



Stock Assessment Reports:

What is missing and what are the costs?

Background

In 2016 the Commission reviewed the performance of the National Marine Fisheries Service (NMFS) with respect to several aspects of its requirements under Section 117 of the Marine Mammal Protection Act of 1972 (MMPA).¹ This analysis was based on the final 2013 Stock Assessment Reports (SARs). Here we report on whether performance has improved, worsened, or been stable over the past three years (2014-2016) with regard to the fundamental requirement of providing a minimum abundance estimate for marine mammal stocks within the U.S. EEZ.

The problem:

Minimum abundance estimates and accurate stock structure form the foundation of a science-based process to assess the status of marine mammal stocks and underpin efforts to conserve and manage them.

Without up-to-date and accurate estimates:

- The potential for over or under-regulation of fisheries, energy and military activities increases, leading to added economic costs.
- Evaluation of the impacts of permitted sectors as well as catastrophic events such as the *Deepwater Horizon* Gulf Oil Spill becomes unreliable.
- NMFS's ability to prioritize its management and recovery actions in a meaningful or effective way is compromised.

A solution:

Increasing investment in data collection to increase the number of SARs with improved and accurate information could more than offset the economic costs of poor or missing information.²

Summary

- Regional performance remained stable or worsened between 2014 and 2016.
- Current resources do not allow NMFS to meet its obligations under section 117.
- NMFS requires additional support for research if it is to avoid over or under-protection of marine mammal stocks.
- Increased investment in data collection could more than offset economic costs of poor or missing SAR information.²



¹ The Commission's full review report is available at <https://www.mmc.gov/wp-content/uploads/SARsReport.pdf>

² Bisack, K.D., and G. Magnusson. 2014. "Measuring the Economic Value of Increased Precision in Scientific Estimates of Marine Mammal Abundance and Bycatch: Harbor Porpoise *Phocoena phocoena* in the Northeast U.S. Gill-Net Fishery." *North American Journal of Fisheries Management* 34 (2): 311–21. <https://doi.org/10.1080/02755947.2013.869281>.

NMFS's Performance 2014-2016

We evaluated the performance, or change in percentage of stocks for which minimum abundance estimates were provided, for each of the three years since our initial review (Figure 1). In the Gulf of Mexico and Alaska there was a decline in performance. Although the Pacific (Coast and Islands) and Atlantic Coast did not show a decline in performance, neither region provided the required information for all of their stocks. The Pacific performed best with estimates for nearly 90% of the west coast stocks and 70% of the Pacific Islands stocks.³ The Atlantic also had minimum abundance estimates for nearly 70% of its stocks. The Pacific requires information on 13 more stocks to reach 100% performance, while the Atlantic requires additional information on 18 more stocks. The Caribbean is currently missing information for all six of its stocks³, the Gulf of Mexico for 31 of its 56 stocks, and Alaska for 16 of its 45 stocks.

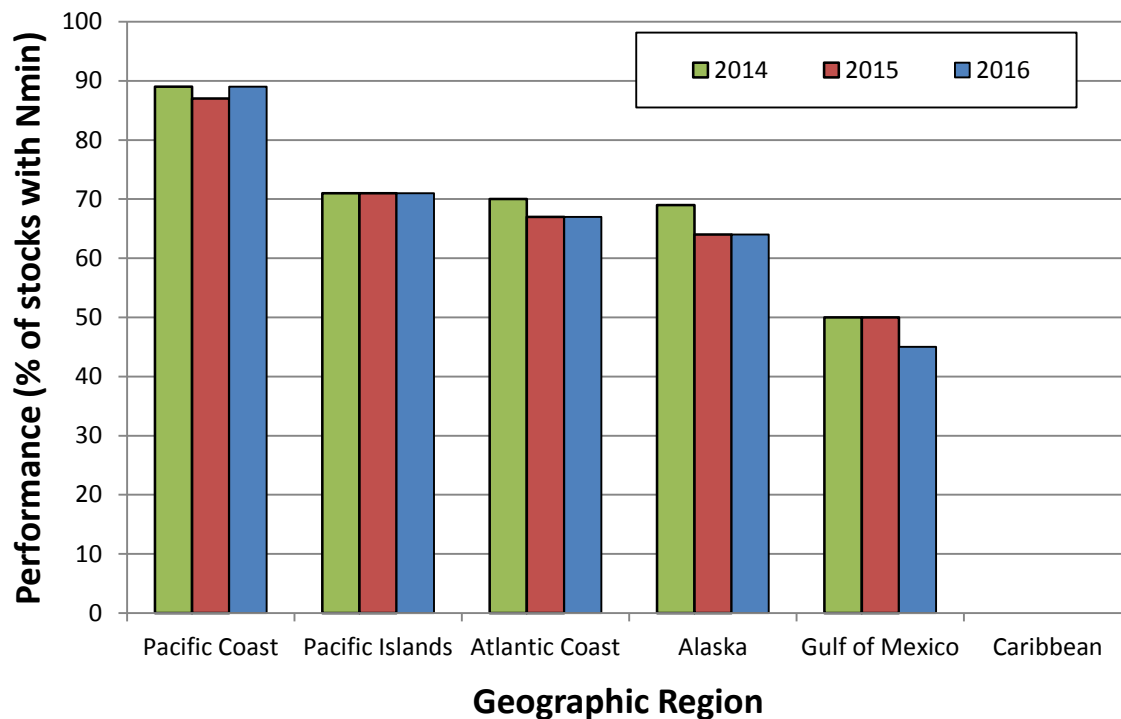


Figure 1: Performance of NMFS in the 2014, 2015, and 2016 SARs by geographic region, in terms of % of stocks for which minimum abundance estimates were provided.

Recommendations

To improve the amount and accuracy of information in the stock assessment reports NMFS requires adequate personnel and support to:

- survey the U.S. EEZ for marine mammals using consistent methods at least once every 6 years (see details in Balance et al 2017⁴), and;
- develop and refine alternative survey techniques and technologies to complement or replace traditional approaches.

³ This does not include numerous stocks in the Pacific Islands/Caribbean for which information is lacking and SARs have yet to be created.

⁴ Ballance, L., M. Srinivasan, A. Henry, R. Angliss, L. Barre, J. Barlow, J. Bengtson, S. Bettridge, J. Bohnsack, S. K. Brown, P. Clapham, C. Fahy, M. Ford, L. Garrison, T. Gerrodette, N. LeBoeuf, J. Moore, E. Oleson, D. Palka, F. Parrish, J. Redfern, J. Simpkins, B. Taylor, and P. Wade. 2017. A strategic plan for conducting large geographic scale, ship-based surveys to support the U.S. Marine Mammal Protection and Endangered Species Acts. NOAA Tech. Memo. NMFS-F/SPO-169, 20 p.