

Northeast Canyons and Seamounts Marine National Monument: Impacts on Commercial Fishing

We are not aware of any substantiated commercial fishing losses resulting from designation of the Northeast Canyons and Seamounts National Monument.¹ The monument's deep and rugged canyon and seamount areas were historically some of the least fished in the U.S. Atlantic and not unusually important for any fishery. The six to eight red crab and lobster vessels active in the monument area have been provided a seven year grace period. Because the monument does not affect catch limits or allocations, other types of fishing effort, such as the small amount of trawling that occurred in the shallowest portion of the monument, have likely been relocated to other areas.² The canyon and inter-canyon area in the original monument proposal was also reduced by almost 60 percent to leave out the relatively more active trawling areas. Finally, it is important to point out that the monument may ultimately enhance regional fisheries as protected areas elsewhere have been shown to increase catch of species such as lobster in adjacent areas.³

The monument's effects on commercial fishing activities are limited to the following:⁴

Lobster: According to one press account, only one lobster vessel fishes exclusively in the monument's canyons (and that vessel's captain stated that he will retire within the seven year grace period).⁵ Other information indicates that approximately six lobster vessels use the monument area at least some of the time.⁶ These vessels may use other areas as well (the offshore lobster fishery is active in and around dozens of other Atlantic canyons as well as other New England offshore waters).⁷ To put these vessel numbers in perspective, there are more than 3000 federal permitted lobster vessels overall (and more than 10,000 state licensed vessels).⁸

Red crab: One full-time vessel and one part-time vessel fish for red crab in and between the monument's three canyons.⁹ Both vessels also fish in dozens of other canyons between Hudson Canyon and the U.S.-Canada maritime border—and the fishery as a whole utilizes canyon and inter-canyon areas extending all the way down to North Carolina.¹⁰ The monument's canyons are also located in the red crab fishery's least productive area with the vast majority of red crab landings from outside the monument area.¹¹

¹ Although a number of fishing groups have claimed that losses have occurred, we are not aware of substantiation for such claims. Prior to designation, there were also several predictions of large losses; to the degree these were supported, they were based on areas larger than the final monument, such as the much larger "statistical areas" used by the government for fisheries management purposes, and assumed no redistribution of effort. Moreover, the claims did not account for the seven year phase out for the offshore lobster and red crab fisheries.

² The literature on such effort redistribution is extensive. See, e.g., Sanchirico, J. and J. Wilen, 2001. A bioeconomic model of marine reserve creation. *J. Env. Econ. & Mgmt.* 42(3):257--276; Neubert, M.G. and G.E. Herrera, 2007. Triple benefits from spatial resource management. *Theoretical Ecology* 1(1):5-12; Hastings, A. and L. W. Botsford, 1999. Equivalence in yield from marine reserves and traditional fisheries management. *Science* 284:1537--1538.)

³ R. Goñi, et al. 2010. Net contribution of spillover from a marine reserve to fishery catches. *Marine Ecology Progress Series*, Vol. 400: 233-243 (2010). DOI:10.3354/meps08419; F. Vandeperre, et al. 2011. Effects of no-take area size and age of marine protected areas on fisheries yields: a meta-analytical approach. *Fish and Fisheries*, 2011, 12, 412-426. DOI:10.1111/j.1467-2979.2010.00401.x.

⁴ No meaningful amount of scallop or other shellfish dredging, bottom longlining (such as for tilefish), or gillnetting occurred in the monument prior to designation, based on government data and other best available information.

⁵ J. Baker, The Newport Daily News, "Lobster fishermen face a monumental problem," Oct. 1, 2016.

⁶ Whitmore, K., et al., Characterization of the offshore American lobster and Jonah crab trap fishery in Lobster Conservation Management Area 3 in and around the Southern New England and Georges Bank canyons, April 20, 2016, Updated July 5, 2016 ("ASMFC Offshore Lobster Survey"). Available at https://www.nrdc.org/sites/default/files/media-uploads/3d-160705_asmfc_canyons_report.pdf; J. Eilperin, Washington Post, "Obama designates the first-ever marine monument off the East Coast, in New England", September 15, 2016, <https://www.washingtonpost.com/news/energy-environment/wp/2016/09/15/obama-to-designate-the-first-ever-marine-monument-off-the-east-coast-in-new-england/>.

⁷ ASMFC Offshore Lobster Survey; New England Fishery Management Council Habitat Committee, Patterns of fishing effort and revenue within draft deep-sea coral management zones, August 18, 2016. Available at <http://s3.amazonaws.com/nefmc.org/3c-Fishing-activity-in-coral-zones.pdf>.

⁸ NOAA Fisheries, Greater Atlantic Region, at <http://www.greateratlantic.fisheries.noaa.gov/sustainable/species/lobster/> (see "Permits" page); Atlantic States Marine Fisheries Commission, American Lobster Stock Assessment, March 2009, available at <http://www.asmfc.org/uploads/file/-2009LobsterStockAssessmentReport.pdf>.

⁹ MAFMC, Deep Sea Corals Workshop Summary, April 2015, at 24, available at <https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/55841da8e4b0b65f09fd0562/1434725388108/DSC+Workshop+Summary.pdf>.

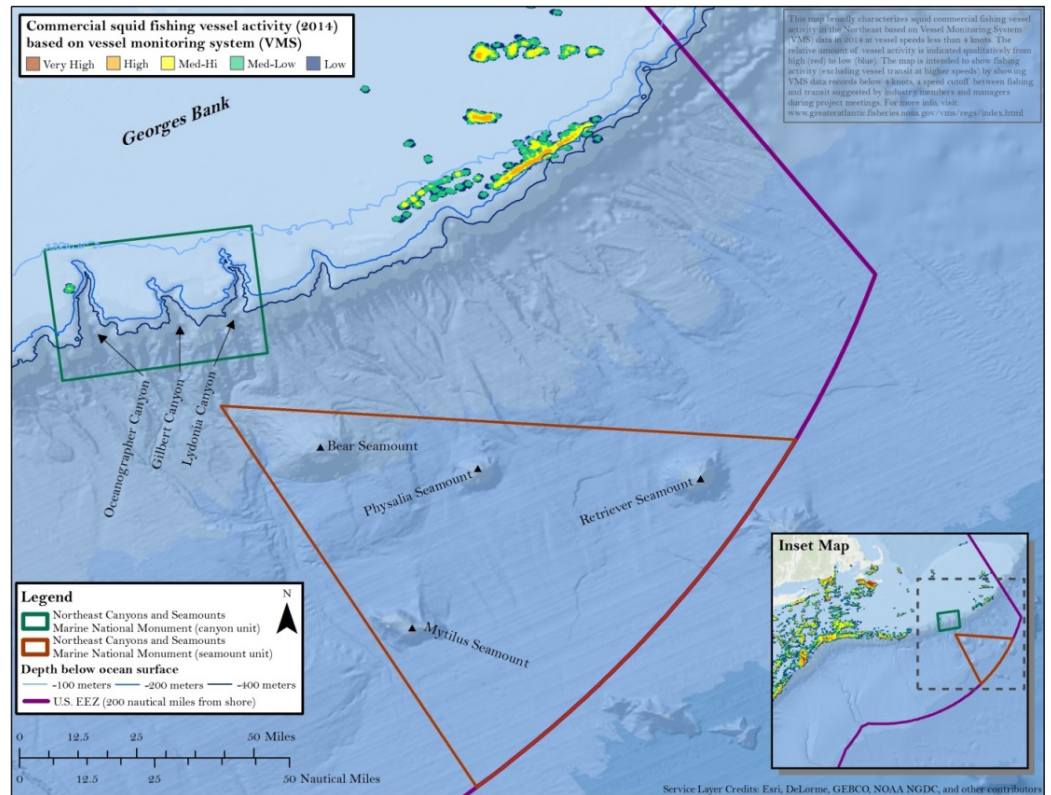
¹⁰ Id.

¹¹ Marine Stewardship Council, "downloads from the Atlantic deep sea red crab assessment." Accessed March 15, 2016. https://www.msc.org/track-a-fishery/fisheries-in-the-program/exiting-the-program/withdrawn/Atlantic-deep-sea-red-crab/assessment-downloads-1/20131117_SR_CRA7.pdf/at_download/file; New England Fisheries Management Council, "2014-2016 Red Crab Specifications/Final" Accessed March 15, 2016. http://s3.amazonaws.com/nefmc.org/12.13.13_Red-Crab-Specification-Package-Submission.pdf.

Swordfish and tuna: Pelagic longlining primarily targeting swordfish and tuna occurred in the monument area prior to designation. The monument area, however, constituted significantly less than one percent of the total area actively fished and provided less than one percent of the fleet's 2006-2012 average annual revenues.¹² At the request of members of the fishery, the area between the canyons and seamounts was excluded from the monument to provide a transit corridor along the continental shelf break.

Squid, butterfish, mackerel and whiting: The monument area is generally too deep and rugged for the bottom trawls used in this fishery. Prior to designation, bottom trawling was prohibited in two of the three canyons to protect deep sea corals, although some sporadic trawling still occurred in the shallowest margins of the monument above the canyon heads. Importantly, the fisheries for these species are concentrated elsewhere in the region: the monument area is estimated to have contributed less than one percent of total catch for this fishery historically.¹³

On the right is a map showing fishing for squid (the fishery's most commercially valuable species) and butterfish in the vicinity of the monument in 2014.¹⁴ The map indicates one small spot of fishing activity in the monument (to the west of Oceanographer Canyon). The inset map of fishing throughout the region shows that most fishing occurs in shallower areas and areas to the west of the monument (green, yellow, orange, and red areas). The map also shows an area northeast of the monument with more fishing activity. This area was included in the original monument proposal but left out of the final monument.



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¹² NMFS, Description of the Pelagic Longline Fishery for Atlantic HMS (1998), at 141. Available online at: http://www.nmfs.noaa.gov/sfa/hms/-related_topics/bycatch/documents/fseis_final_section_6.pdf; NOAA Fisheries, Final Amendment 7 to the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan ("Amendment 7"), at 213, 455 (2014).

¹³ From 2012-2014, catch of each of these species from all of statistical area 525, which the monument area is a small part of, ranged from 0-7% of annual catch for the entire region. MAFMC & NMFS, Specifications and Management Measures For: Atlantic Mackerel (2016-2018, Including River Herring and Shad Cap); Butterfish Mesh Rules; and Longfin Squid Pre-Trip Notification System (PTNS), August 24, 2015, available at <https://www.greateratlantic.fisheries.noaa.gov/regs/2016/January/16msb2016specsea.pdf>; L. Hendrickson, Report to the Mid-Atlantic Fishery Management Council: Fishery and Survey Data Updates Regarding the Northern Shortfin Squid (*Illex illecebrosus*) and Longfin Inshore Squid (*Doryteuthis (Amerigo) pealeii*) stocks through 2015, March 30, 2016. Available at https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/57504c408a65e2566113d127/1464880194607/sup5_squid_data_update_2016.pdf.

¹⁴ The map is derived from satellite-based Vessel Monitoring System (VMS) data, which is required in this fishery and the most accurate data available on fishing location. Northeast Regional Ocean Council, Final Report to the Northeast Regional Ocean Council: Commercial Fisheries Spatial Characterization, September 2013 at 39, available at <http://neocanplanning.org/wp-content/uploads/2013/12/Commercial-Fisheries-Spatial-Characterization-Report.pdf>. This VMS data is only publicly available for 2014. However, the fishing pattern shown on the map is generally consistent with maps of 2011-2014 fishing activity prepared from less-reliable Vessel Trip Reports that can be viewed at <http://portal.midatlanticocean.org/visualize/#x=1.06&y=38.04&z=7&logo=true&controls=true&dls%5B%5D=0.7&dls%5B%5D=2.99&dls%5B%5D=true&dls%5B%5D=0.5&dls%5B%5D=2.87&basemap=Ocean&themes%5Bids%5D%5B%5D=4&tab=data&legends=false&layers=true>. The general relative lack of fishing activity in the monument area is also apparent on <http://globalfishingwatch.org/map>, which maps Automatic Identification System (AIS) information from fishing vessels; AIS is a maritime communications system required on all large U.S. fishing vessels as of March 2016 (and used by many vessels before then).