

Coral reefs and global warming: are we in for a “double whammy?”



PHOTO COURTESY GETTY IMAGES

Of the world's coral reefs, 20 percent have been effectively destroyed and show no immediate sign of recovery, while about 50 percent of remaining reefs are under imminent or long-term threat of collapse.

Are reefs and oceans getting less efficient at storing CO₂?

From the Editors of E/The Environmental Magazine

Dear EarthTalk: I've heard about the die-off of coral reefs due to global warming. I've also read that coral reefs themselves store carbon dioxide (CO₂), one of the main global warming gases. So, if coral reefs are dying out, isn't that a double whammy that increases the CO₂ in the atmosphere? -Tom Ozzello, Maplewood, Minn.

According to marine scientists, the world's coral reefs—those underwater repositories for biodiversity that play host to some 25 percent of all marine life—are in big trouble as a result of global warming. Data collected by the inter-

national environmental group WWF (formerly World Wildlife Fund) show that 20 percent of the world's coral reefs have been effectively destroyed and show no immediate sign of recovery, while about 50 percent of remaining reefs are under imminent or long-term threat of collapse.

Most scientists now agree that global warming is not a natural phenomenon but a direct result of the continual release of excessive amounts of CO₂ and other “greenhouse” gases into the atmosphere by human industrial and transportation activity. The small but prolonged rises in ocean temperature that result cause coral colonies to expel the symbiotic food-producing algae that sustain them. This process is called “bleaching,” because it turns the reefs white as they die.

Researchers working with the Coral Reef Alliance have found that while coral reefs do store CO₂ as part of photosynthesis, they tend to release most of it back into the ocean (so they are not what are known as “carbon sinks”). As

such, the release of CO₂ from dying coral reefs is not a major concern.

Of course, the ocean itself is a large carbon sink, storing about a quarter of what would otherwise end up in the atmosphere. Landmasses (and their plants) soak up another quarter of all the CO₂ emanating from the Earth's surface, while the rest rises up into the atmosphere where it can wreak havoc with our climate.

Recent findings indicate that the Antarctic Ocean is getting less efficient at storing CO₂ and this raises serious questions about the ability of our oceans to handle everything we throw at them. The study's authors fear that “such weakening of one of the Earth's major carbon dioxide sinks will lead to higher levels of atmospheric carbon dioxide in the long-term.”

Not everyone is forecasting gloom and doom. Some Australian researchers believe that coral reefs around the world could expand in size by up to a third due to increased ocean warming. “Our finding stands in stark contrast to previous predictions that coral reef growth will suffer large, potentially catastrophic, decreases

in the future,” says University of New South Wales oceanographer Ben McNeil, who led the controversial 2004 study that was published in the peer-reviewed scientific journal, *Geophysical Research Letters*. “Our analysis suggests that ocean warming will foster considerably faster future rates of coral reef growth that will eventually exceed pre-industrial rates by as much as 35 percent by 2100,” he adds.

In spite of such theories, the majority of marine scientists remain pessimistic about the future of coral reefs in a warmer world. One can only hope that the optimists are right.

More information is available at WWF, www.panda.org; Coral Reef Alliance, www.coralreefalliance.org; “Coral reefs may grow with global warming,” from *New Scientist*, www.newscientist.com/article/dn6763.html.

Got an environmental question? Send it to: EarthTalk, c/o E/The Environmental Magazine, P.O. Box 5098, Westport, CT 06881, submit it online at: www.emagazine.com/earthtalk/thisweek/ or e-mail: earthtalk@emagazine.com. Read past columns at: www.emagazine.com/earthtalk/archives.php.

OUTDOORS

MLTPA's “CAMP: SUMMER”

Program expanded to include Forest Service-led hike, bicycle tours, and Lake Mary Road bike path exhibit

The Mammoth Lakes Trails and Public Access Foundation (MLTPA) announced last week a number of exciting new additions to its CAMP: SUMMER event, held at Canyon Lodge in Mammoth Lakes, Thursday through Sunday, Nov. 1-4.

On Friday, Nov. 2, from 9 a.m. to noon, the U.S. Forest Service will lead a special hike through the Hidden Lake/Mammoth Meadows area at the base of the Sherwins as part of their Mammoth Meadows Restoration Project. Staff will assess hiking trails as part of this endeavor and seek public input during this special tour.

The Hidden Lake/Mammoth Meadows hike is a unique complement to the several others tours scheduled throughout the weekend, led by CAMP trails consultants Alta Planning + Design and Trail Solutions. Friday morning's “Existing Facilities” tours will highlight natural-surface and paved trail systems currently in place, and Saturday morning's “Missing Links” tours will focus on possible connections within each system to provide a more complete trail experience. Participants can register for either “beginner” Trolley/on-foot tours or “advanced” MMSA Bus/on-bike tours for both paved and natural-surface Existing Facilities tours. Input from all tours will drive the Trails Network Workshops, scheduled for Saturday, Nov. 3, from 2-4 p.m.

Also of note is the addition of the “Walk the Lake Mary Road Bike Path” exhibit, produced in partnership with the Town of Mammoth Lakes. A large-scale aerial map of the town will be on display, featuring the planned bike path as an overlay, and the public will have the opportunity to get a detailed look at this important trails project through the final construction drawings, mounted together as one continuous exhibit. The exhibit will be on display in Canyon Lodge throughout the event.

CAMP: SUMMER is a free, multi-day public workshop on summer trails and recreation in Mammoth Lakes and is an opportunity for the community to participate in the Trails and Public Access Concept and Master Planning (CAMP) process via interactive exhibits, tours, community and user group meetings, and workshops. A complete event schedule, registration information, and more is available at www.mltpa.org or by calling (760) 934-3154. All are welcome, but space is limited; registration is strongly recommended.

CAMP: WINTER, a similar workshop devoted to winter recreation and trails in Mammoth Lakes, is scheduled to take place in February 2008.

The Mammoth Lakes Trails and Public Access Foundation (MLTPA) is a 501(c)(3) public benefit corporation dedicated to trails and public access issues in Mammoth Lakes and the immediate Eastern Sierra region. MLTPA partners with local jurisdictions and agencies, businesses, nonprofits and individuals to connect people to nature and to provide a forum for all trail users to be involved. -MLTPA



Gull Lake gives up a whopper!



SUBMITTED PHOTO

Congratulations to Robert Brewer of Sherman Oaks, Calif., for catching this whopper, a 16 pound, 33 inch monster trout! Brewer caught his fish on Oct. 13 while trolling with an F11 Rainbow Rapala using only four pound test with no leader line, and needed much skill and patience in landing this huge Alpers trout!

As promised, Gull Lake Marina is continuing its aggressive stocking policy of monster-size trophy trout. With the 2007 season ending on Nov. 15, there is

still plenty of time to visit the beauty of the spectacular Eastern Sierra. Log on to our newly redesigned Web site and live Web cam at www.gulllakemarina.com.

Remember, there is no charge for private boat launching and coffee remains only a dime per cup. For information or reservations, contact the marina at (760) 648-7539. Gull Lake Marina operates under special use permit on the Inyo National Forest as an equal opportunity service provider.

Crowley Lake isn't too shabby, either!



PHOTO COURTESY KENT RIANDA

Last week saw his last day on Crowley Lake for the season, but it also turned out to be Family Day for Trout Fly owner Kent Rianda. Big smiles were in store for stepdaughter, Michaela Morado, after reeling in this huge Cutthroat.