

Foreword

The Northeast Regional Stock Assessment Workshop (SAW) process has three parts: preparation of stock assessments by the SAW Working Groups and/or by ASMFC Technical Committees / Assessment Committees; peer review of the assessments by a panel of outside experts who judge the adequacy of the assessment as a basis for providing scientific advice to managers; and a presentation of the results and reports to the Region's fishery management bodies.

Starting with SAW-39 (June 2004), the process was revised in two fundamental ways. First, the Stock Assessment Review Committee (SARC) became smaller panel with panelists provided by the Independent System for Peer Review (Center of Independent Experts, CIE). Second, the SARC provides little management advice. Instead, Council and Commission teams (e.g., Plan Development Teams, Monitoring and Technical Committees, Science and Statistical Committee) formulate management advice, after an assessment has been accepted by the SARC. Starting with SAW-45 (June 2007) the SARC chairs were from external agencies, but not from the CIE. Starting with SAW-48 (June 2009), SARC chairs are from the Fishery Management Council's Science and Statistics Committee (SSC), and not from the CIE. Also at this time, some assessment Terms of Reference were revised to provide additional science support to the SSCs, as the SSC's are required to make annual ABC recommendations to the fishery management councils.

Reports that are produced following SAW/SARC meetings include: An *Assessment Summary Report* - a summary of the assessment results in a format useful to managers; an *Assessment Report* - a detailed account of the assessments for each stock; and the SARC panelist reports - a summary of the reviewer's opinions and recommendations as well as individual reports from each panelist. SAW/SARC assessment reports are available online at <http://www.nefsc.noaa.gov/nefsc/publications/series/crdlist.htm>. The CIE review reports and assessment reports can be found at <http://www.nefsc.noaa.gov/nefsc/saw/>.

The 51st SARC was convened in Woods Hole at the Northeast Fisheries Science Center, November 29 - December 3, 2010 to review benchmark stock assessments: silver hake (*Merluccius bilinearis*), red hake (*Urophycis chuss*), offshore hake (*Merluccius albidus*) and longfin inshore squid (*Loligo pealeii*). CIE reviews for SARC51 were based on detailed reports produced by NEFSC Assessment Working Groups. This Introduction contains a brief summary of the SARC comments, a list of SARC panelists, the meeting agenda, and a list of attendees (Tables 1 - 3). Maps of the Atlantic coast of the USA and Canada are also provided (Figures 1 - 5).

Outcome of Stock Assessment Review Meeting:

Based on the Review Panel reports (available at <http://www.nefsc.noaa.gov/nefsc/saw/> under the heading "SARC 51 Panelist Reports"), the SARC review committee concluded that for **silver hake** none of the ASAP models that were examined provided a consistent assessment of the stock in either the northern (N) or southern (S) area. A key issue was whether to allow a domed selectivity assumption, which creates "cryptic" fish. The ASAP model requires improvement before it can serve as a basis for fishery management advice. In the absence of an accepted assessment model, it was not possible to perform multi-year projections. Work on

factors affecting catchability across ages and years in the silver hake surveys is required to ensure that apparent mortality can be assigned to fishing, natural factors, changes in distribution or changes in survey catchability. Inclusion of consumption estimates provided perspective on the magnitude of fishery mortality. Based on newly recommended silver hake biological reference points overfishing is not taking place and the stocks are not overfished in the N or S areas.

The **red hake** assessment moved the understanding of the population and its fisheries forward considerably. Substantial exploratory work was carried out on the age-based data for the survey, fishery and predator consumption using the SS3 and SCALE models, but the diagnostics were not adequate for stock status determination or for provision of management advice. In the absence of an accepted assessment model as a basis for providing management advice, it was not possible to perform multi-year projections. Based on newly recommended red hake biological reference points overfishing is not taking place and the N and S stocks are not overfished.

This was the first time that an **offshore hake** assessment had been attempted. Although the Hake Working Group did a thorough job, the data are insufficient to complete an assessment. The major shortcoming is that the surveys are believed to cover an unknown and variable proportion of the stock. The Panel concluded that sufficient information is not available to determine stock status with confidence, because fishery data are insufficient and one cannot assume that survey data reflect stock trends. The Panel concluded that it is not possible at this time to provide a reliable definition for overfished and overfishing for this stock.

The majority of SARC panelists consider the *Loligo* assessment to be adequate for developing annual management advice as long as the exploitation rate stays low. The SARC accepted a newly proposed B_{MSY} proxy, but expressed concerns. During 2009, the *Loligo* stock was not overfished and overfishing was probably not occurring. No overfishing threshold has been recommended, which leaves overfishing status officially unknown. Better understanding of seasonal cohort recruitment, growth rate, mortality, catch and effort, might allow within-season or within-year management schemes.

CIE review reports can be found at <http://www.nefsc.noaa.gov/nefsc/saw/> under the heading “SARC 51 Panelist Reports”.

Table 1. 51st Stock Assessment Review Committee Panel.

SARC Chairman (NEFMC SSC):

Mr. Jean-Jacques Maguire
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SARC Panelists (CIE):

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Table 2. Agenda, 51st Stock Assessment Review Committee Meeting.

**51st Northeast Regional Stock Assessment Workshop (SAW 51)
Stock Assessment Review Committee (SARC) Meeting**

November 29 – December 3, 2010

Stephen H. Clark Conference Room – Northeast Fisheries Science Center
Woods Hole, Massachusetts

AGENDA (version: 24 Nov. 2010)

TOPIC	PRESENTER(S)	SARC LEADER	RAPPORTEUR
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Monday, Nov. 29

8:45-9 AM

Welcome	James Weinberg , SAW Chair		
Introduction	J- J Maguire , SARC Chair		
Agenda			
Conduct of Meeting			

9 - 11	Assessment Presentation (A. Silver hake)		
	Larry Alade	TBD	M. Palmer
	Jason Link		
	Steve Cadrin		
	(others)		

11- 11:15 Break

11:15 - 12:30	SARC Discussion w/ presenters (A. Silver hake)		
	J- J Maguire , SARC Chair		M. Palmer

12:30 - 1:45 Lunch

1:45 – 3:30	Assessment Presentation (C. Red hake)		
	Kathy Sosebee	TBD	T. Wood
	(others)		

3:30 – 3:45 Break

3:45 – 5	SARC Discussion w/ presenters (C. Red hake)		
	J- J Maguire , SARC Chair		T. Wood

Tuesday, Nov. 30

9 - 11	Assessment Presentation (B. <i>Loligo</i>)		
	Larry Jacobson	TBD	T. Chute
	Lisa Hendrickson		
	Jason Link		

11 – 11:15 Break

11:15 – 12:30	SARC Discussion w/ presenters (B. <i>Loligo</i>) J- J Maguire , SARC Chair	T. Chute
12:30 - 1:45	Lunch	
1:45 – 3:15	Assessment Presentation (D. Offshore hake) Michele Traver TBD (others)	J. Nieland
3:15 - 3:30	Break	
3:30 - 4:45	SARC Discussion w/ presenters (D. Offshore hake) J- J Maguire , SARC Chair	J. Nieland

(Evening Social/Dinner at BBC 6:30)

Wednesday, Dec. 1

9 - 10:45	Revisit w/ presenters (A. Silver hake) J- J Maguire , SARC Chair	Mike Palmer
10:45 - 11	Break	
11 - Noon	Revisit w/ presenters (B. <i>Loligo</i>) J- J Maguire , SARC Chair	Toni Chute
Noon – 1:15	Lunch	
1:15 – 2	cont. Revisit w/ presenters (B. <i>Loligo</i>) J- J Maguire , SARC Chair	Toni Chute
2 – 3:45	Revisit w/ presenters (C. Red hake) J- J Maguire , SARC Chair	T. Wood
3:45 - 4	Break	
4 - 5:15	Revisit w/ presenters (D. Offshore hake) J- J Maguire , SARC Chair	Julie Nieland

Thursday, Dec. 2

8:30 - 11	Review/edit Assessment Summary Report (A. Silver hake) J- J Maguire , SARC Chair	Mike Palmer
11 – 11:15	Break	
11:15 – 12:15	Review/edit Assessment Summary Report (B. <i>Loligo</i>) J- J Maguire , SARC Chair	Toni Chute
12:15 - 1:30	Lunch	
1:30 – 2:30	cont. Review/edit Assessment Summary Report (B. <i>Loligo</i>) J- J Maguire , SARC Chair	Toni Chute

2:30 - 2:45 Break

2:45 – 4:15 Review/edit Assessment Summary Report (C. Red hake)
J- J Maguire, SARC Chair

T. Wood

4:15 - 5:45 Review/edit Assessment Summary Report (D. Offshore hake)
J- J Maguire, SARC Chair

Julie Nieland

Friday, Dec. 3

9:00 - 5:30 PM SARC Report writing. (closed meeting)

*All times are approximate, and may be changed at the discretion of the SARC chair. The meeting is open to the public, except where noted.

Table 3. 51st SAW/SARC, List of Attendees

Name	Affiliation	Email
James Weinberg	NEFSC	james.weinberg@noaa.gov
Paul Rago	NEFSC	paul.rago@noaa.gov
J.J. Maguire	NEFMC	jjmaguire@sympatico.ca
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Toni Chute	NEFSC	toni.chute@noaa.gov
Larry Alade	NEFSC	larry.alade@noaa.gov
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Dan Hennen	NEFSC	daniel.hennen@noaa.gov
Anne Richards	NEFSC	anne.richards@noaa.gov
Owen Nichols	SMASST/UMASSD	onichols@umassd.edu
Glenn Goodwin	Seafreeze LTD	glenn3@verizon.net
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Julie Nieland	NEFSC	julie.nieland@noaa.gov
Susan Wigley	NEFSC	susan.wigley@noaa.gov
Jay Burnett	NEFSC	jay.burnett@noaa.gov
Katherine Sosebee	NEFSC	katherine.losebee@noaa.gov
Michele Traver	NEFSC	michele.traver@noaa.gov
Andrew Applegate	NEFMC	aapplegate@nefmc.org
Jason Link	NEFSC	jason.link@noaa.gov
Ayeisha Brinson	NEFSC	ayeisha.brinson@noaa.gov

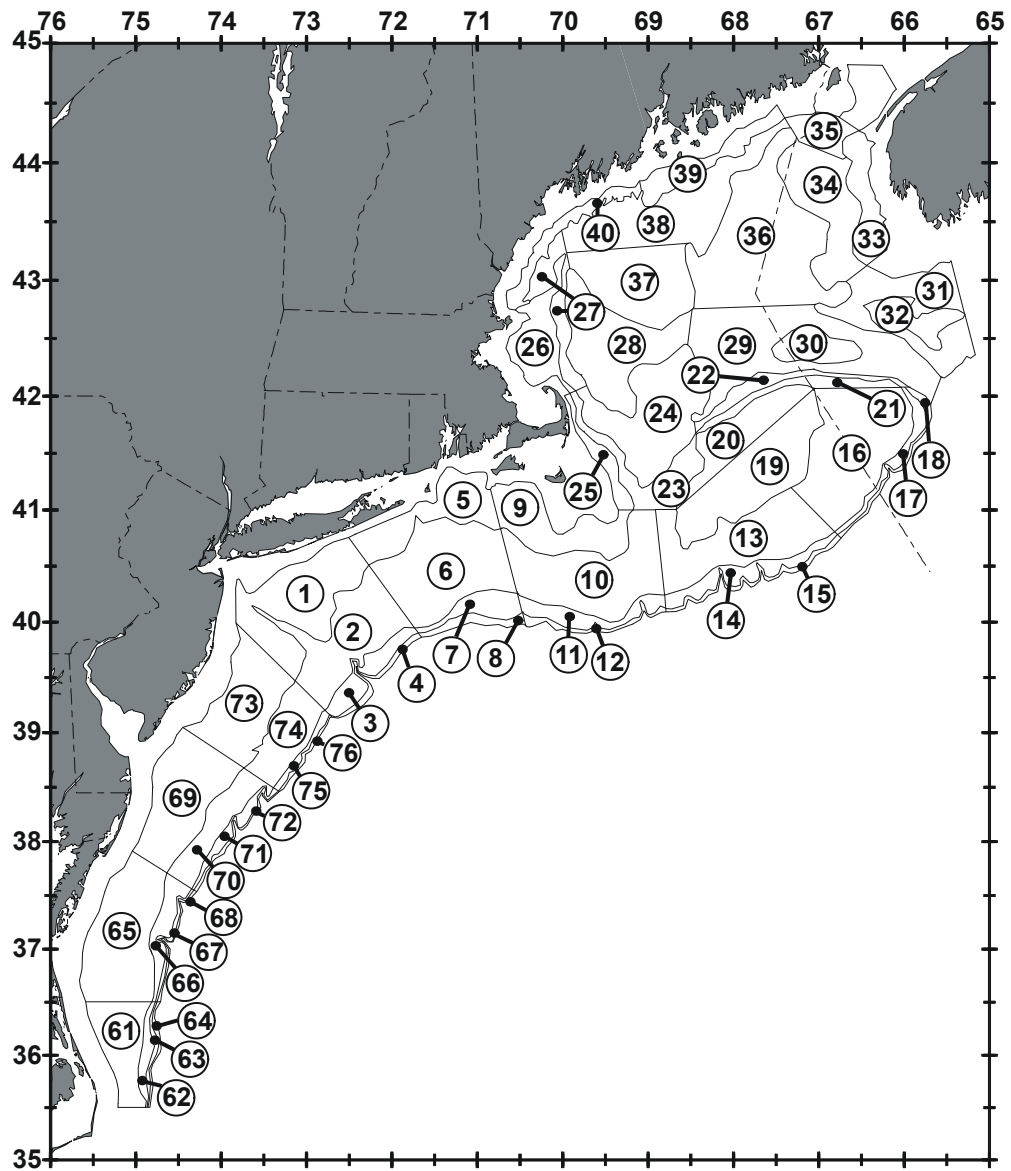


Figure 1. Offshore depth strata sampled during Northeast Fisheries Science Center bottom trawl research surveys.

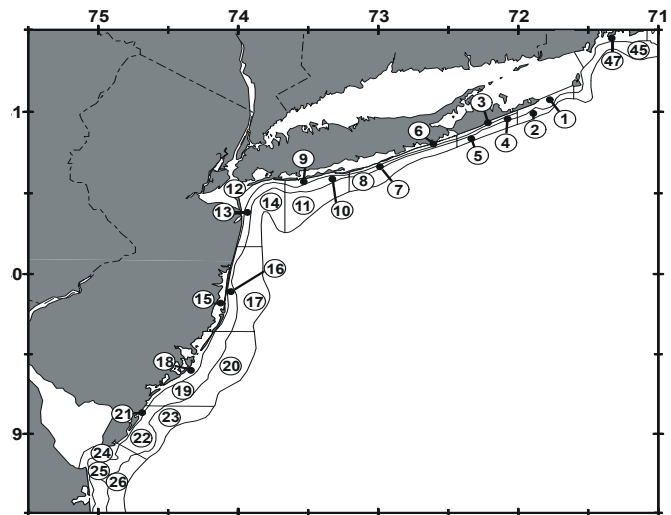
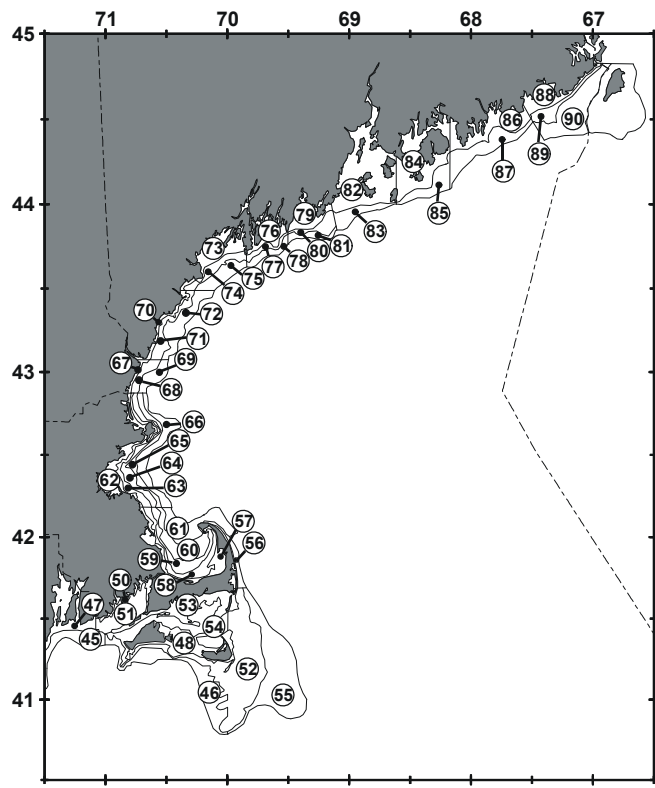
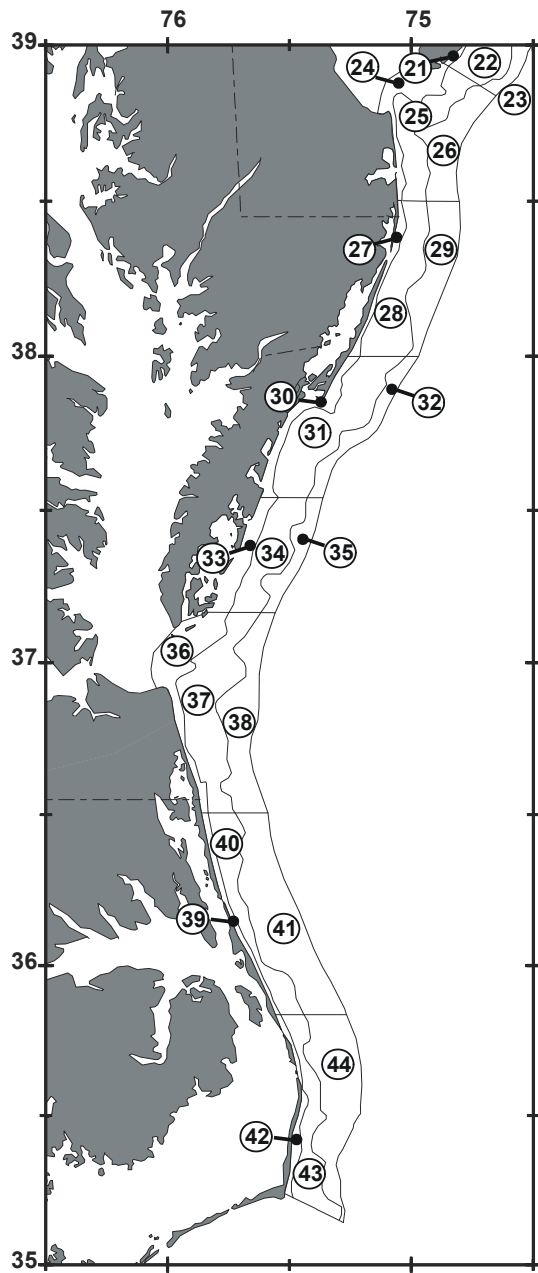


Figure 2. Inshore depth strata sampled during Northeast Fisheries Science Center bottom trawl research surveys.

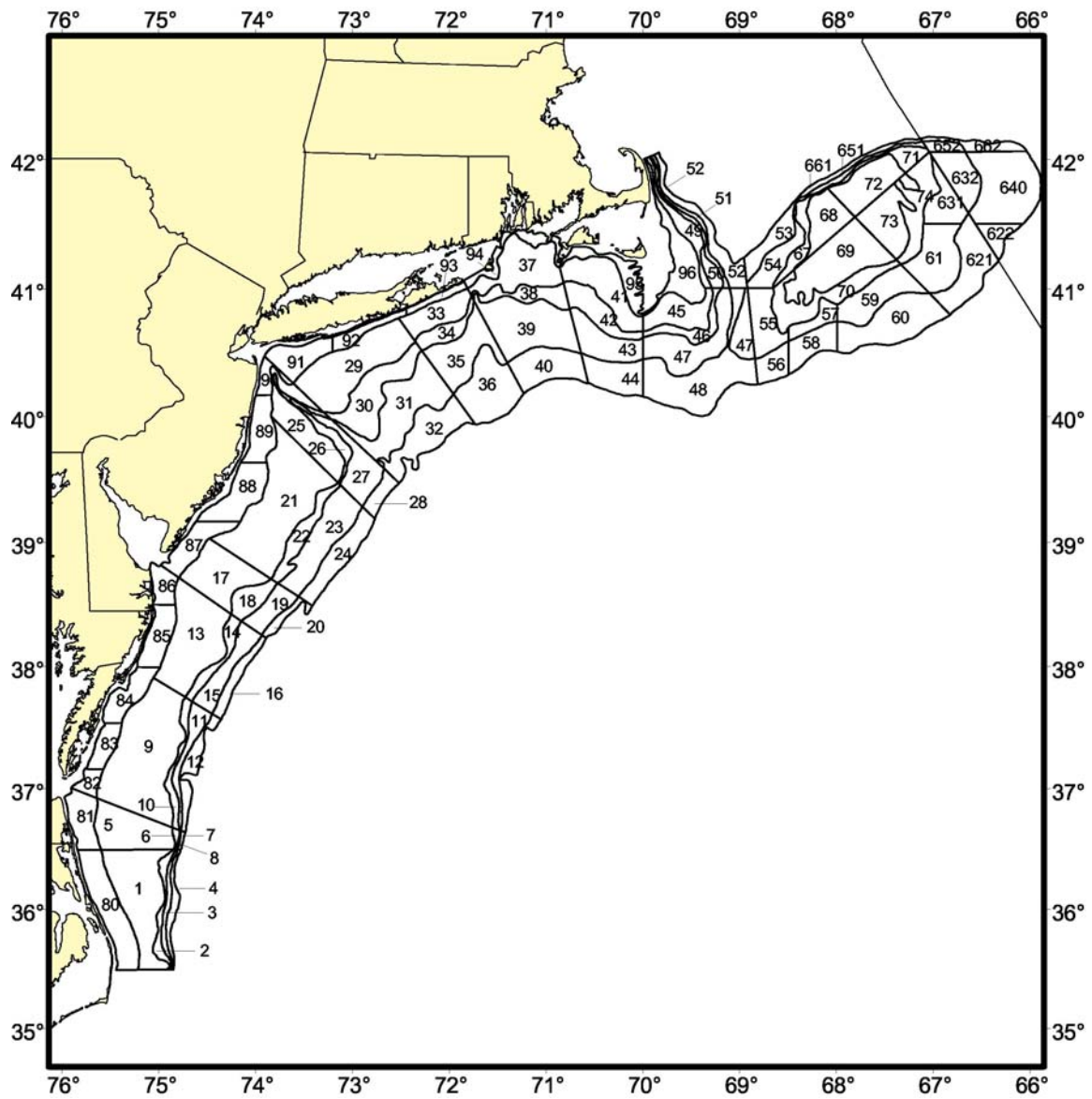


Figure 3. Depth strata sampled during Northeast Fisheries Science Center clam dredge research surveys.

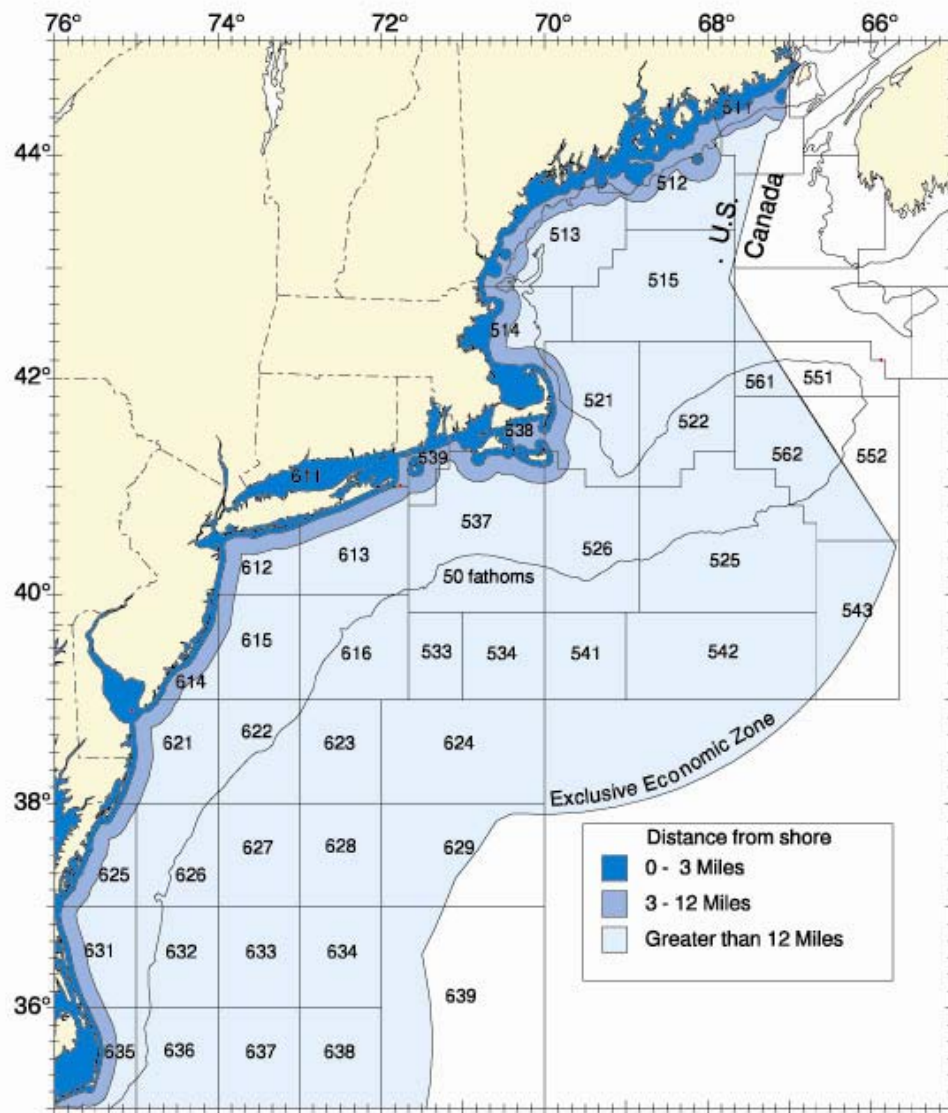


Figure 4. Statistical areas used for reporting commercial catches.

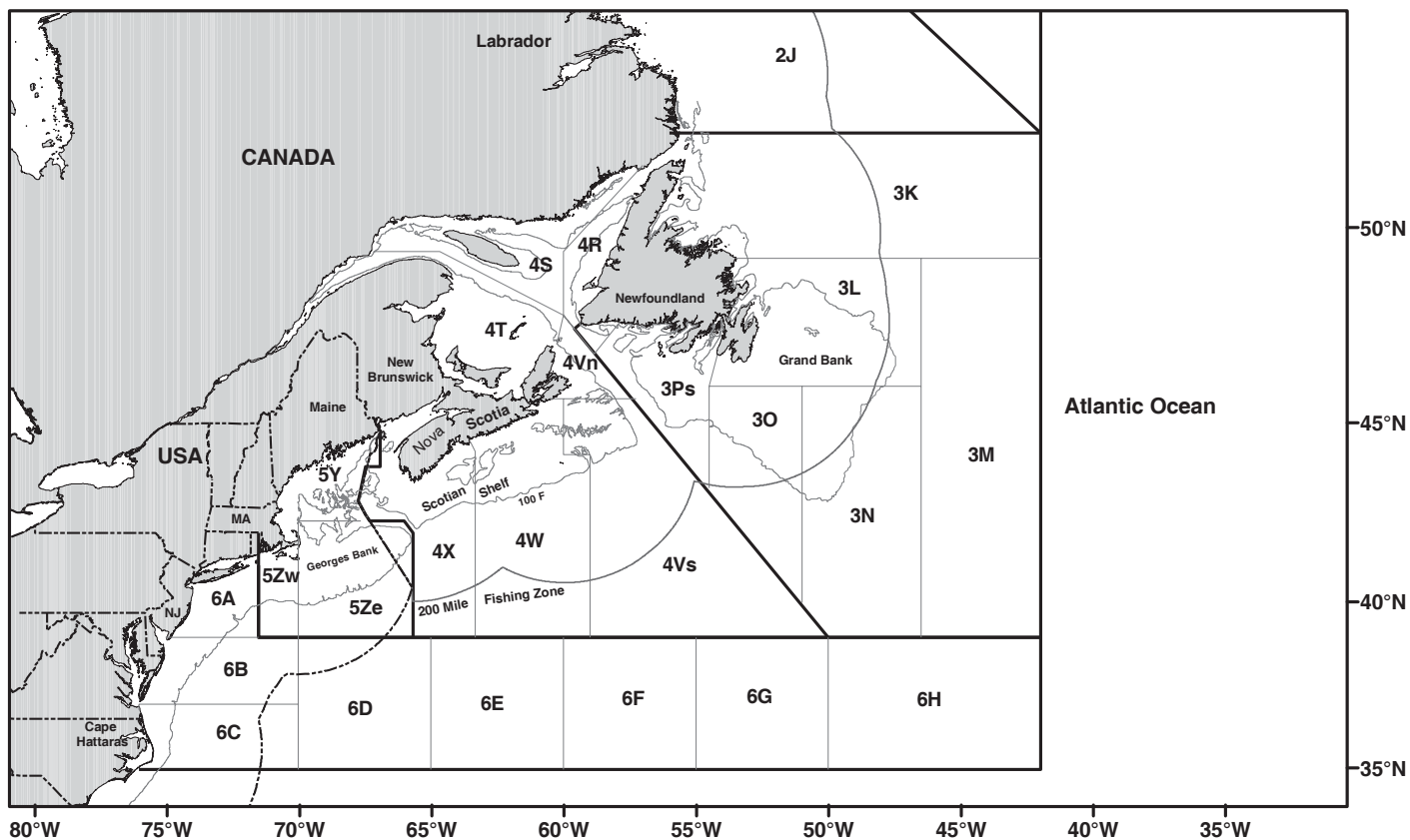


Figure 5. Catch reporting areas of the Northwest Atlantic Fisheries Organization (NAFO) for Subareas 3-6.