

Elephant Feet: Signals Through the Ground

Debbie Ethell: You won't believe how far elephants can communicate through their feet! How far do you think elephants can communicate between one another? One mile? 3 miles? SIX MILES!! But that's only above ground ... you won't believe how far they can communicate through their feet.

Hi everyone I'm Debbie Ethell, executive director of The KOTA Foundation for Elephants as well as a conservation research scientist.

How elephants communicate is a topic that has always fascinated me. One of the ways elephants talk with each other is through infrasound. Infrasound are long, low, sound waves, that fall out of the range of what the human ear can hear. As you can see bats communicate using ultrasound, which is higher than a human ear can hear. Of course elephants, and bats, make all kinds of sounds we CAN hear such as pips, squeaks, rumbles, and trumpets but the sophistication in their communication lies in the silence we can't hear.

This is an infrasound meter and when waves appear on the screen infrasound is happening. And because infrasound actually makes the slightest earthquake you can also see infrasonic sound waves across water. After it was established that elephants were in fact communicating with one another using infrasound it was discovered they could do so above ground over a distance that surprised everyone at a distance of six miles!

But you won't believe what scientists discovered next. Elephants were, in fact, able to communicate over three times that distance when another scientist came along and redefined everything we thought about elephant communication.

Dr. Caitlin O'Connell did her master's thesis on bug communication between plant hoppers. She went to Namibia on an unrelated project. Every day Dr. O'Connell visited the wild elephants in Etosha National Park when one day she noticed them doing something eerily familiar. The elephants were walking a few paces before they would all freeze. This was something plant hoppers did when communicating with one another. They displayed the same type of freezing behavior.

Dr. O'Connell began to wonder if the wild elephants she was watching were in fact able to pick up vibrations in their feet the same way plant hoppers did. Soon another experiment was

underway and what she discovered next shocked the science community to its core. Elephants were able to hear through their feet at a staggering distance of over 20 miles. Can you imagine talking over 20 miles?