



Mid-Atlantic Fishery Management Council
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MEMORANDUM

Date: December 9, 2016
To: Council
From: Julia Beaty
Subject: Scup distribution in May and October

Executive Summary

This memo summarizes scup catch in several fisheries-independent trawl surveys during the first two weeks of May and during the month of October. The Council and Board are considering a management action which could result in increases in the commercial scup possession limits during those times of year. The goal of examining these data was to look for indications of possible biological and economic impacts of the proposed changes, with an emphasis on possible disproportionate impacts between state and federal waters.

The survey data summarized in this document do not suggest that any major impacts to the scup stock or to the commercial scup fishery, either positive or negative, would result from the proposed changes. However; other sources of information may provide a stronger basis for such conclusions (e.g. dealer data on landings, price, and participation, as well as input from advisors, the Monitoring Committee, and members of the public; summarized in tab 11 of the December 2016 briefing book; <http://www.mafmc.org/briefing/december-2016>).

Introduction

This memo supplements materials provided in the briefing book for the December 2016 Council and Board meeting. As described in the briefing materials (tab 11; <http://www.mafmc.org/briefing/december-2016>), the Council and Board will discuss a framework and addendum to modify the dates of the commercial scup quota periods based on requests from advisors. One alternative would move the month of October from the Summer quota period to the Winter II quota period. A second alternative would move the month of October to the Winter II quota period and would move the first half of May to the Winter I quota period. Both alternatives would leave all other regulations unchanged (Tables 1 and 2). These changes would result in higher possession limits during the affected times of year. Due to the differences

in possession limits between federal waters in the Winter I and II periods, compared to in state waters during the Summer quota period, these changes could have different impacts for commercial scup fisheries in state waters compared to federal waters.

The goal of examining fisheries-independent survey data was to look for indications of possible biological and economic impacts of the proposed changes, with an emphasis on possible disproportionate impacts between state and federal waters.

Table 1: Commercial scup quota period dates, percentage of annual quota allocated, and Federal waters possession limits.

Quota Period	Dates	Allocation of annual quota	Possession limit
Winter I	Jan 1–Apr 30	45.11%	50,000 pounds
Summer	May 1–Oct 31	38.95%	State-specific (Error! Reference source not found.)
Winter II	Nov 1–Dec 31	15.94%	12,000-18,000 pounds depending on amount of unused quota rollover from Winter I

Table 2: Commercial scup possession limits for trawl vessels in state waters during the Summer quota period (May 1 – October 31) in 2016.

State	Dates	Possession limit
Maine	May 1 – Oct 31	None
New Hampshire	May 1 – Oct 31	None (allocated no quota)
Massachusetts	May 1 – Oct 31	800 lb
Rhode Island	May 1 – Oct 31	10,000 lb per vessel per week
Connecticut ^a	May 1 – July 2	1,500 lb
	July 3 – November 1	750 lb
New York	May 1 – Oct 31	800 lb
New Jersey	May 1 – Oct 31	5,000 lb
Delaware	May 1 – Oct 31	None (allocated no quota)
Maryland	May 1 – Oct 31	None
Virginia	May 1 – Oct 31	None
North Carolina	May 1 – Oct 31	None

^aPossession limits are adjusted periodically to maintain consistent weekly landings rate, prevent in-season closure, and take 100% of summer period quota allocated to Connecticut.

Methods

The following surveys are summarized in this document:

- The Northeast Area Assessment and Monitoring Program (NEAMAP) survey, 2011-2016
- The Northeast Fisheries Science Center (NEFSC) fall bottom trawl survey, 2011-2015
- Massachusetts Department of Marine Fisheries (MA DMF) spring inshore bottom trawl survey, 2011-2016
- The Rhode Island Department of Environmental Management (RI DEM) Coastal Fishery Resource Assessment Trawl Survey, 2011-2016
- The University of Rhode Island Graduate School of Oceanography (URI GSO) Narragansett Bay Fish Trawl Survey, 2011-2015
- The New Jersey Ocean Trawl Survey, 2011-2015

The average weight per scup at each survey station is also summarized. The minimum size for retention in the commercial fishery is 9.00 inches total length (22.86 cm), or about 8.28 inches fork length (21.03 cm). Scup of this size are typically about 0.33 pounds, or 0.15 kg (henceforth referred to as commercial-sized scup).¹ Scup below the minimum size will be minimally impacted by the proposed changes.

Several fisheries-independent surveys are not summarized in this document. The NEFSC spring bottom trawl survey is not included because it caught no scup during May 1-15, 2011-2015. The Delaware Bay trawl survey run by the New Jersey Division of Fish and Wildlife is not included because it caught only two scup during 2011-2015. The state of Delaware's trawl survey is not included because it only catches scup smaller than the commercial minimum size. The MA DMF fall bottom trawl survey is not included because it only operates during September. The Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAP) is not included because it caught no commercial-sized scup during May, 2011-2016 and does not operate during October.

The Connecticut Division of Marine Fisheries Long Island Sound trawl survey and the New York Department of Environmental Conservation's trawl survey are not summarized in this document, but may be analyzed prior to the February 2017 joint Council and Board meeting.

¹ Weight based on: Morse W. W. 1978. Biological and fisheries data on scup, *Stenotomus chrysops* (Linnaeus). Northeast Fisheries Science Center Sandy Hook Laboratory Technical Series Report No. 12.

Summary of Survey Information

NEAMAP

The NEAMAP survey operates during April, May, September, and October and samples from Cape Cod, MA to Cape Hatteras, NC. More information is available at:

http://www.vims.edu/research/departments/fisheries/programs/multispecies_fisheries_research/neamap/index.php

NEAMAP tended to catch higher volumes of scup, and those scup tended to be larger, off the states of MA-NJ, compared to DE-NC (Figures 1-6). The highest scup catches occurred off Rhode Island during both times of year. The average weight per scup was less than 0.15 kg (roughly the weight of a commercial-sized scup, as previously described) in all tows off DE-NC during both times of year.

During May 1-15 and October 1-31, 2011-2016, roughly half of the NEAMAP tows occurred in state waters (53% during May 1-15 and 50% during October). Tows with an average of at least 0.15 kg per scup were evenly distributed between state and federal waters during both times of year (52% in state waters during May 1-15 and 48% in state waters during October; Figures 2 and 4). The average weight per scup in state waters was similar to that in federal waters during both times of year (0.04 kg in state waters and 0.07 kg in federal waters during May 1-15; 0.05 kg in both state and federal waters during October).

In summary, NEAMAP catches of scup were fairly evenly distributed between state and federal waters. This was true for all scup catch and for commercial-sized scup.

NEAMAP - May 1-15, 2011-2016 (kg scup/tow)

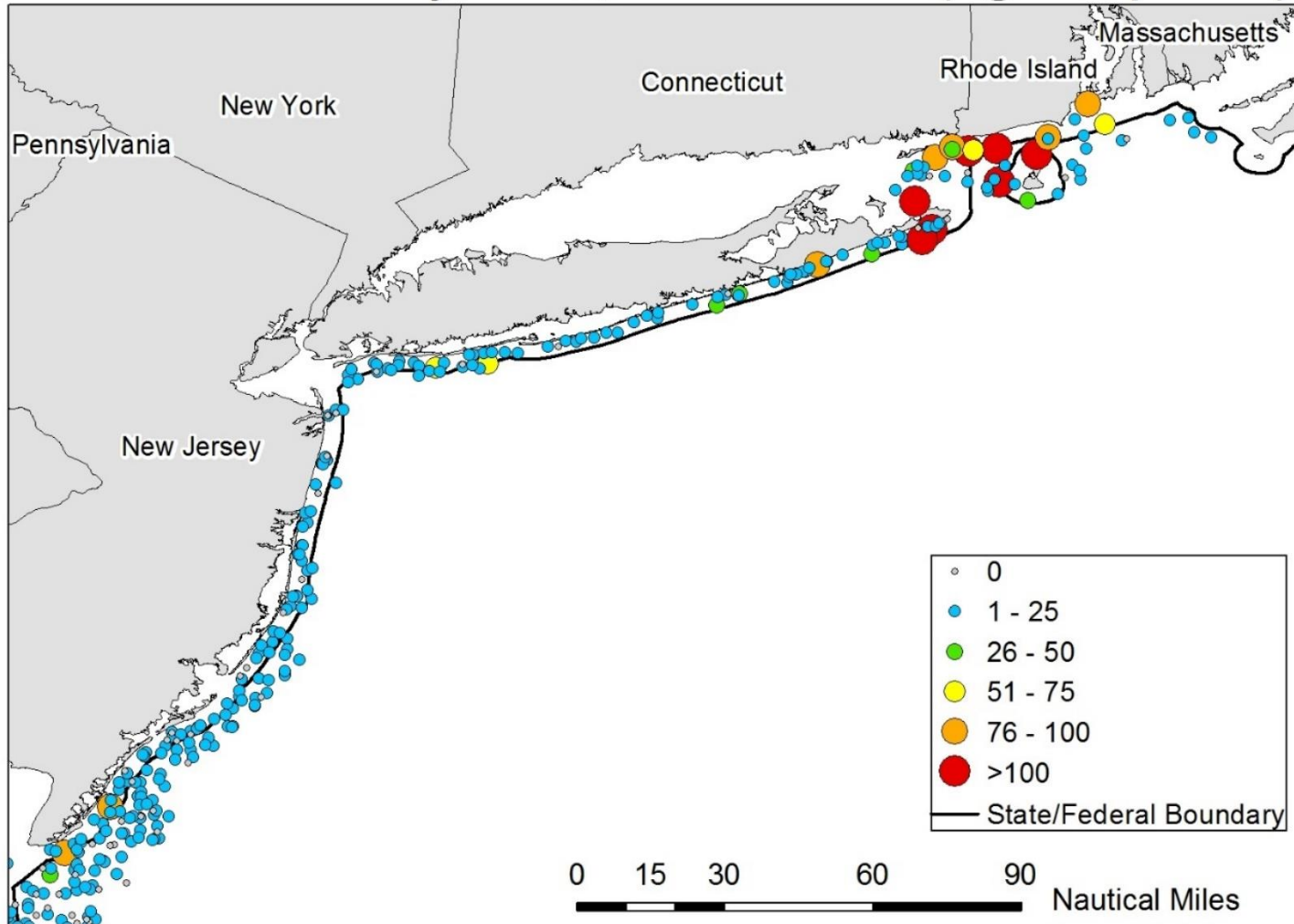


Figure 1: Scup catch per tow, May 1-15, 2011-2016, in the NEAMAP trawl survey off the states of Massachusetts through New Jersey.

NEAMAP - May 1-15, 2011-2016 (avg. weight)

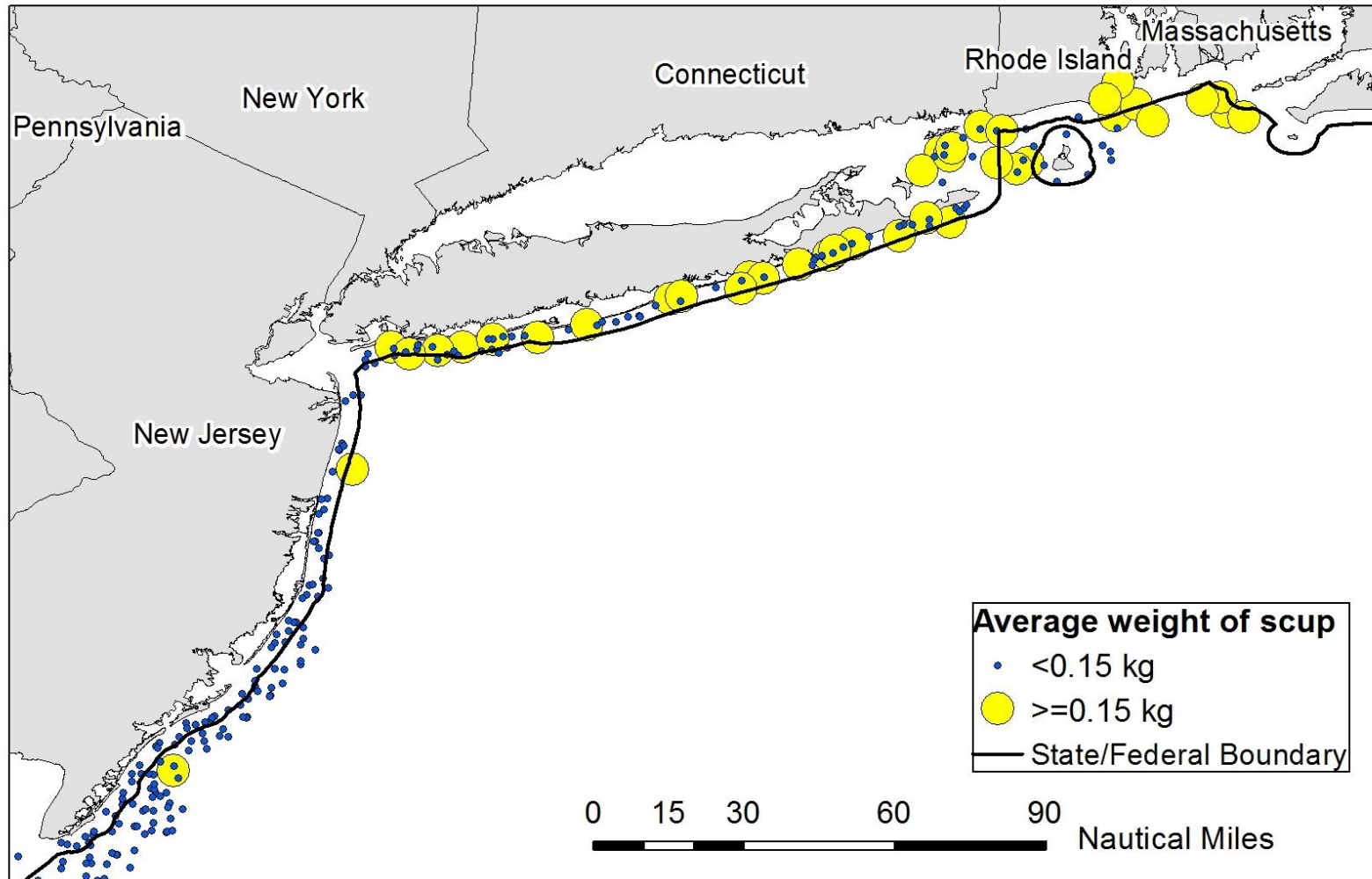


Figure 2: Average weight per scup in NEAMAP tows from Massachusetts through New Jersey, May 1-15, 2011-2016.

NEAMAP - Oct, 2011-2016 (kg scup/tow)

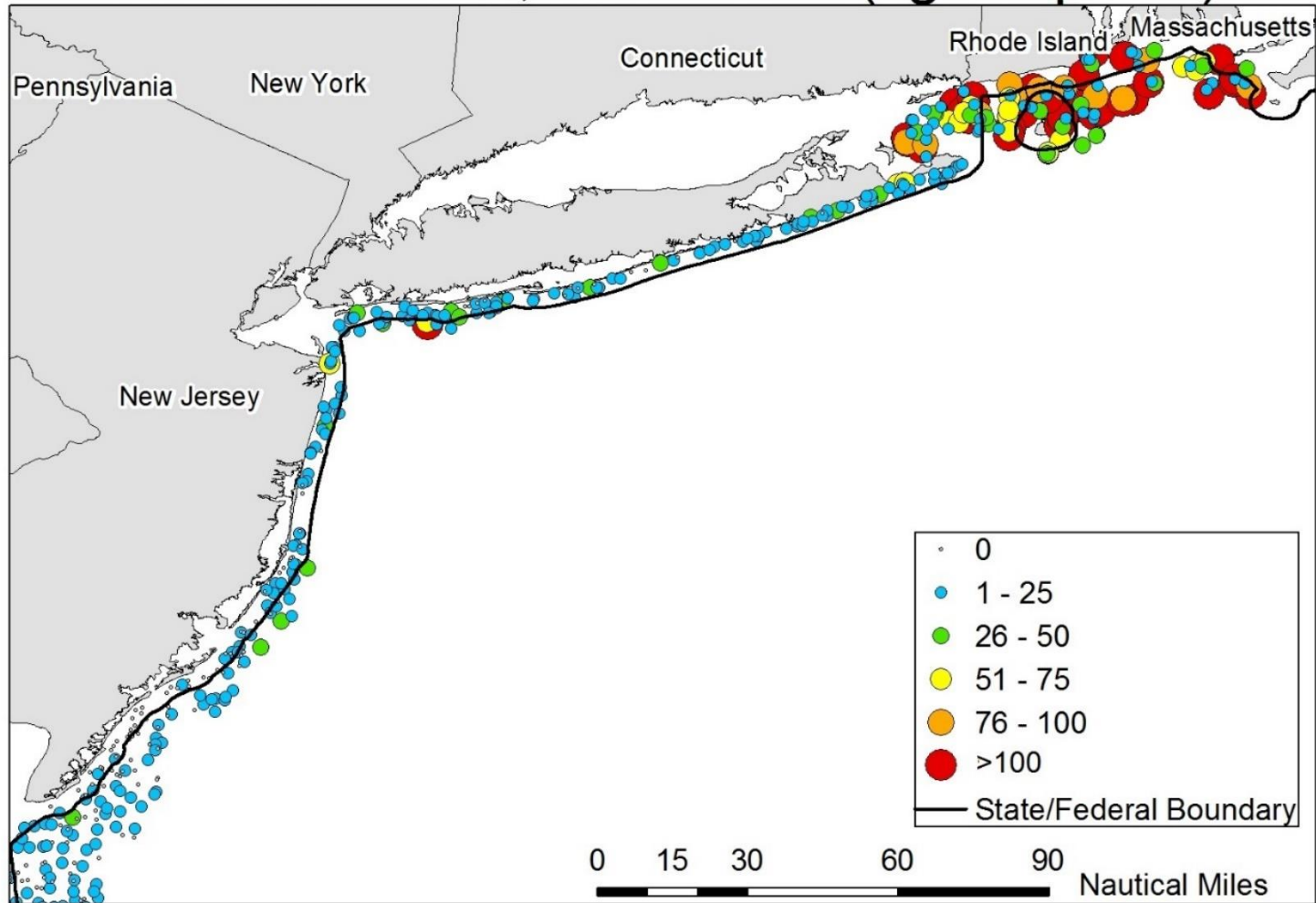


Figure 3: Scup catch per tow in October, 2011-2016, in the NEAMAP trawl survey off the states of Massachusetts through New Jersey.

NEAMAP - October, 2011-2016 (avg. weight)

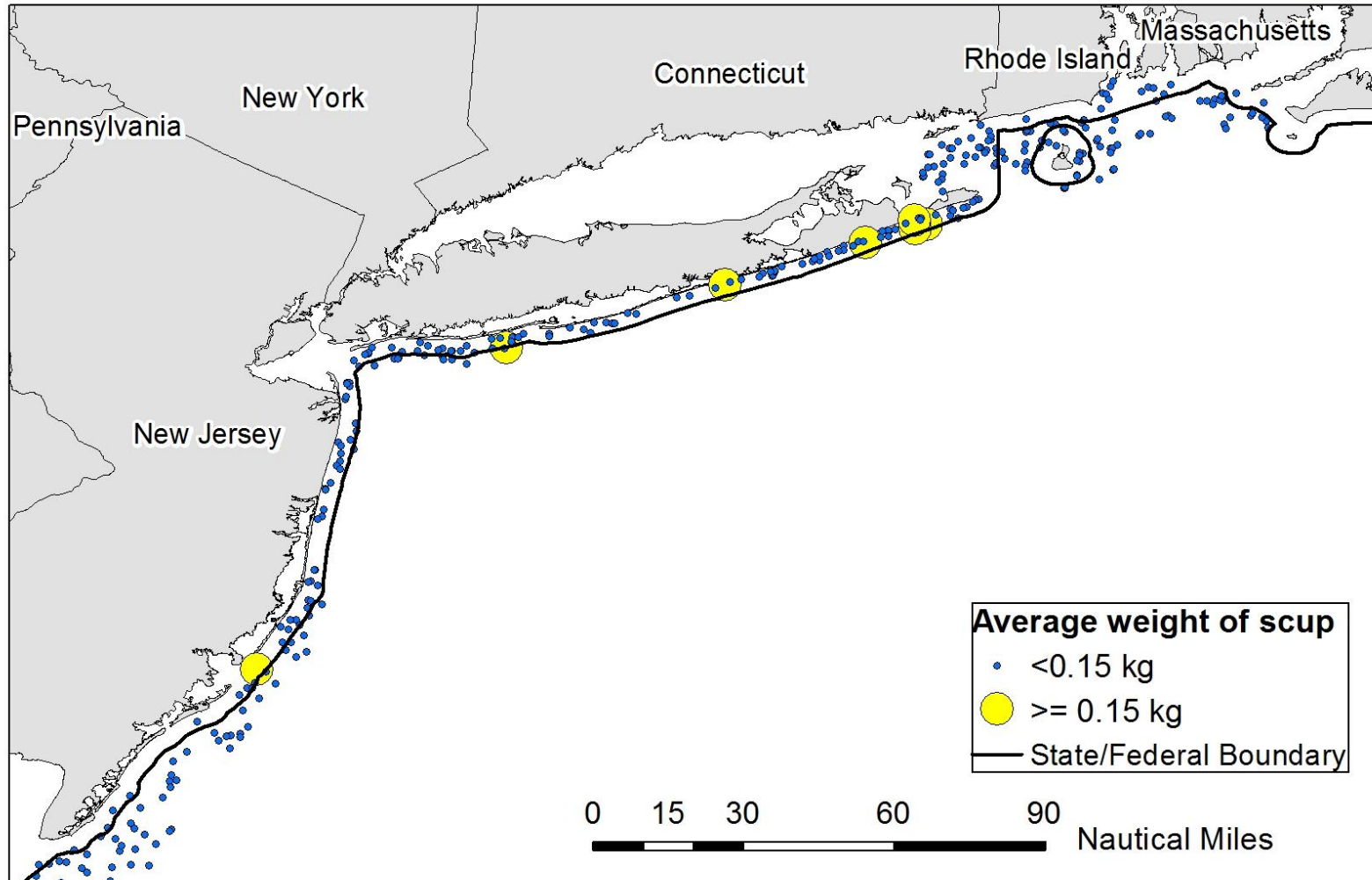


Figure 4: Average weight per scup in NEAMAP tows from Massachusetts through New Jersey, October, 2011-2016.

NEAMAP May 1-15, 2011-2016 (kg scup/tow)

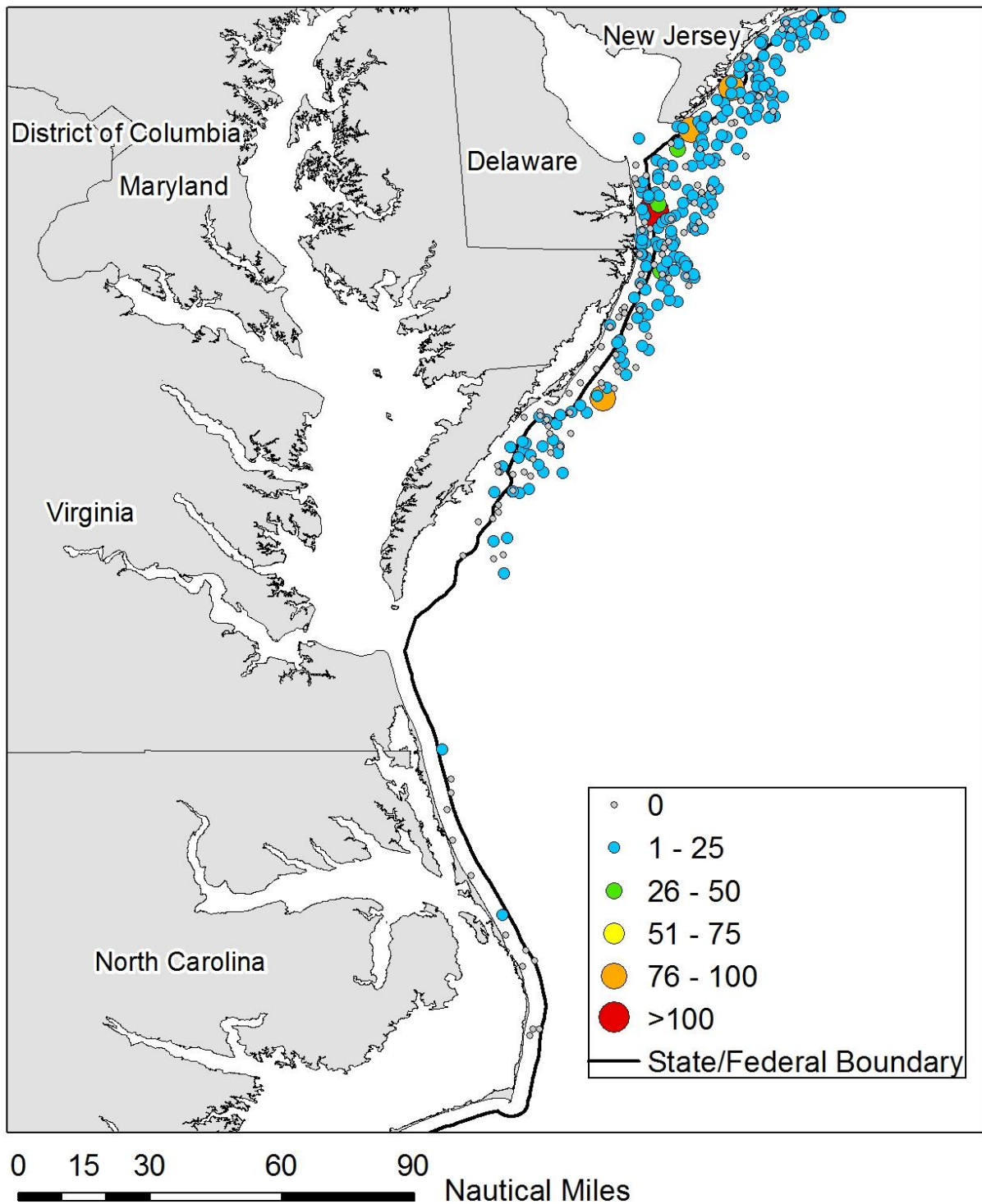


Figure 5: Scup catch per tow, May 1-15, 2011-2016, in the NEAMAP trawl survey off the states of Delaware through North Carolina.

NEAMAP Oct, 2011-2016 (kg scup/tow)

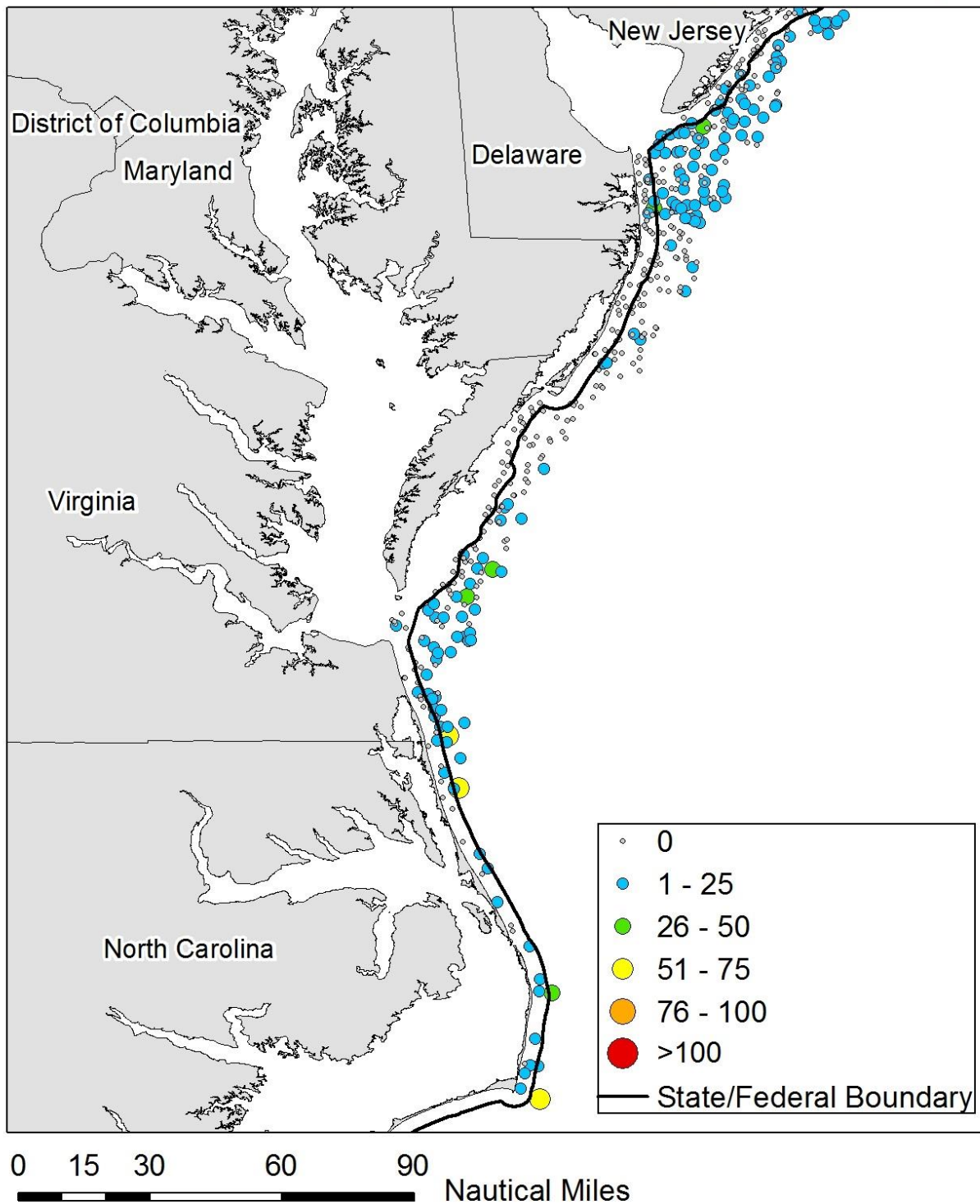


Figure 6: Scup catch per tow in October, 2011-2016, in the NEAMAP trawl survey off the states of Delaware through North Carolina.

NEFSC Fall Bottom Trawl Survey

The NEFSC fall bottom trawl survey operates from the Gulf of Maine through Cape Hatteras, NC. It usually operates from September through early or Mid-November. More information can be found at: http://www.nefsc.noaa.gov/esb/mainpage/fbts_rsr.html.

During 2011-2015 in the month of October the NEFSC fall bottom trawl survey sampled southern New England, Georges Bank, and the Gulf of Maine. It did not sample the Mid-Atlantic during October. Most survey stations (95%) in October were in federal waters and most of the scup catch (86%, by weight) occurred in federal waters (Figure 7).

The average weight of scup caught at survey stations in state waters (0.09 kg) was similar to that in federal waters (0.10 kg). Of the survey stations in state waters which caught scup, 17% caught scup with an average weight of at least 0.15 kg (the approximate weight of a commercial-sized scup). Of the survey stations in federal waters which caught scup, 18% caught scup with an average weight of at least 0.15 kg.

In summary, though most of the survey stations and most of the scup catch during the month of October occurred in federal waters, the proportion of commercial-sized scup in the survey catches did not differ between state and federal waters.

NEFSC - Oct, 2011-2015 (kg scup/tow)

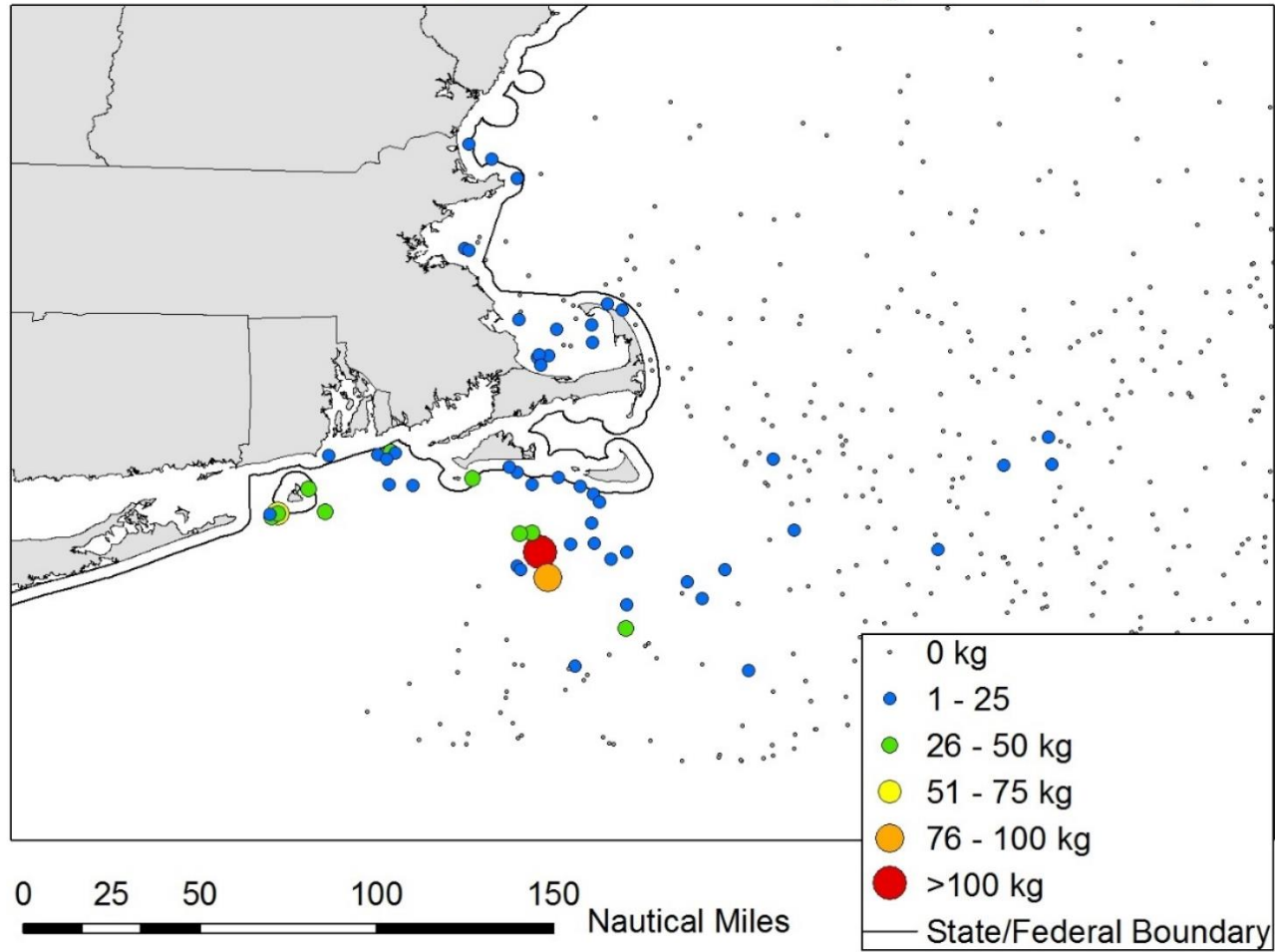


Figure 7: Scup catch per tow in October, 2011-2015, in the NEFSC fall bottom trawl survey.

NEFSC - October, 2011-2015 (avg. weight)

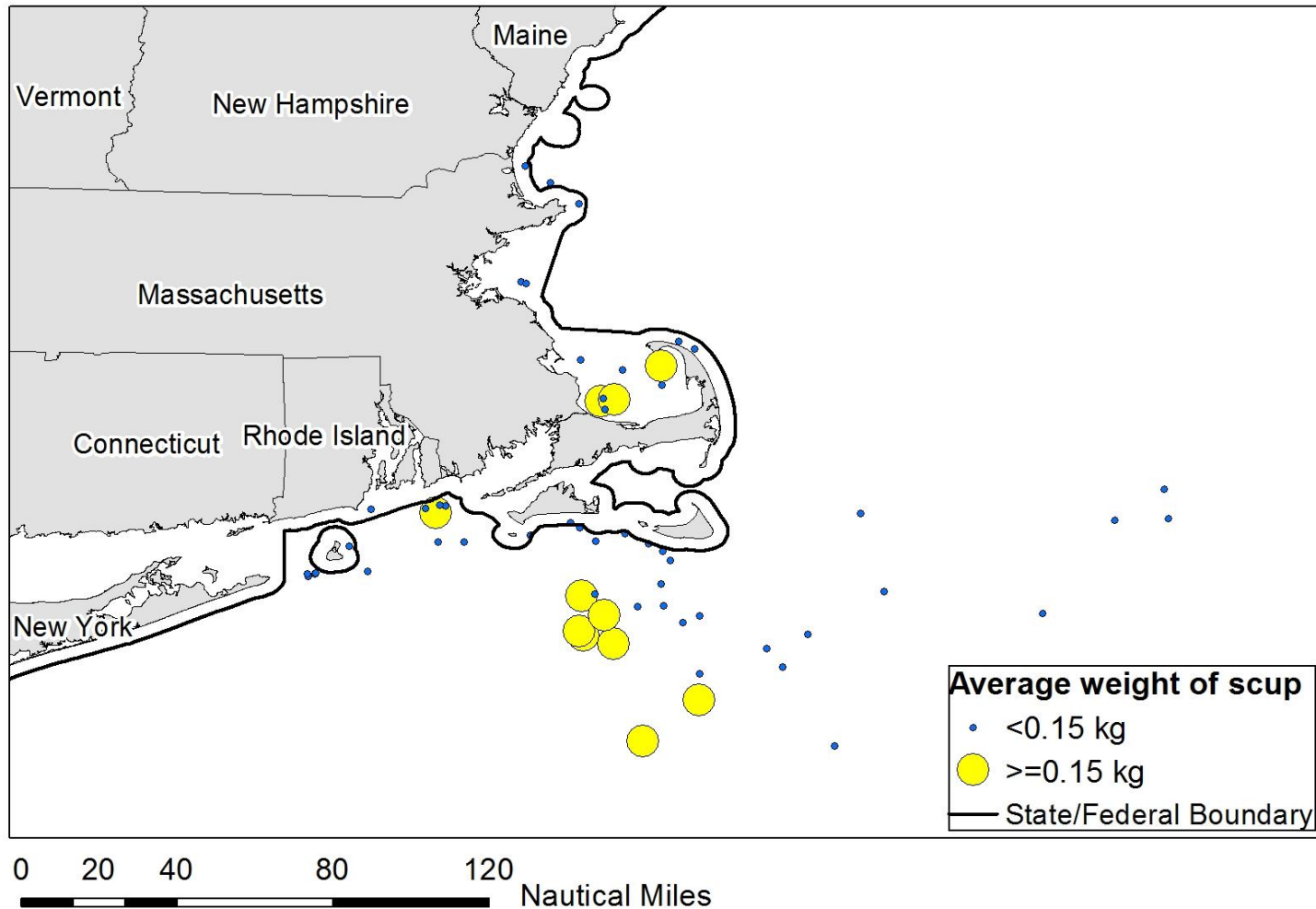


Figure 8: Average weight per scup in NEFSC fall bottom trawl survey tows, October, 2011-2015.

MA DMF Spring Bottom Trawl Survey

MA DMF operates a trawl survey each May and September. More information is available at: <http://www.mass.gov/eea/agencies/dfg/dmf/programs-and-projects/resource-assessment-surveys-project.html>.

96% of the MA DMF spring survey tows occurred in state waters during 2011-2015 (Figure 9). The average weight per scup across all tows was 0.29 kg, almost double the weight of a commercial sized-scup (0.15 kg). Of all the tows which caught scup, 91% had an average scup weight of at least 0.15 kg (Figure 10).

In summary, the MA DMF trawl survey indicates that commercial-sized scup are present in state waters during the first half of May.

MA DMF May 1-15, 2011-2016 (kg scup/tow)

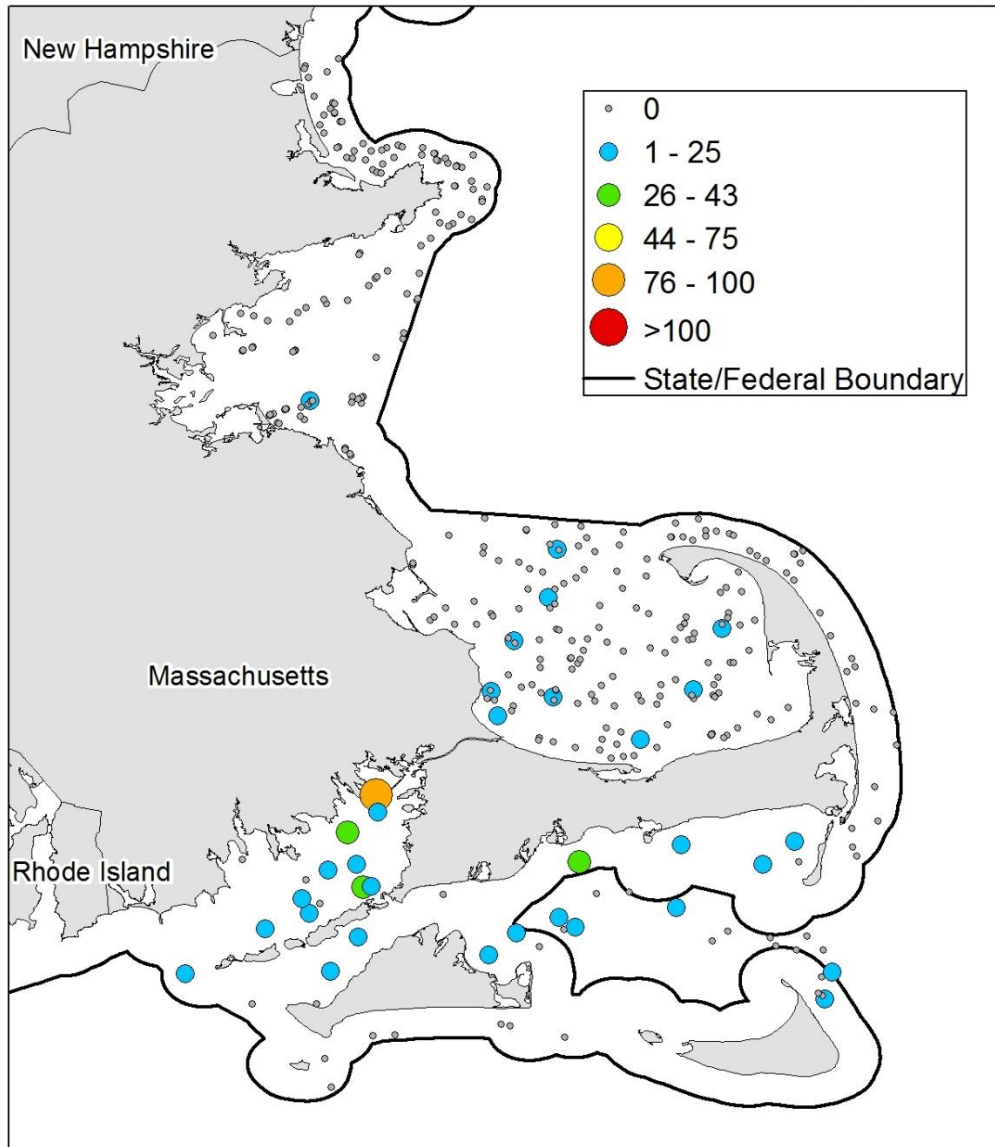


Figure 9: Scup catch per tow in the MA DMF spring trawl survey, May 1 – 15, 2011-2016.

MA DMF May 1-15, 2011-2016 (avg. weight)

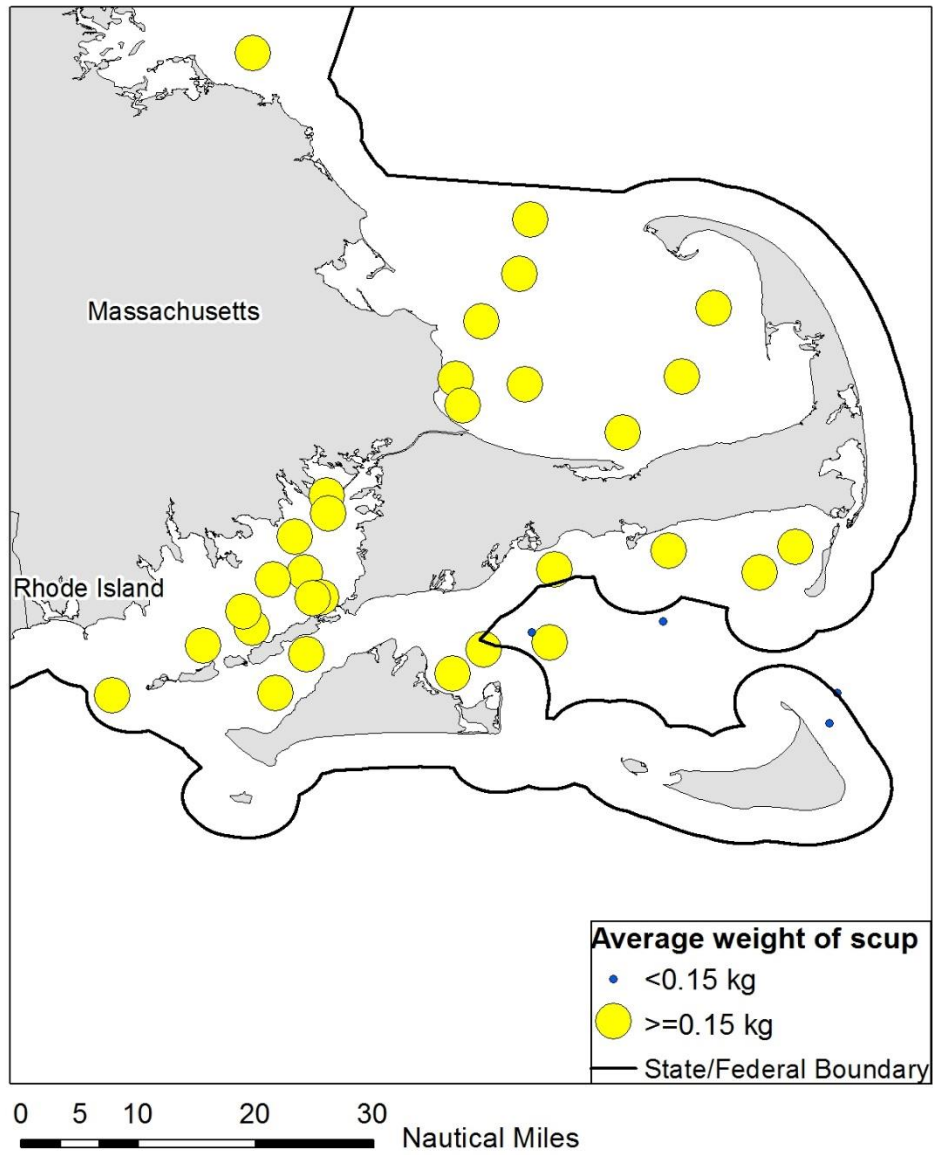


Figure 10: Average weight per scup in the MA DMF spring trawl survey, May 1 – 15, 2011-2016.

RI DEM Coastal Fishery Resource Assessment Trawl Survey

The RI DEM coastal fishery resource assessment trawl survey samples Narragansett Bay, Rhode Island Sound, and Block Island sound. The survey has a monthly and a seasonal component (Scott Olszewski, personal communication).

The survey operated almost entirely in state waters during May 1-15 and October, 2011-2016. Survey catches indicate that scup are present in state waters during those times of year (Figure 11 and Figure 13).

During May 1-15, 2011-2016, the average weight of scup caught in the survey was 0.24 kg, greater than the 0.15 kg for commercial-sized scup. About 46% of the survey tows caught scup with an average weight of at least 0.15 kg (Figure 12).

During October, 2011-2016, the average weight of scup caught in the survey was 0.02 kg, below the 0.15 kg for commercial-sized scup. About 2% of the survey tows in October caught scup with an average weight of at least 0.15 kg (Figure 14).

In summary, the RI DEM trawl survey indicates that scup are present in Rhode Island state waters during May 1-15 and October. Most of the scup caught in the survey during May 1-15 were commercial-size. Most of the scup caught in the survey during October were smaller than commercial size.

RI DEM Coastal Fishery Resource Assessment Trawl Survey - May 1-15, 2011-2016 (kg scup/tow)

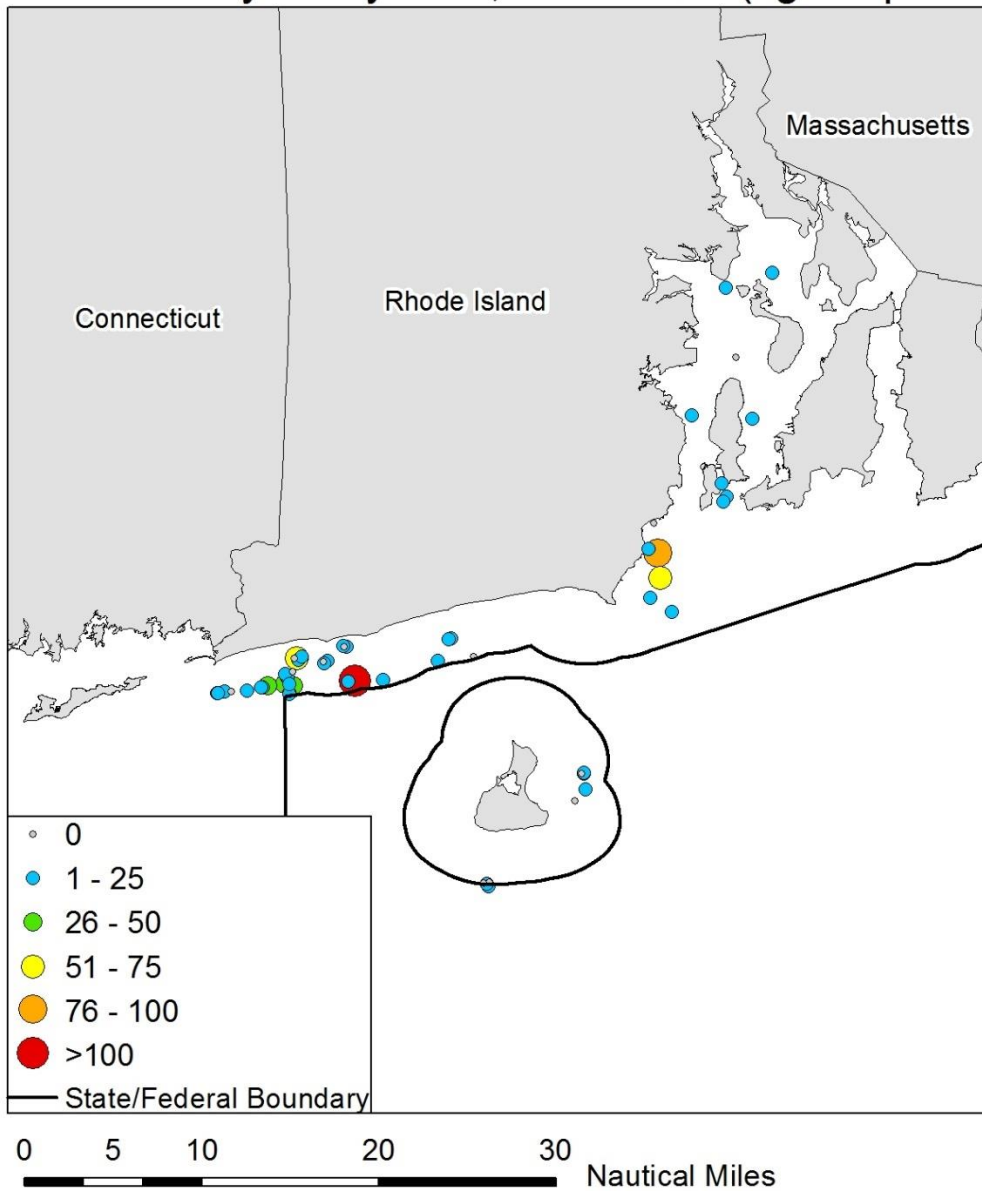


Figure 11: Scup catch per town in the RI DEM coastal fishery resource assessment trawl survey, May 1-15, 2011-2016.

RI DEM Coastal Fishery Resource Assessment Trawl Survey - May 1-15, 2011-2016 (avg. weight)

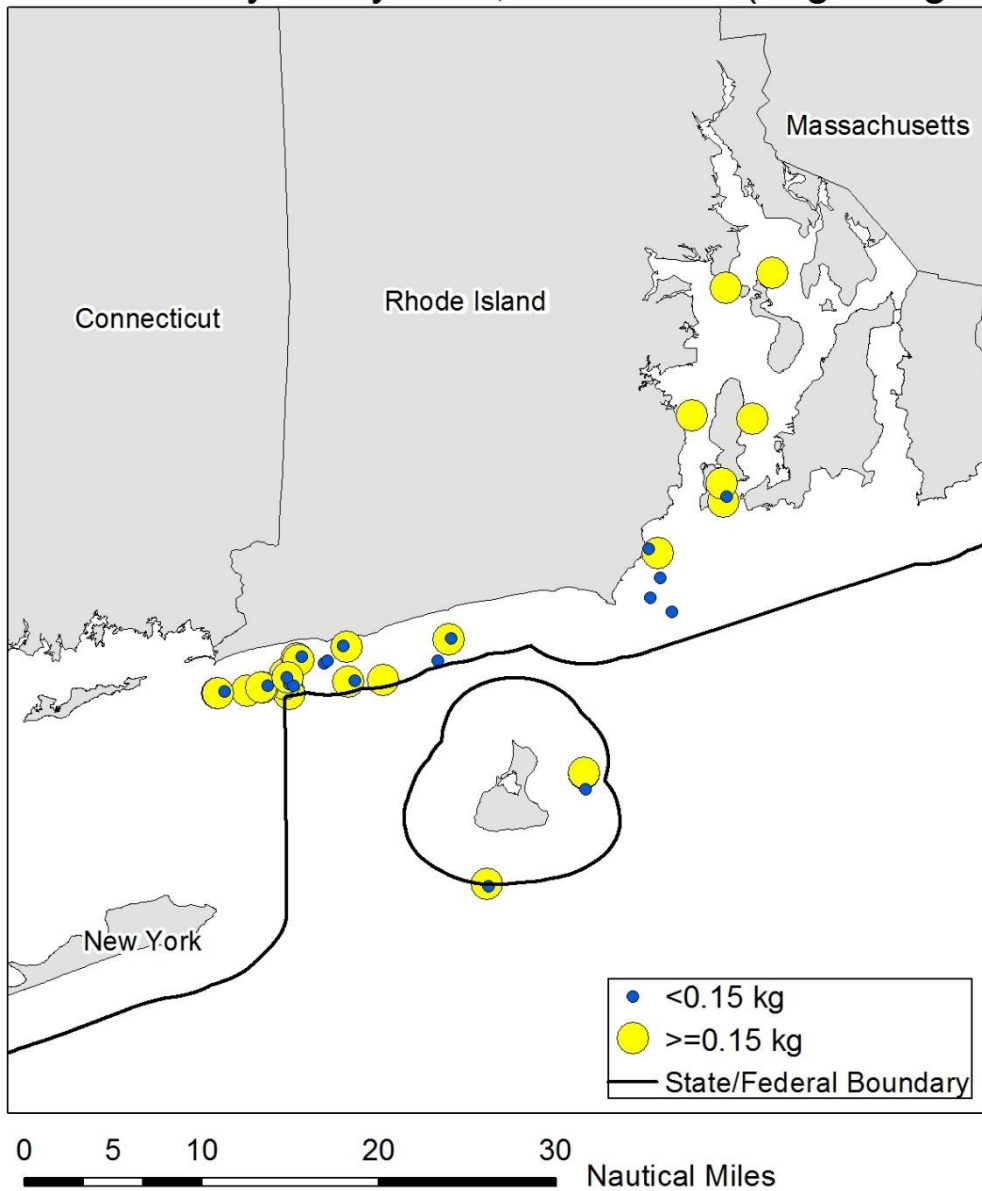


Figure 12: Average weight per scup in the RI DEM coastal fishery resource assessment trawl survey, May 1-15, 2011-2016.

RI DEM Coastal Fishery Resource Assessment Trawl Survey - October, 2011-2016 (kg scup/tow)

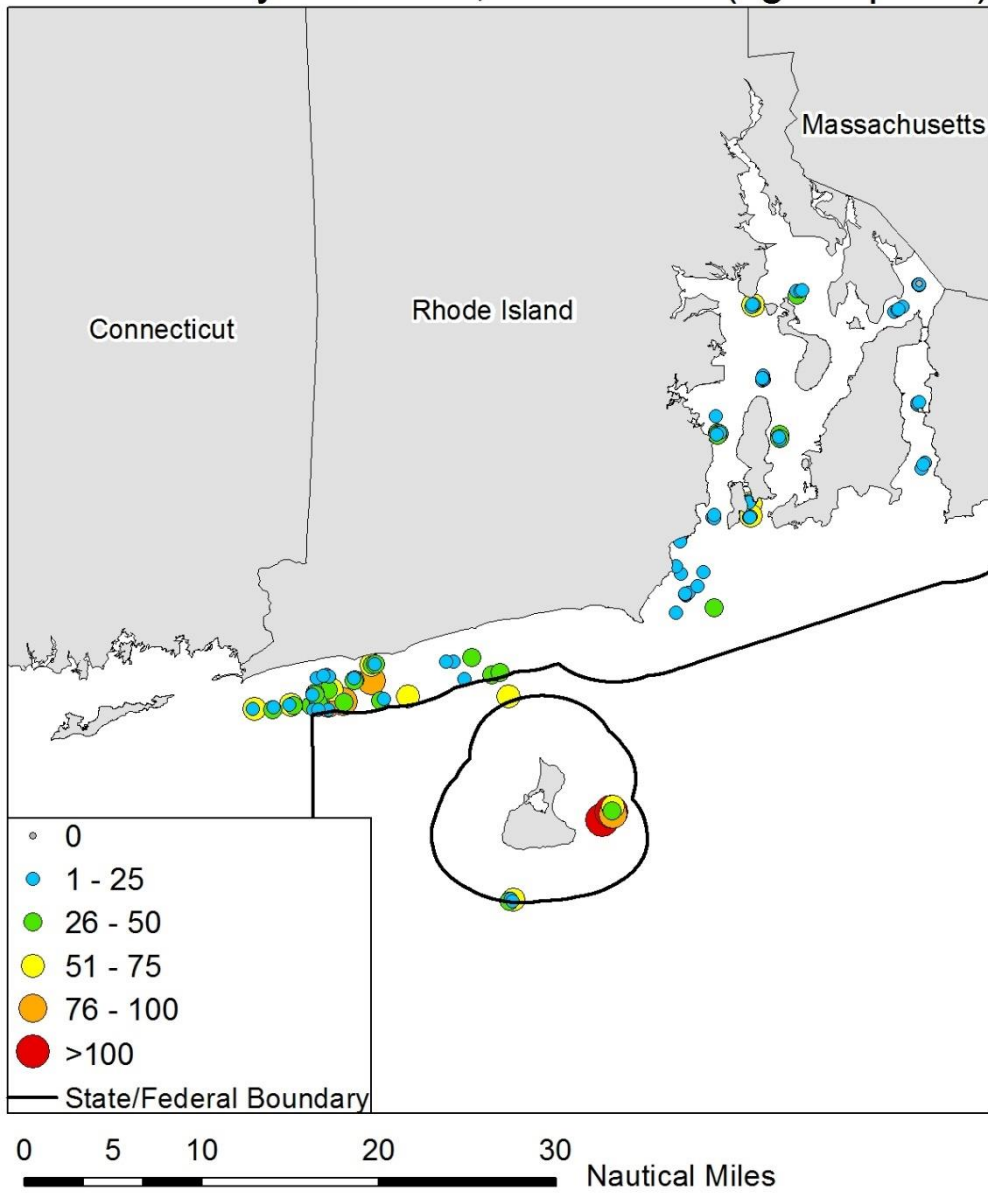


Figure 13: Scup catch per town in the RI DEM coastal fishery resource assessment trawl survey, during October, 2011-2016.

RI DEM Coastal Fishery Resource Assessment Trawl Survey - October, 2011-2016 (avg. weight)

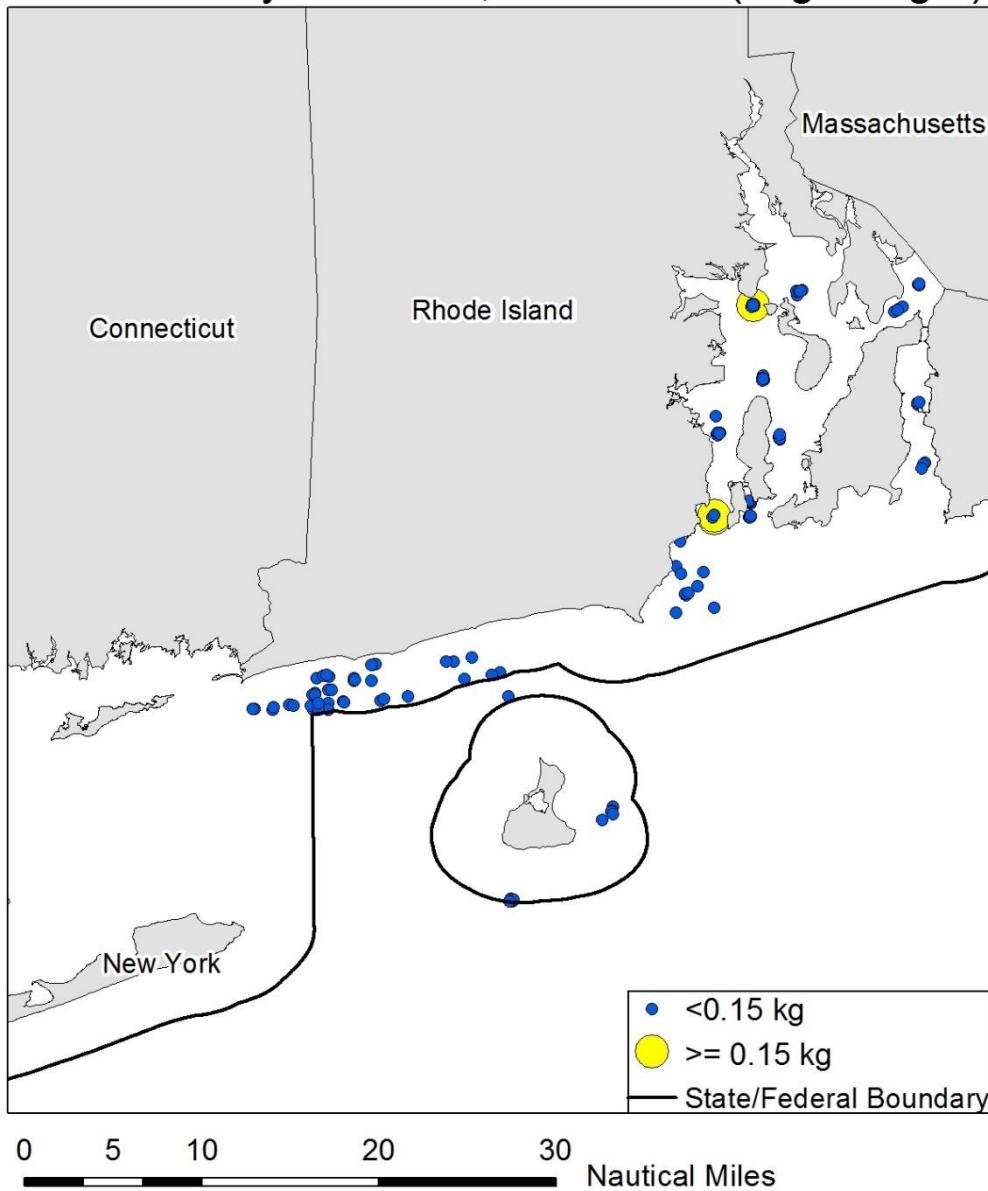


Figure 14: Average weight per scup in the RI DEM coastal fishery resource assessment trawl survey, October, 2011-2016.

URI GSO Narragansett Bay Fish Trawl Survey

The URI GSO Narragansett Bay trawl survey samples two locations once per week, year-round. Both survey stations are within state waters (Figure 15). More information on the survey is available at: <http://www.gso.uri.edu/fishtrawl/>

The URI GSO survey indicates that scup are present in state waters during May and October (Figure 16); however, most of the scup caught in October were below commercial size. Over 2011-2015, scup caught in the survey during May 1-15 weighed 0.16 kg on average, slightly greater than the commercial size of 0.15 kg. About 57% of the tows during May 1-15 caught scup with an average weight of at least 0.15 kg. Scup caught during the month of October weighed 0.03 kg on average, well below commercial size. About 5% of the tows during October caught scup with an average weight of at least 0.15 kg.

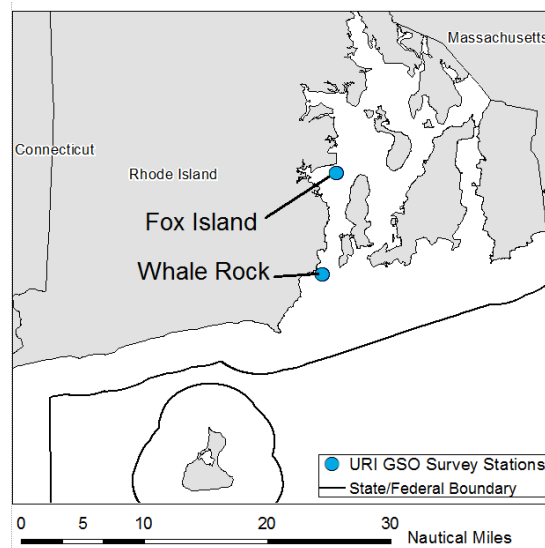


Figure 15: Location of URI GSO Narragansett Bay fish trawl survey stations.

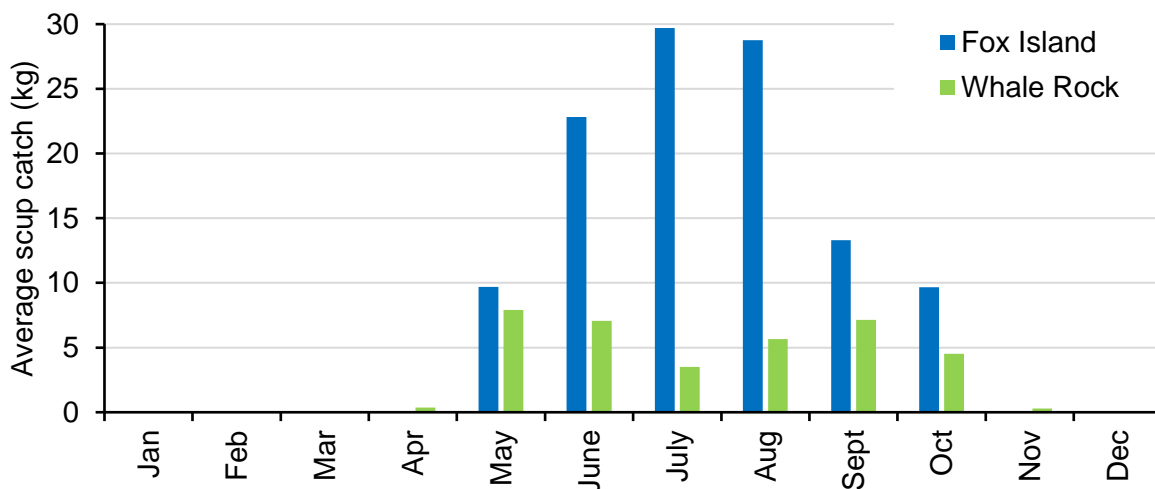


Figure 16: Average scup catch by month in the URI GSO Narragansett Bay fish trawl survey, 2011-2015.

NJ Ocean Trawl Survey

The NJ Ocean Trawl Survey operates during January, April, June, August, and October and samples from Sandy Hook, NJ to Cape Henlopen, DE. More information is available at: <http://www.nj.gov/dep/fqw/ocestock.htm>

During 2011-2015, about 57% of the survey tows, and about 79% of the scup catch (in weight) in October occurred in federal waters (Figure 17). Of all the tows in October which caught scup, the average weight per scup was 0.05 kg (below the 0.15 kg for commercial-sized scup). The average weight per scup was identical between state and federal waters. Only five tows had an average weight per scup of at least 0.15 kg. Four of those tows occurred in state waters (Figure 18).

In summary, the NJ Ocean Trawl Survey suggests that scup but are present both in state and federal waters during October, but are more prevalent in federal waters. It also suggests that most scup near the coast of New Jersey in October are smaller than the commercial minimum size.

NJ Ocean Trawl Survey Oct, 2011-2015 (kg scup/tow)

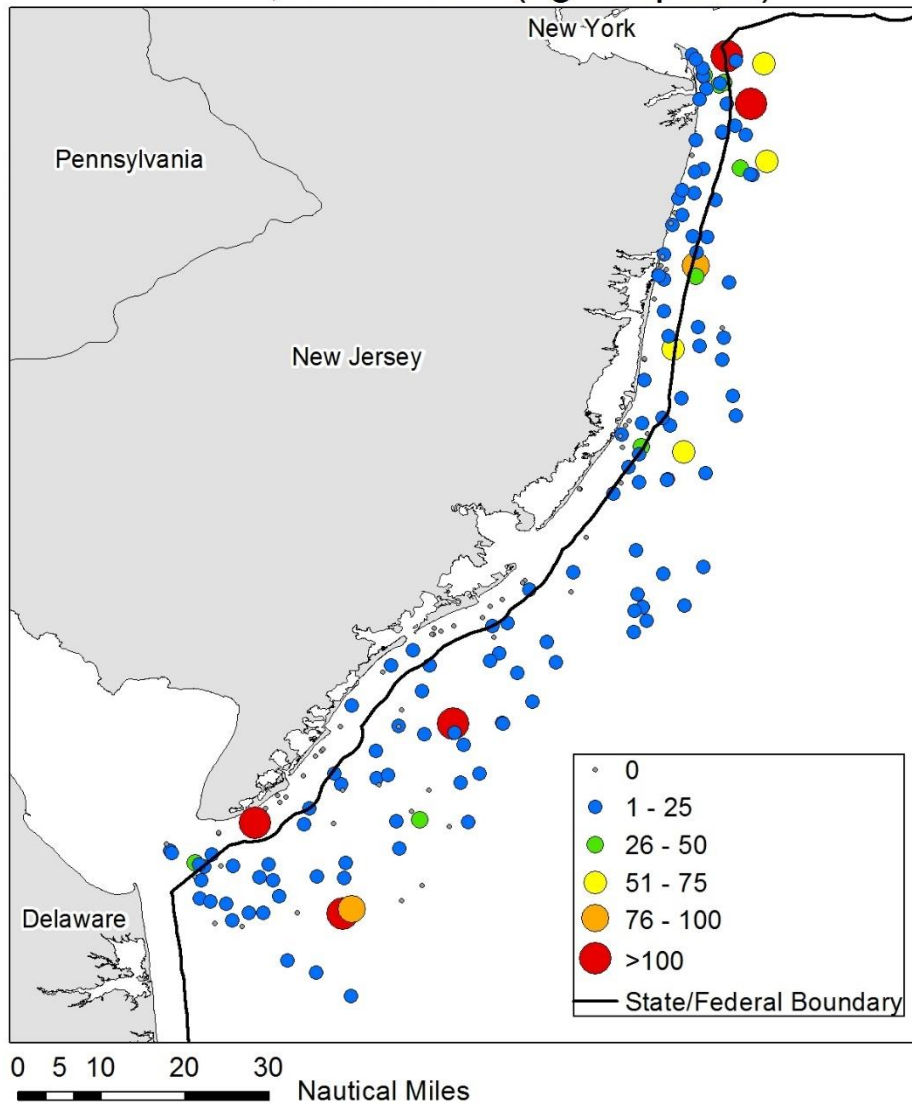


Figure 17: Scup catch per tow in October, 2011-2015, in the New Jersey Ocean Trawl Survey.

NJ Ocean Trawl Survey Oct, 2011-2015 (avg. weight)

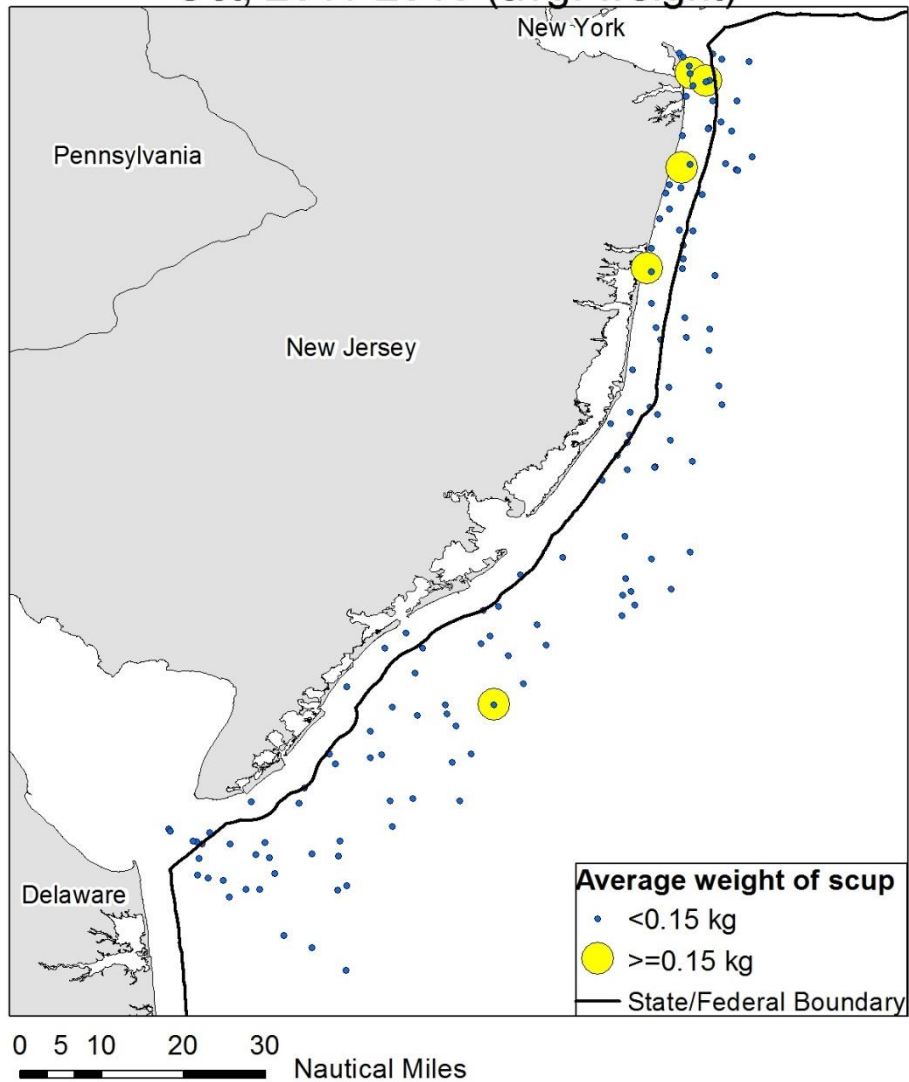


Figure 18: Average weight of scup caught in in the New Jersey Ocean Trawl Survey, October, 2011-2015.

Conclusions

The NEAMAP, RI DEM, URI GSO, and MA DMF surveys suggest that commercial-sized scup are present both in state and federal waters during the first half of May. If May 1-15 were included in the Winter I quota period, then a 50,000 pound possession limit would be in effect during that time of year. This is much higher than the current state possession limits in May (Table 1 and Table 2). This change could thus lead to increased landings during this time of year. This is unlikely to cause harm to the scup stock as the commercial fishery is restricted to a 1,000 pound possession limit when 80% of the Winter I quota is harvested. When the quota for any of the three periods is fully harvested, the commercial fishery is closed for the remainder of that period. In addition, the seasonal quotas are derived from an allowable biological catch (ABC) which is based on the best scientific information available and is intended to prevent overfishing.

The NEAMAP and NEFSC trawl surveys indicate that commercial-sized scup are present in both state and federal waters during October. The RI DEM, URI GSO, and NJ Ocean Trawl surveys indicate that scup are present in both state and federal waters during October, but that most are below commercial size. This suggests that an increase in the possession limit in October (by moving October from the Summer to the Winter II quota period; Table 1 and Table 2), may not result in a notable increase in landings in October. However, as shown in tab 11 of the December 2016 briefing book (<http://www.mafmc.org/briefing/december-2016>), landings in October tend to be higher than in most other months in the Summer quota period. Additionally, some advisors have emphasized the importance of increasing the possession limit in October to help the fishery reach their annual quota. This disparity with the trawl survey data could be due to a gap in the data summarized in this document. Most of the surveys summarized in this document operate within about 15 nautical miles of shore. The NEFSC bottom trawl survey is the exception; however, it did not operate in the Mid-Atlantic during October, 2011-2015 (Figure 7) and during May 1-15, 2011-2015 it caught no scup. The commercial fishery occurs within, as well as beyond, 15 nautical miles from shore. During the winter, some vessels fish 60 or more nautical miles from shore.

In conclusion, the fisheries-independent trawl survey data summarized in this document do not suggest that any major impacts to the scup stock or to the commercial scup fishery, either positive or negative, would result from the proposed changes to the dates of the quota periods. The data also do not suggest any disproportionate impacts between state and federal waters fisheries for scup.

Next Steps

The Council and Board may decide to take final action on these proposed changes at their joint meeting in February 2017. Prior to that meeting, Council staff may summarize additional survey information and present additional analysis of the potential biological and economic impacts of the proposed changes.

Acknowledgements

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