# ADDITIONAL DOCUMENTS

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# 2013 Monkfish Assessment Update

Northeast Fisheries Science Center

PRE-PUBLICATION COPY (May 9, 2013)

(This will be a Northeast Fisheries Science Center Reference Document)

MONKFISH REVIEW PANEL SUMMARY

The Panel reviewed the 2013 monkfish operational stock assessment on April 8 -9, 2013 in Woods Hole. The model configuration has not changed substantively since the last peer-review by the SARC 50 in 2010. The model has been updated with two years of data and revisions of discard estimates for 1980-2011 based on new methodology (SBRM approach). Changes in the discard estimates resulted in a minor reduction in the number of selectivity blocks in the southern stock model. Projections of biomass and catch are likely over-optimistic due to the retrospective patterns in both stocks. The Review Panel agreed that the assessment team met all Terms of Reference.

Model results indicate that the North and South monkfish stocks are not over-fished and overfishing is not occurring. Nevertheless, both stocks demonstrate retrospective patterns in fishing mortality and biomass with fishing mortality consistently being under-estimated and biomass being over-estimated. This pattern was stronger for the Northern Management Area stock component. Potential causes of these retrospective patterns include misspecification of growth and natural mortality. The Review Panel recommends that a new benchmark assessment not proceed until new information on age, growth, longevity and natural mortality is obtained. Potential differences by sex would need to be addressed. Notwithstanding these concerns, regular assessment updates might be needed to meet management requirements.

The panel noted that a number of key uncertainties remain unresolved since 2010 SARC. These include uncertainties in landings, discards, commercial length frequencies, aging methods, life history, growth and natural mortality. These are propagated through the SCALE assessment model and lead to greater uncertainties in estimates of stock size, recruitment, fishing mortality, biological reference points, and stock projections. The compounding nature of these uncertainties implies increased risk of not achieving the biological reference points. Despite these uncertainties the work presented represents the best available scientific information and modeling approach for assessing the status of monkfish and is accepted by the Review Panel for determining the stock status and providing catch advice.

The Review Panel examined projections for initial conditions of population sizes with and without correction for retrospective patterns. In both instances, the probability of becoming overfished in the short term is negligible. Considering consistency of retrospective pattern demonstrated in 2010 and 2013 assessments, the Panel agreed that an adjustment for the retrospective pattern should be made. However, the Panel expressed concern that the adjustment to the initial stock size for projections without change to reference points creates an inconsistency in determination of stock status. The Panel agreed that the correction for retrospective pattern did not address fully the sources of unresolved uncertainty detailed above.

The Review Panel discussed and recommended the following research priorities:

1) resolution of age, growth, and natural mortality issues

2) determination of movement patterns in relation to stock areas

3) development of a one stock model given evidence of movement between the two areas and existing genetic information (on-going genetics work may resolve the two stock-area issue)

4) development of a two-sex model depending on the results of aging work (would require estimation of sex ratios in catch and survey data)

## 2013 Monkfish Assessment Update

### Executive Summary

Assessments of the northern and southern management units of monkfish were updated with minmal changes to methodological approaches and data of the previous assessments (NEFSC 2010).

### TOR 1. Update catch estimates from all sources including landings and discards. Characterize the uncertainty in these sources of data.

Data for 2010 and 2011 were added to the catch time series in the assessment (complete data for 2012 were not yet available). Due to changes in software and data, the previous time series (1980-2009) of discard estimates for both areas was revised. The revisions resulted in higher estimates of discards in the south and an increase in the proportion of small fish in the discard and catch in the south during 2000-2009. Changes to the historical data in the north were minimal.

Landings and catch during 2010 and 2011 remained at relatively low levels in the north and increased slightly in the south. The catch length frequency in recent years did not expand to larger sizes, which might have been expected while catches have been relatively low.

Estimation of total catch for monkfish has several sources of uncertainty. Before 1980, fishery removals were primarily bycatch, but most were unreported. Therefore, evaluation of fishery development is difficult, leading to problems interpreting the state of the resource in the early years of the marketed fishery. Since 1980, the quality of landings estimates generally increased, but the series includes under-reporting and difficulties converting landed products to live weight.

There is no information on the magnitude of discards prior to 1989. Recent assessments have assumed that discard rates before 1989 were similar to discard: kept ratios observed in later years; this may be problematic if discard rates were lower in later years because markets had developed. The quality of discard data generally increased in the 1989-2009 observer time series, as a result of increasingly greater coverage of fleets and improved protocols, but there were some unsampled portions of the fishery (e.g., some half-year periods in which entire gear-types were not sampled).

### TOR 2. Update fishery-independent indices used as inputs in the last assessment model. Characterize uncertainty and any bias in these sources of data.

All survey series used in the assessment models were updated through 2011, which was the most recent year with complete data available.

Within the northern management area, broad trends in stock size were consistent among the five surveys conducted there. Biomass fluctuated without trend from 1963 to the early 1980s, but declined thereafter to near historic lows during the 1990's when landings reached their peak. Biomass indices increased from 2000 to 2004, but then decreased and have remained at lower levels since then. Abundance indices in the north fluctuated without trend during 1963-1998 but spiked during 2000-2002, reflecting a strong 1999 year class.

General trends in survey indices in the southern area are also consistent among surveys. Survey biomass and abundance indices were high during the mid-1960s, fluctuated around an intermediate level during the 1970s and mid-1980s, then declined to low levels since the late

1980s. Biomass indices increased slightly around 2002 but have returned to lower levels since then.

Size-based indices of abundance indicate relatively strong recruitment in the northern area during the 1990s and in several recent years and variable but stable recruitment in the south. Length distributions gradually became truncated from the 1960s to early 1990s, and the median size of monkfish in survey catches has remained fairly constant since the early 1990s.

**TOR 3. Update the SCALE model for monkfish to estimate fishing mortality, recruitment and stock biomass (total and spawning stock) and their uncertainty. Include a historical retrospective analysis to allow a comparison with previous assessment results.**

The SCALE models for both management areas were updated with two additional years of data and the revised catch data for 1980-2009. The basic configuration of the models was not changed. Retrospective patterns were estimated based on 7 peels.

The SCALE models for the north changed little with the revised data and additional years of data. For the north, estimated F in 2011was 0.08 (retrospective bias -54%, corrected $F_{2011}$=0.16), estimated total biomass was 60,500 mt (retrospective bias +87%, corrected total biomass=32,390 mt). Estimated age-1 recruitment in 2011 was 11.7 million fish, near the time series low (retrospective bias +23%, corrected age-1 recruitment=9.5 million). Spawning biomass continued to increase in the northern management area.

The SCALE model for the south changed somewhat with the revised data and additional two years. The increased proportion of small fish in the revised catch data caused a shift in estimated selectivity so that the final model estimated only one selectivity time block (vs. two blocks in the 2010 SAW 50 assessment). The re-estimated time series of F, biomass and recruitment using the single selectivity block in the south were similar to the estimates from SAW 50. For the south, estimated F in 2011was 0.11 (retrospective bias -22%, corrected $F_{2011}$=0.14), estimated total biomass was 111,100 mt (retrospective bias +24%, corrected total biomass=88,806 mt). Estimated age-1 recruitment in 2011 was 23.3 million fish, near the time series low (retrospective bias +50%, corrected age-1 recruitment=15.3 million). Spawning biomass continued to increase through 2010, but in 2011 showed a slight downturn.

The SCALE model results for monkfish continue to be subject to high levels of uncertainty due to weaknesses in input data, such as under-reported landings and unknown discards during the 1980s, incomplete understanding of key biological parameters such as age and growth, longevity, natural mortality, sex ratios and stock structure, and the relatively short reference time frame of the model (no information prior to 1980). Further, both models have difficulty fitting the catch length frequencies in some years, with substantial overestimates of the numbers of large fish in the stock. The recent retrospective patterns have improved in the north since the 2010 assessment, but optimistic retrospective patterns remain in both areas (F underestimated, biomass overestimated) and are pronounced in the northern area.

**TOR 4. Update biological reference points as needed and evaluate stock status to determine if the stock is overfished and if overfishing is occurring. Provide estimates of uncertainty.**

Reference points were updated using the revised selectivity estimates from the SCALE models. The following table gives the reference points for each management area. Reference points were not adjusted for retrospective patterns.

| North | BRP | Basis | SAW 50 (2010) | 2013 Update |
|---|---|---|---|---|
| | Fmax | Age-based YPR | 0.43 | 0.44 |
| | Bthreshold | 0.5*Bmax Projected | 26,465 | 23,037 |
| | Btarget | Bmax Projected | 52,930 | 46,074 |
| | MSY | Fmax Projected | 10,745 | 9,383 |
| South | | | | |
| | Fmax | Age-based YPR | 0.46 | 0.37 |
| | Bthreshold | 0.5*Bmax Projected | 37,245 | 35,834 |
| | Btarget | Bmax Projected | 74,490 | 71,667 |
| | MSY | Fmax Projected | 15,279 | 14,328 |

In the north, Fmax (F threshold) did changed only slightly (SAW 50 Fmax=0.43, 2013 update Fmax=0.44). In the south, Fmax under the single selectivity block was estimated as 0.37 (SAW 50 Fmax=0.46). Given the current estimates of F from the SCALE models, overfishing is not occurring in either management area.

Biomass reference points based on long-term projections of total biomass at $F_{max}$ were recommended in the SAW 50 assessment, adopted for management in 2012 and updated in the current assessment. Given the current estimates of biomass from the SCALE models, monkfish are not overfished in either management area.

The BRPs for monkfish are based on output from the SCALE model, which is subject to high levels of uncertainty as discussed under TOR 3, therefore the BRPs are also highly uncertain.

**TOR 5. Summarize sources of data, model and reference point uncertainty relevant to setting Acceptable Biological Catch limits.**

The SCALE model results for monkfish continue to be subject to high levels of uncertainty due to weaknesses in input data such as under-reported landings and unknown discards during the 1980s, incomplete understanding of key biological parameters such as age and growth, longevity, natural mortality, sex ratios and stock structure, and the relatively short reference time frame (1980-2011) of the model. Further, both models have difficulty fitting the catch length frequencies in some years, with substantial overestimates of the numbers of large fish in the stock. The retrospective patterns have improved in the north since the 2010 assessment, but optimistic retrospective patterns remain in both areas (F underestimated, biomass overestimated).

The BRPs use output from the SCALE model, which is subject to high levels of uncertainty as discussed under TOR 3, therefore the BRPs are also highly uncertain.

**TOR 6. Perform short-term (3 year) projections for stock biomass under alternative harvest strategies.**

SCALE model results and AGEPRO projections were used to predict stock trends during 2014-2016 under two scenarios: $F=F_{threshold}$ assuming stochastic long-term recruitment (using both unadjusted and retrospective-adjusted SCALE outputs), and status quo F (unadjusted 2011 F estimated from SCALE) assuming stochastic long-term recruitment.

For both areas, fishing at Fthreshold led to declines in total stock biomass in the unadjusted and retrospective-adjusted runs. In the north, total stock biomass increased during 2012-2016 under Fstatus quo, while in the south, total stock biomass decreased during 2012-2016 under Fstatus quo.

The projections for both areas have a high degree of uncertainty due to uncertainty in the starting conditions (output from the SCALE model).

**TOR 7. Should the baseline model fail when applied in the operational assessment, provide guidance on how stock status might be evaluated. Should an alternative assessment approach not be readily available, provide guidance on the type of scientific and management advice that can be. An underlying premise of operational assessment is to minimize the number of significant changes in methodology that would likely require a more detailed peer review.**

The baseline model performed similarly to previously accepted versions of the model, therefore despite its high uncertainty, it was not considered to have failed.

**TOR 8. If feasible, present preliminary results from ongoing research projects and indicate how they could impact future assessments.**

Studies are currently underway to investigate growth and migration patterns of monkfish. Results are too preliminary and incomplete to include in depth.

## Introduction

### Life History

Monkfish (*Lophius americanus*), also called goosefish, are distributed in the Northwest Atlantic from the Grand Banks and northern Gulf of St. Lawrence south to Cape Hatteras, North Carolina (Collette and Klein-Macphee 2002). Monkfish may be found from inshore areas to depths of at least 900 m (500 fathoms). Seasonal onshore-offshore migrations occur and appear to be related to spawning and possibly food availability (Collette and Klein-MacPhee 2002).

Monkfish rest partially buried on soft bottom substrates and attract prey using a modified first dorsal fin ray that resembles a fishing pole and lure. Monkfish are piscivorous and commonly eat prey as large as themselves. Despite the behavior of monkfish as a demersal 'sit-and-wait' predator, recent information from electronic tagging suggests seasonal off-bottom movements (Rountree et al. 2006). Growth is rapid at about 10 cm per year, and is similar for both sexes up to age 6 and lengths of around 60 cm (Richards et al. 2008). Few males are found older than age 7, but females can live to 12-14 years or older. Tagging studies underway suggest that growth patterns may differ between males and females (Richards et al 2012), however, relatively few tags have been recaptured to date and the information is insufficient to support revising the growth assumptions in the assessment at this time. Monkfish as large as 138 cm have been captured in NEFSC bottom trawl surveys.

# Monkfish Operational Assessment

2013

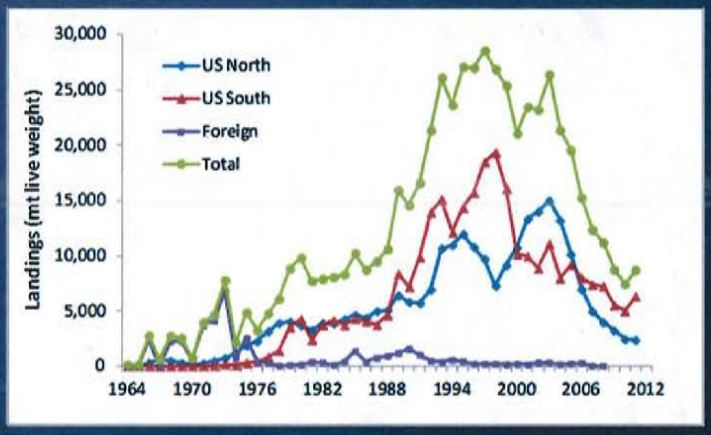
## 2013 OA Terms of Reference

1. Update commercial catch data
2. Update survey data
3. Update SCALE model to estimate F, B, R
4. Update BRPs, evaluate stock status
5. Summarize uncertainty
6. Short-term projections

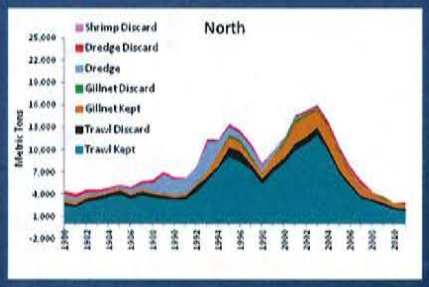
Terminal year: 2011

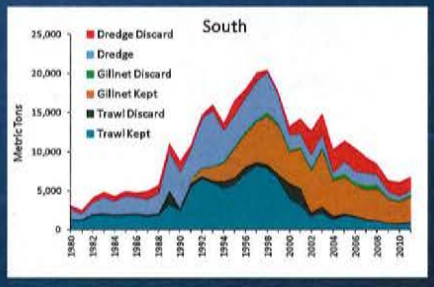
# TOR #1. Update Fishery Data

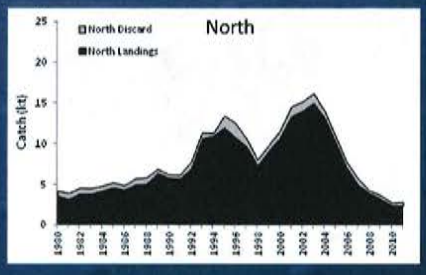
## Landings, 1964-2011

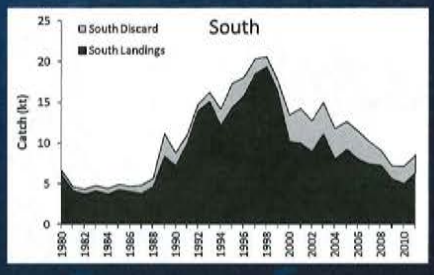



# Catch Estimates



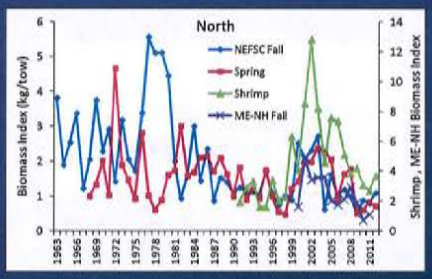



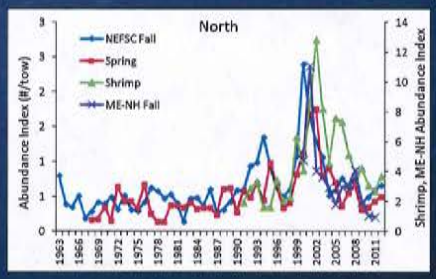
# TOR # 2: Update survey data

- North
  - NEFSC spring
  - NEFSC fall
  - Maine-NH inshore
  - N Shrimp
- South
  - NEFSC spring
  - NEFSC fall
  - Scallop

# North Survey Indices

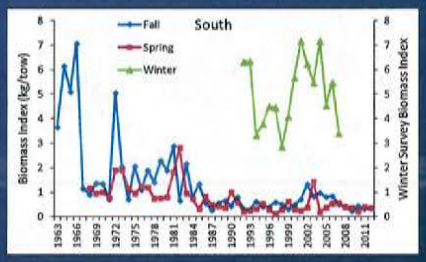



Biomass

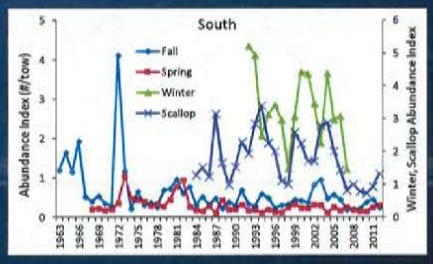



Abundance

# South Survey Indices




Biomass




Numbers

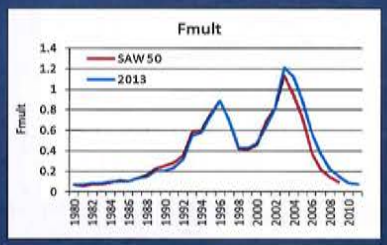
# TOR # 3: Update SCALE model

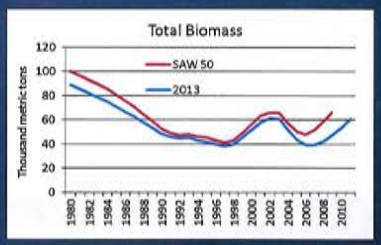
- Fishing mortality
- Stock biomass
- Recruitment

# SCALE – North
## Final Model

- Revised catch data (1980-2009)
- Two additional years (2010-2011)
- Model configuration unchanged
- Retrospective pattern improving, but still very large if use 7 peels

# SCALE – North
## Final 2013 Model vs. 2010

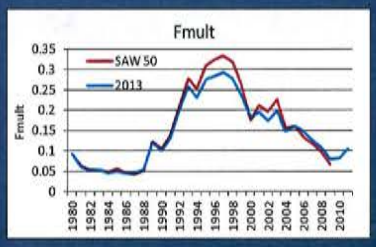


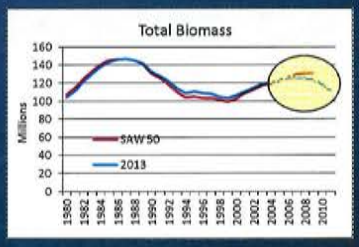



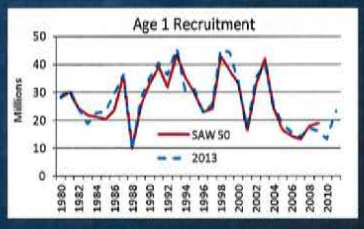

# SCALE – South
## Final Model

- Revised catch data (1980-2009)
- Two additional years (2010-2011)
- 1 selectivity block (vs. 2 in 2010)
- Retrospective less severe than in North, but model fits worse in South

# SCALE – South
## Final Model

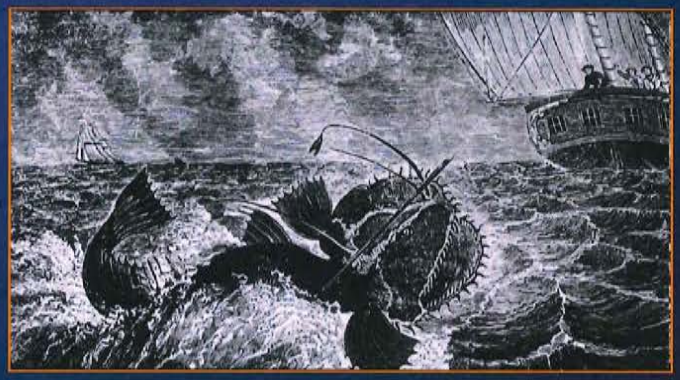


# TOR # 4

- Update BRPs
- Evaluate stock status



# F Reference Points

- $F_{MSY}$ proxy = $F_{max}$ = $F_{threshold}$

| | SAW50 (2010) | 2013 update |
|---|---|---|
| North | 0.43 | 0.44 |
| South | 0.46 | 0.37 |

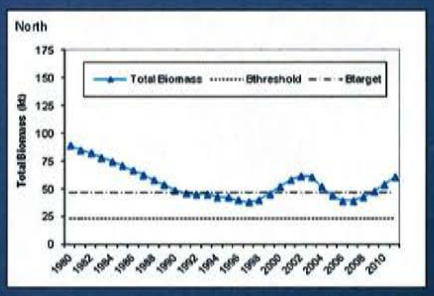
HabCam photo, S. Gallagher, WHOI

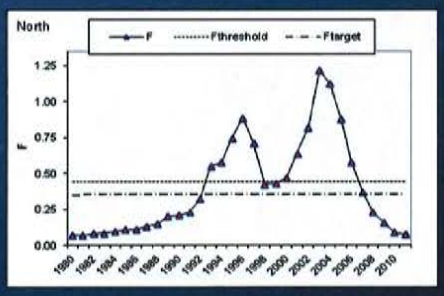
# Biomass Reference Points

- $B_{target}$ = long-term projected B at $F_{MSY\ (proxy)}$
- $B_{threshold}$=0.5* $B_{target}$

| | SAW 50 (kt) | 2013 OA (kt) |
|---|---|---|
| North $B_{target}$ | 52.9 | 46.1 |
| North $B_{threshold}$ | 26.5 | 23.0 |
| South $B_{target}$ | 74.5 | 71.7 |
| South $B_{threshold}$ | 37.2 | 35.8 |

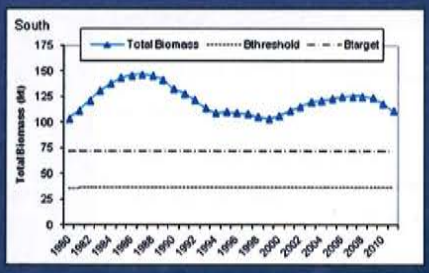
# Stock Status - North




- Not overfished
- Overfishing not occurring

# Stock Status - South





- Not overfished
- Overfishing not occurring

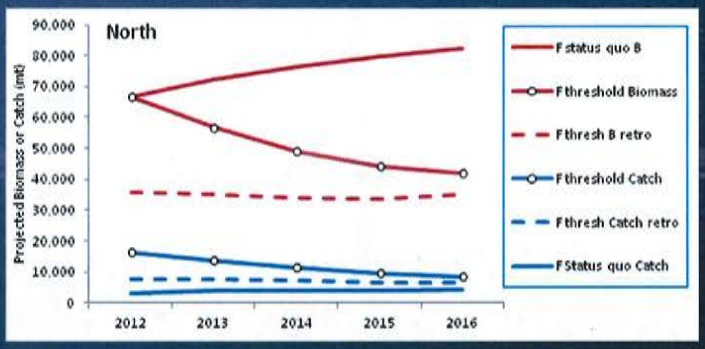
# TOR 5: Summarize Uncertainty

- Possible mis-specification of growth and M
- Other biology (migrations, stock structure)
- Catch: truncated, uncertain series
- Surveys: poor catchability before 2009
- Models: difficulty fitting recent catch lf's
- Models: retrospective patterns, esp. North
-

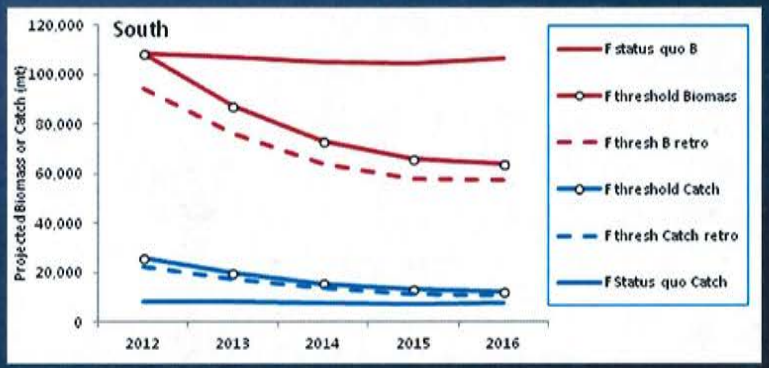
VERY HIGH UNCERTAINTY

Not all reflected in model fit and retro!

# TOR 6: 3-yr Projections North




# TOR 6: 3-yr Projections South



## 2013 Review Panel Conclusions

- Major uncertainties but assessment accepted for determining stock status and catch advice
- Key uncertainties remain; updates may be needed, but no benchmark until new info on growth, M etc.
- Biomass and catch projections likely are optimistic due to retrospective patterns
- Adjustments should be made for retrospective patterns

## 2013 Review Panel Conclusions

- Research recommendations:
  - Resolve age, growth, M
  - Understand movement between areas
  - Develop a one-stock model
  - Develop a 2-sex model (dependent on results of growth studies)

**Table A. - Preliminary Commercial Monkfish Landings by Stock Area and Gear Type: May - March FY2012**

| | MAY - 2012 | JUN - 2012 | JUL - 2012 | AUG - 2012 | SEP - 2012 | OCT - 2012 | NOV - 2012 | DEC - 2012 | JAN - 2013 | FEB - 2013 | MAR - 2013 | MAY 2012 - MAR 2013 | | 2012* | | 2011* | | Fishing Year* Landings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Metric Tons | Percent of Area | May-Mar FY'12 as a % of Target TAL | Target TAL Metric Tons | May-Mar FY '11 as a % of Target TAL | Target TAL Metric Tons | Metric Tons |
| **NORTHERN** | **208** | **277** | **309** | **304** | **374** | **407** | **305** | **339** | **346** | **315** | **321** | **3,506** | **43%** | **60%** | **5,854** | **58%** | **5,854** | |
| OTTER TRAWL | 188 | 200 | 190 | 205 | 329 | 358 | 279 | 329 | 332 | 314 | 317 | 3,042 | 38% | 52% | | 48% | | |
| GILLNET | 18 | 74 | 102 | 84 | 34 | 32 | 16 | 7 | 3 | 1 | 4 | 375 | 5% | 6% | | 9% | | |
| HOOK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0% | | 0% | | |
| OTHER GEARS | 1 | 2 | 17 | 16 | 10 | 17 | 11 | 2 | 11 | 0 | 1 | 89 | 1% | 2% | | 1% | | |
| **SOUTHERN** | **1,366** | **988** | **193** | **90** | **65** | **265** | **242** | **450** | **387** | **215** | **333** | **4,593** | **57%** | **51%** | **8,925** | **57%** | **8,925** | |
| OTTER TRAWL | 29 | 9 | 12 | 26 | 11 | 31 | 79 | 199 | 97 | 109 | 214 | 816 | 10% | 9% | | 14% | | |
| GILLNET | 1,240 | 856 | 119 | 9 | 20 | 214 | 125 | 212 | 280 | 96 | 95 | 3,265 | 40% | 37% | | 39% | | |
| HOOK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0% | | 0% | | |
| OTHER GEARS | 98 | 124 | 62 | 55 | 33 | 20 | 37 | 38 | 10 | 10 | 24 | 512 | 6% | 6% | | 5% | | |
| **ALL AREAS** | **1,574** | **1,266** | **502** | **394** | **439** | **672** | **547** | **789** | **733** | **530** | **654** | **8,099** | **100%** | | | | | |
| OTTER TRAWL | 217 | 209 | 202 | 230 | 341 | 390 | 358 | 529 | 430 | 422 | 531 | 3,858 | 48% | | | | | |
| GILLNET | 1,258 | 930 | 221 | 93 | 55 | 245 | 141 | 219 | 283 | 97 | 98 | 3,640 | 45% | | | | | |
| HOOK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | | | | | |
| OTHER GEARS | 99 | 126 | 80 | 71 | 43 | 37 | 48 | 41 | 21 | 11 | 25 | 601 | 7% | | | | | |
| **LANDINGS - ALL AREAS** | | | | | | | | | | | | | | | | | | |
| **Fishing Year 2012** | **1,574** | **1,266** | **502** | **394** | **439** | **672** | **547** | **789** | **733** | **530** | **654** | **8,099** | | | | | | |
| **Fishing Year 2011** | **1,044** | **1,066** | **542** | **338** | **385** | **530** | **809** | **982** | **867** | **1,000** | **929** | **8,491** | | | | | | **9,499** |
| **Fishing Year 2010** | **928** | **839** | **422** | **306** | **282** | **350** | **561** | **643** | **716** | **712** | **730** | **6,488** | | | | | | **7,318** |
| **Fishing Year 2009** | **1,253** | **1,182** | **647** | **396** | **331** | **479** | **554** | **418** | **753** | **696** | **644** | **7,353** | | | | | | **8,148** |
| **Fishing Year 2008** | **1,641** | **1,359** | **674** | **537** | **539** | **665** | **808** | **812** | **1,084** | **703** | **634** | **9,455** | | | | | | **10,279** |
| **Fishing Year 2007** | **1,413** | **1,206** | **917** | **776** | **695** | **934** | **1,163** | **1,314** | **1,088** | **897** | **737** | **11,140** | | | | | | **12,230** |
| **Fishing Year 2006** | **1,314** | **1,490** | **1,181** | **909** | **880** | **1,104** | **1,140** | **1,130** | **967** | **671** | **951** | **11,738** | | | | | | **12,586** |
| **Fishing Year 2005** | **2,040** | **3,040** | **1,862** | **1,487** | **1,343** | **1,100** | **1,616** | **1,413** | **1,523** | **1,143** | **1,309** | **17,876** | | | | | | **19,189** |
| **Fishing Year 2004** | **1,806** | **1,979** | **1,581** | **1,380** | **1,304** | **1,243** | **1,803** | **1,681** | **1,264** | **1,173** | **1,235** | **16,449** | | | | | | **17,927** |
| **Fishing Year 2003** | **2,681** | **3,199** | **1,913** | **1,746** | **1,420** | **2,253** | **2,823** | **1,907** | **1,976** | **2,386** | **2,172** | **24,475** | | | | | | **26,273** |
| **Fishing Year 2002** | **1,574** | **2,093** | **1,489** | **1,382** | **1,524** | **1,643** | **1,937** | **2,203** | **2,015** | **1,762** | **2,631** | **20,255** | | | | | | **21,807** |

1. The target TAL for each management area is equal to the ACT minus an assumed discard rate of 11% for the northern area and 22% for the southern area. The assumed discard rates are from the SARC 50 (data through 2009).

2. The three digit statistical areas defined below are for statistical and management purposes and may not be consistent with stock area delineation used for biological assessment (see the attached statistical chart).

   Monkfish Stock Areas: Northern: 464-465, 467, 511-515, 521-522, 561-562
   Southern: 525-526, 533-534, 537-539, 541-543, 611-639

3. Landings in live weight.
4. Gear data are based on vessel trip reports.

* Fishing Year is May 1 through April 30.

5/13/2013

## Table B. - Preliminary Monkfish Landings by Major Port, State, and Stock Area May - March FY2012

| PORT/ STATE | MAY - MARCH FY'12 | STOCK AREAS | | | | GEAR TYPES | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NORTHERN | | SOUTHERN | | OTTER TRAWL | | GILLNET | | HOOK | | OTHER GEARS | |
| | Metric Tons | Metric Tons | Percent | Metric Tons | Percent | Metric Tons | Percent | Metric Tons | Percent | Metric Tons | Percent | Metric Tons | Percent |
| Portland, ME | 344 | 344 | 100% | 0 | 0% | 306 | 89% | 37 | 11% | 0 | 0% | 1 | 0% |
| Gloucester, MA | 1,102 | 1,097 | 99% | 6 | 1% | 909 | 82% | 191 | 17% | 0 | 0% | 2 | 0% |
| Boston, MA | 659 | 651 | 99% | 8 | 1% | 659 | 100% | 0 | 0% | 0 | 0% | 0 | 0% |
| New Bedford, MA | 1,926 | 1,137 | 59% | 789 | 41% | 1,199 | 62% | 355 | 18% | 0 | 0% | 372 | 19% |
| Point Judith, RI | 593 | 7 | 1% | 586 | 99% | 361 | 61% | 217 | 37% | 0 | 0% | 15 | 3% |
| | | | | | | | | | | | | | |
| MAINE | 441 | 441 | 100% | 0 | 0% | 398 | 90% | 42 | 10% | 0 | 0% | 1 | 0% |
| NEW HAMPSHIRE | 57 | 57 | 100% | 0 | 0% | 6 | 11% | 51 | 89% | 0 | 0% | 0 | 0% |
| MASSACHUSETTS | 4,066 | 2,987 | 73% | 1,080 | 27% | 2,797 | 69% | 891 | 22% | 0 | 0% | 377 | 9% |
| RHODE ISLAND | 1,015 | 10 | 1% | 1,005 | 99% | 362 | 36% | 620 | 61% | 0 | 0% | 33 | 3% |
| CONNECTICUT | 485 | 6 | 1% | 479 | 99% | 60 | 12% | 377 | 78% | 0 | 0% | 47 | 10% |
| NEW YORK | 761 | 2 | 0% | 759 | 100% | 90 | 12% | 666 | 88% | 0 | 0% | 5 | 1% |
| NEW JERSEY | 864 | 0 | 0% | 863 | 100% | 47 | 5% | 705 | 82% | 0 | 0% | 113 | 13% |
| OTHER NORTHEAST | 335 | 3 | 1% | 332 | 99% | 96 | 29% | 222 | 66% | 0 | 0% | 17 | 5% |
| **TOTAL** | **8,023** | **3,506** | **44%** | **4,518** | **56%** | **3,856** | **48%** | **3,574** | **45%** | **0** | **0%** | **593** | **7%** |

1. The three digit statistical areas defined below are for statistical and management purposes and may not be consistent with stock area delineation used for biological assessment (see the attached statistical chart).

   Monkfish stock areas: Northern: 464-465, 467, 511-515, 521-522, 561-562
   Southern: 525-526, 533-534, 537-539, 541-543, 611-639

2. Landings in live weight.
3. Gear data are based on vessel trip reports.

5/13/2013

#13

New England Fishery Management Council
50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116
C.M. "Rip" Cunningham, Jr., *Chairman* | Thomas A. Nies, *Executive Director*

May 28, 2013

Mr. John Bullard
Regional Administrator, Northeast Region
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930

Dear John:

As you are aware, in consideration of NMFS' decision regarding the monkfish emergency action, to remove the monkfish trip limits while a vessel is on a **monkfish** day-at-sea (DAS) in the Northern Management Area (NMA), the Council voted (13/2/0) on April 25 the following motion:

> *the Council requests the NMFS to expedite modification of the final rule on the monkfish Emergency Action to increase the monkfish possession limit while fishing on a **groundfish** DAS as follows: 600 lbs. (tail weight) per groundfish DAS for Category D vessels and 1,250 lbs. (tail weight) per groundfish DAS for Category C vessels in the NFMA only.*

This request revises the Council's original request to eliminate the monkfish trip limit for sector vessels fishing on a groundfish DAS in the northern area, an alternative that was considered but not adopted in the Emergency Action. The current request differs from the initial one in that it would not allow unlimited landings of monkfish on all groundfish DAS trips, but would apply current monkfish DAS trip limits on those trips.

The purpose of this request is to provide economic relief from restrictive groundfish regulations for vessels landing both monkfish and groundfish. As explained in earlier correspondence, the Northeast Multispecies Fishery is facing reduced Annual Catch Limits in FY 2013 for several key stocks. The most restrictive quotas are for the key stocks of Gulf of Maine cod and Georges Bank cod and will result in large reductions in revenue on groundfish fishing trips. Framework (FW) 48 suggested that revenue declines could be on the order of 40-60% from FY 2012, and several alternatives in FW 48 attempt to partially mitigate revenue losses.

The expected revenue declines are large enough that changes should not be limited to groundfish regulations. The requested emergency modification to the monkfish trip limit could increase the revenues on groundfish trips and provide a small measure of relief.

Concerns over this request might include the possibility of causing overfishing in either the Northern or Southern Management Areas (SMA) and a possible shift in monkfish fishing effort from the northern area to the southern area. In terms of potential overfishing, only 54% of the NMA target total allowable landings (TAL) and 45% of the SMA target TAL were landed in fishing year 2012 so substantially more monkfish could be landed without exceeding the TALs and would come closer to achieving optimum yield from the fishery. Since Emergency Action is limited to six-months, any action can be evaluated over this relatively short interval to make sure it does not cause the TALs to be exceeded.

In terms of vessels possibly shifting effort to the SMA, the Council believes this is not a significant concern. Historically, the majority of vessels that fish in the NMA have not used their DAS allocations (in either area) because it is not profitable for them to do so. The lower monkfish trip limits in the SMA vessels make it even less economically feasible for NMA vessels, particularly trawlers, to use their DAS in the SMA. The Council's Monkfish PDT, however, stated that the potential for an effort shift is a valid concern but cannot be quantified or projected with any acceptable degree of precision. If the Council's request is approved, effort should be closely monitored to detect any large-scale shifts so that the action can be modified if necessary.

In approving the motion requesting Emergency Action, Council members considered public comment that the current Emergency Action rule would not achieve its intended purpose of alleviating the financial impact of 2013 groundfish quota cuts because the monkfish incidental limit applicable when a vessel is on a groundfish DAS constrains the ability of the fleet to land the full amount of the monkfish annual landings target.

If you have any questions, about this request, please contact me.

Sincerely,

Thomas A. Nies

Thomas A. Nies
Executive Director

cc: Dr. Christopher Moore, MAFMC Executive Director