

Marine Mammal Commission 2025 Annual Meeting Connecting the Dots Session Summary

The Connecting the Dots session explored advances in quantitative methods aimed at integrating multiple sources of information to improve marine mammal population assessments. Themes included integration of multiple types of monitoring data for estimating abundance and understanding distribution, improving the accuracy of entanglement mortality estimates, and modeling the population consequences of multiple stressors. Case studies centered on North Atlantic right whales, gray whales, and Gulf cetaceans. Dr. Rob Schick presented on using data fusion models to integrate aerial, acoustic, and tagging data for North Atlantic right whales, improving abundance and distribution estimates. Dr. Kait Frasier shared advanced methods for analyzing long-term passive acoustic monitoring data collected after the *Deepwater Horizon* oil spill, documenting declines in deep-diving and smaller odontocete densities and population trends. Dr. Jeff Moore outlined new approaches to better estimate mortality and serious injury of whales using capture-recapture of resighted, entangled individuals. Dr. Leslie New described the Population Consequences of Multiple Stressors (PCoMS) framework, linking stressors through behavior, physiology, and health to population dynamics, and possible future advancements of the framework, including integration of information acquired from new technologies described in previous sessions, which could improve stock assessments and conservation efforts. In the panel discussion, participants emphasized the challenges of uncertainty in call rates and detection ranges, the promise of integrating diverse data types, the need to better document entanglement impacts, and the opportunity to apply stressor models across species and regions.