

# PacificSun

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MARIN'S BEST EVERY WEEK

MAY 2 - MAY 8, 2008

## Up and coming nonprofits

Our salute to Cool the Earth and other county nonprofits that are rising to new challenges...

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THE PACIFIC SUN'S FIFTH ANNUAL RISING SUNS

QUOTE  
OF THE  
WEEK

“Touch it, smell it...  
that's right. Look closer.”

[SEE PAGE 42]

UPFRONT: Wedding bell blues [P.12]

FOOD: 69 love song [P.37]

MUSIC: Fortunate Son [P.44]

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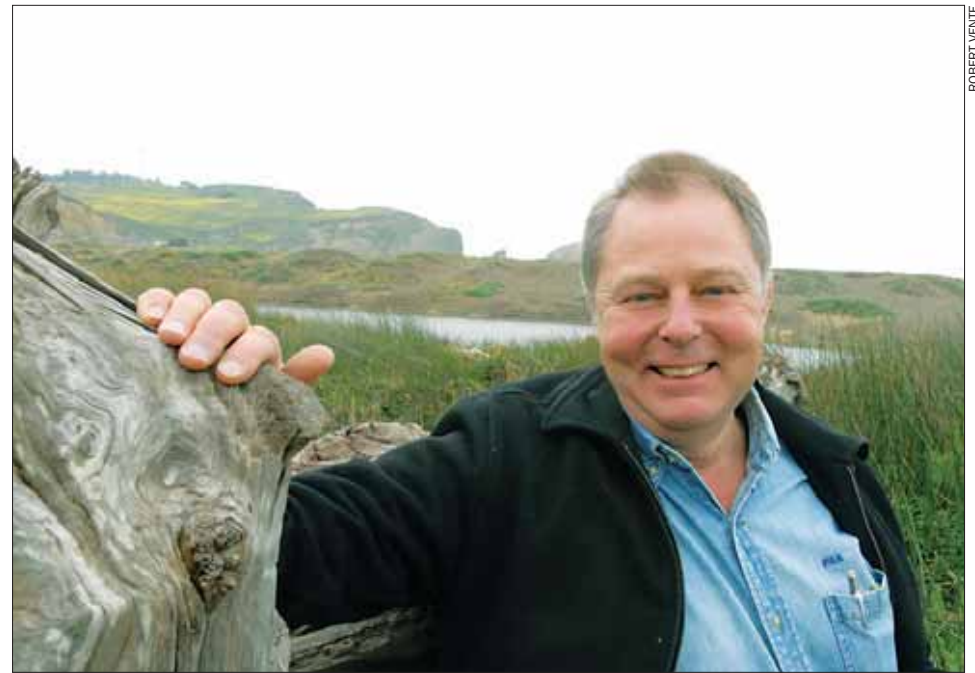
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Acoustician Michael Stocker believes Navy sonar testing caused the death of 17 whales within 24 hours.

## The great sea of sound

Michael Stocker and Ocean Conservation Research are using more than a shell to hear the sea...

BY TANYA HENRY

I refuse to take an adversarial position," responds Michael Stocker, when asked if his organization is a thorn in the Navy's side. At first glance it is tempting to make comparisons between Ocean Conservation Research and Greenpeace; however, aside from sharing a commitment to preserving our oceans, the groups have little in common.

Michael Stocker, an acoustician and naturalist, founded OCR last year and has only recently dedicated himself full time to his executive director role. As might be expected, he spends a good deal of time explaining what his organization does—including answering the question, what exactly is an acoustician? He describes how he was once introduced as a "biocrustacean" to a natural history museum group. An honest mistake perhaps, as Stocker readily admits that his is a rather arcane profession that involves "a lot of physics and advanced math." Essentially, the bio-acoustic field, according to Stocker, is made up of folks who understand how sound environments work. Stocker's background in "music studio recording design" technically makes him an architectural acoustician.

So, what is Ocean Conservation Research? The tagline on the group's Web site reads, "science and technology serving the sea." OCR is made up of a team of scientists, engineers and ocean conservationists who are working on a "metric"—a way of expressing and measuring exposure to sound that is called "noise criteria."

"It's fairly complex," admits Stocker. "We're taking biological data and put-

ting it into a graphic to be able to see when animals start to hear sound, when they avoid it and when there is a threshold shift." Although he is convinced that marine life is being adversely affected by human noise pollution, Stocker is also quick to point out, "We know little about the impact of our noise, but I think before we jump in feet first, we need to find out more."

Although the nonprofit is less than a year old, Stocker has long been aware of what he refers to as "the growing issue of noise pollution in the ocean." As early as 1992 he learned about military communications programs that were being developed with the intent of carrying sounds across the entire Pacific Basin. This worried Stocker, as he couldn't help but think this would interfere with the existing marine life and their habitats, mating rituals, hunting, etc. He began attending California Coastal Commission meetings to try to discourage the implementation of this research, but had little success.

More recently, with the incidence of catastrophic strandings of marine mammals increasing, Stocker has become more active and more vocal. He believes these strandings are a direct result of military sonar exercises. One particular incident occurred near the Bahamas in March 2000. Only 24 hours after a sonar exercise, as many as 17 whales washed up on the shore. According to Stocker, necropsies revealed hemorrhaging that indicated contusions along the lungs and brains—which were conceivably signs of "acoustic trauma." Speculation was

ROBERT VENITE

that the very loud noise caused these deep-diving whales to be alarmed and to swim to the surface for air as fast as they could—causing them to implode due to the dramatic change of atmospheric pressure, or as Stocker recounts, “to become milkshakes.” The Navy reported only that six whales had beached themselves and that they died of hypothermia.

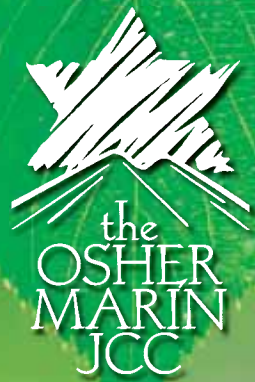
In the relatively small field of bio-acoustic research, as much as 85 to 90 percent of all the research in the ocean is conducted by the Navy. “It’s good science—they are funding good scientists, but the problem for us is that the Navy’s priorities are not the same as OCR’s,” decries Stocker. While OCR is deeply concerned about the lives of the marine mammals, the Navy simply looks for recoverable thresholds, or the amount of damage an animal can withstand and then recover from as though nothing happened.

Another complicated issue where there seems to be little agreement is in the arena of decibels. A recent court case between the Navy and California Coastal Commission involved the question of acceptable decibel levels. Stocker contends that the oceans were much noisier 300 hundred years ago than they are today—due to the larger populations of sea life. He suggests that noise level isn’t the main problem, but rather the bigger issue is the *type* of noise. A particular kind of sound, *peakeness*, creates a biological reaction to conditions that warns animals that what they hear is a problem. Just as fire alarms are designed to be alarming to humans—they are alarming for biological reasons—these sounds create a sense of being out of control. Stocker would like to change the kind of sounds utilized to friendlier, less alarming noises with the hope of creating less interference and fright to the marine life in our oceans.

Although Stocker is frustrated by what he sees, he is also hopeful. “We are saturating our oceans and creating a sense of unsafeness through this peakeness sound. Let’s recraft our sounds so they aren’t unsafe—we *can* solve the problem. Our larger mission is to understand the impact so that we can craft our engagement with the ocean in ways that are not biologically pernicious.” Stocker also cautions that people shouldn’t be too alarmist and begin to understand that there is lots of work to be done. “The ocean needs our love—we need to focus on all the things the ocean needs—noise just being one of them.” He also notes that for every dollar spent on terrestrial environmental work, only a penny is spent on the ocean—and he thinks that needs to change.

Clearly this sound expert and Wood-acre resident has his work cut out for him. He has a tool in the works that will help support his theory of the negative effects of peakeness. He also hopes to begin working with bio-labs to study fish locally and determine the impact sound has on their populations. In addition, he has completed a book titled *Hear Where We Are*. \*

To learn more about OCR and ways you can help or become a good steward of the sea, visit [www.ocr.org](http://www.ocr.org).



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