



acoustic communication
and monitoring

marine mammals

marine noise

right whales

SUSAN PARKS

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Dr. Parks is an expert in the biology of marine organisms and the potential impacts of human activities on species in the marine environment. Dr. Parks specializes in the ecology and evolution of acoustic signaling. Sound is critically important to many animals that rely on sound for communication, orienting in their environment or for finding prey. Some animals modify their vocalizations in response to interference from a variety of natural and anthropogenic noise disturbances. Dr. Parks' research group focuses on understanding the use of sound for communication, the evolution of acoustic signals, hearing abilities, and the impacts of noise on both sound production and reception in a variety of species in aquatic environments. In 2009 Dr. Parks was awarded the Presidential Early Career Award for Scientists and Engineers, the highest honor bestowed by the United States government on young professionals in the early stages of their independent research careers. Dr. Parks was also named a 2010 Kavli Frontiers Fellow of the National Academy of Science, which recognizes young researchers who have made significant contributions to science.

Education:

2003 Ph.D. Biological Oceanography, Massachusetts Institute of Technology and Woods Hole Oceanographic Institution

1998 B.A. *cum laude*, Biology, Cornell University

Recent Research Projects:

Vocal Behavior of North Atlantic Right Whale (*Eubalaena glacialis*) Mother Calf Pairs. Office of Naval Research, Presidential Early Career Award. PI: Parks, S. Co-PI: Van Parijs, S.

This project is a detailed behavioral study of endangered North Atlantic right whale mother-calf pairs in two critical habitat areas in U.S. waters and a designated conservation area in Canada. The project quantifies the behavior of mother-calf pairs in order to determine:

- why mothers and calves are more susceptible to collisions with vessels, and
- the vocal behavior of this critical life stage to assess the effectiveness of passive acoustic monitoring to detect mother-calf pairs in important habitat areas.

Assessment of Acoustic Adaptations for Noise Compensation in Marine Mammals.

Office of Naval Research, Young Investigator Award. PI: Parks, S.

This study addresses the fundamental theoretical issue of noise compensation mechanisms in the vocal communication of marine mammals. The goal of the project is to match the marine mammal signals to their acoustic habitats and to investigate general trends for noise compensation documented from different species of animals in response to noise sources in the environment.

Recent Scholarship:

Parks, S.E., C.F. Hotchkin, K.A. Cortopassi, and C.W. Clark, **“Characteristics of gunshot sound displays by North Atlantic right whales in the Bay of Fundy,”** *Journal of the Acoustical Society of America*, vol. 131, pp. 3173-3179, Jan. 2012.

Rolland, R.M., S.E. Parks, K.E. Hunt, M. Castellote, P.J. Corkeron, D.P. Nowacek, S.K. Wasser, and S.D. Kraus, **“Evidence that ship noise increases stress in right whales,”** *Proceedings of the Royal Society, B.*, doi:10.1098/rspb.2011.2429, Feb. 2012.



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