

Society for Marine Mammology: Small Grants in Aid of Research

Grant Report

(2020-2021)

Project title: Africa's singers on the move: Using song to understand the movement and mixing of humpback whale stocks around coastal southern Africa.

Awardee:

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Project Summary

Knowledge of animal movements and interchange between areas is fundamental to delineating populations or stocks and is instrumental in supporting many management decisions. Humpback whale song is well-described and stereotyped, making it an obvious sound in long-term recordings. Humpback whale song structure varies between populations and changes over time (Garland et al. 2011, 2015). Using song recorded at different locations around coastal southern Africa - we will investigate the timing, movements, and likely source populations of these animals, providing insight into population structure and mixing.

Project Aim

Two or more large populations of humpback whales migrate past the East and West coasts of Southern Africa each year. The overall aim of this study is to use acoustic monitoring of humpback song to understand whale occurrence and movement around southern Africa and potential population mixing in the Benguela feeding area.

Objectives:

- a) Deploy 4 autonomous acoustic recorders (SoundTraps) for the southward migration (Sept-March) within the Southern Benguela feeding ground including Cape Agulhas (the suggested east/west coast population boundary).
- b) Characterise 2021/22 humpback whale song from east and west coasts of South Africa during northward (May-July) and southward (September-October) migration periods.
- c) Compare song from the Benguela feeding area to song from east and west coasts to assign likely population of origin.
- d) Investigate song production rates, seasonality, and the role of singing in potential feeding groups over the feeding season.

Project Progress and Outcomes

The funding provided by the Society for Marine Mammalogy allowed the Sea Search Research and Conservation (SSRC) team (eight persons total including the awardee), to conduct a three-week field season in Saldanha, South Africa in November 2020. Saldanha is located on the west coast of South Africa, and it is here (as well as in the surrounding towns of Paternoster, St Helena, and Yzerfontien) that the annual humpback whale 'super-group' phenomenon takes place. During the three weeks, acoustic data were collected from a 6m RHIB using a SoundTrap affixed to a pole with flotation devices attached to allow the instrument to stay upright. This device and equipment setup allowed the sea team to deploy the device near a group of feeding whales and move away from the group so as not to disturb the whale's behaviour while minimizing the risk of entanglement in hydrophone cabling. Simultaneous land-based data using a theodolite from high vantage point located in the Saldanha Military Academy Base overlooking the Saldanha Bay harbour. Using the theodolite, the location of sighted whale groups was noted and tracked along with behavioural information. Marine vessels entering or departing from the harbour were also noted to establish the potential for whale-vessel interactions. Acoustic data were also collected from sites near Paternoster, St Helena, and Yzerfontien during the course of the three-week field season.

The project is still ongoing as we gather more data along the western and eastern coasts of South Africa and will continue for the foreseeable future. These data not only form part of the awardee's eventual PhD degree dissertation, but also adds to the SSRC long-term acoustics database to develop a better understanding of the acoustic behaviour of marine mammals along the coast of South Africa

Field seasons such as these are invaluable, and we appreciate the support of the Society for Marine Mammalogy and thank the Committee of Scientific Advisors, Board of Governors of the Society, and the Society's Treasurer.