



## Old Ships Provide Portable Water Source

Jessica Marshall, Discovery News

**Oct. 06, 2008** -- David Kreamer's vision is to return old ships to the seas where they belong. But he'd like to see them fulfill a new purpose: turning seawater into drinking water through desalination facilities installed aboard.

According to Kreamer, a geoscientist at the University of Nevada, Las Vegas, hundreds of mothballed military and private ships could be well adapted as mobile desalination plants.

Such ships could serve coastal communities, where water is badly needed, Kreamer said. An estimated half of the world's residents live within about 100 miles of a coast. The ships could cruise away to avoid a hurricane, if need be, returning afterward to supply a city lacking water and power.

Kreamer, who will make the case for portable desalination plants onboard old ships at a meeting of the Geological Society of America in Houston, Texas, said that mobile desalination facilities avoid many of the environmental problems that hinder their development on land.

One problem with conventional desalination is that the pipes that draw seawater in can suck up and kill sea life. Another is that making freshwater out of seawater leaves behind twice-as-salty wastewater that has to be disposed of. Dumping this in coastal areas can harm sensitive habitats.

Locating the ships further offshore avoids both types of damage to coastal sea life, Kreamer noted. "If it's a mobile ship, you can move to different places so you can spread out the impact," he added. "And, you can do deep disposal [of the salty water] where it's less costly to marine life."

Kreamer pointed out that renewable energy solutions could power the oceangoing desalination plants. Solar or wind are possibilities, as are energy sources that tap into the power of the sea itself: turbines that turn using wave or tidal power, or techniques that extract power from differences in the density or temperature of seawater at different depths.

Kreamer is not the first to think of this approach. In fact, Water Standard, a Houston-based company, is poised to make the idea a reality. They purchased a ship this year and are moving forward with plans to turn it into a desalination plant that should be up and running by late 2009.

The price of water made this way will be competitive with that made by land-based desalination, said Water Standard communications director Gayle Collins.

Collins agreed that mobile desalination offers the environmental benefits noted by Kreamer. She said that tests of their multi-port system for wastewater disposal show the salt concentration and temperature match that of the surrounding water within 50 feet of the boat.

Their vessel, a former vegetable oil tanker that will be rechristened the H2Ocean Cristina, will produce more than 13 million gallons of water a day. The company has not yet determined who will buy the water they produce.



Water Standard |

#### **Desalination Made Mobile**

This former vegetable oil tanker, now dubbed the H2Ocean Cristina, will produce more than 13 million gallons of desalinated water a day. It is owned and operated by Water Standard.