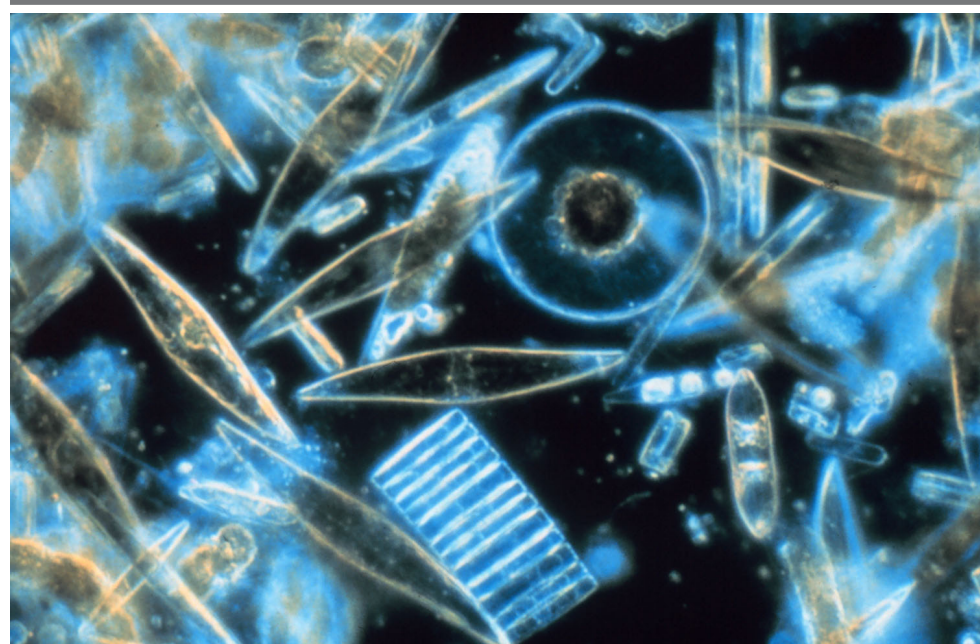


EarthTalk®



Various environmental factors are taking their toll on plankton the world over. This is bad news because, besides serving as a primary food source for many fish and whales, plankton plays a crucial role in mitigating global warming. Pictured: Microscopic phytoplankton from McMurdo Sound in Antarctica Image by Professor Gordon T. Taylor, Stony Brook University, courtesy Wikipedia.

From the Editors of E/The Environmental Magazine

Dear EarthTalk: Why is the plankton in the oceans dying? And what does this mean for the health of the oceans and marine life?

Marilynn Block, Portland, OR

As the lowest link on the marine food chain, plankton—that tiny aquatic plant, animal and bacterial matter floating throughout the

world’s oceans—is a vital building block for life on Earth. Besides serving as a primary food source for many fish and whales, plankton plays a crucial role in mitigating global warming.

Indeed, the ocean is the world’s largest “carbon sink”: As much as one-third of man-made CO2 emissions are stored in the oceans and therefore do not contribute to

global warming. This is because its plant component, phytoplankton (its animal component is called zooplankton), pulls massive amounts of carbon dioxide (CO2) out of the atmosphere as it photosynthesizes.

But various environmental factors are taking their toll on plankton the world over. The U.S. National Oceanic and Atmospheric Administration (NOAA) reported recently that marine phytoplankton is declining across the oceans. Even Canadian cod fishermen are noticing that the plankton-feeding fish they catch are often nearly starving as a result of lack of this crucial food source.

A 2007 study published in the scientific journal *Nature* found that human-caused increase in CO2 pollution is altering the pH (acidity) levels in the oceans. This change in chemistry is expected to have adverse effects on the entire ecosystem. More acidic ocean water inhibits the ability of shell-forming marine organisms—from plankton to mollusks to corals—to form properly. Smaller and less healthy populations of plankton would be bad news for all the other creatures above it on the ocean’s food chain.

Higher water temperatures, also attributable to our fossil fuel addiction, can also have a devastating effect on plankton. A recent report in the *Journal of the Marine Biological Association of the United Kingdom* noted that, in the Adriatic Sea cooler winter conditions—which are less frequent in a warmer world—are needed for plankton production and nutrient availability. Furthermore, warmer

sea temperatures can cause “blooms” of other sea life (such as happens with algae), resulting in oxygen starvation in the water, a condition that is devastating to plankton and other marine creatures and organisms.

In other situations, blooms of phytoplankton themselves—the tiny plants can gorge on the nutrients from the run-off from farms and lawns on land—can lead to oxygen starvation in the water. “The decomposition of these multitudes of phytoplankton removes oxygen from seawater, creating oxygen-poor ‘dead zones’ where fish cannot live,” reports Carly Buchwald, a researcher at Woods Hole Oceanographic Institution.

Satellite imagery shows that these “dead zones” are expanding. Some scientists are advocating “iron fertilization”—the spreading of large amounts of iron across the world’s seas—to spur plankton growth. But others worry that such tinkering with complex ecosystems could have potentially harmful effects. Contacts: *Nature*, www.nature.com; *Journal of the Marine Biological Association of the United Kingdom*, www.journals.cambridge.org/action/displayJournal?jid=mbi; Woods Hole Oceanographic Institution, www.whoi.edu.

Send your environmental questions to: EarthTalk®, P.O. Box 5098, Westport, CT 06881; earthtalk@emagazine.com. Read past columns at: www.emagazine.com/earthtalk/archives.php. EarthTalk® is now a book! Details and order information at: www.emagazine.com/earthtalkbook•



HERALD PUBLICATIONS

Manhattan Beach Sun Rack Locations

	ADDRESS	NEAREST BUSINESS
*New location!	500 S. Sepulveda Blvd. MB	Shorewood Realty
*New location!	330 Highland Ave. MB	Shorewood Realty
*New location!	950 Artesia Blvd. Hermosa Bch.	Shorewood Realty
*New location!	2501 Sepulveda Blvd.	South Bay Brokers
*New location!	500 15th St.	MB Police and Fire
*New location!	1200 Rosecrans Ave. #104	Medical Plaza/Women’s Ctr
*New location!	2620 N. Sepulveda Blvd.	Coco’s/ Coffee Bean/See’s
*New location!	921 N. Sepulveda Blvd.	El Gringo
*New location!	1002 Manhattan Beach Blvd.	Arco Station
*New location!	1105 Manhattan Ave.	Manhattan Grocery
*New location!	124 Manhattan Beach Blvd.	MBCH Brewing Co.
*New location!	116 Manhattan Ave.	Shell Back Tavern
*New location!	3804 Highland Ave.	Players
*New location!	1601 Valley Dr.	The Joselyn Center
*New location!	425 15th St.	Manhattan Beach
*New location!	1400 Highland Ave.	Manhattan Beach City Hall
*New location!	1350 Highland Ave.	Manhattan Beach Library
*New location!	1150 Morningside Dr.	Fusion Sushi
*New location!	855 Manhattan Beach Blvd.	Torrance Memorial Hospital
*New location!	917 Manhattan Beach Blvd.	Shorewood Realty
	133 Manhattan Beach Blvd.	Dianes
	233 Manhattan Beach Blvd.	Starbucks
	1100 Highland	Koffee Kart
	1138 Highland	The Kettle
	1200 Highland	Bank of America
	225 S. Sepulveda	MB Office Plaza
	1100 Tennyson	Bally’s
	3619 Highland	Harry O’s
	316 Rosecrans	El Tarasco
	235 Sepulveda	Sea Horse Inn/Sion’s Mexican
	1101 Manhattan Ave. @ 11th St.	Ercole’s
	1139 Artesia Blvd.	Kinko’s/Fat Burger
	125 Sepulveda @ Duncan Pl.	Panda Express
	1003 Sepulveda	Post Office
	2010 Sepulveda	Rubio’s
	2401 Sepulveda	The Castle
	Rosecrans East of Sepulveda	Fry’s
	1240 Rosecrans	Manhattan Towers
	1852 Manhattan Beach Blvd.	McDonalds
	975 Aviation	Suds N Duds Laundry



Glaucoma can take your sight away.

Many African Americans have glaucoma and don’t even know it. Glaucoma has no warning signs and, if left untreated, can lead to permanent vision loss or blindness.

See an eye care professional. Get a dilated eye exam.

For more information, visit: www.nei.nih.gov/glaucoma

