



13 August 2012 | [MP3](#) at voaspecialenglish.com

Deadly Shark Bites Increase in Waters near Western Australia

JUNE SIMMS: This is SCIENCE IN THE NEWS, in VOA Special English. I'm June Simms.

FAITH LAPIDUS: And I'm Faith Lapidus. Today, we tell about deadly shark attacks near Australia's west coast. We tell what happens when animals make people sick. We also have a new health warning about diesel fuel, and tell how dry weather is affecting America's longest River.

(MUSIC)

JUNE SIMMS: A deadly shark attack along the coast of Western Australia could affect the future of sharks in the area. A great white shark recently killed a twenty-four-year-old man near the island of Wedge. Ben Linden of Perth was on his surfboard about four kilometers from the island when he was bitten.

Wedge is a popular place for family holidays. Witnesses described the attacking animal as huge. The great white shark is about one and one half meters long at birth, but can grow to three times that size.

The recent attack marked the fifth death by shark bite in Western Australian waters during the past ten months. Officials say there is normally one deadly attack in Australian waters every year.

FAITH LAPIDUS: The increase in deadly attacks has caused officials to question whether sharks should continue to be protected from fishers and others. Sharks were declared protected in the nineteen nineties because their numbers had decreased. It was feared that the fish species might disappear forever.

But some people now say they believe protection has caused the number of great white sharks to increase. Australian Fisheries Minister Norman Moore questioned whether the animals should still be protected.

Wildlife experts say the number of great white sharks cannot be known, but that they are rare. They say the increase in attacks has resulted from more people taking part in water sports now than in the past.

JUNE SIMMS: The Humane Society International noted a possible connection between increased shark attacks and the export of sheep from Fremantle, Australia.

The Society's Alexia Wellbelove says that every year, thousands of dead sheep are thrown off ships as they leave for ports in the Middle East. She said the remains may appeal to sharks over a wide distance and increase shark attacks on people.

The society also noted comments by Peter Kerkenezov, a noted diver and animal health expert. He says sharks can probably identify individual livestock ships whether or not they are carrying animals.

FAITH LAPIDUS: The Humane Society International has written to West Australian State and Australian federal officials to urge an investigation of possible links.

But Alison Penfold of the Australian Livestock Export Council says the society's claims are totally wrong. She notes that the Australian Maritime Safety Authority bans the release of animals within twenty nautical sea miles of the nearest land. And, she says death rates on livestock ships are low.

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JUNE SIMMS: Researchers estimate that more than two billion people a year get diseases spread by animals. More than two million of them die.

Delia Grace is a veterinary epidemiologist -- an expert in the spread of diseases involving animals. She is also a food safety expert. She works at the International Livestock Research Institute in Nairobi, Kenya. She explains that diseases transmitted between animals and people are called zoonoses.

DELIA GRACE: "A majority of human diseases are actually zoonotic. More than sixty percent of human diseases are transmitted from other vertebrate animals. Some of these diseases are pretty common. Some of the food-borne diseases and also diseases such as tuberculosis, leptospirosis are not uncommon. Others are quite rare."

FAITH LAPIDUS: Delia Grace says there are many different infection pathways for a person. Probably the most common one is for people to get sick from food. Other transmission pathways include direct contact with animals. And some diseases can be transmitted through water or through the air.

DELIA GRACE: "Diseases like avian influenza or mad cow disease have actually

killed very few people. But they are of interest because some of them have the potential to kill a lot of people -- diseases like the Spanish flu after the First World War or HIV/AIDS, both of which were originally zoonoses."

Delia Grace is the lead writer of a new report called "Mapping of Poverty and Likely Zoonoses Hotspots." She points out that poverty and disease are closely linked, so preventing the transmission of animal diseases could help reduce poverty.

The report was prepared for Britain's Department for International Development. The report lists places where the diseases are most common. It identifies places where a disease has existed for a long time, a so-called endemic zoonosis, as well as places with new threats.

DELIA GRACE: "So in terms of the hotspots of the zoonoses which are there all the time -- not the new zoonoses, but what we call the endemic zoonoses -- we identified three countries which bear the greatest burden of these diseases. And those are India, Ethiopia and Nigeria. But in terms of the new diseases -- the diseases which haven't been there, but are emerging -- the hotspots are very different. They appear to be western United States and western Europe."

JUNE SIMMS: Delia Grace says things could get worse in the future as meat production increases to feed a growing world population. High production farms often raise animals close together. Crowding can allow diseases to spread quickly. Another concern is the use of antibiotics in food animals, not only to prevent and treat diseases but to increase growth.

The report says an "incentive-based" system to encourage safer methods of raising animals could be more effective than increasing food inspections. For example, small farmers could receive training and other help that would lead to official certification that their products are safe.

(MUSIC)

FAITH LAPIDUS: The World Health Organization recently reported that diesel fuel exhaust causes cancer. Since nineteen eighty-eight, the WHO had rated exhaust from diesel engines as "probably carcinogenic" to humans. Now, it compares the risk to that of secondhand cigarette smoke.

The WHO announcement came after experts examined new research findings. Those included a long-term study of more than twelve thousand miners who were heavily exposed to diesel exhaust.

The diesel industry noted that the mining study lacked detailed information on

exposure levels during its early years. Also, diesel engine makers say their new designs release far less pollution than older truck and bus engines.

The WHO says stronger rules are needed to limit diesel emissions into the air.

The United States Environmental Protection Agency continues to rate diesel as only a "likely" cause of cancer.

(MUSIC)

JUNE SIMMS: The longest river in the United States, the Mississippi, is suffering because of the country's extended drought. The Army Corps of Engineers is working to keep the river open to shipping. Russell Errett with the Army Corps says the news is not all bad. He says the Mississippi River is still the best way to ship crops and other products. But water levels do not look good.

FAITH LAPIDUS: Army Corps Captain Terry Bequette says the levels have dropped five or seven meters from last year. He spoke from the ship MV Pathfinder.

TERRY BEQUETTE: "You see probably fifteen or twenty foot more bank than we had at this time last year. The sand bars behind you were not exposed last year at this time."

JUNE SIMMS: Heavy rains flooded areas along parts of the Mississippi last year. But the river levels are so low this year that people can now see wrecked ships normally hidden under water. Still, Captain Bequette said the level, in his words, "is not the end of the world."

Yet there is concern. Agricultural producers in America's Middle West ship corn, soybeans and wheat to nations around the world. About sixty percent of all grain exported from the United States travels on barges on the Mississippi.

As water levels drop, these boats will have to lighten their loads. If shipping suffers, it affects American agriculture and other parts of the economy. Chemicals and coal also are carried on the river.

FAITH LAPIDUS: Jasen Brown is a hydraulic engineer with the Army Corps of Engineers. He says ships need a channel, or passage, almost three meters deep and ninety one meters wide for safe travel.

He says the river levels must be carefully watched, especially since they are expected to get lower. Government experts and the industry are starting to cooperate to get the most information possible.

JASEN BROWN: "We're starting to initiate some communication between the navigation industry, the Coast Guard and the Corps, to make sure that we are accounting for all the things that need to be accounted for as water levels drop."

Part of the job depends on Captain Bequette and his crew. They find shallow areas that could make travel dangerous. Then they have to decide if it is necessary to remove dirt from these places to make them deeper. The easier way is to deploy buoys to mark the worst places. They show ships what areas to avoid.

TERRY BEQUETTE: "We run a dredge survey, and then they decide whether it needs dredging or if we can buoy it. If we can buoy it certainly that is the quickest solution. Obviously the further it drops, the more dredging sites are going to pop up."

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JUNE SIMMS: This SCIENCE IN THE NEWS was written by Kane Farabaugh, Jerilyn Watson contributing. I'm June Simms.

FAITH LAPIDUS: And I'm Faith Lapidus. Join us again next week for more news about science in Special English on the Voice of America.