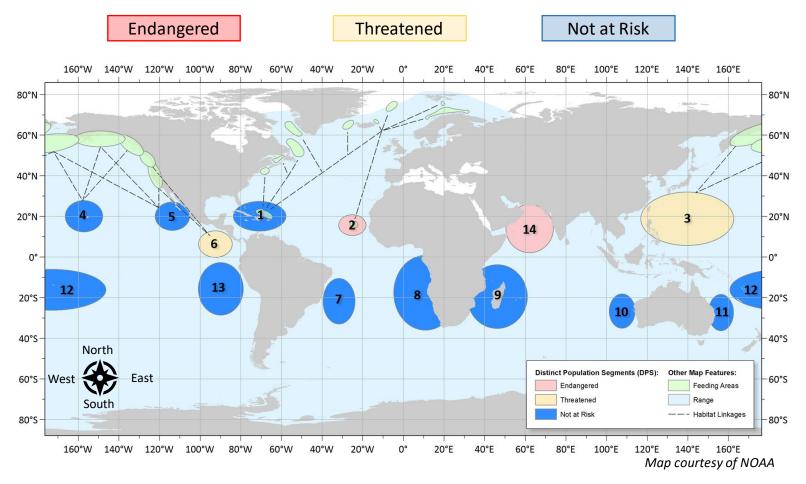


World Traveling Whales

Humpback whales can be found all around the world! This map shows the 14 distinct populations of humpback whales. Use the key at the bottom right of the map to answer these questions and learn more about these world travelling whales.

1. Circle the status that describes the status of **most** populations of humpback whales according to the map below:



- 2. True/False: Answer the following statements by circling if it is true or false.
 - A. Humpback whales live in oceans all around the world

True

False

B. Humpback whales stay in one place all year long

True

False

3. When humpback whales are in northern, nutrient rich waters they are:



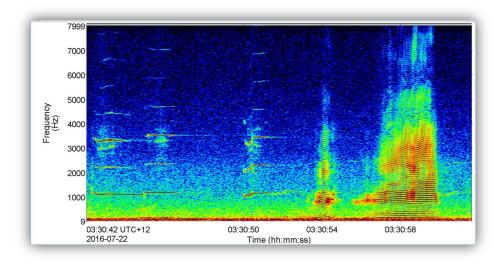
World Traveling Whales

4.	4. Humpback whale can be up to 18 meters (or 29 feet) long. Can you find a tape measurer and see just		
	big that is? Would a humpback whale fit inside your home?!		

5. In the summer humpback whales can eat 2,000kg of fish a day! This means they are eating around 400,000 calories a day to gain enough energy for their long migration. If an apple is 100 calories, how many apples would you need to eat in a day to fuel yourself for a humpback whale migration?



6. Have you ever heard a humpback? They are tremendous singers! Like many marine animals, humpback whales use sound to communicate, but their singing makes them unique. Male humpback whales sing complex songs during breeding seasons. These songs can be as long as 30 minutes and evolve season to season. Click here to listen to humpback whales and other marine mammal sounds. What do you notice about these humpback whale calls?



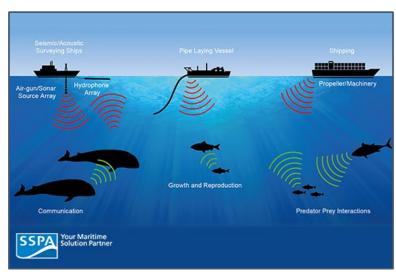
This is a **spectrogram**, and it helps scientists visualize sound. Higher frequency sounds are placed above lower ones, while volume is represented by the brightness of the color.



Whales and Ocean Noise Pollution

One challenge humpback whales face is ocean noise pollution. **Ocean noise pollution** describes human-caused sounds that are the loudest and most disruptive in ocean waters. This noise pollution often comes from the propellers of large shipping vessels, sonar, and deep-sea drilling for oil. It is important to eliminate ocean noise pollution that will drown out the sounds that these marine mammals use to communicate. This <u>short video</u> gives you an understanding of what some of this noise pollution and marine mammal communication sounds like.

As ocean noise pollution becomes more common, these added sounds can disrupt the communication and songs of humpback whales and may disrupt their migrations. Some studies show that humpback whales stop singing when there are loud boats nearby. Read more about ocean noise pollution and humpback whales.



How can we help?

- Ships transport food and other items all over the world. These ships are huge and make a lot of
 noise. We can help reduce noise pollution from large ships by buying things that are made or
 produced locally. You can use features in Google Maps to help find environmentally friendly
 businesses in your area. Can you share a local business near you to support?
- The Marine Mammal Center helps conduct research on shipping traffic and how it impacts whales. One important thing we know is that slowing ships down drastically reduces ocean noise pollution. If you like to be on the water, choose non-noisy options! Instead of motorboats or jet skis that contribute to underwater noise pollution, use kayaks or paddle boards instead. What's your favorite whale-friendly way to enjoy the water?
 - Be an ocean advocate & spread awareness on ocean conservation! What's the most exciting thing you learned about humpback whales? Share this with a friend and ask them if they know about ocean noise pollution.