

#7a



## New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116

Ernest F. Stockwell, *Acting Chairman* | Thomas A. Nies, *Executive Director*

### MEMORANDUM

**DATE:** September 9, 2013

**TO:** Groundfish Oversight Committee

**FROM:** New England Fishery Management Council (NEFMC) Whiting and Mid-Atlantic Fishery Management Council (MAFMC) Squid Advisory Panels (APs)

**SUBJECT:** **Accountability measure alternatives in Northeast Multispecies Framework Adjustment 51**

In response to the requirement to develop Georges Bank yellowtail flounder AM alternatives for the small-mesh fishery in Framework Adjustment 51, the advisors recommend consideration of the following alternatives:

- A gear-based AM that would require the year round use of certified bycatch avoidance nets
- As a backstop AM, a time-area closure that prohibits small-mesh fishing in seasons and areas with the highest yellowtail flounder bycatch rates.
- An alternative that would trigger AMs only if the total ACL AND the sub-ACL is exceeded
- An alternative that would give higher priority to AMs using a pound for pound payback when new assessments indicate that higher ACLs can accommodate prior overages.

After considering the unique nature and management of the squid/whiting small mesh fishing in offshore areas, available data about relevant gear research (see associated documents presented to the APs), variability in Georges Bank yellowtail flounder catch rates on small-mesh fishery trips (see yellowtail flounder small-mesh fishery background document), the requirement to develop effective AMs (accountability measures) in Multispecies Framework Adjustment 51, and forecasts of substantially lower sub-ACLs (annual catch limits) for Georges Bank yellowtail flounder in 2014, the NEFMC Whiting and MAFMC Squid Advisory Panels make the following recommendations for management alternatives that the NEFMC should include and analyze in Framework Adjustment 51:

- Voluntary industry bycatch avoidance network. While not an alternative, the small-mesh fishery participants will coordinate an informal voluntary information network to avoid fishing in areas with high yellowtail flounder catches. This effort should be recognized in the Framework Adjustment 51 document.

- Required year round use of a certified bycatch avoidance net when an AM is triggered. AM would be triggered at the end of a fishing year (April 30, 2013 at the earliest), determined a few months after the end of the fishing year, and the industry would have at least six months to procure and begin using a gear listed as an approved bycatch avoidance net at the beginning of the next fishing year (May 1, 2015 at the earliest. This timing would give industry or researchers sufficient time to evaluate experimental trawl performance. Examples of nets to be evaluated in deep water while targeting squid and whiting include:
  - Modified Ruhle trawl
  - Large mesh belly net
  - Raised footrope trawl

Existing research on the above nets (see associated documents and publications) are not directly applicable to the offshore squid/whiting fishery, typically conducted using large vessels. The Ruhle trawl research was conducted using a modified squid rope trawl adapted to work with large mesh. It is not known how this net would work in the squid/whiting fishery when adapted to small mesh currently in use. The large mesh belly net has some promising features, but except for a currently incomplete research project, the research was focused on reducing winter flounder bycatch in the inshore, shallow-water squid fishery. Current research in deeper water is expected to be completed by the end of the year and yellowtail flounder bycatch data will be collected. Likewise, the raised footrope trawl research conducted by MADMF was completed in inshore, shallower areas and may not have the same results in deeper water with larger nets towed by larger vessels. The industry advisors also thought that reducing the ground cable length could also reduce yellowtail flounder bycatch.

As an alternative, the Council would identify a gear-based AM using approved yellowtail flounder bycatch avoidance nets that would be certified by the Regional Administrator based on submitted data and analysis of the above nets. The certification would be based on standards set by the Council in Framework Adjustment 51. If the Georges Bank yellowtail flounder AM is triggered, vessels using small-mesh trawls could only use certified yellowtail flounder bycatch avoidance nets throughout the year.

- Time-area closure will be defined if the sub-ACL is exceeded after the gear AM is triggered. These time and areas will be defined as those with the highest yellowtail flounder catch to kept all rate, sufficient to the level calculated to reduce Georges Bank yellowtail flounder bycatch below the small-mesh fishery sub-ACL

This is a backstop alternative that the Council should consider in case no bycatch avoidance net is certified or the gears do not sufficiently reduce yellowtail flounder bycatch.

- To maximize flexibility, in a Framework Adjustment 51 alternative the Council should consider triggering AMs for sub-ACL fisheries only when the total ACL had been exceeded by all fisheries combined.

Under the sub-ACL procedure in the Multispecies FMP, an AM is triggered when a sub-ACL is

exceeded, regardless of catches from other fisheries and regardless of whether the total ACL is exceeded. In MAFMC FMPs, sub-ACLs are triggered only when the sub-ACL AND the total ACL is exceeded, since there is no biological harm done as long as the total ACL is not exceeded. The MAFMC approach provides more flexibility.

- As a Framework Adjustment 51 alternative, in the cases when a new assessment indicates that increases in the ACL are warranted, then the Council should consider accounting for prior overages with a pound for pound payback.

It is logically inconsistent to trigger a pro-active AM, such as requiring bycatch avoidance gear when future increases in a sub-ACL can be used to account for prior overages as a reactive pound-for-pound accountability measure. In other words, reactive accountability measures should have a higher ranking or priority than pro-active measures to account for prior ACL overages.

Background documents on relevant gear research were submitted to the Council office following the AP meeting. The following documents will be reviewed by the Groundfish PDT during the development of Framework Adjustment 51 and are available at the Council office:

1. Cornell University Cooperative Extension, Commercial Fisheries Research Foundation: Hasbrouck, Sullivan, Knight, Weimar, and Brady. 2012. A Method To Reduce Winter Flounder Retention Through The Use Of An Avoidance Gear Adaptation In The Small Mesh Trawl Fishery Within The Southern New-England/Mid-Atlantic Winter Flounder Stock Area. Grant: CFR Foundation-SNECRI-NOAA Award # NA09NMF4720414. Proof of concept program and Final Report and Power Point Presentation.
2. Hasbrouck, Knight, Jones, Ruhle, Ketcham, Sullivan, Grimm, and Arnold. 2013. An Evaluation Of The Avoidance Gear 12" Drop Chain Sweep As A Method To Reduce Winter Flounder Retention In The Small Mesh Squid Trawl Fishery Within The SNE/MA Winter Flounder Stock Area. Final Report Summary.
3. Daniel McKiernan, Robert Johnston, Bill Hoffman, Arnold Carr, and David McCarron, 1999. 1998 Southern Gulf Of Maine Raised Footrope Trawl Experimental Whiting Fishery. Massachusetts Division of Marine Fisheries Report.
4. Chosid, David M., Michael Pol, Mark Szymanski, Frank Mirarchi, and Andrew Mirarchi. 2012. Development and observations of a spiny dogfish Squalus acanthias reduction device in a raised footrope silver hake Merluccius bilinearis trawl. Fisheries Research. 114:66-75.
5. Baysea, Shannon M., Pingguo He, Michael V. Pol, and David M. Chosid. 2013. Quantitative analysis of the behavior of longfin inshore squid (Doryteuthis pealeii) in reaction to a species separation grid of an otter trawl. Fisheries Research: <http://dx.doi.org/10.1016/j.fishres.2013.03.018>.



#76

**New England Fishery Management Council**  
Whiting Advisory Panel Meeting  
Warwick, RI

Meeting Summary  
September 13, 2013

**Purpose of meeting:** The advisory panel developed recommendations for Georges Bank yellowtail flounder accountability measures for the small-mesh squid/whiting fishery. The measures would be considered as alternatives in Multispecies Framework Adjustment 51.

**Attendance:** Advisors: Vito Calomo (chair), Dan Farnham (vice-chair), Hank Lankner,. Also in attendance were Andrew Applegate (staff), Moira Kelly (NMFS staff), Jason Didden (MAFMC staff), David Chosid (MADMF), John Weber (NROC), and Fred Mattera, John Scotti, and Peg Parker (CFRI).

At the joint meeting of the MAFMC Squid and NEFMC Whiting Advisory Panel, the advisors agreed by consensus to make the following recommendations to the Groundfish Oversight Committee and NEFMC Council:

- A gear-based AM that would require the year round use of certified bycatch avoidance nets (beginning May 1, 2015 if triggered in fishing year 2013),
- As a backstop AM (if no gears are certified or they do not keep bycatch sufficiently low), a time-area closure that prohibits small-mesh fishing in seasons and areas with the highest yellowtail flounder bycatch rates.
- An alternative that would trigger AMs only if the total ACL AND the sub-ACL is exceeded
- An alternative that would allow for the possibility of using AMs based on a pound for pound payback, if new assessments indicate that higher ACLs can accommodate prior overages.

**Summary**

Mrs. Kelly began by an oral summary of the need to develop AM alternatives, Georges Bank and red hake catch estimates for 2012 and 2013, and an explanation of the timing and how Georges Bank yellowtail flounder overages would trigger an AM in the small-mesh multispecies and squid fishery. An AM would affect fishing in the Georges Bank yellowtail flounder stock area (see maps in background document). It was noted that the 2012 estimate was much lower than the 24 mt estimate by the TRAC for 2012. Mrs. Kelly said she would check the discrepancy. Yellowtail flounder catch estimates have been relatively stable, but a limit of 2% of the total ACL to be allocated for small-mesh fishing would mean much lower allocations to the fishery in future years due to recent assessment results. Based on existing information reviewed by the NEFMC Science and Statistical Committee, the 2014 allocation of Georges Bank yellowtail flounder was likely to be 4 mt or less.

Mr. Applegate continued the presentation with a summary of observed Georges Bank yellowtail flounder catch rates by statistical area, month, and trawl type. The data for the squid and whiting fisheries were combined since many trips in the stock area are targeting both species anyway. Catch rates averaged from about 1.0 to 2.5 lbs/100 lbs. of total kept, with some extreme outliers exceeding 1.0 mixed in. As a result of low sampling intensity and substantial variation, there the confidence intervals on the mean were wide and overlapped with those in other statistical areas, months, and gears. In general the yellowtail flounder catches were consistently higher in the Cultivator Shoals Area (SA 522) than along the southern flank of Georges Bank (SA 525 and 562), although there were a few very high yellowtail flounder catch rates there too.

David Chosid and John Scotti presented an oral summary of experimental fishery research using a raised footrope trawl and a fat belly net, respectively. Except for incomplete research currently underway, the information about the gears was promising but may not be directly applicable to fishing for squid and whiting in deep water by large vessels. The existing analysis for the fat belly net was focused on winter flounder, whose behavior in front of the net may be different than that for yellowtail flounder. The raised footrope trawl works well in some areas, but may not work as well in more rugged bottom in deeper water. Several technical papers and reports were referenced which will be forwarded to the Groundfish PDT for their consideration and inclusion in the analyses.

The general consensus was that the advisors favored a gear-based AM, rather than one that would close the fishery, possibly during critical periods. A solution was developed for an alternative that would rely on bycatch avoidance gear that would be tested through research and then certified by the Regional Administrator, based on criteria that the Council develops. A backstop alternative in case there were no certified gears or the gear didn't produce the needed results would rely on time-area closures focused on seasons and areas with the highest Georges Bank yellowtail flounder to kept all catch rates.

Mr. Didden noted that some MAFMC FMPs relied on AMs for sub-ACL overages that weren't triggered unless the overall ACL had also been exceeded, since no biological harm should have occurred unless the overall ACL was exceeded. He also suggested that there could be additional flexibility (using pound for pound paybacks) if overages can be accounted for in future allocations if the ACL increases due to improving stock condition. This would only be feasible from an accounting perspective if the new ACL was equal or greater to the previous year's catch plus the previous year's overage. The advisors accepted both ideas and made recommendations to the NEFMC that they be considered in Framework Adjustment 51. Mr. Didden also suggested that the bycatch estimate precision would also be considered when deciding to trigger an AM, but NMFS staff had concerns about how that consideration would be applied.

The whiting advisors discussed priorities and agreed that the Council should consider taking action to establish limited access for the small-mesh multispecies fishery. They expressed more than a little frustration by the inaction by the Council. Limits on choke species like red hake and now Georges Bank yellowtail flounder could restrict fishing by traditional participants, especially if new entrants began fishing. The advisors noted that more vessels were fishing with small-mesh trawls when they leased groundfish ACE to other vessels, then switched to other fisheries. The Council had renewed a fishery control date but had not initiated an amendment, due to work load for higher priority issues.

The meeting closed with John Weber, NROC, presenting individual maps depicting total time at location by fishing vessels using various gear types. At this time, the VMS data depicted in the maps were not filtered for when and where vessels were fishing, as opposed to transiting or when engaged in non-fishing activities. He took comments from advisors and staff about their potential interpretation and use.





#70



## New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116  
 Ernest F. Stockwell, *Acting Chairman* | Thomas A. Nies, *Executive Director*

### MEMORANDUM

**DATE:** September 3, 2013  
**TO:** Whiting and squid advisors  
**FROM:** Andrew Applegate  
**SUBJECT:** Background information about Georges Bank yellowtail flounder accountability measures

In NE Multispecies Framework Adjustment 48 (submitted and approved in 2013), the Council adopted a sub-ACL (annual catch limit) allocation of Georges Bank yellowtail flounder of two percent and required itself to develop an accountability measure that would be triggered if the small-mesh fishery catch exceeds the sub-ACL in 2013 and future years. The development of an accountability measure is being taken up in Framework Adjustment 51, which the Council will approve at the November meeting.

This Advisory Panel meeting is an opportunity for the industry to develop recommendations on how an accountability measure should be applied, if one is needed in 2013 and 2014. Early indications however are that the 2013 yellowtail flounder catches will be below the sub-ACL, partly because lower amounts of fishing occurred in the Cultivator Shoals Area and partly because it will be difficult to estimate yellowtail flounder catches before the end of the fishing year. Subsequently, the whiting (and possibly squid) fishery may revised the accountability measure specifications in a future specifications package or framework adjustment, planned for development in 2014.

To help the APs develop recommendation, I compiled the information below and calculated comparative statistics for observed trips using small mesh, targeting either red hake, silver hake, or loligo squid, or a combination of any of these. These data were restricted to observed tows inside of the Georges Bank yellowtail flounder stock area (see Map 2), statistical areas 522, 525, 561, and 562. The Cultivator Shoals Area is entirely within SA 522. The mixed whiting and squid trips occur on the southern edge of Georges Bank in SA 525 and 562.

The following information is included below:

1. The final alternative that allocates a Georges Bank yellowtail flounder sub-ACL for the small-mesh fisheries, including historic catch estimates for 2004-2011.
2. Background explanation of small-mesh fishery Georges Bank yellowtail flounder allocation and monitoring (catch estimation).
3. Georges Bank yellowtail flounder ACLs
  - a. Sub-allocations of regulated multispecies by fishery
  - b. Maximum 2014 Georges Bank yellowtail flounder allocation.
4. Georges Bank yellowtail flounder catch estimates for the small mesh fishery during 2012 (final) and 2013 (in-season). This information will be provided by the AP meeting.
5. Summary of observed yellowtail flounder catch to kept all (yellowtail flounder per pound landed of all species) ratios during 2010-2013 by statistical area, year, month, and gear type.
6. Catch distribution maps
  - a. Maps showing the 2009 and 2011 distribution and yellowtail flounder catch rates per pound landed of observed tows for trips using a raised footrope trawl.
  - b. Maps showing the 2009-2013 geographical distribution of yellowtail flounder catch rates (per pound landed). Size of circles represent the yellowtail flounder catch rate, while colors represent months (dark green = Jan; yellows = late spring and summer; oranges = fall; red = Dec).
  - c. Same as b) but with the spring, fall, and winter survey kg/tow distribution for recent years.
7. Statistical test of significance that yellowtail flounder catch per pound landed of all species is less than standard trawls. Due to low sample size of observed hauls using the raised footrope trawl, the differences are not significant despite a 75% or more apparent reduction.
8. 2013 quota monitoring reports for loligo, northern and southern red hake, and northern and southern silver hake.

**Item 1:**

NE Multispecies Framework Adjustment 48 measure to allocate Georges Bank yellowtail flounder Sub-ACLs and require accountability measures in the small-mesh fisheries.

4.1.4.2 Option 2: Small-Mesh Fisheries Sub-ACL for GB Yellowtail Flounder (*Preferred Alternative*)

If this option is adopted, there would be a specific sub-ACL for GB yellowtail flounder for small-mesh bottom trawl fisheries. Catches of this stock by vessels using this gear would be no longer counted as part of the “other sub-components” category. AMs would expected to be developed by the relevant FMPs within one year of the implementation of this sub-ACL. The sub-ACL would be based on the median small-mesh fisheries catches of GB yellowtail flounder from 2004 through 2011, or two percent (these fisheries are not permitted to land yellowtail flounder, so the percentage is based on discard estimates shown below).

For the purposes of this sub-ACL, small-mesh bottom trawl fisheries are defined as those vessels that use a bottom otter trawl with a cod-end mesh size of less than 5 inches. Typical target species for vessels using this gear on GB are whiting and squid.

The sub-ACL would be based on a percentage of the U.S. ABC for this stock. This percentage would be applied to the ABC to get a sub-ABC, and then the sub-ABC would be adjusted to account for management uncertainty in order to get the sub-ACL. The percentage will be based on recent catch history, shown below in Table 7. Because of limited observer coverage prior to 2004, the period 2004-2011 will be used as the basis for the catch history.

Table 7 – Recent small-mesh fisheries catches of GB yellowtail flounder (TRAC 2012)

Year	U.S. Landings	U.S. Discards	U.S. Catch	Small-Mesh Discards	Small-Mesh Discards as Percent of U.S. Catch
2004	5837	460	6297	55	0.01
2005	3161	414	3575	52	0.01
2006	1196	384	1580	26	0.02
2007	1058	493	1551	110	0.07
2008	937	409	1346	26	0.02
2009	959	759	1718	24	0.01
2010	654	289	943	30	0.03
2011	904	192	1096	33	0.03
				mean	0.03
				median	0.02
				90th ptile	0.04

*Rationale:* While small-mesh fishery catches of GB yellowtail flounder have generally been less than 100 mt in recent years, with declining ABCs for this stock they are an increasing percentage of the total U.S. catch. Adoption of a sub-ACL will enable control of those catches through the use of an AM. AMs will be developed by the relevant FMP.

## **Item 2:**

### **Small-Mesh Fisheries ACL allocation and monitoring Georges Bank (GB) Yellowtail Flounder**

#### **Background**

- Catches of GB yellowtail flounder by the small-mesh fisheries have generally been less than 100 mt in recent years (Table 1).
  - A codend mesh size of less than 5 in is defined as small-mesh.
- The GB yellowtail flounder quota has been declining quite dramatically in recent years (Table 2), and as a result, small-mesh discards of the stock are becoming an increasing proportion of the total U.S. catch.
- If the U.S. exceeds its quota for GB yellowtail flounder, the Sharing Agreement with Canada requires that the amount of the overage is deducted from the U.S. quota the following year.
- Due to concerns for the declining quota, and increasing significance of small-mesh discards of GB yellowtail flounder, Framework 48 to the Northeast Multispecies Fishery Management Plan adopted a GB yellowtail flounder sub-annual catch limit (sub-ACL) for the small-mesh fisheries.
  - This measure was intended to control the catch of GB yellowtail flounder by the small-mesh fisheries through an accountability measure that would be triggered if the small-mesh fisheries' allocation is exceeded.
    - Framework 48 specified that AMs would be developed by the respective Fishery Management Plans (FMPs) within 1 year of the implementation of this sub-ACL, or by May 1, 2014.
  - The small-mesh fisheries' allocation is 2 percent of the U.S. GB yellowtail flounder Acceptable Biological Catch (ABC).
    - This allocation is based on the small-mesh median catch of GB yellowtail flounder (as a percent of total U.S. catch) from 2004-2011.
    - The small-mesh fisheries sub-ACL is calculated as the small-mesh portion of the ABC (2 percent) reduced to account for management uncertainty.
      - Because small-mesh fisheries catch of GB yellowtail are discards only, the management uncertainty buffer is 7 percent.

Table 1. GB Yellowtail Flounder Catch by Small-Mesh Otter Trawl (mt) (TRAC 2013)

Calendar Year	U.S. Landings	U.S. Discards	U.S. Catch	Small-Mesh Discards	Small-Mesh Discards as Percent of U.S. Catch
2004	5,837	460	6,297	55	0.01
2005	3,161	414	3,575	52	0.01
2006	1,196	384	1,580	26	0.02
2007	1,058	493	1,551	110	0.07
2008	937	409	1,346	26	0.02
2009	959	759	1,718	24	0.01
2010	654	289	943	30	0.03
2011	904	192	1,096	33	0.03
2012	443	188	631	24	0.04
				Mean	0.03
				Median	0.02
				90th ptile	0.05

Table 2. GB Yellowtail Flounder Quota (mt)

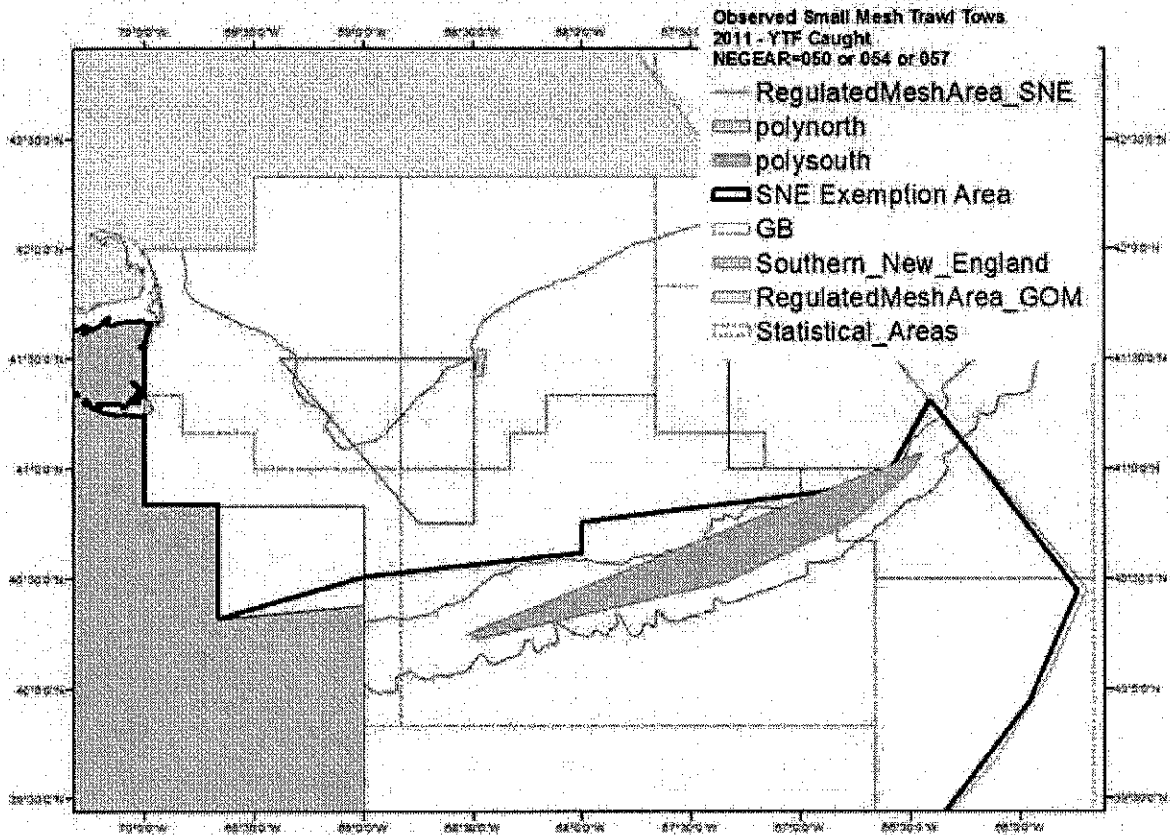
Fishing Year	Total U.S./Canada Quota	U.S.	
		% Share	Quota
2004	7,900	76%	6,000
2005	6,000	71%	4,260
2006	3,000	69%	2,070
2007	1,250	72%	900
2008	2,500	78%	1,950
2009	2,100	77%	1,617
2010	1,500	64%	1,200
2011	2,650	55%	1,458
2012	1,150	49%	564
2013	500	43%	215

Observed Small Mesh Tows that Caught GB Yellowtail Flounder

- In 2011, about 80 percent of the observed small-mesh discards of GB yellowtail flounder came from stat area 525, and in 2010, about 50 percent of the observed discards came from this area.
- Figure 1 shows the 2011 observed small-mesh tows that caught GB yellowtail flounder. The smallest polygons possible were drawn around tows with GB yellowtail flounder catch.

- “Polynorth” is a small area outside of Closed Area I. This area is the Cultivator Shoal whiting fishery.
- “Polysouth” is a larger area on the southern flank of Georges Bank. Trips in this area are a mix of squid and whiting.

Figure 1. 2011 Observed Small-Mesh Tows with GB Yellowtail Flounder Catch



#### Northeast Regional Office (NERO) Quota Monitoring

- Prior to the adoption of the small-mesh fisheries sub-ACL for GB yellowtail flounder, these catches were attributed to the “other sub-component.” This portion of the annual quota is set aside to account for groundfish catch that occurs in non-groundfish fisheries that do not have an allocation. There is no accountability measure for the other sub-component if the sub-component value is exceeded.
- NERO has developed “binning rules” to attempt to apportion the other sub-component catch to various FMPs/fisheries (Table 3).

- For non-VMS fisheries, NERO relies on permit type, gear type, mesh size, and revenue by species. However, for mixed fisheries, it is difficult to identify a directed trip for one fishery, and revenue by species does not necessarily indicate the intended target species for a trip.

Table 3. FY 2010 and FY 2011 “Other sub-Component” GB Yellowtail Flounder Catch (mt)

Fishing Year	Total	FLUKE	HERRING	SCUP	SQUID	SQUID/ WHITING	WHITING	UNKNOWN
2010	43.2	0.1	1.0	0.2	0.2	40.7	-	1.0
2011	34.4	0.1	0.6	0.0	0.9	30.8	0.1	1.9

- Squid/Whiting Binning Rules
  - Squid Trips
    - SMB-1 or SMB-5; no MUL
    - Otter trawl
    - Mesh size  $\geq 1\ 7/8$ "
    - Squid (*Illex* or *Loligo*) highest revenue by species
    - *Additional criteria:* If vessel has MUL permit, but no hake landed, trip is assumed to be squid trip if meets all the other above criteria
  - Whiting Trips
    - MUL-A or MUL-C or MUL-D or MUL-E or MUL-F or MUL-K; no SMB
    - Otter trawl
    - Mesh size  $\geq 2$  but  $\leq 3$ "
    - Whiting highest revenue by species
    - *Additional criteria:* If vessel has SMB permit, but no squid landed, trip is assumed to be whiting trip if meets all the other above criteria
    -
  - Squid/Whiting Trips
    - SMB-1 or SMB-5
    - MUL-A or MUL-C or MUL-D or MUL-E or MUL-F or MUL-K
    - Otter trawl
    - Mesh size  $\geq 1\ 7/8$ "
    - Combined revenue of squid (*Illex* and *Loligo*) and whiting highest by species

## APPENDIX I

### Overview of Transboundary Management Guidance Committee (TMGC)

#### Purpose

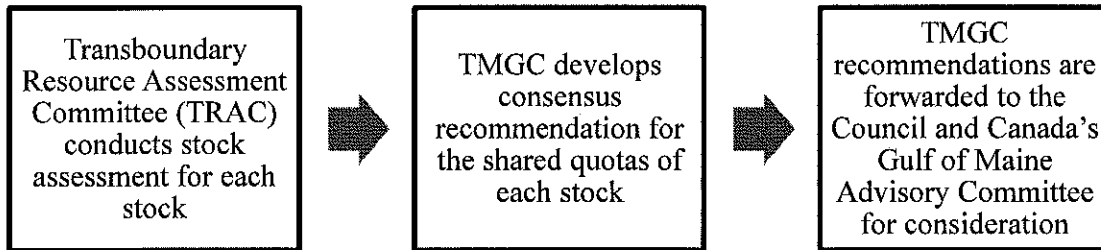
- Develop non-binding annual guidance on catch levels for three transboundary stocks:
  1. Georges Bank (GB) yellowtail flounder;
  2. Eastern GB cod; and
  3. Eastern GB haddock

#### Membership

- 6 members from each country (2 government and 4 industry)
- US Members:

Industry	Government
Terry Stockwell (co-chair)	Sarah Heil (NERO)
Terry Alexander	Fred Serchuk (NEFSC)
Tom Dempsey	
Mary Beth Tooley	

#### Annual Process



Note: The U.S./Canada Management Area encompasses the entire stock area for GB yellowtail flounder. As a result, the shared U.S./Canada quota is also the total ABC for the stock. Each year, usually prior to the TMGC meeting, the New England Fishery Management Council's Scientific and Statistical Committee meets to recommend an ABC for GB yellowtail flounder. This recommendation is the upper bound for the U.S. when negotiating the shared quota for GB yellowtail flounder.

#### Harvest Strategy

- Maintain a low to neutral risk of exceeding the fishing mortality limit
- When stock conditions are poor, fishing mortality rates should be further reduced to promote rebuilding

#### Sharing the Fish

- Each year the TRAC calculates the percentage of the shared quota that each country will receive
- A pre-determined sharing formula splits the shared quota between the U.S. and Canada
  - Two components to the sharing formula:
    1. Historical catch (fixed value)
    2. Current distribution of stock between U.S. and Canadian waters (DFO and NEFSC surveys)
- Each component is weighted based on its importance



- Distribution of stock has gradually become more important over time
  - 2004: 60/40 weighting (Distribution/Historical Catch)
  - 2010 and beyond: 90/10 weighting (Distribution/Historical Catch)

Item 3:

Georges Bank yellowtail flounder Sub-ACL tables

FY 2013 Total ACLs, sub-ACLs, and ACL sub-components (mt, live weight)

Stock	Total ACL	Groundfish sub-ACL	Preliminary Sector sub-ACL	Common Pool sub-ACL	Recreational Fishery sub-ACL	Midwater			Small-Mesh Fisheries sub-ACL	State Winners sub-component	Other sub-component
						Trawl Fishery sub-ACL	Scallop Fishery sub-ACL	F			
	A to H	A+B+C	A	B	C	D	E	F	G	H	
GB Cod	1,907	1,897	1,777	30					20	80	
GOM Cod	1,470	1,316	814	16	486				103	51	
GB Haddock	27,936	26,196	26,124	72		273			293	1,173	
GOM Haddock	774	261	188	1	74	3			4	6	
GB Yellowtail Flounder	208.5	116.8	115.4	1.3			83.4	4.0		4.3	
Emergency Action SNE/MA Yellowtail Flounder	665	570	456	114			61		7	28	
CC/GOM Yellowtail Flounder	523	479	467	12					33	11	
American Plaice	1,482	1,420	1,296	24					31	31	
Witch Flounder	751	610	601	9					23	117	
GB Winter Flounder	3,641	3,528	3,508	20						113	
GOM Winter Flounder	1,040	715	690	24					272	54	
SNE/MA Winter Flounder	1,612	1,210	1,068	142					235	168	
Redfish	10,462	10,132	10,091	41					110	220	
White Hake	3,974	3,849	3,818	31					42	84	
Emergency Action White Hake Proposed in Framework 30	3,482	3,352	3,326	27					36	73	
Pollock	14,921	12,893	12,810	83					936	1,092	
Northern Windorygma Flounder	144	98		98					2	44	
Southern Windorygma Flounder	527	102		102			183		55	185	
Ocean Pout	220	197		197					2	21	
Atlantic Halibut	96	52		52					40	5	
Atlantic Wolffish	65	82		62					1	3	

Item 4:

Georges Bank yellowtail flounder catch estimates for the small-mesh fisheries

To be distributed at meeting

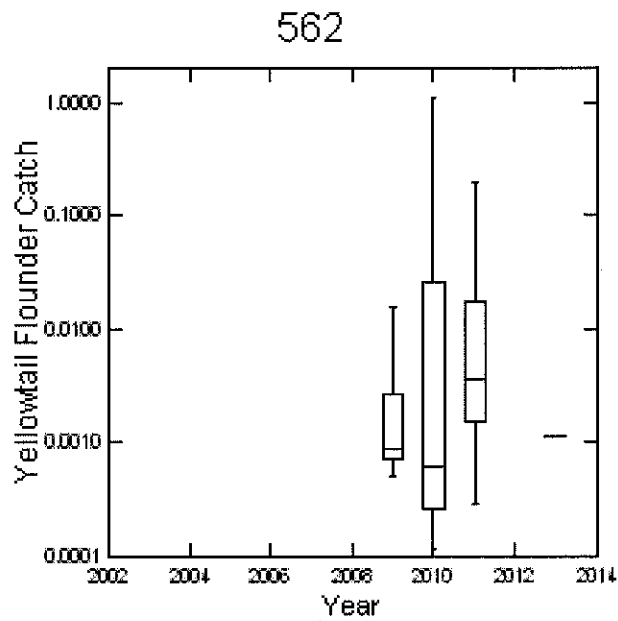
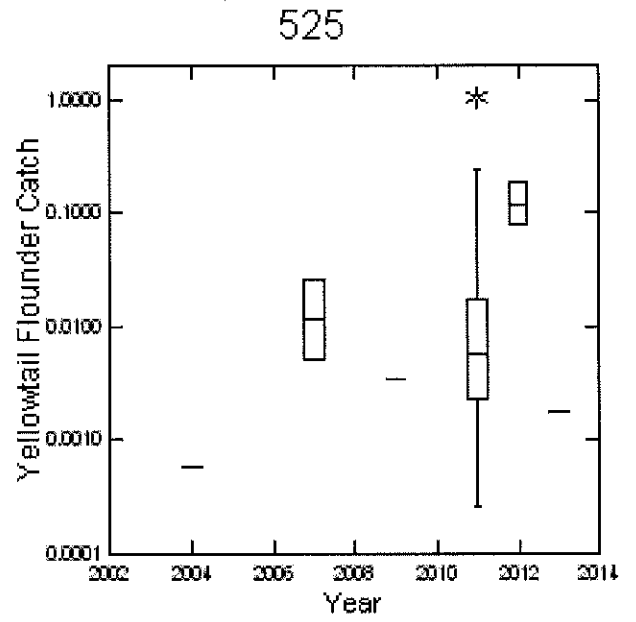
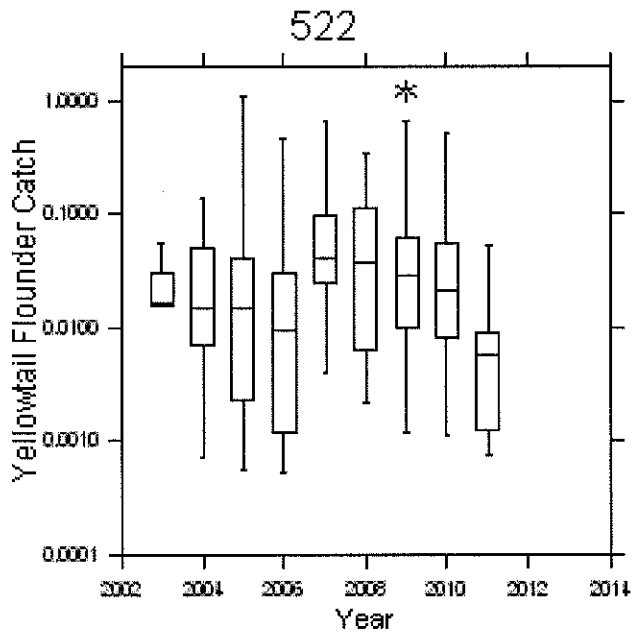
**Item 5:**

Yellowtail flounder catch ratio statistics

Table 4. Georges Bank yellowtail flounder catch per pound landed of all species by statistical area (see Maps) Catch rates are highest in SA 522. N of cases is number of observed hauls. Coefficient of variation is high due to variability in catch rates and outliers

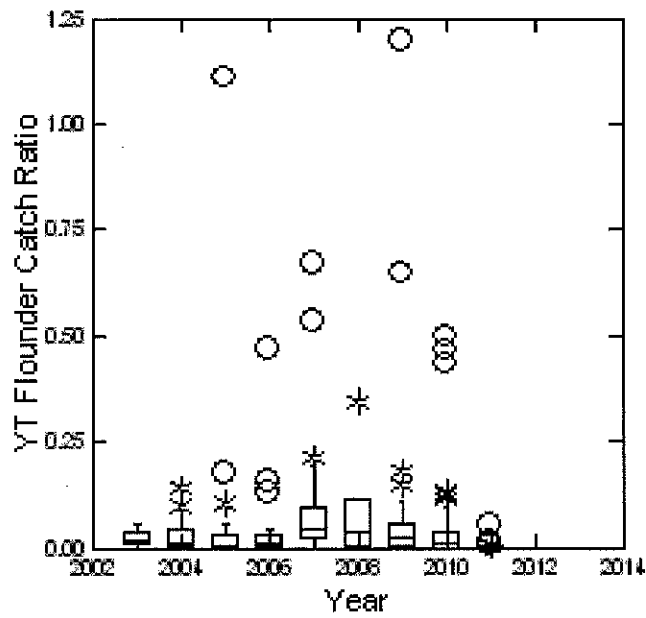
2010-2013	Statistical Area ▼		
Statistics	522	525	562
N of Cases	113	148	140
Mean	0.028	0.012	0.010
95.0% LCL of Mean	0.013	-0.003	-0.006
95.0% UCL of Mean	0.042	0.026	0.026
75th Percentile	0.021	0.000	0.000
80th Percentile	0.034	0.000	0.000
90th percentile	0.065	0.004	0.000
95th Percentile	0.111	0.018	0.004
99th Percentile	0.480	0.259	0.293
Maximum	0.500	1.028	1.119
Median	0.003	0.000	0.000
Minimum	0.000	0.000	0.000
Coefficient of Variation	2.794	7.577	9.484

Log Scale

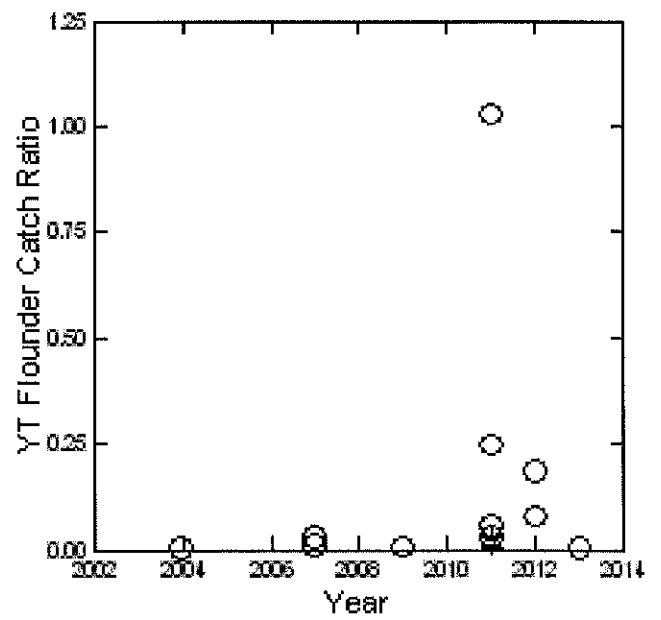


Normal Scale

522



525



562

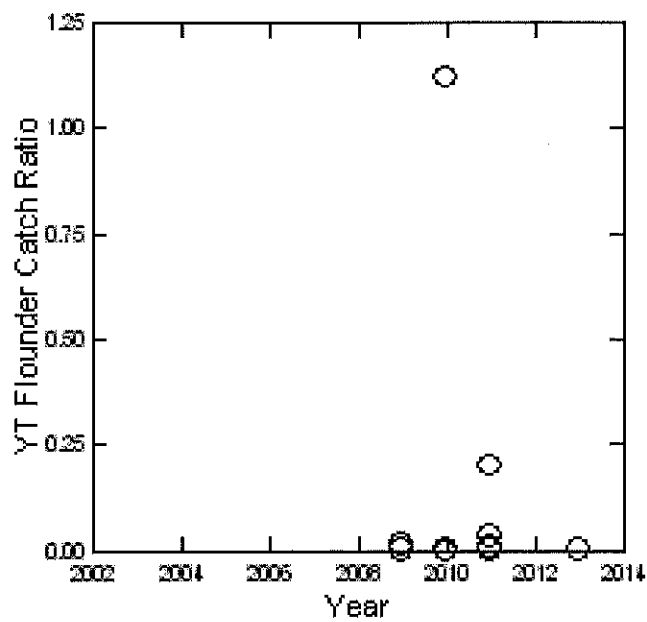


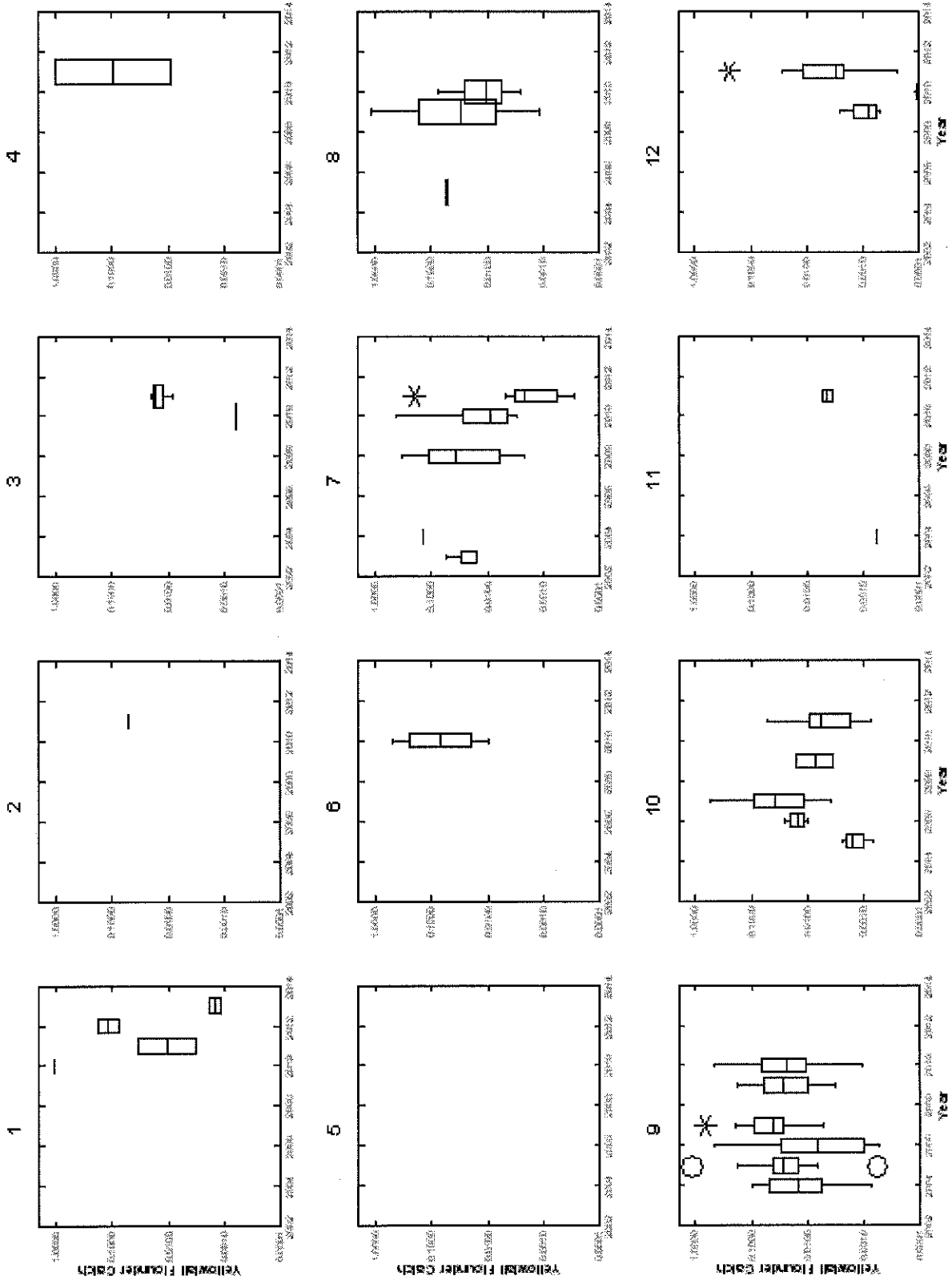
Table 5. Georges Bank yellowtail flounder catch per pound landed of all species by calendar year. Catch rates were lower in 2012 and 2013 due to fewer Cultivator Shoals Area observed trips. N of cases is number of observed hauls. Coefficient of variation is high due to variability in catch rates and outliers.

Areas 522, 525 and 562 from 2010-2013	Year	2010	2011	2012	2013
<b>Statistics</b>					
N of Cases		226	121	28	26
Mean		0.018	0.015	0.009	0.000
95.0% LCL of Mean		0.006	-0.002	-0.005	0.000
95.0% UCL of Mean		0.031	0.033	0.023	0.000
75th Percentile		0.001	0.003	0.000	0.000
80th Percentile		0.004	0.005	0.000	0.000
90th Percentile		0.034	0.013	0.000	0.000
95th Percentile		0.068	0.033	0.087	0.001
99th Percentile		0.475	0.471	0.182	0.002
Maximum		1.119	1.028	0.182	0.002
Median		0.000	0.000	0.000	0.000
Minimum		0.000	0.000	0.000	0.000
Coefficient of Variation		5.048	6.298	3.985	3.636

Table 6. Georges Bank yellowtail flounder catch per pound landed of all species by month. Catch rates were highest in June to August. N of cases is number of observed hauls. Coefficient of variation is high due to variability in catch rates and outliers.

Areas 522, 525 and 562 from 2010-2013	Month	1	2	3	4	5	6	7	8	9	10	11	12
<b>Statistics</b>													
N of Cases		57	23	34	34	45	29	42	13	49	43	14	18
Mean		0.025	0.002	0.001	0.030	0.000	0.023	0.017	0.017	0.033	0.004	0.001	0.017
95.0% LCL of Mean		-0.015	-0.002	0.000	-0.031	0.000	-0.013	-0.005	0.004	0.013	0.001	0.000	-0.011
95.0% UCL of Mean		0.065	0.007	0.003	0.092	0.000	0.060	0.040	0.030	0.054	0.007	0.002	0.046
75th Percentile		0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.023	0.047	0.003	0.000	0.005
80th Percentile		0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.037	0.059	0.006	0.000	0.008
90th Percentile		0.002	0.000	0.001	0.000	0.000	0.027	0.013	0.047	0.080	0.010	0.004	0.024
95th Percentile		0.061	0.018	0.016	0.007	0.000	0.149	0.102	0.070	0.114	0.021	0.005	0.157
99th Percentile		1.054	0.052	0.019	1.028	0.000	0.500	0.434	0.075	0.468	0.053	0.005	0.244
Maximum		1.119	0.052	0.019	1.028	0.000	0.500	0.434	0.075	0.468	0.053	0.005	0.244
Median		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.011	0.000	0.000	0.001
Minimum		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Coefficient of Variation		6.029	4.796	3.385	5.778	0.000	4.055	4.176	1.293	2.160	2.456	2.590	3.298

Log Scale





Normal Scale

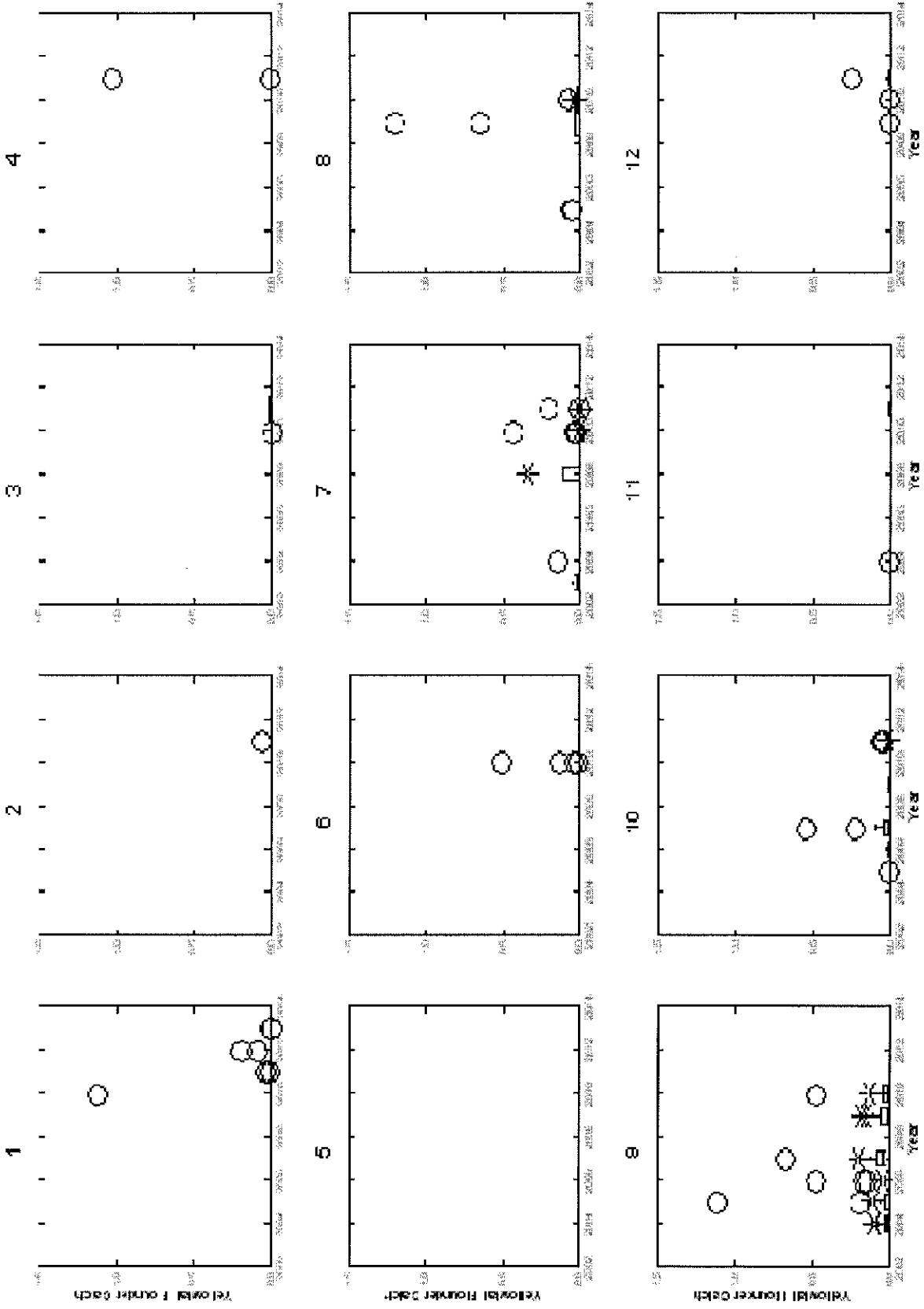
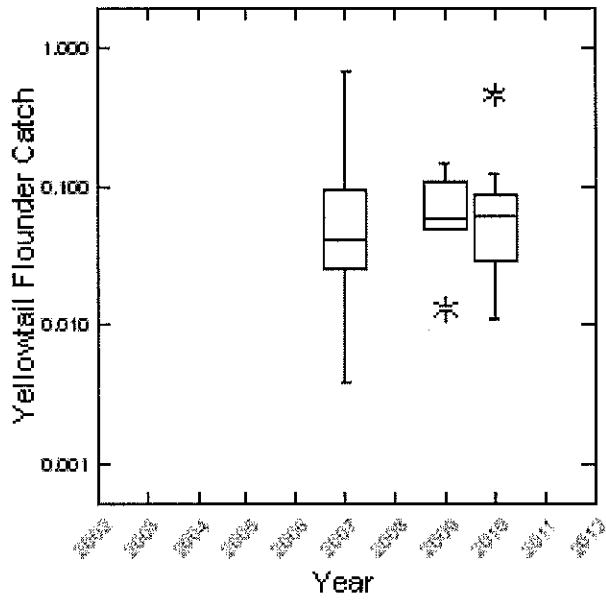


Table 7. Georges Bank yellowtail flounder catch per pound landed of all species by trawl type. Catch rates using a raised footrope trawl (3 observed trips) were one-third of those using a standard small-mesh net, but there is considerable overlap in confidence intervals. N of cases is number of observed hauls. Coefficient of variation is high due to variability in catch rates and outliers.

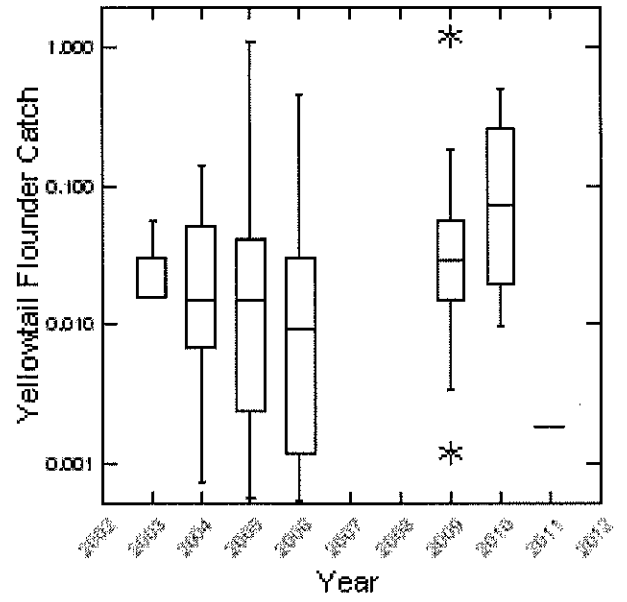
Area 522 from 2010-2013	Net Group			
Statistics	Standard SM	Groundfish/flatfish SM	Raised footrope SM	Other SM
N of Cases	63	23	18	9
Arithmetic Mean	0.017	0.056	0.006	0.076
95.0% LCL of Arithmetic	0.003	0.013	0.000	-0.051
95.0% UCL of Arithmetic	0.031	0.098	0.012	0.202
75th Percentile	0.012	0.065	0.008	0.062
80th Percentile	0.017	0.078	0.009	0.103
90th Percentile	0.039	0.116	0.013	0.352
95th Percentile	0.069	0.244	0.037	0.500
99th Percentile	0.388	0.468	0.053	0.500
Maximum	0.434	0.468	0.053	0.500
Median	0.003	0.023	0.001	0.002
Minimum	0.000	0.000	0.000	0.000
Coefficient of Variation	3.260	1.763	2.097	2.176

Log Scale (Area 522 Only)

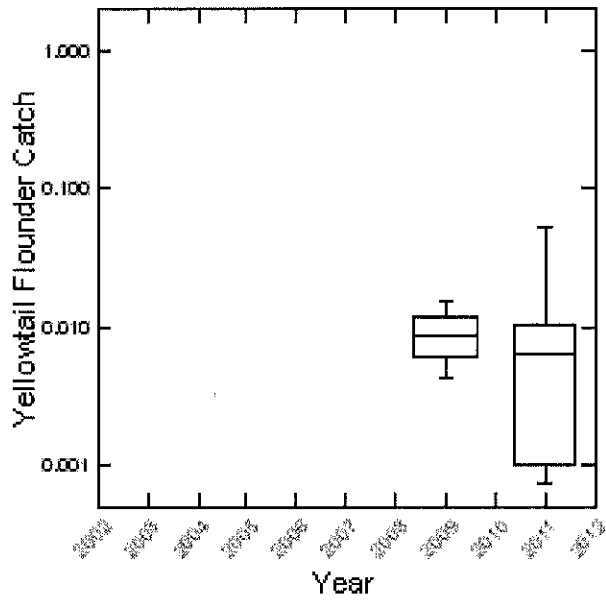
Groundfish/flatfish SM



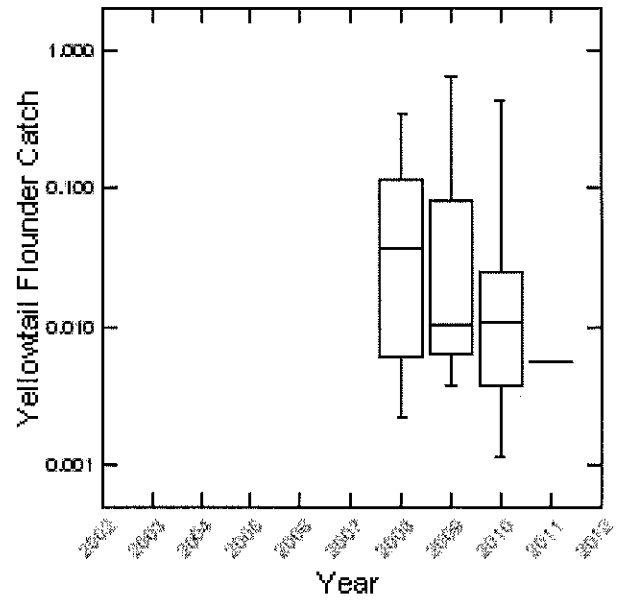
Other SM



Raised footrope SM

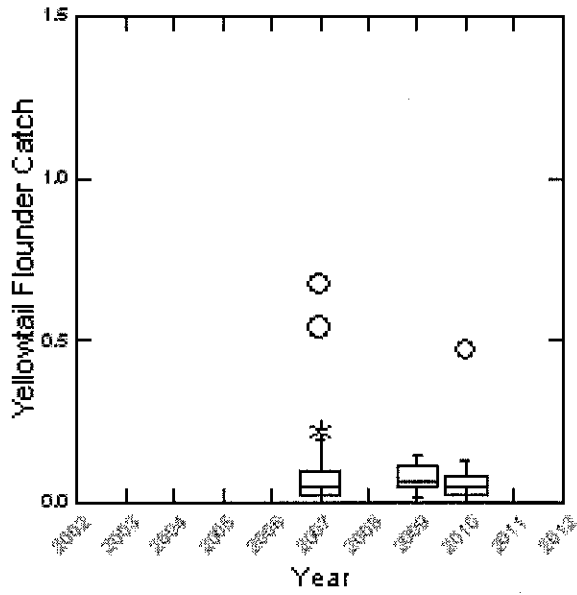


Standard SM

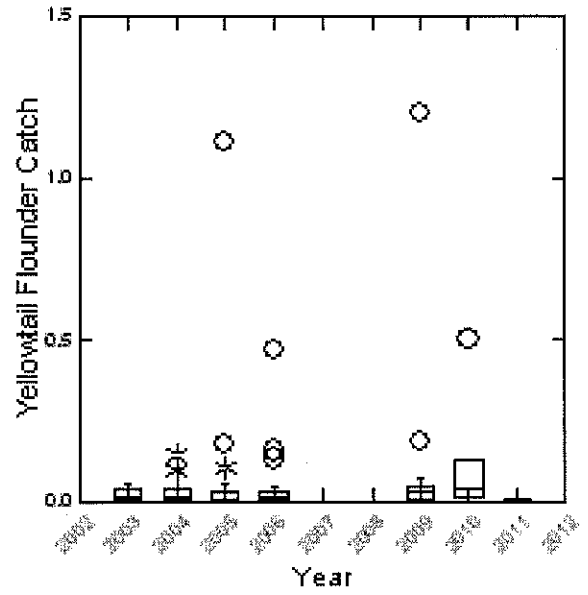


Normal Scale (Area 522 Only)

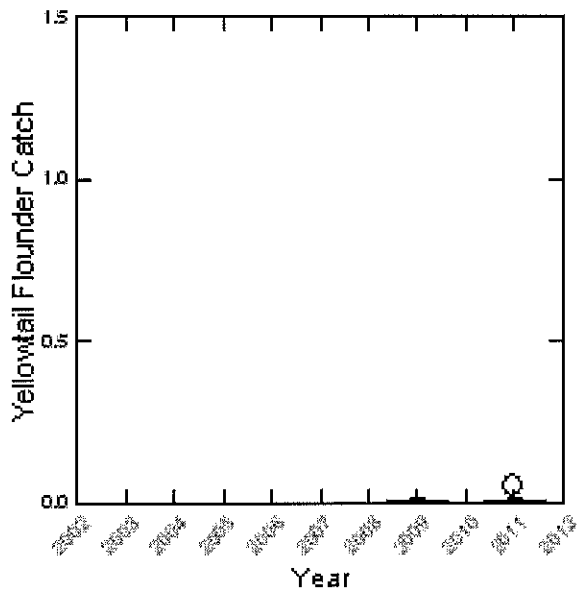
Groundfish/flatfish SM



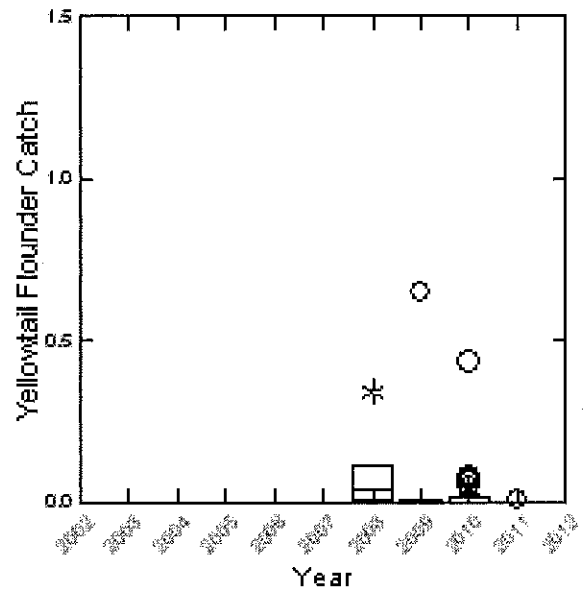
Other SM



Raised footrope SM

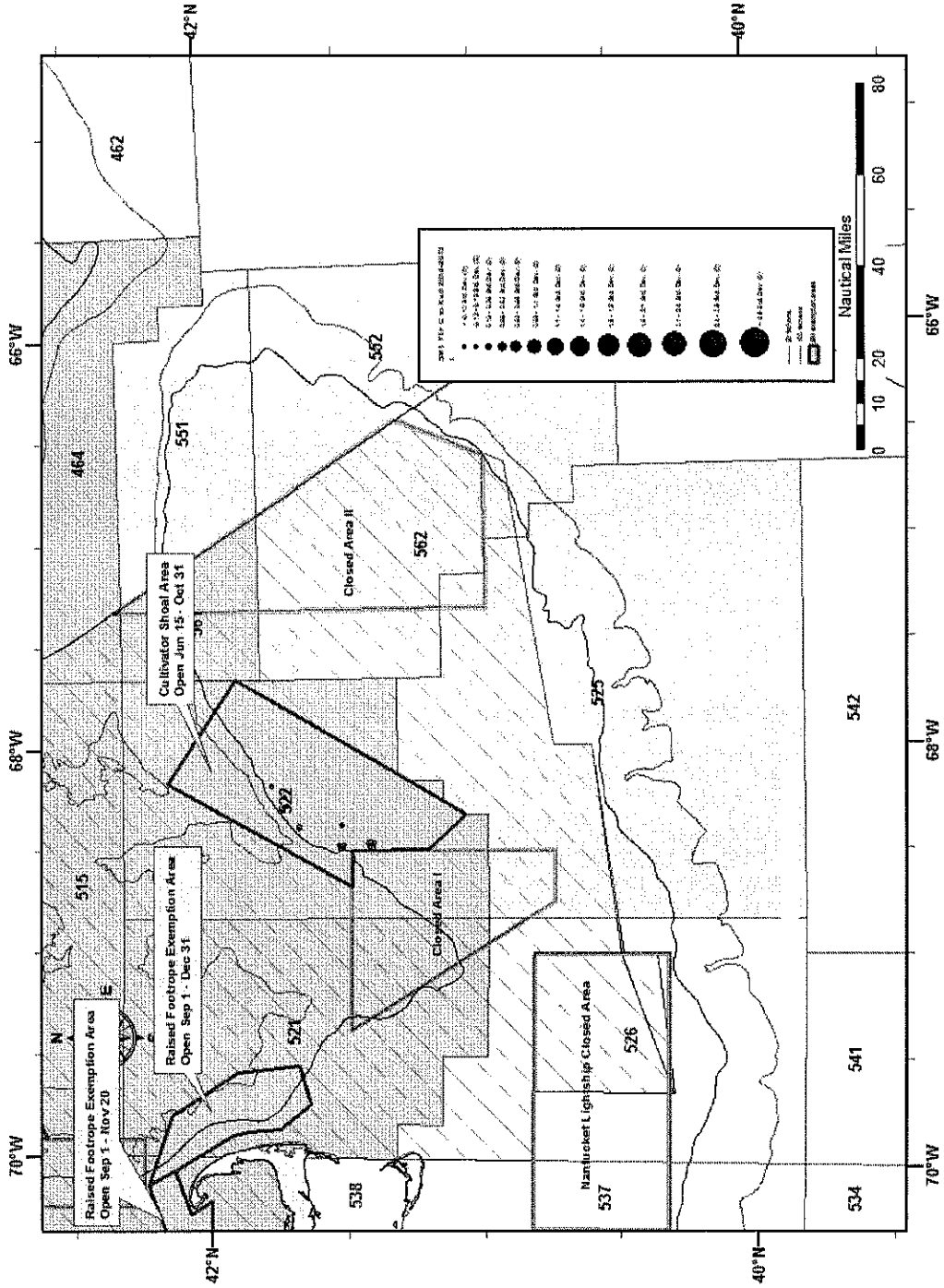


Standard SM



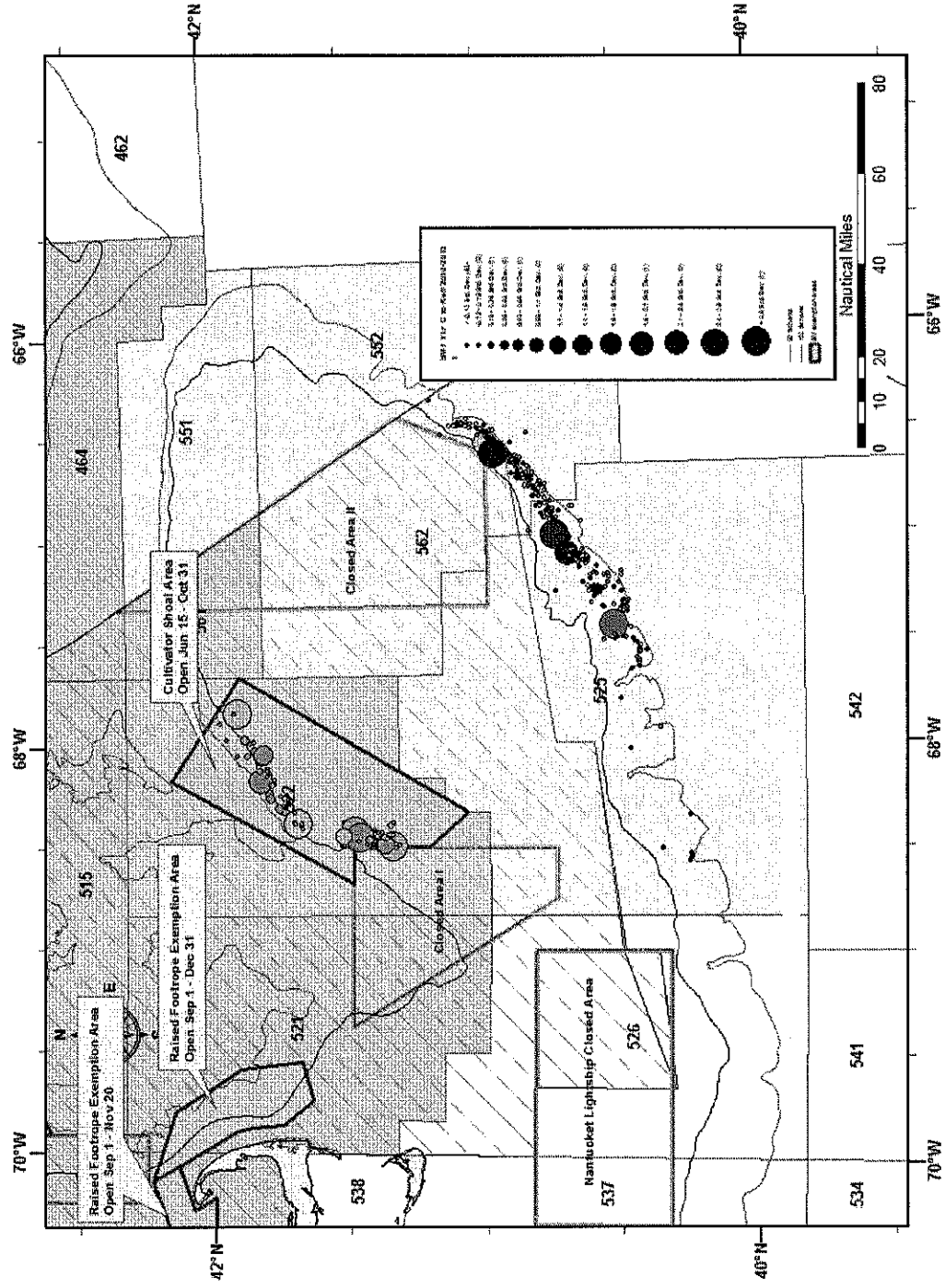
**Item 6a:**

Map 1. Distribution of observed tows for trips using a raised footrope trawl in 2009 and 2011.



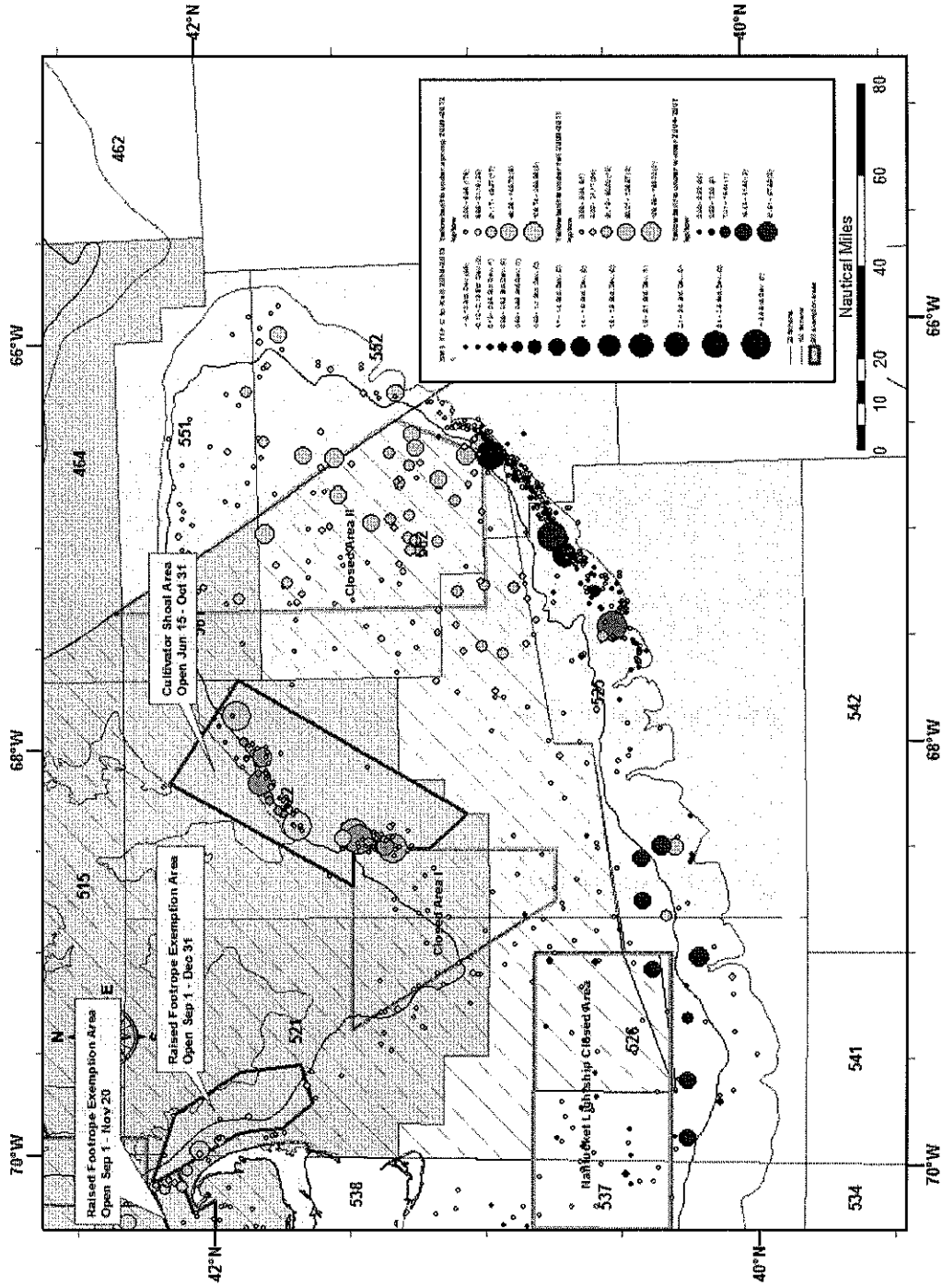
Item 6b:

Map 2. Distribution of yellowtail flounder catch per pound landed of all species. Size of circles represent the yellowtail flounder catch rate, while colors represent months (dark green = Jan; yellow = late spring and summer; oranges = fall; red = Dec).



Item 6c:

Map 3 Same as item 6b but with yellowtail flounder fl catch per tow in the spring, fall, and winter trawl surveys.



**Item 7: Test of significant difference of yellowtail flounder catch rates between trawl types.**

Note: In 2009, there were 39 total trips. 1 trip w/ 5 tows using the raised footrope trawl.

In 2011, there were 33 total trips. 2 trips w/ 18 tows using the raised footrope trawl.

**Data for Year 2009 in Area 522**

Results for YEAR\_OBS = 2009

Data for the following results were selected according to  
SELECT ( SAREA = 522) AND ( YEAR\_OBS >= 2009)

H0: Mean1 = Mean2 vs. H1: Mean1 <> Mean2

Grouping Variable = NETCATEGORY\$

Variable	NETCATEGORY\$	N	Mean	Standard Deviation
YELLOWTAIL_FLOUNDER_CATCH	Other trawl	34.000	0.088	0.226
	Raised footrope trawl	5.000	0.007	0.006

**Separate Variance**

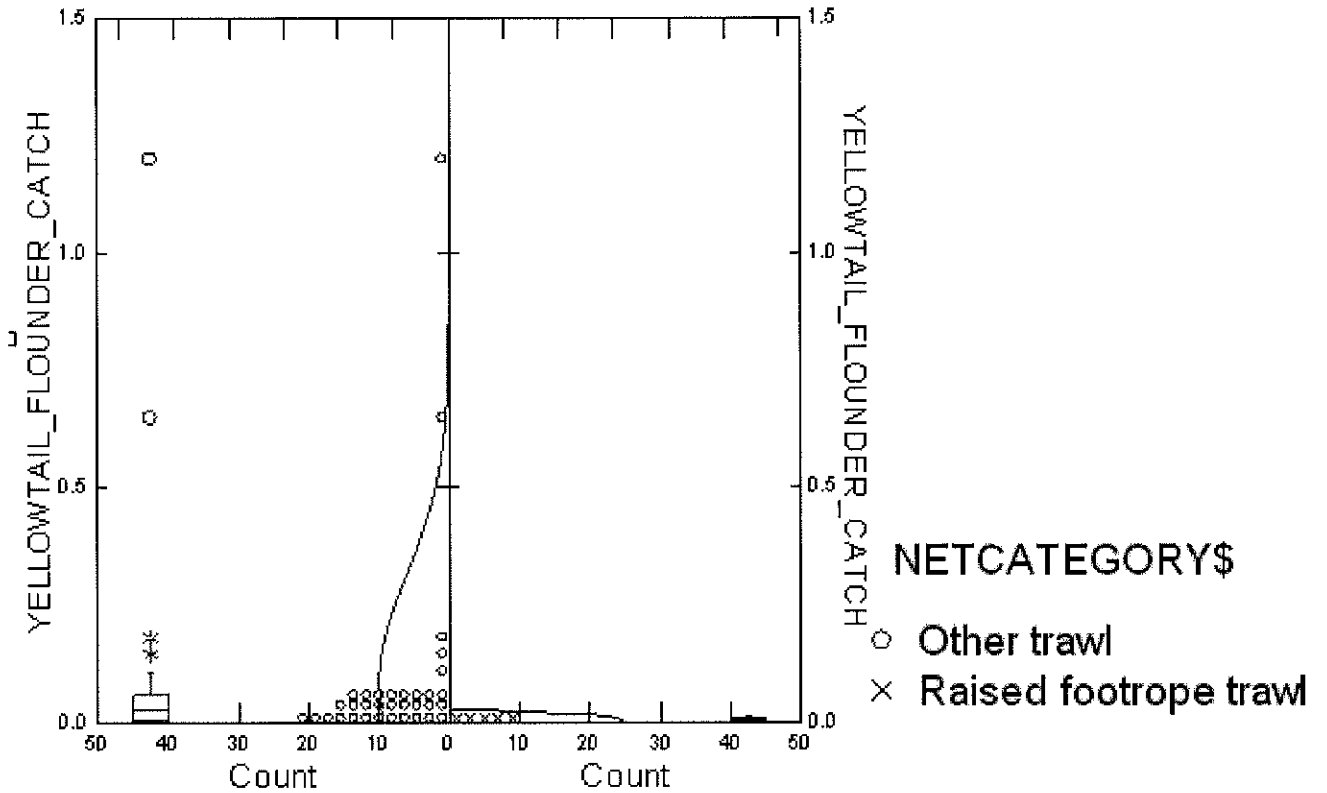
Variable	NETCATEGORY\$	Mean Difference	95.00% Confidence Interval		t	df	p-Value
			Lower Limit	Upper Limit			
YELLOWTAIL_FLOUNDER_CATCH	Other trawl	0.080	0.001	0.160	2.066	33.274	0.047
	Raised footrope trawl						

**Pooled Variance**

Variable	NETCATEGORY\$	Mean Difference	95.00% Confidence Interval		t	df	p-Value
			Lower Limit	Upper Limit			
YELLOWTAIL_FLOUNDER_CATCH	Other trawl	0.080	-0.127	0.288	0.785	37.000	0.437
	Raised footrope trawl						



## Two-Sample t-Test



**Data for Year 2011 in Area 522**

**Results for YEAR\_OBS = 2011**

Data for the following results were selected according to  
 SELECT ( SAREA = 522) AND ( YEAR\_OBS >= 2009)

**H0: Mean1 = Mean2 vs. H1: Mean1 <> Mean2**

Grouping Variable = NETCATEGORY\$

Variable	NETCATEGORY\$	N	Mean	Standard Deviation
YELLOWTAIL_FLOUNDER_CATCH	Other trawl	15.000	0.000	0.002
	Raised footrope trawl	18.000	0.006	0.013

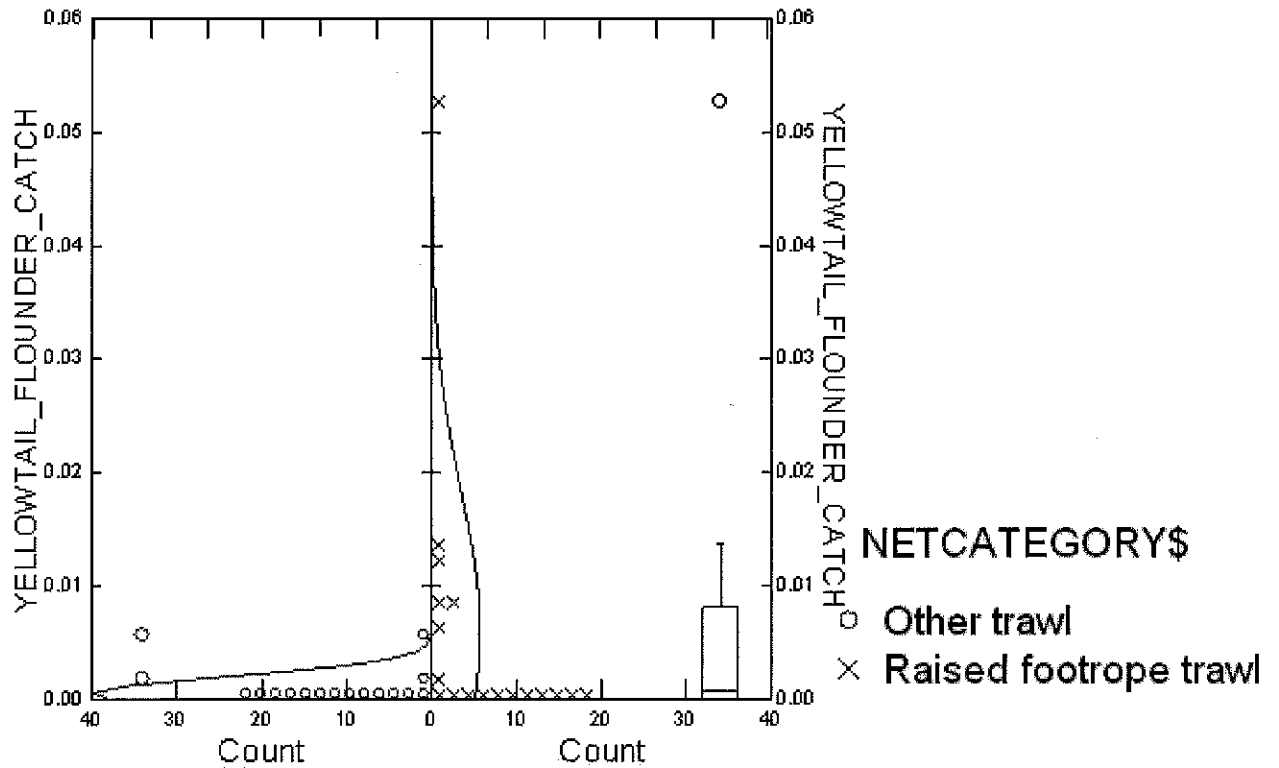
**Separate Variance**

Variable	NETCATEGORY\$	Mean Difference	95.00% Confidence Interval		t	df	p-Value
			Lower Limit	Upper Limit			
YELLOWTAIL_FLOUNDER_CATCH	Other trawl	-0.005	-0.012	0.001	-1.838	17.588	0.083
	Raised footrope trawl						

**Pooled Variance**

Variable	NETCATEGORY\$	Mean Difference	95.00% Confidence Interval		t	df	p-Value
			Lower Limit	Upper Limit			
YELLOWTAIL_FLOUNDER_CATCH	Other trawl	-0.005	-0.012	0.001	-1.678	31.000	0.103
	Raised footrope trawl						

**Two-Sample t-Test**



**Pooled data for Years 2009 and 2011 in Area 522**

Data for the following results were selected according to  
 SELECT ( SAREA = 522) AND ( YEAR\_OBS >= 2009) AND ( YEAR\_OBS <> 2010) AND ( YEAR\_OBS <> 2012)

H0: Mean1 = Mean2 vs. H1: Mean1 <> Mean2

Grouping Variable = NETCATEGORY\$

Variable	NETCATEGORY\$	N	Mean	Standard Deviation
YELLOWTAIL_FLOUNDER_CATCH	Other trawl	49.000	0.061	0.192
	Raised footrope trawl	23.000	0.006	0.011

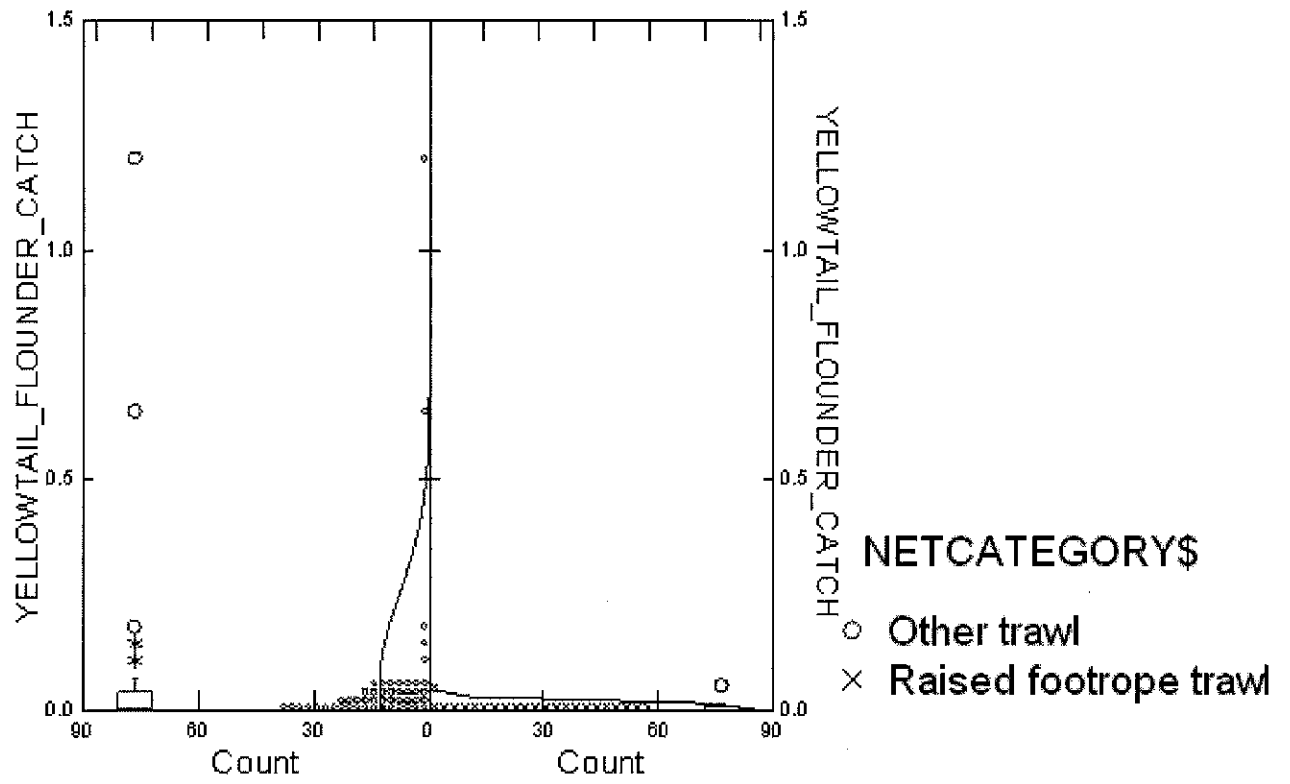
**Separate Variance**

Variable	NETCATEGORY\$	Mean Difference	95.00% Confidence Interval		t	df	p-Value
			Lower Limit	Upper Limit			
YELLOWTAIL_FLOUNDER_CATCH	Other trawl	0.055	-0.001	0.110	1.988	48.701	0.052
	Raised footrope trawl						

**Pooled Variance**

Variable	NETCATEGORY\$	Mean Difference	95.00% Confidence Interval		t	df	p-Value
			Lower Limit	Upper Limit			
YELLOWTAIL_FLOUNDER_CATCH	Other trawl	0.055	-0.025	0.135	1.361	70.000	0.178
	Raised footrope trawl						

## Two-Sample t-Test



**Item 8:**

# Quota monitoring reports

## Longfin squid

<b>Longfin Squid (formerly Loligo) Coastwide Weekly Landings Report</b>	For week ending:	August 24, 2013
	For data reported through:	August 28, 2013
	<b>Quota Period:</b>	Trimester II
	<b>Quota Period Dates:</b>	05/01/13 to 08/31/13

State	Commercial						Research
	Previously Reported Landings (Pounds)	Previous Weeks' Updates (Pounds)	Current Week's Landings (Pounds)	Cumulative Landings (Pounds)	Quota (Pounds)	Percent of Quota (%)	Annual Set-Aside Landings (Pounds)
<u>ME</u>	897	0	0	897			0
<u>NH</u>	209	0	49	258			0
<u>MA</u>	101,909	15	983	102,907			0
<u>RI</u>	2,023,460	14,408	282,755	2,320,623			0
<u>CT</u>	125,881	0	17,909	143,790			0
<u>NY</u>	1,856,161	88,236	147,650	2,092,047			0
<u>NJ</u>	45,059	0	47,799	92,858			0
<u>DE</u>	0	0	0	0			0
<u>MD</u>	103	0	15	118			0
<u>VA</u>	38,851	1,700	0	40,551			0
<u>NC</u>	0	0	0	0			0
Other	0	0	0	0			0

State	Commercial						Research
	Previously Reported Landings (Pounds)	Previous Weeks' Updates (Pounds)	Current Week's Landings (Pounds)	Cumulative Landings (Pounds)	Quota (Pounds)	Percent of Quota (%)	Annual Set-Aside Landings (Pounds)
<i>Total</i>	<i>4,192,530</i>	<i>104,359</i>	<i>497,160</i>	<i>4,794,049</i>	<i>12,394,388</i>	<i>39</i>	<i>0</i>

## Regulations

### Notice

1. The 2013 specifications for longfin squid are effective as of January 16, 2013.

In Trimester II, the directed longfin squid fishery is closed if:

- Longfin squid landings are projected to reach 5,060 mt (11,154,950 lb) (from May 1 to August 15)

-OR-

- Longfin squid landings are projected to reach 5,341 mt (11,774,669 lb) (from August 15 to August 31)

-OR-

- The butterfish mortality cap reaches 2,913 mt (6,422,066 lb) (75% of the annual butterfish mortality cap allocation)

The Trimester II closure threshold will change on August 15 of each year from 90 to 95% to avoid 1-2 week closures at the end of a Trimester.

#### NOTE:

The longfin squid pre-trip observer notification requirement changed from 72 to 48 hours as of February 15, 2013.

For information on the current status of the butterfish mortality cap quota [Click Here](#).

Negative landings can be the result of updates to the database (e.g. reported Research Set-Aside landings are subtracted from the Commercial Current Week's Landings or Previous Weeks' Updates). As a result, the Commercial Current Week's Landings or Previous Weeks' Updates can be negative.

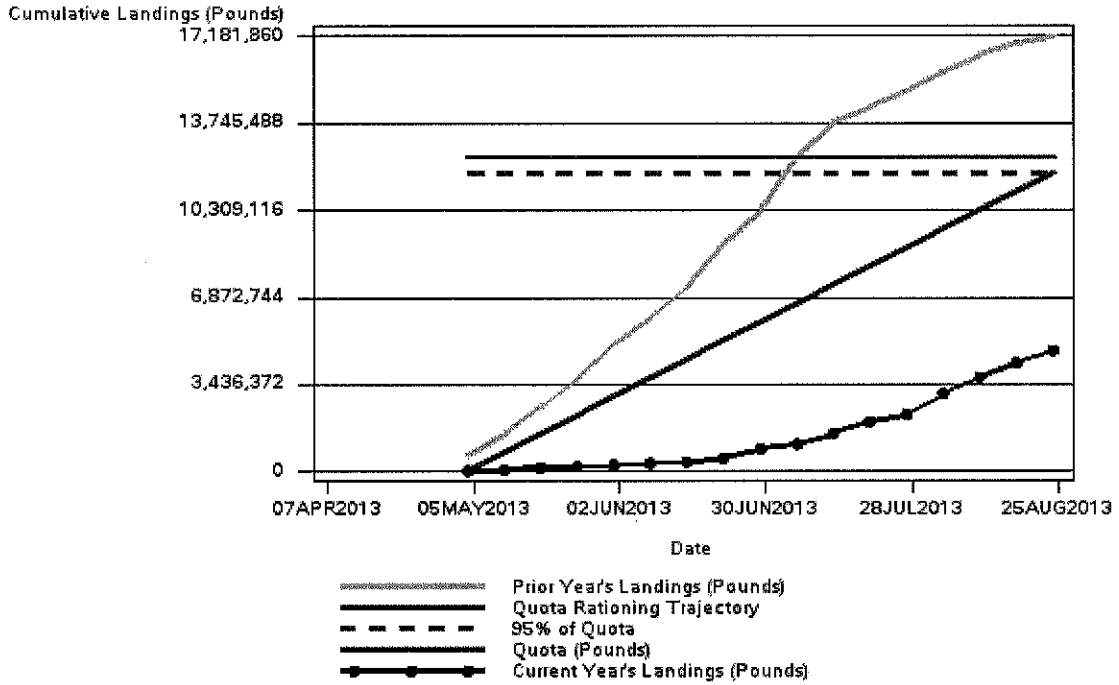


**NOAA  
FISHERIES**

2. These data are the best available to NOAA Fisheries Service when this report was compiled. Data are supplied to NOAA Fisheries Service by dealers via Dealer Electronic Reporting the Standard Atlantic Fisheries Information System (SAFIS).

and/or by state agencies and may be preliminary. Discrepancies with data from previous Weekly Landings Reports are due to corrections made to the database.

### Longfin Squid Quota Monitoring Report



**Commercial Summary  
Table  
(Sector and Common Pool)  
Catch Monitoring**

Report run on:  
For data reported through:  
Quota Period:  
Quota Period Dates:

August 29 2013  
August 28 2013  
2013  
May 1, 2013 to April 30, 2014

Stock	Cumulative Kept (mt)	Cumulative Discard (mt)	Cumulative Catch (mt)	Sub-ACL* (mt)	Percent Caught
GB Cod East	7.8	6.8	14.6	92	15.9
GB Cod	340.2	21.0	361.2	1,807	20.0
GOM Cod	175.3	5.2	180.4	830	21.7
GB Haddock East	60.3	19.6	79.9	3,754	2.1
GB Haddock	415.8	77.9	493.7	26,196	1.9
GOM Haddock	55.0	5.3	60.3	187	32.2
GB Yellowtail Flounder	13.9	1.9	15.8	116	13.6
SNE/MA Yellowtail Flounder	37.8	1.0	38.7	570	6.8
CC/GOM Yellowtail Flounder	95.4	6.6	102.0	479	21.3
Plaice	395.0	36.8	431.8	1,420	30.4
Witch Flounder	191.4	7.8	199.2	610	32.7
GB Winter Flounder	1,072.1	3.2	1,075.3	3,528	30.5
GOM Winter Flounder	63.6	3.4	67.0	714	9.4
SNE Winter Flounder	289.3	6.9	296.2	1,210	24.5
Redfish	1,116.4	127.4	1,243.8	10,132	12.3
White Hake	718.3	13.6	731.9	3,849	19.0
Pollock	1,498.7	40.8	1,539.4	12,893	11.9
Northern Windowpane	0.0	173.1	173.1	98	176.7
Southern Windowpane	0.0	36.5	36.6	102	35.9
Ocean Pout	0.0	18.0	18.0	197	9.1
Halibut	6.0	13.6	19.6	52	37.7
Wolffish	0.0	10.9	10.9	62	17.7

\* Does not include Sector Carryover

Effective July 3, 2013, NOAA Fisheries reinstated the Eastern U.S./Canada Area quota monitoring methodology where catch is attributed to area fished based on vessel monitoring system (VMS), vessel trip reports (VTRs), and interactive voice recording (IVR) information. This change was retroactively applied to all data since the May 1, 2013, start of the fishing year.

For additional information contact the Sustainable Fisheries Division at (978) 281-9315.



### Notice

The 2013 Quota Period began on May 1, 2013, therefore this report does not contain any landings reported prior to May 1, 2013.

Management actions for the Common Pool Program, under the authority of the Regional Administrator (such as closures and possession limits) are based upon Vessel Monitoring System (VMS) reports and other available information.

# Small-Mesh Multispecies Weekly Report

For week ending: August 24, 2013  
 For data reported through: August 28, 2013  
 Quota Period: 2013  
 Quota Period Dates: 05/01/13 to 04/30/14

Stock	Year to Date Landings (Pounds)	Quota (Pounds)	Percent of Quota (%)
Northern Red Hake	154,562	193,077	78

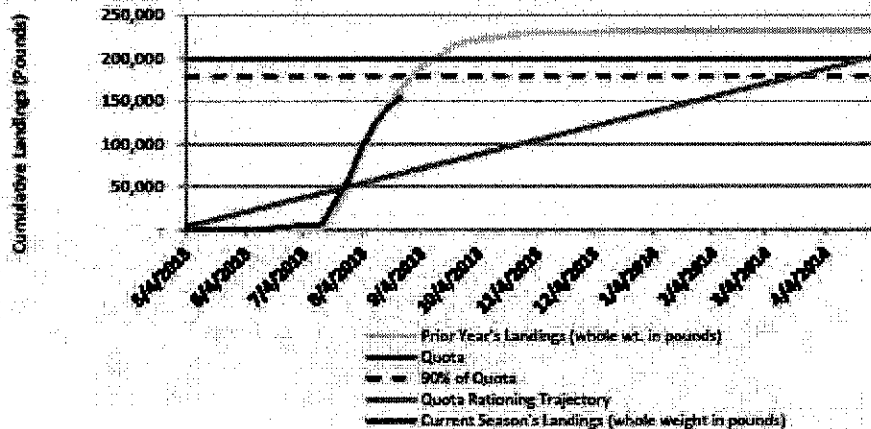
Notice: If 90 percent of the total allowable landings are landed for a small-mesh multispecies stock, the possession limit for that stock will be reduced to the incidental possession limit for the remainder of the fishing year. The incidental possession limit for red hake is 400 lb and silver hake and offshore hake, combined, is 1,000 lb.



National Oceanic and Atmospheric Administration

These data are the best available to NOAA Fisheries Service when this report was compiled. Data are supplied to NOAA Fisheries Service by dealers via Dealer Electronic Reporting to the Standard Atlantic Fisheries Information System (SAFIS) and/or by state agencies and may be preliminary. Discrepancies with data from previous Weekly Landings Reports are due to corrections made to the database.

## Northern Red Hake



# Small-Mesh Multispecies Weekly Report

For week ending: August 24, 2013  
 For data reported through: August 28, 2013  
 Quota Period: 2013  
 Quota Period Dates: 05/01/13 to 04/30/14

Stock	Year to Date Landings (Pounds)	Quota (Pounds)	Percent of Quota (%)
Southern Red Hake	390,726	2,945,376	13

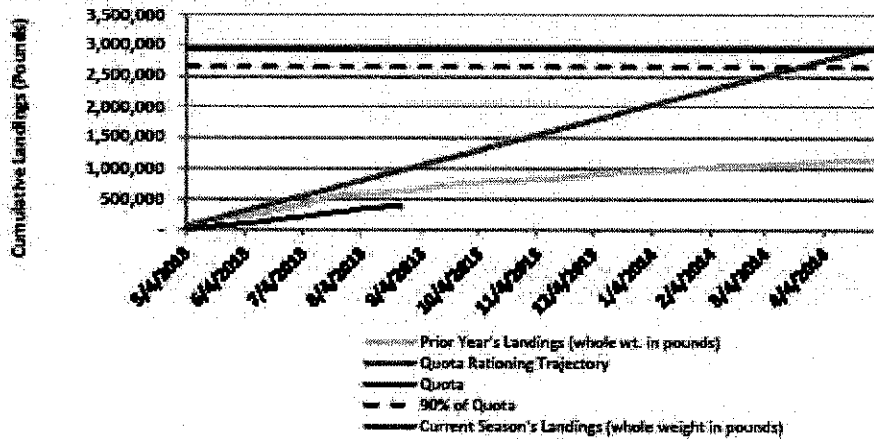
Notice: If 90 percent of the total allowable landings are landed for a small-mesh multispecies stock, the possession limit for that stock will be reduced to the incidental possession limit for the remainder of the fishing year. The incidental possession limit for red hake is 400 lb and silver hake and offshore hake, combined, is 1,000 lb.



National  
Oceanic and  
Atmospheric  
Administration

These data are the best available to NOAA Fisheries Service when this report was compiled. Data are supplied to NOAA Fisheries Service by dealers via Dealer Electronic Reporting to the Standard Atlantic Fisheries Information System (SAFIS) and/or by state agencies and may be preliminary. Discrepancies with data from previous Weekly Landings Reports are due to corrections made to the database.

## Southern Red Hake



# Small-Mesh Multispecies Weekly Report

For week ending: August 24, 2013  
 For data reported through: August 28, 2013  
 Quota Period: 2013  
 Quota Period Dates: 05/01/13 to 04/30/14

Stock	Year to Date Landings (Pounds)	Quota (Pounds)	Percent of Quota (%)
Northern Silver Hake	962,785	19,800,243	5

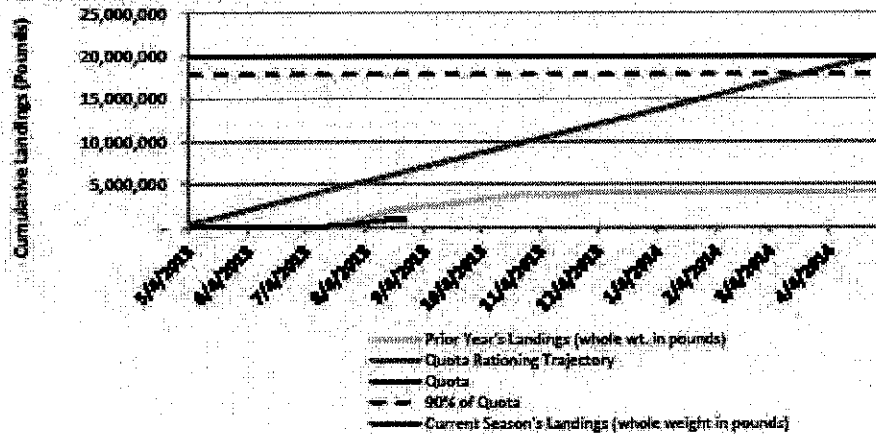
Notice: If 99 percent of the total allowable landings are landed for a small-mesh multispecies stock, the possession limit for that stock will be reduced to the incidental possession limit for the remainder of the fishing year. The incidental possession limit for red hake is 400 lb and silver hake and offshore hake, combined, is 1,000 lb.



National  
 Oceanic and  
 Atmospheric  
 Administration

These data are the best available to NOAA Fisheries Service when this report was compiled. Data are supplied to NOAA Fisheries Service by dealers via Dealer Electronic Reporting to the Standard Atlantic Fisheries Information System (SAFIS) and/or by state agencies and may be preliminary. Discrepancies with data from previous Weekly Landings Reports are due to corrections made to the database.

## Northern Silver Hake



# Small-Mesh Multispecies Weekly Report

For week ending: August 24, 2013  
 For data reported through: August 28, 2013  
 Quota Period: 2013  
 Quota Period Dates: 05/01/13 to 04/30/14

Stock	Year to Date Landings (Pounds)	Quota (Pounds)	Percent of Quota (%)
Southern Whiting	3,718,700	60,086,990	6

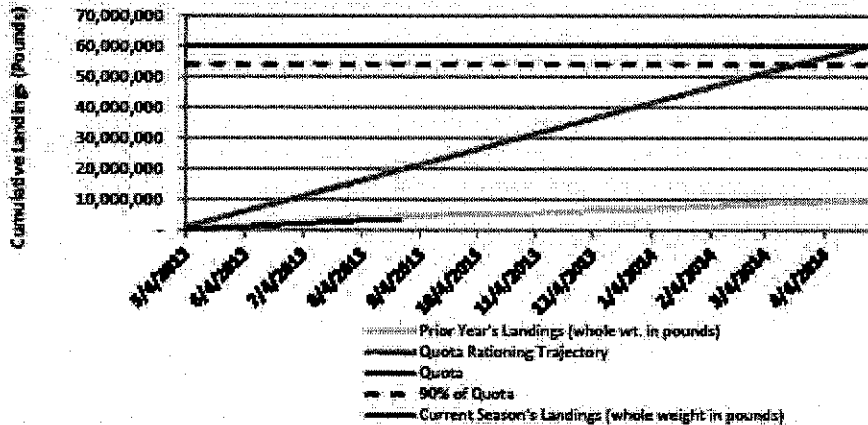
Notice: If 90 percent of the total allowable landings are landed for a small-mesh multispecies stock, the possession limit for that stock will be reduced to the incidental possession limit for the remainder of the fishing year. The incidental possession limit for red hake is 400 lb and silver hake and offshore hake, combined, is 1,000 lb.



National  
Oceanic and  
Atmospheric  
Administration

These data are the best available to NOAA Fisheries Service when this report was compiled. Data are supplied to NOAA Fisheries Service by dealers via Dealer Electronic Reporting to the Standard Atlantic Fisheries Information System (SAFIS) and/or by state agencies and may be preliminary. Discrepancies with data from previous Weekly Landings Reports are due to corrections made to the database.

## Southern Whiting





#7d

Year	Total US/Canada Quota (mt)	Total US ACL (mt)	Small-mesh fisheries Sub-ACL (mt)
2012	1150	<del>564</del> 547.8	<del>11</del> 10.5*
2013	500	208.5	4

\*The sub-ACL was established in FW 48 to the Groundfish FMP for FY 2013. The 2012 value of 11 mt is what the sub-ACL would have been if one was in place.

**Comment [s1]:** ABC was 564. I get:  $(0.02 * 564) / .93 = 10.5$ . The uncertainty buffer for this fishery is 7%, which would have reduced their sub-ACL to 10.5.

