

Mooring Buoy Information

We have received several inquiries about environmental friendly mooring systems for use after the tsunami. In response, we've gathered some information that may be useful for those considering mooring buoy systems. Please note this is not comprehensive, but it is designed to provide a solid starting point, and direct you to individuals or groups that may be able to answer any additional questions. (Note that SEI is providing information and does not endorse or recommend any product or service.)

Overview:

There are three basic embedded mooring systems. These are Manta Ray, Halas, and Helix. Substrate type (e.g. sand or rock) largely determines which one is the most appropriate to use.

The Manta Ray is designed for soft bottoms (pure sand at least 8 ft. deep is preferred with other substrates, such as mixed bottoms of shale, sand, clay, gravel coral, rubble, as secondary possibilities,). The Halas system is designed for hard bottoms (such as bedrock). Both the Manta Ray and Halas systems require a portable closed hydraulic pump and either a jackhammer for the manta ray system or drill for the Halas system. A load locker is also recommended when deploying Manta Ray anchors as it not only assures the anchor is set but also determines the holding capacity which is determined by the type of substrate. Both the Manta Ray and Halas systems usually use the same type of down line and mooring buoy. Proper maintenance is required for all systems and this should be carefully considered in the planning stages.

Much of the information attached focuses on Manta Ray and Halas systems. However the PADI Project AWARE report also discusses the Helix system and traditional non-embedding anchoring systems. As some of you also had questions about cost, we have attached documents from Environmental Mooring International and Environmental Anchor Systems, L. L. C., which provides some information on cost and information on the Manta Ray system. They are also available to answer any additional questions that you may have.

Although it is an older publication and not fully up-to-date, PADI Project Aware has a comprehensive publication available on mooring buoys available at <http://www.projectaware.org/americas/english/pdfs/moorbuoy.pdf>

For further information, visit or contact the following or if you prefer you may contact me with any additional questions:

Environmental Mooring International (EMI) – Halas and Manta Ray anchoring systems
www.reefmooring.com
www.EMImooring.com (under construction)

172 Lorelane Place
Key Largo, Florida 33037 USA
Contact: Judy Halas
emihalas@aol.com
305-451-5984

Environmental Anchor Systems, L.L.C. – Manta Ray anchoring system
Manta Ray system may be viewed on Foresight Products website:

<http://www.earthanchor.com/mantamain.html>

P.O. Box 626
Leland, MI 49654 USA
Contact: Jeffery Fisher
231-256-2555

Other sites that have used mooring buoy systems or have information are:

<http://www.reefrelief.org/jamaica.html>

<http://www.coralreefalliance.org/divein/eventideas/mooringbuoys.html>

<http://nature.org/joinanddonate/rescuereef/about/>

<http://www.komodonationalpark.org/index.htm>

http://www.diving4images.com/bali_mooring_project.html

<http://www.coralreefalliance.org/parks/bali/baliworkshop.html>

<http://www.fknms.nos.noaa.gov/mbuoy/welcome.html>