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From the News Desk

Floating, Texas-sized garbage patch threatens Pacific marine sanctuary

By [John Timmer](#) | Published: October 23, 2007 - 10:12PM CT

A looming environmental threat the size of Texas should be hard to miss, but when that threat is floating in a rarely-visited section of the Pacific Ocean and composed of a diffuse mass of plastic, it's easy for it to avoid public attention. The recent establishment of a marine preserve north of the Hawaiian Islands has refocused attention on this floating refuse heap, which has picked up the moniker the Great Pacific Garbage Patch.

The technical name for this area is the North Pacific subtropical gyre. It is bounded on all sides by a clockwise flow of currents around the Pacific basin and tends to have a high-pressure system sitting over it for much of the year. The net result of these conditions is that material that drifts into this area tends to stay there, as this portion of ocean doesn't mix much with the surrounding currents.

Up until recent years, much of this material has been biodegradable; the arrival of plastics, however, has changed that. [A survey](#) (PDF) of the Great Pacific Garbage Patch that dates from 1999 suggested that, at the surface, plastic was present at five kilograms per square kilometer—that's nearly six times the plankton density in the same area. Most of the plastic was either thin films (such as trash and grocery bags) or monofilament line used in fishing.

Given that the Garbage Patch falls in a rarely-traveled area of ocean, the accumulation of plastic was unlikely to draw much public attention. But the region's obscurity actually helped it gain widespread attention. A chain of islands extending northwest from Hawaii that forms the Garbage Patch's western border have been largely untouched since their use as American bases during World War II. Last year, President Bush ordered that they remain undisturbed, creating the [Papahānaumokuākea Marine National Monument](#) (the web site contains an MP3 of its proper pronunciation).

The sanctuary designation means that the government is now obliged to come up with a management plan and perform regular environmental assessments, both of which are likely to focus attention on those contents of the Garbage Patch that either wash ashore on these islands or interfere with the animal life within the preserve. Even prior to the reserve's formation, Congress had [passed a law](#) that directed NOAA and the US Coast Guard to begin tracking marine debris and participate in global efforts directed towards its reduction. Unfortunately, the money necessary for these agencies to implement the law did not appear in the subsequent budget.

Plastics are an essential part of modern life, so this problem is not going away in the near future. One possible way of cutting down on the accumulation of plastic there would be to shift to plastics with a shorter half-life in the environment. But until these plastics hit the market, the clearest way to prevent the Garbage Patch from growing and harming the United States' largest marine sanctuary is to prevent the plastic from getting there in the first place, either by limiting its use or aggressively recycling it.

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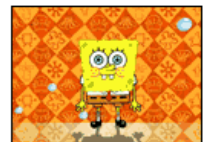
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