, very destructive fishing fleets, the seas have been an inexhaustible cornucopia of sea life for our sustenance, delight and wonder. For just as long, they've been an uncomplaining dump. They've absorbed our waste -- trash, sewage and, from manufacturing and power generation, nuclear waste and oil spills.

For the last 250 years, oceans have also been a great sink, absorbing 30 percent of the carbon dioxide we put into the atmosphere through the burning of fossil fuels and deforestation, moderating and masking its global impact. They take in 11 billion metric tons of carbon dioxide per year. Each year, the amount we release grows another 3 percent.

### Early-warning system

And still the oceans serve us. In fact, they're performing double service. First, they are giving us early warning, telling us in plain language, the certain consequences of continuing to consume as we are. Second, they're offering us a solution to the problem that has brought us to this dangerous moment, namely humanity's vast appetite for energy. So what happens to the carbon dioxide absorbed by the seas? It combines with seawater to create carbonic acid, changing the acidity of that vast solution and reducing the amount of available carbonate. And that is serious mischief for all kinds of sea life, from corals and pteropods, continuing on through shellfish, clams, oysters, lobsters, mussels and so on, that need carbonate to make the structures that support them.

A chain reaction begins. Even those creatures whose own structural parts might better survive a decrease in available carbonate in sea water depend to one degree or another on critters with higher sensitivity. Whales and salmon eat pteropods for dinner. The very tasty and much-prized Alaskan pink salmon makes pteropods 45 percent of its diet. Many kinds of fish need corals for habitat. And corals aren't just tropical -- the colder the water they live in, the more vulnerable they are to changes in the availability of carbonate.

The current acidification level hasn't been seen for 800,000 years, and acidification is coming on at least one hundred times faster than ever before. The levels are alarming; the rate of change makes them even scarier because it so restricts the ability of sea creatures to adapt.

In contrast to the debate that continues about the causal relationship between this or that weather event and human activity -- there is no debate about ocean acidification. The rise in carbon-dioxide content is a man-made event, plain and simple, and the consequences of it continuing uncontrolled will belong squarely to us.

Tap the power

It will make for some uncomfortable moments around the dinner table when our children ask, "What did you do in the (climate) war, Daddy?" If we don't recognize the ocean's warning, the first cataclysm from man-made climate change that will get our attention will be the collapse of the oceans.

If we do recognize the warning, the oceans are ready to be a solution. Power in the tides and waves is there to tap. Offshore wind power is a technology that's ready to go right now, near the great population centers on our coasts, where it's most needed.

For 800,000 years, the seas were a stable solution, a hospitable solution for all sorts of creatures to live in and a generous solution to all sorts of human problems, from food supply to waste disposal. We must not turn them into a toxic cocktail, for people or for the 80 percent of life on the planet that lives in them.

Carbon dioxide in the sea is the front line of climate change. Reverse the trend toward ocean acidification, and we will have made a giant stride in addressing the impacts of climate change. The sea is warning us to change course and calling us to seize enormous opportunities. Now.

Sam Waterston, an actor and native of New England, serves as a board member for global ocean conservation group Oceana.

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## **`No fishing' zones reconsidered at Biscayne National Park**

MIAMI HERALD / By Curtis Morgan / July 21, 2009

Last time Biscayne National Park floated the idea of marine reserves -- also known as ``no-take" or ``no-fishing" zones -- the public wasn't biting.

That was five years ago, and park managers are ready to try again, this time armed with threatened species status for two corals and a recommendation from a national reef task force to place a fifth of the U.S. tract in reserves.

The park will hold three meetings starting Tuesday to seek input from anglers, divers and others who enjoy one of Florida's most used and abused bodies of water. Elsa Alvear, chief of resource management, stressed that no areas have been proposed -- yet.

“We want the public to help us determine where, if at all, we should put reserve zones,” she said. “And, if so, how big should they be and how many should there be?”

There already are numerous no-take zones around major reefs in the Keys, and one of the world's largest reserves is in Dry Tortugas National Park.

Many marine scientists and environmentalists support reserves as a way to protect complex, poorly understood marine systems. But recreational and commercial anglers have argued pollution, development and poor enforcement are more to blame for declining fish stocks and decaying reefs.

Adam Gelber, a Miami angler who monitors park regulations, said it is impossible to judge potential plans until park managers map out proposals for the reserves and mooring buoys intended to limit anchor damage to reefs.

“I don't have a problem if you're going to establish a mooring buoy field around certain reefs to protect endangered and threatened species,” he said. “If they're going to turn the entire patch reef system into a mooring buoy field, then I have a problem.”

Alvear said the park wants to improve the experience for all visitors, including snorkelers and paddlers.

“When you go out West, you expect to see healthy populations of large wildlife,” she said. “When a visitor comes to a coral reef national park, they should see healthy corals and large fish.”

The reserves are being considered as part of updating the park's general management plan, an effort stalled five years ago after turnovers of top supervisors. A draft with at least five possible scenarios is expected by 2010.

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## **Sea warming menaces Caribbean, Gulf coral**

Associated Press Writer / By Brian Skoloff / July 22, 2009

WEST PALM BEACH — Warm ocean temperatures predicted to persist through October in the Caribbean and the central Gulf of Mexico could mean the loss of huge swaths of corals across those regions, U.S. scientists warned today.

The National Oceanic and Atmospheric Administration's Coral Reef Watch network said the conditions may lead to coral disease outbreaks and bleaching, when the stressed organisms expel the colorful algae living in their tissues, leaving a whitish color.

Coral bleaching that lasts more than a week can kill the organisms, since they rely on the algae for sustenance, leading to the loss of reef habitat for numerous marine species.

Sea surface temperatures in parts of the Caribbean are already at levels typically not seen until late summer months when the water is hottest, said C. Mark Eakin, coordinator of NOAA's Coral Reef Watch.

Bleaching can occur when sea temperatures rise just a few degrees above the average of the warmest summer months in these areas where coral reefs live. The general average for the hottest summer months in the Caribbean is about 84 degrees Fahrenheit, Eakin said.

He noted that sea temperatures in some parts of this region already are at the higher threshold, around 86 degrees, and that some bleaching has already begun. Those temperatures are expected to hold through October.

Scientists fear the bleaching could exceed what was seen in 2005 in the Caribbean, the worst coral bleaching event in the region's recorded history. In parts of the eastern Caribbean four years ago, up to 90 percent of corals suffered bleaching, with more than half dying.

"Just like any climate forecast, local conditions and weather events can influence actual temperatures. However, we are quite concerned that high temperatures may threaten the health of coral reefs in the Caribbean this year," Eakin said.

NOAA also warned of potential high sea temperatures stressing corals near the central Pacific islands of Kiribati, and between the Northern Mariana Islands and Japan.

Scientists hope the early warnings of potential coral stress will lead governments to take protective steps, including establishing temporary restrictions on users of coral reefs in the areas, such as divers, boaters and anglers.

Corals around the world are being stressed by rising sea temperatures, causing bleaching events that expose the organisms to disease and death. Carbon dioxide released by burning fossil fuels is absorbed by the oceans, making the waters more acidic and corrosive on corals. Land-based pollution, such as sewage, beach erosion, coastal development and overfishing also are to blame, experts say.

About 25 percent of all marine species need coral reefs to live and grow, while 40 percent of fish caught commercially and consumed worldwide use reefs to breed.

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## **It's up to us to protect landmark worm reef**

TC PALM / By Eve Samples / July 22, 2009

MARTIN COUNTY — So often, it's easier to say nothing at all.

Kimberly Brooks didn't. It's not her nature.

Brooks and her family were celebrating her husband's 37th birthday at Bathtub Reef Beach last week, wading in the tide pools as the surf inched closer to shore.

With her 2-year-old daughter on her back, she bobbed in the water — until she spotted a man at work.

He was hunched over, using shells and rocks to carve into the delicate worm reef.

“CLAUDINE,” his graffiti read.

The word — perhaps his companion's name — spanned about 3 feet. The letters pressed deep into the reef, 2 or 3 inches below the surface. To achieve the effect, he methodically scratched over them again and again.

“He wanted it to be seen years and years from now,” Brooks said.

She was stunned — not only because the man was gouging a rare organism, but because none of the nearby beachgoers bothered to stop him.

There were no lifeguards to step in. Bathtub Beach has been unguarded since it reopened May 7.

And Brooks didn't have a phone on her — just sunscreen.

So the petite 37-year-old approached the man herself. With a camera in hand, she demanded to know who he was.

He didn't answer. He didn't stop carving either.

Only when Brooks started snapping photos of him did the man and his female companion hurry away.

The damage was done.

Brooks was a bit hopeless: “Who's going to find him? Nobody.”

Later, when Brooks finally found a phone number to call, she got funneled into someone's voice mail at Florida Fish & Wildlife Conservation Commission. She didn't hear back until hours later, she said.

Destruction of the worm reef, also known as worm rock reef, isn't new. Bathers often traipse on it at low tide, killing the tiny worms under foot.

Some don't realize they're damaging an important habitat. Others don't care.

“There isn’t enough education about the reef, that it is a living worm reef,” said Mark Perry, executive director of the Florida Oceanographic Society.

The reef is built by industrious little creatures known as Sabellariid (pronounced Sa-bell-AIR-id) worms. Using grains of sand, the inch-long worms build tubes around their bodies. Each square meter of reef houses about 60,000 tubes.

“We’re basically the only place in the country that has this huge example of worm reef,” Perry said.

If you’re not sympathetic to worms — and, let’s be real, it’s hard to pity an animal without a face — think of the larger role of the reef. It creates a habitat for tropical fish and other marine life.

“If you carve it, or even step on it, it will crush the tops of the tubes and (the worms) can’t come back out again, and they die. So you are killing the reef,” Perry said.

For years, he has argued that the worm reef should get more protection.

A new state law appears to give it that.

The Coral Reef Protection Act — signed into law July 1 — also covers worm reef, said Cristina Llorens, spokeswoman for the Florida Department of Environmental protection.

Anyone who damages an area of reef equal to or smaller than a square meter can be fined \$150. “Aggravating circumstances” — like the intentional destruction Brooks witnessed — would add another \$150.

Because the law is so new, it’s unclear if DEP or the wildlife commission will be responsible for enforcing it and collecting fines.

In the meantime, Brooks hopes somebody will conceal the fresh graffiti so it won’t inspire copycats. She wants to see bigger, more noticeable signs warning people to stay off the reef. She’d like a call box — or at least an accurate phone number — for reporting offenders.

Martin County hopes to assign lifeguards to the beach after erosion-damaged restrooms are rebuilt there, but it’s unclear when that will happen, Parks Director Richard Blankenship said.

For now, it’s up to us, the beachgoers.

Next time I’m tempted to keep my mouth shut when someone trudges across the worm reef at Bathtub Beach, I’ll think of Brooks.

I’ll say something.

Eve Samples is a columnist for Scripps Treasure Coast Newspapers. This column reflects her opinion. Contact her at (772) 221-4217 or eve.samples@scripps.com. Read more columns at TCPalm.com.

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## DEP Highlights Top Five State Parks Swim, Snorkel or Splash

FOSTER FOLLY NEWS / July 26th, 2009

TALLAHASSEE – In celebration of Parks and Recreation Month, DEP's Florida Park Service is highlighting five state parks for aquatic recreation. From springs and lakes, to rivers and oceans, Florida's state parks are home to many water bodies and offer activities that foster an appreciation of Florida's water resources while providing a break from the summer heat.

“July is not only National Parks and Recreation Month, but one of Florida's hottest months,” said DEP's Florida Park Service Director Mike Bullock. “What better place to escape the July heat than one of Florida's 160 affordable state parks which offer water activities for any interest ranging from swimming and canoeing to snorkeling and surfing.”

The top five state parks to get wet and not sweat this July include —

**John Pennekamp Coral Reef State Park**—America's first underwater park, located off Key Largo, boasts 70 nautical square miles of beautiful coral reefs. During the summer, the water is calm and cool, and guests can take a boat trip to scuba dive or snorkel near the reefs. Nearby, guests can also dive down to see Christ of the Abyss, an 8.5 foot, 4,000 pound bronze sculpture of Jesus Christ that stands in 25 feet of water.

**Sebastian Inlet State Park**— Located in Melbourne Beach, Sebastian Inlet's three miles of beaches provide opportunities for swimming, scuba diving, snorkeling, shelling, sunbathing and surfing. The park is a popular destination for saltwater fishing on Florida's east coast and hosts several major surfing competitions throughout the year.

**Oscar Scherer State Park**— Lake Osprey is a perfect place to cool off during the hot summer days in Osprey. This three-acre freshwater lake has a sandy beach front and is located at the Lake Osprey Picnic Area. The park also offers saltwater and freshwater fishing, and canoeing and kayaking are available in South Creek.

**Suwannee River Wilderness Trail**—Stretching from White Springs in North Florida, to the town of Suwannee on the Gulf Coast, the Suwannee River offers 170 miles of adventure perfect for canoeing, kayaking and camping along the way. The Suwannee River State Park in Live Oak offers a boat ramp for visitors to launch their journey along the river. The Suwannee River Wilderness Trail is a partnership program between DEP, the Suwannee River Water Management District and communities and local businesses along the river.

St. George Island State Park—Miles of undeveloped beach, with the Gulf of Mexico on one side and the Apalachicola Bay on the other, provide many opportunities for cooling off on St. George Island, located just 75 miles southwest of Tallahassee. Swimming, canoeing, shelling, boating and fishing are some of the activities that make this park a North Florida summer favorite.

The first two-time Gold Medal winner honoring the nation's best state park service, Florida's state park system is one of the largest in the country with 160 parks, most of which are open 365 days a year. Florida's state parks, which span more than 700,000 acres and include more than 100 miles of sandy white beach, provide an affordable outing for people of all ages. Fort Mose Historic State Park in St. Augustine was recognized by the National Park Service in April 2009 with its inclusion in the National Underground Railroad Network to Freedom Program.

For more information about Florida's state parks, or to locate a summer swim destination, visit [www.FloridaStateParks.org](http://www.FloridaStateParks.org).

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## **A Dow Jones for the ocean**

What's the state of the world's waters? Two years and tons of calculations from now, one number will tell the story.

BOSTON GLOBE / By Steven Katona / July 12, 2009

It's no big secret that the condition of the world's oceans, seas, and their ecosystems is deteriorating. Our waters are being overfished and polluted. Sea temperatures and levels are rising. Habitats and healthy coral reefs are shrinking. Microbial diseases are spreading faster. And the ocean is growing more acidic. That's just a start, and the far-reaching effects hurt everything from polar bears to local economies.

Reports describing our oceans' decline appear almost daily in the media or in scientific literature. The problem is that, for the general public, it's difficult to sift through all that piecemeal information and fully grasp the big picture. And for the community of marine scientists, conservation groups, and seemingly endless number of agencies and committees that manage ocean activities (there are some 70 bodies at the federal level alone) there's no large-scale monitoring system that evaluates progress, or lack of it.

Enter the Ocean Health Index. On Wall Street, we have watched the Dow Jones Industrial Average for 103 years as one gauge of the health of the American economy. The Dow tracks the financial performance of its component companies, but also reveals broader trends in overall economic vigor. Now it's time to create a Dow Jones of sorts for the ocean, because we have some serious investing to do.

The Ocean Health Index, currently being developed by scientists (including myself) at the New England Aquarium, Conservation International, and the National Geographic Society, along with other leading marine experts and analysts around the world, will be launched in 2011 and provide a comprehensive yet clear measuring stick on the state of our waters. Although there are

other indices formulated by various groups that provide a report card on the earth (the Environmental Performance Index, for example), the OHI will be the first index that focuses solely on the oceans.

Calculated annually, the index will comprise about 40 measures, which are being selected and weighted to represent the most critical factors affecting ocean health, including overfishing, climate change, habitat destruction, pollution, and invasive plant and animal species. The final score will be on a scale from 1 to 100. The OHI will evaluate the oceans' status at the global level but also report on regional coastal areas that offer enough test data, such as the Gulf of Maine or the Mediterranean Sea.

The overall OHI score will resemble the grade-point average on a report card, but there will also be scores in those 40 measurement categories relative to performance goals established by the index team, and they'll be mapped and color-coded so people can understand which areas are particularly troublesome and which reflect progress. Those numbers will be similar to grades for individual classes and should assist agencies and councils at the international, federal, and local levels to assess whether any actions taken to address harmful trends are producing results. Over time, the numbers will, in turn, enable the public to determine whether these ocean managers are fulfilling their responsibilities, and whether society's investment in ocean health is paying dividends.

The comparison with the Dow has its limits. But even from a business perspective alone, what's at stake is simply enormous: In one study, the total economic value of the oceans and their ecosystems was estimated at \$21 trillion -- and that was back in 1997.

The oceans, which cover more than 70 percent of the planet, existed several billion years before humans, but their well-being depends on us, and vice versa. Fortunately, we're at the beginning of a revolution in the way we use and watch over this resource. Proponents of an approach known as ecosystem-based management (EBM) are drawing followers. EBM takes into account the environmental, social, and economic facets of all human uses of the ocean and their real-life impacts on people and communities all together -- as opposed to the current approach in which different issues such as pollution, tourism, fisheries, and coastal development are examined separately and without adequate coordination.

By clearly pointing at priorities and providing a more explicit sense of shared purpose, the Ocean Health Index can help this vast collection of administrators, researchers, and advocates in business and conservation collaborate more effectively, with huge potential benefits for both the ocean and human well-being.

Steven Katona, the former president of the College of the Atlantic, is an adjunct senior scientist at the New England Aquarium. Send comments to [magazine@globe.com](mailto:magazine@globe.com).

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