

Listening to the Caribbean's Humpback Whales with CHAMP

By Dr. Heather Heenehan (NOAA Fisheries)

In December 2016, after many months of planning, ten recording devices were successfully deployed throughout the Caribbean to listen to the sounds and song of humpback whales as part of a new collaborative acoustic monitoring program called the Caribbean Humpback Acoustic Monitoring Programme (CHAMP).

CHAMP leverages and expands on networks already established in the Caribbean including the North Atlantic Humpback Whale Catalog, Sister Sanctuaries Program, CARIB Tails, and SPAW-RAC to promote and enhance collaborative research on the biology of humpback whales, specifically focusing on acoustics research. This multi-national acoustic monitoring program now includes researchers, government officials, NGO's, managers and others in Aruba, Bonaire, Dominican Republic (Silver Bank), Guadeloupe (West and East Coast), Martinique, St. Martin, and the United States.

This research is timely given the West Indies Distinct Population Segment (DPS) of humpback whales (*Megaptera novaeangliae*) was delisted under the US Endangered Species Act in September 2016. This DPS covers all of the Caribbean

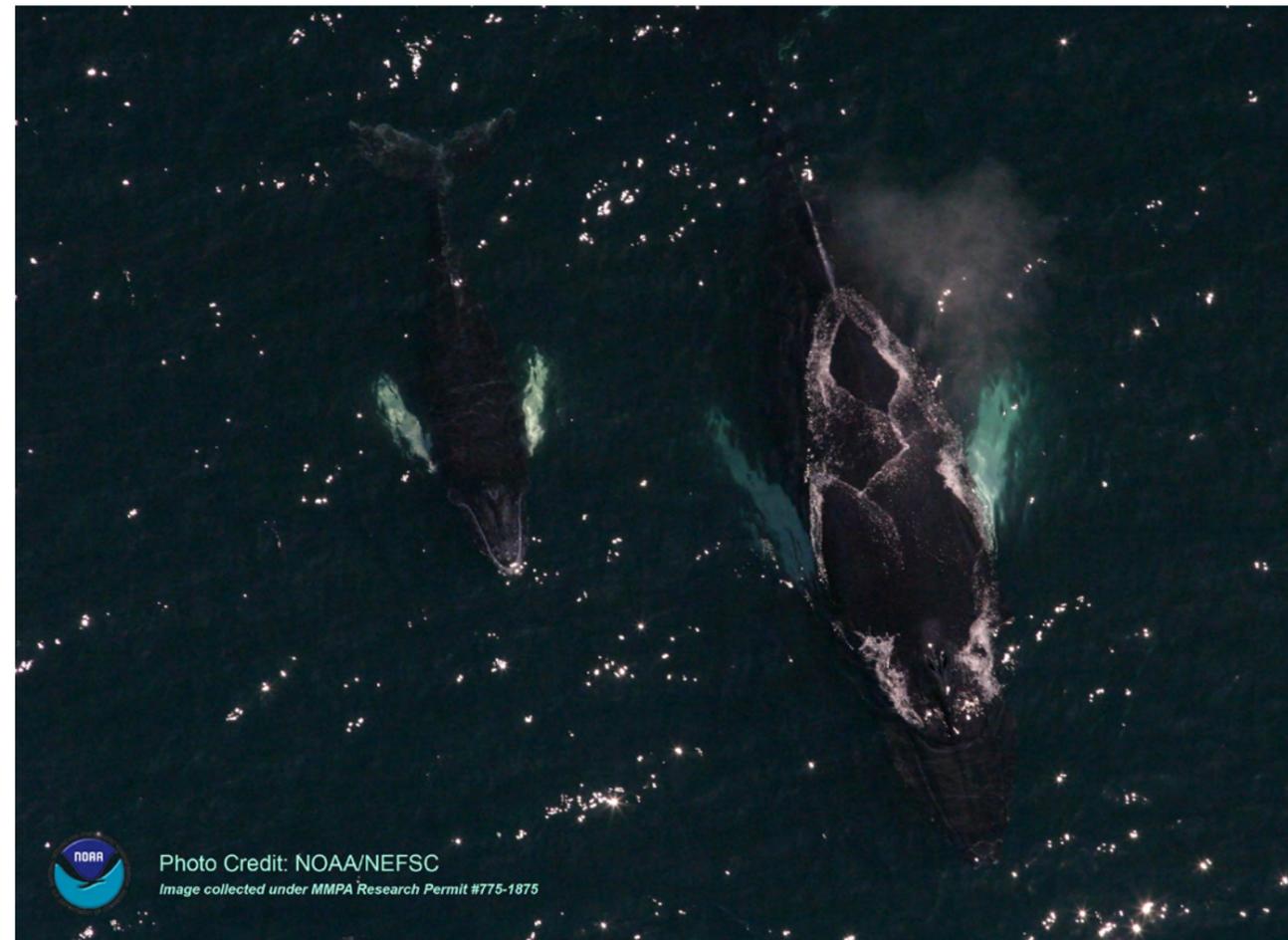


Photo Credit: NOAA/NEFSC
Image collected under MMPA Research Permit #775-1875

breeding grounds. However, growing evidence suggests the West Indies DPS contains more than one breeding population.

Because humpback whales are known for singing on their winter breeding grounds, we can learn a lot about these animals simply by listening. With passive acoustic recorders throughout the Caribbean, we will be able to monitor distribution, assess differences in arrival and departure of the whales, and analyze the whales' song, all valuable information for management and policy decisions.

The first CHAMP deployment included two different types of recording equipment, SoundTraps and Marine Autonomous Recording Units or popups. The SoundTraps (Ocean Instruments) recorded one hour every 4 hours at a sampling rate of 48 kHz and were placed on St. Martin, Guadeloupe (East Coast), and Bonaire. The Marine Autonomous Recording Units or popups (Cornell University) recorded continuously at 2 kHz and were placed on Aruba, Bonaire, Dominican Republic, Guadeloupe (West and East coasts) and Martinique. Each of our sites received a single device with the exception of the East Coast of Guadeloupe and Bonaire where both a SoundTrap

and popup were deployed. A fourth SoundTrap was used in collaboration with the SEA Education Association during their "Colonization to Conservation in the Caribbean Program." During this program recordings were made on Saba Bank and Silver Bank. Three students on this trip used these recordings for their oceanography projects and presented their work while on board the SSV Corwith Cramer.

The recording devices that were deployed in December will be recovered by the team of collaborators and partners in May and June 2017. Once the recorders have been sent back, we will begin the hard work of going through the recordings to learn more about the humpback whales of the

Caribbean. We hope to redeploy the SoundTraps in December 2017 for a second year of CHAMP.

This project is supported by funding from the United States National Oceanic and Atmospheric Administration Northeast Fisheries Science Center as well as in-kind support from the Dominican Republic's National Authority for Maritime Affairs, the Aruba Marine Mammal Foundation, STINAPA Bonaire National Marine Park, National Office for the Caribbean Netherlands (RCN), the Dutch Caribbean Nature Alliance, the Observatoire des Mammifères Marins de l'Archipel Guadeloupéen (OMMAG), the National Park of Guadeloupe, the Natural Reserve of St. Martin and the Sea Education Association.

If you or others are interesting in learning more about CHAMP and the humpback whales we are studying please visit our website (text available in English, Spanish, and French).

<http://www.nefsc.noaa.gov/psb/acoustics/psbAcousticsCHAMP.html>

Additionally, if you or someone you know is interested in the CHAMP recordings or has any additional acoustic recordings from the region please contact **Dr. Heather Heenehan**.

Email: Heather.heenehan@noaa.gov

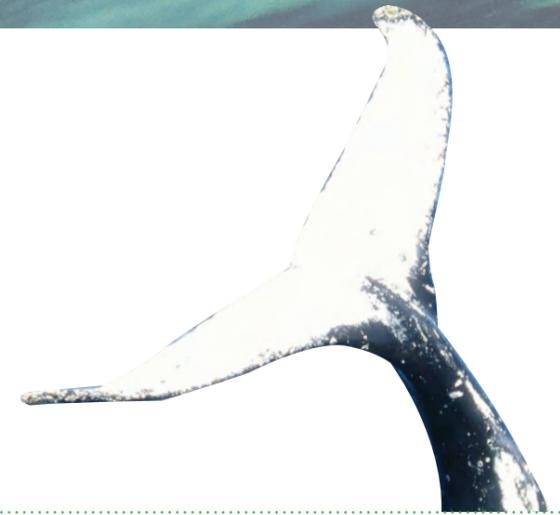
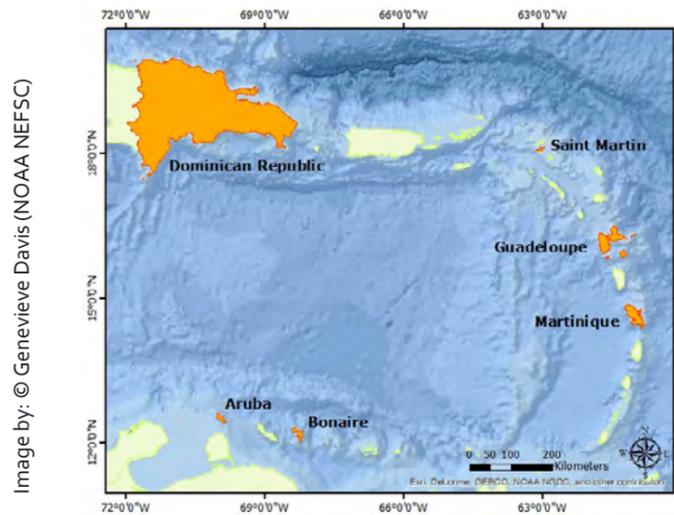


Photo by: © Jennett Brenner

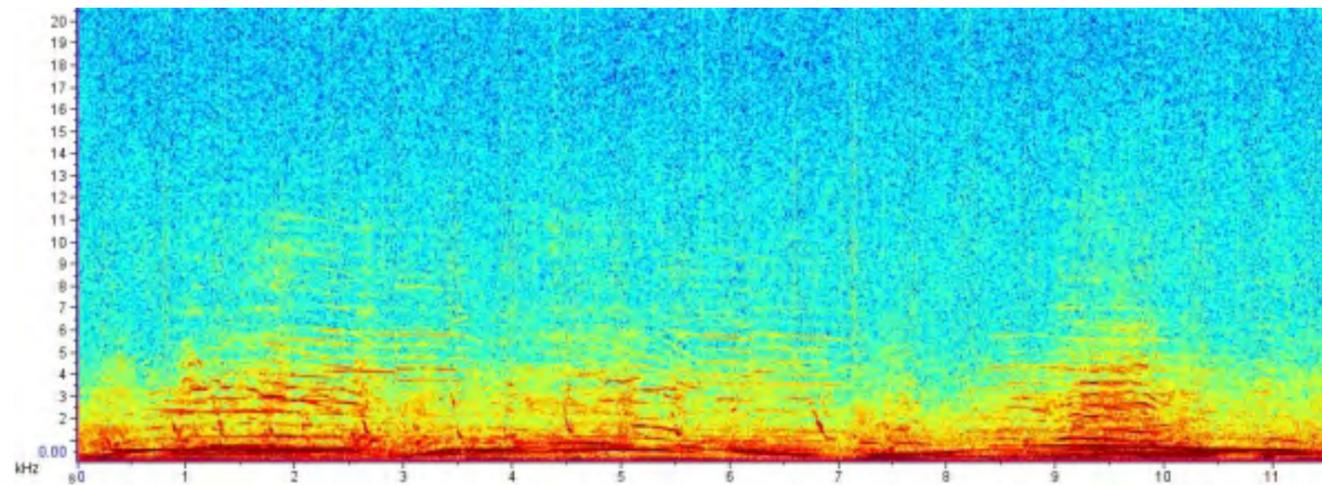


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Image by: © Heather Heenehan (NOAA) made with Raven Pro software



A map of the 2016-2017 CHAMP monitoring locations



A visualization called a spectrogram of humpback whale song recorded on Silver Bank 3-Mar-2017. To listen to this clip of humpback whale song visit: http://www.sea.edu/sea_currents/corwith_cramer/taking_time_to_listen



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