

AQUANEWS

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So How Are the Oceans Really Doing? *hurrah for rabbitfish but shame on you, Robert DeNiro*

As divers, we are greatly concerned about the rapid deterioration of our planet, but we never have enough pages in *Undercurrent* to properly share our thoughts. However, we recently received a small grant from a foundation, thanking us for our coverage of environmental issues. To honor that, we've collected an array of facts to share with you. There's a lot of bad news, with some good news mixed in. If you take a serious interest in a topic and want a citation, please e-mail me at Bendavison@undercurrent.org. Now, the news.

Outbreaks of the notorious crown-of-thorns starfish now threaten the "Coral Triangle," the richest center of coral-reef biodiversity on earth. It touches East Timor, Indonesia, Malaysia, Papua New Guinea, the Philippines and the Solomon Islands. The starfish feeds on corals by spreading its stomach over them and using digestive enzymes to liquefy tissue. Outbreaks devastate entire coral reefs . . . The crown of thorns is less devastating in the no-take zones in Australia's Great Barrier Reef, where the starfishes' natural predators - reef fishes like the humpheaded wrasse, pufferfish and the giant triton, often collected illegally - help maintain some balance.

While rabbits ravage Australia's native landscapes, rabbit fish may help save the Great Barrier Reef from destruction.

When coral is weakened or damaged through climate change or pollution, the coral may recover, provided it is not choked by fast-growing algae. Both rabbits and rabbitfish are efficient herbivores, capable of stripping an area of vegetation. However,

in the case of the Reef, vegetation is the problem - - and the rabbitfish are the answer . . . What was once called Fiji's Coral Coast is now the dead coast. Tourism, chemical runoff and sewage are killing coral on the southern coast of Viti Levu, so hotels are upgrading their sewage treatment plants and installing artificial wetlands. Now, dried sludge is being hauled off, while crown-of-thorns starfish are being removed from the coral. Large numbers of parrot, surgeon and rabbit fish have arrived and are now eating the algae.

The Indo-Pacific is home to 75 percent of the world's reefs, but they're disappearing twice as fast as tropical rainforests . . . Of 704 reef-building coral species worldwide, 32 percent are in danger. Before the 1998 global coral bleaching catastrophe, that percentage was 2 percent . . . With 231 species facing extinction, corals have joined frogs and toads as the most threatened group of animal species on the planet.

When clownfish breed, their eggs are swept from the reef by currents. Twelve days later, they swim back as tiny fish, often to the reefs where they were born. Studies show the returning fish were attracted by the scent of leaves from trees hanging over their home reefs, as well as the scent of the reef's anemones. Aquarium-raised clownfish used the same homing signals . . . In Switzerland, you can no longer flush your goldfish down the toilet; they must be killed first. Catchand-release fishing and the use of live bait are also banned.

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AQUANEWS

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Hundreds of tons of shark fins are being exported from Australia every year, cut from at least 10,000 sharks . . . Overfishing is wiping out sharks on the Great Barrier Reef. Researchers had difficulty catching any for DNA samples. "We've found sharks inside highly protected areas like Cod Hole, dead on the bottom with their tails cut off, so the fishermen have just got upset with the animals, pulled them up and killed them," said one researcher.

Thanks to an invasive species, the Thousand Islands in the Saint Lawrence River between New York and Ontario have become a diver's paradise. Water-filtering zebra mussels have caused ecological and economic hardship, but they've also purified the water and reduced pollution. Water visibility that was once an arm's length is now up to 100 feet . . . Cigarette butts by the tens of thousands were the top item recovered during the annual Great Canadian Shoreline Cleanup.

A researcher has found that octopuses effectively have six arms and two legs. It had been thought they used four tentacles for movement and the other four for feeding and manipulating objects, but observations showed they use the rearmost two to get around over rocks and the seabed . . . Ninety-five percent of the Mid-Atlantic seabed is bare sand.

NOAA predicts there will be some bleaching in the Caribbean later this year, but not as severe as the coral bleaching event that occurred there in 2005, which resulted in significant coral death around much of the region . . . Nearly half of U.S. coral reef ecosystems are in "poor" or "fair" condition, according to a new NOAA analysis. Elkhorn and staghorn corals have become the first corals ever listed as threatened under the Endangered Species Act.

A new study suggests that reef communities can be thrown quickly and seriously out of balance by the iron from sunken ships. Scientists hope the findings will encourage the prompt removal of derelicts before they can damage the fragile ecosystems . . . The aircraft carrier *Oriskany* is the largest vessel ever sunk to make a reef. In 2007, 4,200 dive trips were made to the wreck . . . Forty-four New York subway cars were sunk off the Maryland coast to create an artificial reef. Previous subway sinkings off the Delaware and New Jersey coast have dramatically increased fish populations . . . One of three Japanese tankers sunk in the Chuuk lagoon during WWII is releasing an increasing stream of diesel oil. Among 52 wrecks in the lagoon, the three tankers could be holding three-quarters of what the *Exxon Valdez* leaked in 1989. The hulls of these ships are not expected to last more than 10 or 15 more years . . . There are 380 oil tanker wrecks in the Pacific.

(Continued on page 4)

Rockland Aquanauts Organization Inc.
Mission Statement:

To provide, promote, and advance environmental protection, care, and voluntary clean-up of waterways by any and all lawful means; to promote the importance and care in every manner possible by environmental awareness and otherwise; to purchase, print, publish, and circulate literature to promote the importance and care of the waterways and the work of the Corporation. To perform all acts the Corporation may deem appropriate or advisable in such operation; to establish, provide, and voluntary clean-up waterways, to encourage, support and subsidize the cleaning and protection from pollution.

"Alien" Jellyfish Found in Arctic Deep" National Geographic *Month Two*

For 2010 we've decided to add a new series of mini articles that have been featured in National Geographic. Every month, another part of the article "Alien" Jellyfish Found in Arctic Deep" will be posted here.

Sea Angel

Biologists captured a so-called sea angel, *Clione limacina* (pictured), at about 1,148 feet (350 meters) during a 2005 research expedition to the Arctic Ocean.

This little angel apparently doesn't mind showing a little skin: It's actually a naked snail without a shell, scientists said in December 2009.

Such marine snails--most of them the sizes of lentils--are widely eaten by many species, making them the "potato chip" of the oceans, biologist Gretchen Hofmann, of the University of California, said in a 2008 statement.

December 11, 2009



Photograph by Kevin Raskoff

Two giant floating islands of accumulated junk, mostly plastic, rotate in the northern Pacific Ocean. Spinning clockwise, they stretch from California to Japan. Eventually the trapped plastic is broken down into small enough pieces for marine wildlife to eat. With full stomachs but no sustenance, these animals, and those that eat them, sicken and die . . . Intricate ocean food webs that feature large animals are being converted into simplistic ecosystems dominated by microbes, toxic algae blooms, jellyfish and disease. It's what Scripps Howard researchers call "the rise of slime."

Manta rays and their habitat are getting their first designated protected area in the western Pacific. It includes 16 main islands and atolls and 145 islets in an 8,243-square-mile area around Yap in the Federated States of Micronesia . . . Bermuda has recently completed the mapping of its 1,000-square-kilometer, shallow reef system. The survey revealed 40 potential new dive sites where a small "canyon" runs from the inside of the shallow lagoon to the deeper waters of the outer reef rim . . . Nine Caribbean nations will create new protected areas for fish and coral reefs under a \$70 million plan. The Bahamas, Dominican Republic, Jamaica, Antigua and Barbuda, St. Kitts and Nevis, Dominica, Saint Lucia, Grenada, and St. Vincent and the Grenadines aim to set aside 12,500 square miles.

No-take zones might protect reefs against overfishing and help increase fish population, but they're powerless to help corals fight the effects of global warming. Studies at 66 Indian Ocean sites showed the same coral loss from warming in unprotected areas as in no-take zones. Four percent of the world's oceans are considered pristine . . . As ocean temperatures rise, corals have the best chances of survival when they're in seas with wide-ranging seasonal temperatures. Conversely, reefs in environments with stable but higher temperatures are more susceptible to fatal bleaching.

A wild dolphin is teaching other members of her group to walk on their tails. One female spent a short time after an illness in a dolphinarium, and may have picked up the trick there. She received no training but may have seen other trained dolphins tail-walking. Now other females in the group have picked up the habit . . . Off the beaches of Virginia and along Scotland's eastern coast, gangs of dolphins kill baby porpoises, seemingly for the fun of it. What had been thought of as parents playing with their young was actually dolphins ramming, tossing and chasing to death young porpoises. The dolphins use their ultrasound abilities to home in on their victims' vital organs so their blows will cause maximum damage.

In expensive seafood restaurants in Hong Kong and Singapore, it has become a delicacy to dine on large, colorful coral reef fish that are lifted from an aquarium and killed moments before cooking. A plate of the rubbery lips of a Napoleon (a.k.a. Maori or Humphead) wrasse sells for \$250, and a 40-kilogram specimen can cost as much as \$10,000 . . . Belgium is home to the world's deepest swimming pool, the 105-foot-deep Nemo 33. Your nondiving friends can sit in the restaurant and watch you descend into the 91-degree human aquarium.

A U.S. scientist predicts continued overfishing will lead to the extinction of the Earth's edible species of fish and effect other levels of the food chain . . . Close to 40 percent of the seafood we eat now comes from aquaculture . . . 2.48 million tons of fish are used in the global cat food industry each year . . . In Australia, cats eat more fish than humans. Sardines, herring, and anchovy that are being fed to pet cats are the diet of larger fish such as tuna, swordfish and cod, as well as marine birds and mammals, thereby affecting their numbers . . . California officials temporarily banned fishing from piers in the Capitola area this summer when 90 endangered brown pelicans suffered injuries after becoming entangled in fishing lines while feasting on anchovies.

Ten percent of the world's reefs have been completely destroyed. In the Philippines, where coral reef destruction is the worst, over 70 percent have been destroyed and only 5 percent can be said to be in good condition. Scientists say 70 percent of all corals on the planet will be destroyed in 20 to 40 years unless people stop doing what they're doing - - pollution, sewage, erosion, cyanide fishing and clumsy tourism . . . There are some 4,000 fish species living in or around coral reefs, providing livelihoods and sustenance to an estimated 200 million people worldwide.

(Continued on page 5)

Hawaii supplies 80 percent of all aquarium fish for the U.S.. A juvenile yellow tang retailing at \$40 on the mainland only leaves \$3 in Hawaii, along with empty reefs . . . The largest protected no-take area in the world is the Phoenix Islands, 2,000 miles from Hawaii and 700 miles from the nearest airport: 158,000 square miles of protected ocean harbor, 150 species of coral and 550 species of reef fish, all in abundance . . . An underwater vacuum cleaner can suck up reams of invasive seaweed, breathing new life into suffocated coral reefs. The Super Sucker cleared 8,000 kilograms of invasive seaweed from two 210-square-meter plots off the Hawaiian coast. Native organisms inadvertently vacuumed are removed and returned to the reef, and farmers use the harvested seaweed as fertilizer.

DNA tests have shown that a Michelin-starred restaurant chain partly owned by actor Robert DeNiro has been serving endangered Atlantic bluefin tuna at its London outlets without telling customers. Undercover investigators have targeted the Nobu chain, which has 21 restaurants on four continents and is the haunt of celebrities like Madonna and Leonardo DiCaprio . . . In 2005, Florida officials found 17 of the 20 Tampa Bay area restaurants it inspected were substituting alternate species for grouper. Sysco Corporation supplied 14 of these restaurants. It settled and will pay \$200,000 in legal fees and \$100,000 to food programs.

Following damage to a reef by bleaching, algae nearly always beat coral in the race to resettle a devastated area. Some species of algae release chemicals into the water that have a deterrent effect on the tardy coral larvae. Without the help of herbivores to mow the growing weeds, coral may never regain a foothold. But other algae species release chemicals that have the opposite effect, encouraging coral larvae to settle . . . A scientist has captured newborn elkhorn corals in Puerto Rico and, after incubating the juveniles for seven days, she plans to distribute them to aquarium professionals, hoping to reduce the pressure to collect wild coral.

The Australian oyster blenny, an immigrant fish to New Zealand, is terrorizing Waitemata Harbor's barnacle community with its preference for eating the barnacle's phallic appendages. Scientists are finding a large number of penises inside their stomachs and say that while it's not killing the barnacles, it will stop the next generation from being produced . . . Though skin cancer is deadly to the male swordtail fish, it also has one perk: The black melanoma splotches that arise from already attractive natural markings lure mates. His life is shortened by half but the male swordtail can produce a lot of offspring in that time.

A clam found in Icelandic waters is said to be the oldest living animal. Its age of 405 to 410 years was determined by counting the annual growth lines in its shell . . . A new species of giant clam has been discovered in the Red Sea. It is up to 15 inches long and three pounds. It may already be critically endangered.

Marine mammals around the world are dying from a deadly parasite that causes toxoplasmosis. Many scientists believe fresh water runoff contaminated with cat feces is to blame. Filter-feeding anchovies become infected with the parasite and pass it along to the mammals that feast on them . . . More than 100,000 people a year contract ciguatera, a severe poisoning caused by eating fish. Dead coral is often colonized by blankets of algae that harbor toxin-secreting microorganisms. Grazing reef fish ingest these toxins, passing them up the food chain directly to humans, or to other fish such as barracuda that are then eaten by humans.

Out of 100 Western Gray Whales extant, 23 are reproductive females. Their feeding ground off the northeastern coast of Russia's Sakhalin Island has been annexed by oil companies, whose exploration and mining activities are driving the 30-ton mammals to extinction . . . Scientists in Japan have given a beluga whale a vocabulary of three words, the first time a marine creature has been able to link a sound to an object and then repeat the sound as a 'word.'

-- Arthur Hardman and Ben Davison

Thumbs Up

from the October, 2009 issue of *Undercurrent*

We were heading back to Punta Arenas on the *Undersea Hunter*, 24 hours out of Cocos when the captain spotted a large turtle on the surface I saw it as well, and thought there was something not quite right but, since we were traveling fairly fast and dusk was settling in, I blamed my eyesight.

All of a sudden, the engines slow and the captain maneuvers his 90-foot boat in a huge circle and backtracks until we find the turtle. A crew member dives overboard, brings this heavy turtle back to the boat and another crew member lies on his belly, hangs overboard and hoists the turtle on board. These guys are strong! Keeping the turtle still, crew members remove a dense ball of fishing line and plastic entangled around the two flippers on the right side. Then we ease the turtle back into the ocean and head home.

A long trip, crew eager to return to their families, a boat traveling quickly, dusk falling -- who would have blamed them for continuing on? Our dive group was really touched by their attention to nature, including one diver who had tears in his eyes.

Bernadette Latin, July 2009.





On Sunday, April 11, Mike Carew of Captain Mike's Diving will be hosting a special Beach Clean-Up and social event at

Orchard Beach in Pelham Bay Park near City Island. This pre-season above and underwater Beach Clean Up will be followed by a clambake and pot-luck BBQ. There will be plenty of free parking and very easy beach access.

Support will be provided by The Scuba Sports Club and the Long Island Divers Association. All area dive shops, dive clubs and divers are invited to attend this free event, which will run from 9:00 AM through 4:00 PM.

This will be a great social event and an early opportunity to kick off the season by:

- Sharing dive stories and news of upcoming excursions
- Getting to know dive clubs and operators in your area
- Meeting or reuniting with fellow divers and potential buddies from across the area
- Helping the environment with above and below surface cleanup
- For those with appropriate gear, enjoying some great beach diving
- And, of course, good food and camaraderie

In attendance will be numerous dive shops and clubs from Westchester County, Connecticut, and Long Island. Coming in from Westchester County will be divers from Aqua Visions Scuba, SCUBA New York, Abyss Scuba, and Marsh Scuba Supply. From Connecticut we will be joined by the folks from Ski and Scuba Connection, and the Long Island shops participating will include Hampton Dive, Kings County Divers, Long Island Scuba, Scuba Network of Long Island, Seascapes USA, Swim and Scuba, Tiedemann's Diving Center, and QC Scuba. Also joining in the fun will be The Dive Club and The Sunday Dive Club of Long Island and the Staten Island Sport Divers, along with The NYC Sea Gypsies and Oceanblue Divers.

Everyone is invited to join in this fun, family friendly event. Feel free to get in touch with any of the listed participating dive shops or clubs and let them know that you are planning to attend, dust off your gear and join us for a great pre-season kick-off dive and beach clean-up, and a clambake that will set the standard for all future beach parties! Whether you go in the water or not, you are sure to have a great time!

Bill Pfeiffer

President

Long Island Divers Association



Proposed Hessian Lake Dives 2010



Saturday June 19th @ 9am

Saturday August 14th @ 9am

Sunday September 5th @ 10am

Saturday September 25th @ 10am

Sunday October 10th @ 10am

Saturday October 23rd @ 10am

As soon as we get the official list we will send out a separate flyer

ANNUAL MEMBERSHIP FEES

Rockland Aquanauts Organization
2009 & 2010 Dues

Many of our members have not paid their 2009 dues. It would be appreciated if you could pay them as soon as possible so that I can close out the books for 2009.

Also anyone that wants to pay their 2010 dues can do so. You can then take your tax deduction in 2009.

So please send in your \$42 dues early to;

Rockland Aquanauts Organization
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Valley Cottage New York 10989

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March 2010

How Are Our Oceans, Thumbs Up, Alien Jellyfish, Proposed Hessian Lake, Orchard Beach, 2010 Dues

**We are currently looking for a place to have our 2010
Annual Dinner...**

Any suggestions?
