Increased Gray Whale Deaths in Spring 1999

June 8, 1999 Newport, Oregon In the first four months of 1999, 65 gray whales have died during their migration from the west coast of Baja California. There, they give birth in warm water and then travel back north toward the colder Bering Sea to feed on amphipod crustaceans. Seventeen gray whales died in the past five weeks in Puget Sound, Washington. Nearly all the dead whales have been adult females who look like they have starved to death.

At first, all the west coast newspaper stories about this unusually high number of deaths seemed to signal that something was wrong with the ocean waters. But Dr. Bruce Mate, Professor of Wildlife at Oregon State University's Hatfield Marine Science Center in Newport, Oregon, says the current count of gray whales is back up to 26,600 - the largest number since the days of unrestricted whaling nearly wiped them all out. Until five years ago, gray whales were on the endangered species list. Then in 1994, the huge creatures were removed from the endangered category because their population had grown so much.

But why would all these adult females die in the 1999 spring? More than pollution problems in the Pacific, Dr. Mate speculates that warming water temperatures in the Bering Sea might be the problem.

Interview:

Bruce Mate, Ph.D., Professor of Wildlife, Oregon State University's Hatfield Marine Science Center, Newport, Oregon: "I'm aware of some of the press releases that have speculated about contaminants from the present salt evaporation facility at G. Negro (whale birthing lagoons) and also the possibility that dye markers used by drug traffickers were responsible for these deaths. I don't think there is any merit to those arguments at all. And the reason is that if it were a point source, you would expect a large number of mortalities in a short period of time around that point source. And these mortalities are spread out over a four month period and over a wide geographic area.

IN THE NECROPSIES IN THIS CURRENT RASH OF DEAD WHALES HAVE YOU FOUND ANYTHING AT ALL THAT WAS UNUSUAL?

I guess the most striking thing is that quite a number of the animals are emaciated. So that's another thing that argues that they didn't, for instance, come in contact with a marker dye that has cyanide because they would die instantly and that would include fat and happy animals. A lot of these animals are quite wasted. They are emaciated.

WAS THERE ANY SIGN OF PARASITE DISEASE OR OTHER?

Well, frequently when you get malnourished, you're more vulnerable to all kinds of things - including diseases. I mean you don't die typically of malnourishment. You die of things that happen as a result of being malnourished. And I have to say that most of the animals - way more than most - are in such bad shape by the

time somebody gets to look at them, they aren't diagnosable. The animal might die at sea a week before it comes to shore. So, all the secondary things that happen, it's pretty hard to tell if there was a bacteria, for instance, or something like that.

AND YOU ARE SPECULATING THAT THEY WOULD BE IN A LOW NUTRITION BECAUSE THE POPULATION OF THE GRAY WHALES IS NOW OUT-STRIPPING THE CRUSTACEANS THEY LIVE OFF?

I would say yes, but for two reasons. One, the population of gray whales has grown up to a number that is so large. And the second is that we have evidence of decline in productivity in the Bering Sea, which is the principal place where they eat.

MEANING THE CRUSTACEANS THEMSELVES ARE NOT AS MANY OF THOSE AS THERE USED TO BE?

Either the numbers are low or the quality of them is low. You can appreciate that you can have - you can eat something when it's lean or when it's fat and it's going to be quite a difference in its value to you.

THIS LEADS TO THE QUESTION: WHAT COULD BE HAPPENING TO THE CRUSTACEAN FOOD SUPPLY OF THE GRAY WHALES?

Well, the crustaceans have not been measured in the Bering Sea, but other animals have been measured for decline and productivity, it's been easier to measure and there has been reason to look at other levels - like salmon. Even other mammals have declined up there - the Stellar sea lion, harbor seals, sea otters. But about 40% of the U. S. fisheries come out of the Bering Sea and there have been dramatic declines in most of those fisheries.

THE WHALES AND THE OTHER MARINE LIFE IN THE BERING SEA ARE JUST NOT DOING AS WELL AS THEY DID BEFORE?

We're still groping with that problem. And you're wanting to know what the answer is. Why? And we want to know the same thing and we're not there yet. I'm trying to describe to you speculation, things that people are thinking about as explanations. I don't have a satisfactory crisp explanation for you.

BUT THE TEMPERATURE IN THE WATER OF THE BERING SEA HAS BEEN GETTING INCREASINGLY INCREMENTALLY WARMER?

There has been that trend, yes. Recently. Not over a long, long period of time, not a fifty year trend or anything like that. But over a decade.

THAT WARMER WATER IS HAVING AN IMPACT ON THE CREATURES THAT CAN NOW THRIVE IN THAT WATER?

That's correct.

IT'S AFFECTING THE CRUSTACEANS THAT THE WHALES HAVE FED UPON.

We presume it has. The levels we've measured of other animals have gone down and because these animals eat the detritus, the things that go to the bottom, they should be affected. But we don't have any direct measure of that at the present time. Cycles like this occur. El Nino is such a cycle where we know that has occurred for thousands of years and periodically the system gets punched hard because of warm water intrusions and cold water doesn't bring nutrients to the surface and the whole system crashes. And there you get a decline of 80 or 90 percent sometimes and productivity. And it lasts for a year or two. And then it comes back. And what I'm saying to you is that scientists believe there are other cycles besides El Nino that cause dramatic changes in productivity that have longer cycle periods - might be on the order of a decade of going down and a

decade coming back up. And because they are longer cycles, people are just starting to become aware of them and study them as a phenomenon because they haven't looked at them long enough to have understood that that's what was going on.

AND MAY NOT NECESSARILY MEAN THAT THOSE ANIMALS ARE GOING TO A FUTURE OF EXTINCTION.

Absolutely not. Definitely. You are correct. It may not mean that at all. In fact, as a natural cycle, it's probably - if these are natural cycles, they have probably gone on for millions of years and there have been times when populations have dropped precipitately and then come back and then dropped down again and is part of the natural order of things.

YOU WOULD NOT SAY THAT WE NEED TO GIVE UP OUR CONCERN ABOUT WHAT'S HAPPENING TO THE GRAY WHALES OR OTHERS?

No. I'm very glad that people are concerned about them. I'm glad they are doing well right now. My personal research focuses on the endangered species of whales that aren't doing that well. I would love to think that every whale species in the world would do half as well as gray whales. I study species where we're looking at one to three percent of the original stock is all that's left! And we don't even know where they go to feed and calve. Part of my work will be in the National Geographic in the July issue on humpbacks. Humpbacks are doing reasonably well. I've worked on blue whales where we are down to three percent of what they used to be. Ninety-seven percent of those whales are gone! And we don't even know where they go to reproduce, so we can't protect those areas. And we can't count them well because we don't know where they are through most of the year.

BUT JUST THE FACT THAT YOU CAN'T FIND THEM VERY EASILY ANYMORE WOULD SEEM THAT THEIR NUMBERS HAVE DECLINED, RIGHT?

We know their numbers are dramatically depressed from whaling. But the trends since whaling quit are undefined."

More Information:

Dr. Mate suggests that if anyone finds a sick or dying marine animal on a beach to call the State Police wherever you are. The police will know the marine animal experts to contact for any given geographic area.

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