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Monkfish FMP Magnuson-Stevens Act Compliance

*Initial PDT Report to the
Scientific and Statistical Committee
on Proposed Biological and
Management Reference Points*

March 17, 2009
Rev. April 6, 2009

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Discussion Outline

- Management Plan Summary
- Monkfish Stock Status
- Amendment 5 Purpose and Timeline
- Plan Development Team (PDT)
Recommendations on Biological and
Management Reference Points
- Council requests for SSC guidance and
recommendations

FMP Summary

- Limited entry program adopted 1999
- Two management areas
- Close ties to scallop and multispecies fisheries – DAS linkage
- Directed fishery: Managed by trip limits and DAS
- Incidental fishery possession limits to minimize bycatch

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Current FMP measures

- Framework 4 implemented 2007
- Set 3-yr. target TACs (5,000 mt North and 5,100 mt South) as basis for calculating DAS and trip limits
- Incidental catch takes precedence – subtracted from TAC before calculation of trip limits and DAS
- First monkfish trip limits and DAS reductions in North
- TAC extendable beyond 2010 if no new action is taken

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Monkfish Stock Status

- Most recently assessed in 2007 Data Poor Stocks Working Group (DPWG)
- New biomass reference points based on length-tuned model (SCALE), and updated estimates of F_{max} based on yield-per-recruit analysis with revised estimate of natural mortality ($M=0.30$)
- *Both stock components are rebuilt and overfishing not occurring*
- “Results accompanied by substantial uncertainty ...need to be viewed with caution.”

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Stock Status Summary

	North	South	Comment
$F_{\text{threshold}}$ (MFMT)	0.31	0.40	F_{MSY} proxy based on F_{max}
F_{current} (2006)	0.09	0.12	Not updated for 2007, 2008
B_{target}	92,200 mt	122,500 mt	B_{MSY} proxy
B_{current} (2006)	118,700 mt	135,500 mt	Not updated for 2007, 2008
$B_{\text{threshold}}$ (MSST)	65,200 mt	96,400 mt	

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Amendment 5 – Purpose and Timeline

- Primary purpose: establish ACLs, AMs and other reference points to comply with MSRA and NS1 Guidelines
- Set TTAC/DAS/trip limit specifications to replace expiring Framework 4 specs
- Consider adopting ITQ and/or sector mgmt. programs, time permitting
- DEIS approval: Nov. 2009; Approve final measures: April, 2010; Submit final document: June, 2010; Effective: May, 2011

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PDT Report/Recommendations MSY

- MSY: long-term ave. catch based on $F_{\text{threshold}} \times B_{\text{target}}$ (exploitable B)
- $F_{\text{threshold}} = F_{\text{max}}$, proxy for F_{msy}
- B_{target} = average biomass during 1980 – 2006 estimated from the SCALE model, proxy for B_{msy}
- **$MSY = F/Z \cdot (1 - e^{-z}) \cdot B$**
- Assuming same mean wts. in stock and catch (revised from initial report, using exploitable biomass):
MSY = 17,053 mt (N) and 27,884 mt (S)

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OFL

- OFL: annual catch based on $F_{\text{threshold}} \times B_{\text{current}}$ (exploitable B)
- May fluctuate above/below MSY depending on stock size
- B_{current} (2006) above B_{target} (DPWG 2007)
- **$OFL = F/Z \cdot (1 - e^{-z}) \cdot B_{\text{current}}$**
- Assuming same mean wts. in stock and catch (revised from initial report, using exploitable biomass):
OFL = 22,729 mt (N) and 28,263 mt (S)

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ABC

- Accounts for scientific uncertainty in estimate of OFL and other scientific uncertainty
- **PDT recommends $ABC < OFL$ & $ABC \leq MSY$** due to high degree of uncertainty in assessment
- Scientific uncertainty includes historical catch, growth, longevity, M, and other information; new assessment model; survey variability; and more.
- Council seeks SSC guidance on a quantitative method for evaluating scientific uncertainty in setting ABC

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ACLs

- Level of annual catch that serves as the basis for invoking AMs and to prevent exceeding the OFL
- May be set annually or on a multi-year basis
- Cannot exceed the OFL
- PDT recommends that $ACLs = ABC$, as there is no technical basis for setting it below ABC.

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AMs

- Purpose is to prevent or respond to exceeding ACLs
- AMs take into account management uncertainty
- PDT proposes “proactive” AMs to prevent exceeding ACLs, and “reactive” AMs if ACL is exceeded

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Sources of Management Uncertainty

- Violation of the assumptions in the analytical model used to set management measures (e.g. DAS/trip limits) or allocation schemes (ITQs, sectors), such as, effort patterns, DAS usage rates, catch rates, active/inactive permits, gear used, illegal activity, and more
- Impact of fuel costs and market trends also contribute to management uncertainty
- Inability to predict the effect of management changes in groundfish and other fisheries with an incidental catch of monkfish

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Proactive AMs

- ACT that would be the basis for setting management measures (either DAS/trip limits, or allocations of ITQ or sector shares) after accounting for incidental catch in other (non-directed) fisheries and discards
- If discards are not well monitored, estimated discards would be subtracted from ACT to set TTAL as basis for management measures
- PDT offers two alternative methods for setting ACTs: "bottom up" and "top down"
- Would not trigger mgmt. action if exceeded or not reached, but if either occurs, the cause would be determined, and appropriate adjustment to mgmt. measures could be taken through regulatory action or specifications process
- Provides a buffer against approaching ACL

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Top Down ACT Method

- Reduce value of ACL by some amount to account for management uncertainty
- If possible, quantitative measures of uncertainty should be used, otherwise, a subjective, precautionary amount would be applied to ensure ACL is not reached.
- E.G., if $ACL=10,000$ mt, and management uncertainty valued at 30%, $ACT=7,000$ mt

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Bottom Up ACT Method

- Use current landings targets, add in estimates of discards, and, if stock is rebuilt and overfishing is not occurring, apply an incremental increase based on a subjective, precautionary approach
- E.G., Current North TTAL=5,000 mt, incremental increase of 20%=6,000 mt, discard ratio $(d/k) = 0.081=486$ mt, $ACT=6,486$ mt.

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Reactive AMs

- Measures designed to mitigate or prevent exceeding ACL, would take effect automatically if the ACL is, or is projected to be exceeded
- Could include closure to all, or specific sources of monkfish fishing mortality, reductions in ACT (if used) or ACLs in a subsequent year or season, or other specified consequences
- Proactive AMs (e.g., ACT) may provide sufficient buffer so that Reactive AMs are not invoked
- No PDT recommendation at this time

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Impact of Assessment Schedule

- Third triennial cooperative survey underway
- Stock assessment scheduled for mid-2010, coinciding with Amendment 5 submission
- Requires that process and control rules be adopted, and EIS to analyze a range of reasonable outcomes applying the process to new assessment results

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