



*Bal de la Mer*  
TO SAVE THE SEA

Presented by  
Yachts International Magazine  
Monaco Yacht Show, September 2010



A 501(c) 3 not-for-profit marine conservation charity.  
[www.seakeepers.org](http://www.seakeepers.org)

**YACHTS**  
INTERNATIONAL





Michael T. Moore enjoys a rare moment of relaxation between his busy law practice and his duties to the association he has chaired since 2008.

## International SeaKeepers Society Steering a new course

The International SeaKeepers Society has spent 12 years at the service of the world's oceans. The last two years have been particularly trying due to the nearly worldwide recession. Despite ambitious goals to help the international scientific community find answers to questions and issues linked to global climate change, the Society has not been exempt from criticism. Here, Chairman Michael T. Moore articulates the organization's new goals and direction, including its recently announced partnership with *Yachts International* to help spread the word.

**As a busy maritime attorney, what were you thinking when you agreed to take on the Chairmanship of the International SeaKeepers Society?**

I had been General Counsel to the Society for several years when then-Chairman-of-the-Board Don Tomlin approached me with his plans for taking the Society to the next level. After explaining his vision and getting my enthusiastic support, he said, "Great, then will you agree to be Chairman?" There were intellectual property issues, hiring issues, public perception issues, and our membership tiers and outreach needed to change. We needed to

do a better job of honoring our current members and increase our membership. In short, after 12 years, we needed to adjust our course. Since I was elected in November 2008 it has been nonstop fun! But, seriously, when you feel passionate about something, it does give your life more meaning; it's the way I feel about my law practice, it's the way I feel about SeaKeepers.

**A few critics say that SeaKeepers' costly equipment so far has contributed little of practical value. How do you respond?**  
I have heard this criticism too. So, I am aware of the misconceptions.



SeaKeepers' new President and CEO  
Dean Klevan is a Wharton School  
Grad and ocean advocate.

our patron. We also have a new person “in charge”, President and CEO Dean Klevan. He is a Wharton School Grad, has run several financial institutions, serves on the Board of Trustees of the Guy Harvey Ocean Foundation and is a keen fisherman and ocean advocate. We are very fortunate to have him.

#### **What measurements do the SeaKeeper units collect?**

In addition to collecting standard meteorological measurements (wind speed and direction, barometric pressure, air temperature and humidity,) we take near-surface measurements of sea-surface temperature (SST), salinity, O<sub>2</sub> and pH, and we hope to do more. Measurements of lower-atmosphere and upper-ocean parameters are important for the computation of key energy and gases fluxes between the atmosphere and the oceans – important drivers in the study of climate change. PH measurements are important in the study of ocean acidification. If ocean acidification is occurring, and some believe it is, that’s a tremendously frightening prospect. As the ocean’s acidification levels increase, even by a very small percentage, you will witness an astonishing series of events starting with the death of little creatures, which are the food source for larger ones. The food chain will be disrupted, and worries about larger sea mammals will become irrelevant at that point. Our sea temperature measurements are mostly between two to three

meters below the ocean surface. This is a sweet spot.

In time we could add more sensors. We are encouraged that others are beginning to adopt the SeaKeeper 1000 system as a standard onto which they can mount their sensors. For example, Dr. Govind Rao of the University of Maryland has been awarded a three-year \$1-million grant to develop the next generation of biological, chemical, optical and bio-optical measurements—specifically measurement of CO<sub>2</sub> in the near-surface oceanic range—in collaboration with SeaKeepers, NOAA and Fluorometrix. SeaKeepers does not directly benefit from the grant, but the research will result in new sensors that we could deploy to platforms equipped with SeaKeeper 1000 units.

#### **How easy is it to use and maintain the equipment?**

The system is autonomous and requires minimal maintenance, but it is not maintenance-free. It is a sophisticated piece of scientific equipment with computers and high-tech sensors running in a hostile marine environment. The units do feature an innovative “plug-and-play” sensor-swap technology. We also have a unique patented anti-fouling device that prevents biological matter, which invariably exists in the samples, from clogging the flow-through system. But as with all technology, we must continue to improve design and functionality. We are working to make the units smaller and less costly to build. Feedback from our SeaKeepers Professionals (captains and crew), an enthusiastic and previously untapped resource, is helping keep costs down and high-quantity and high-quality data flowing. We need to enable onboard crew to maintain the equipment and are working on a training program to do just that. I hope that every chief engineer in the global yachting community will aspire to be a SeaKeeper engineer; in other words become a certified expert in maintaining and operating a SeaKeeper 1000 unit. Dean is implementing his plan to train crew through free seminars for yachting professionals.

#### **How often do you have to service these units and how do you handle maintenance?**

We have been pleasantly surprised with the long-term performance of many of our older units. A few individual “met sensors” need replacing at least once a year, pumps need to be replaced occasionally and the thermosalinograph needs basic cleaning to keep running at its peak. Ultimately, as I just mentioned, I believe the yachts’ very qualified crew will be our answer for routine onboard maintenance. Sensor calibrations, however, must be done in a lab. This works well. We are fortunate to be able to use one of the better equipped labs around at the University of South Florida. We mail a calibrated unit to a port destination where the crew can pick it up and mail back used sensors. After post-cruise calibrations and intense cleaning, these sensors are redeployed to the next vessel. That is the beauty of our interchangeable sensor design. Each sensor within the sensor suite has its own lifecycle and the more often the unit is calibrated, the better the data. With mathematical interpolations using post-cruise coefficients, scientists are able to determine how far the sensor’s integrity has shifted from its original calibrated state and therefore determine how to best utilize the data.



MOORE  
&  
C O M P A N Y  
PROFESSIONAL ASSOCIATION



Moore & Company, P.A.

Maritime • Art • Aviation Law

[www.moore-and-co.com](http://www.moore-and-co.com)