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## Why do whales beach themselves?

Fifty-five false killer whales were stranded on a South African beach over the weekend, but scientists still don't fully understand why mass strandings happen, and if we should be worried about them

By Brendan Borrell | Monday, June 1, 2009 | 16 comments

On Sunday morning, scientists and volunteers struggled to get some of the 55 false killer whales that washed up on a beach near Cape Town, South Africa, back into the frigid water.

But as soon as the rescuers sent the 15-foot (4.5-meter) dolphin relatives on their way, they nosed back for shore as if on a suicide mission. By Sunday afternoon, the scientists decided to euthanize the mammals with gunshots to their heads. Some volunteer rescuers protested the decision, and one woman was marched off the beach.

"I feel quite sad, but it's the right thing to do," said Nan Rice, head of the Dolphin Action & Protection Group in the area.

Mass strandings of dolphins, whales, and other marine mammals date back to the time of Aristotle, but some environmental activists have suggested that human impacts of pollution, shipping noise and, in some cases, military sonar have led to a rise in such frequency and severity of such events. And so scientists have been trying to untangle what factors cause these normally adept swimmers and maritime navigators end up in shallow water where they can become beached and die.

To find out more about mass strandings we spoke with Darlene Ketten, a neuroethologist and expert on hearing in marine mammals at the Woods Hole Oceanographic Institution in Cape Cod, Mass.

[An edited transcript of the interview follows.]

### What causes whales to beach themselves?

I often use the analogy of a car crash, because a lot of things can go wrong but you get the same result. Statistically, we are only able to determine the cause of a stranding in about 50 percent of all cases worldwide. In some cases it is obvious, like a ship strike leaving an animal in poor condition. In the northeastern United States pneumonia is a common cause of stranding. We see other diseases and trauma, such as shark attack on whales or dolphins or attacks by members of the same species. Poisonous "red tides" will also affect marine mammals. Some strandings have been speculated to be related to anomalies in the magnetic field.

Military sonar has been implicated in the mass stranding of beaked whales. Although there have been environmental groups publishing press releases about all whales being affected by sonar—that's never been demonstrated.

### How do you define a mass stranding?

The definition varies from country to country but it is typically two animals or more unrelated animals (not, say, a mother and a calf) stranding in the same location. The largest stranding of false killer whales on record is 835 animals, but sometimes you see mass strandings involving just a few animals.\* There are some species like pilot whales that are notorious for mass strandings. We have records going back to Puritan settlements in New England reporting mass strandings in the same places we see them today. Back then, it was a BBQ instead of a disaster.

### Are strandings something we should be worried about?

These are species that are unusual, that are beautiful, and important for the ecology of our seas. If there is an activity humans are doing precipitating these strandings we need to know about it—we need to make decisions about pollutants, shipping noise and sonar. Are we in some way contributing to declining health of critical populations, like the northern right whale?

I have to provide the caveat that strandings we know going back to Aristotle, meaning they may be a natural phenomenon. That raises an interesting question: If you have an animal and it is stranded and you insist on returning it to the sea, are you harming the population? If they are sick or diseased, what are we doing to that population pool? I'm not advocating that we don't rehabilitate animals, if we can. We should understand causes of stranding, but we also have to accept the fact that strandings may be in many cases natural phenomenon.

### **Are mass strandings on the rise?**

That's a really good question. We certainly have more reports over time, and that's something a number of people are looking into. In Cape Cod there's been a slight increase in the last two years. But looking around the world, stranding reports seem to follow human populations. As beach areas become more popular—meaning more people going to beach and more people interested in whales and dolphins—you get more reports. You have to normalize data for increased interest and traffic, and it's not clear whether there are more strandings or just more reports.

### **Why did they have to shoot the whales in Africa?**

They were shooting them to euthanize them. You can try to get them back in the water, but imagine struggling to get the animal back in water in winter conditions, like at the Cape. They are very large animals but they are quite delicate. For instance, if you get sand down their blowhole it's like squirting water up your nose. If you do get the animal to water and try to get it to swim off, and if it returns two or three times, the decision will have to be made that it is not going to survive and a veterinarian must euthanize it. Depending on how big the animal is, you cannot always use drugs in which case shooting is the best option.

*\*Correction (6/3/09): The article originally stated that 835 animals was the largest mass stranding on record. It has been corrected to indicate that the figure represents the largest mass stranding of false killer whales.*

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