



Scallop Framework 21

Review and possibly reconsider
final action from Nov 2009

January 2010 Council Meeting
Portsmouth, NH



January Council Agenda Item

- This presentation will briefly:
 1. Summarize FW21 proposed action from Nov 2009 meeting
 2. Clarify several questions left from that meeting
 3. Summarize Council rationale
 4. Compare impacts of proposed action and higher F option described in FW21 document
 5. General implications of possible re-submission of FW21 and/or FW44 if proposed action changes



Primary management issues for FW21

1. Fishery specifications for FY2010 including setting of ABC and compliance with the first RPM and T/C required in the recent biological opinion for sea turtles
2. Area rotation adjustments (if necessary) including consideration of a new scallop access area on Georges Bank (in GSC)
3. Other measures including minor adjustments to the observer set-aside program



FW21 Management Scenarios

- **No Action**

- 42 DAS and 4 access area trips (3 in ETA and 1 in Delmarva)
- if LAGC IFQ delayed (LA DAS adjusted)
- if FW21 delayed beyond March 1

- **4 additional allocation scenarios considered**

- *2 without new closure:*
(NCL/F = .20 and NCL/F = .24)
- *2 with new closure*
(CL/F = .20 and CL/F = .18)



Proposed Action

- Proposed Action = $NCL/F = .20$
(no closure in GSC and $F_{\text{target}} = 0.20$)
- This equates to 29 DAS per full-time vessel with 4 access area trips
(1 in NL, 1 in Delmarva and 2 in ETA)
- Total projected catch = 41.5 mill lbs

	Projected Catch
Limited Access	38 million
General Category	2.2 million
Set-asides	1.2 million
Incidental Catch	0.05 million



Other proposed measures

- Measures for GC – overall quota, #AA trips, NGOM hard-TAC, incidental catch TAC, partial leasing of IFQ
- 2 specific measures to comply with RPM: seasonal closure of Delmarva and 2 AA trip limit from June15-Oct31
- Set-asides for research and observer coverage, and open area DAS compensation if YT bycatch TAC harvested in NL
- Limit the amount of compensation GC vessels can receive on observed AA trips



Status of the scallop resource

- FW21 does not modify the overfishing definition
- SARC45 (2007) approved CASA model for identifying reference points and estimating biomass and F. CASA not used for projections – it looks back.
- SARC45 approved overfishing threshold of 0.29
- Updated F estimates using same CASA model: 0.28 for 2008 and 0.30 for 2009
- These estimates are not final, and final estimates will be calculated in SARC50 (June 2010).
- Official status of resource may or may not change as a result of SARC50 updates



Status of the scallop resource (cont.)

- Therefore, the status of the resource has not changed since SARC 45(2007) *overfishing is not occurring and stock is not overfished.*
- SARC 50 will calculate official estimates of F since the last assessment (07-09) as well as possible revisions to reference points – for example, new ref points may be based on results of stochastic YPR model presented to the SSC (if approved by SARC50)



What is the ABC for 2010 and what did the SSC recommend?

- As required by MSRA, SSC must recommend ABC for 2010.
- SSC requested that if possible PDT should develop a method for quantifying scientific uncertainty for setting ABC to prevent overfishing
- Present model (CASA) unable to quantify uncertainty – new model explored
- PDT presented info to SSC on August 10/11, 2009
- SSC made recommendation to Council at September 2009 meeting (Doc. #2a)
- 2010 ABC = 29,578 mt (65.2 mill lbs.)
 - 7.4 for discards leaves
 - 57.8 for fishery ABC



What is the ABC for 2010 and what did the SSC recommend? (cont.)

- As noted at the meeting this calculation based on assumption that fishery is spatially uniform and all scallops are accessible
- This is not the case for the scallop fishery –about 37% of the exploitable biomass is in rotational or EFH closures that will not be fished in 2010. The fishing mortality in the areas remaining open will be higher than the spatial average over all areas
- For example, projected F in South Channel under proposed action estimated to be about 0.5 and 0.7 under 0.24 option
- So an F level set below ABC will actually prevent localized overfishing and increase longer term yields because fishing is non-uniform



Exploitable Biomass in 2010

EFH closures (and GF non access)	18%
CA1 and CA2 access	9%
HC closed	10%
NL access	6%
ETA	12%
Delmarva	12%
Open	33%
TOTAL	100%




Model used for ABC calculation

- 2010 ABC calculation based on stochastic YPR model developed for setting ABC control rule in Amendment 15
- A *stochastic* model is a simulation in which ranges of values used for each variable. Compared to a *deterministic* model that was used in the past - single estimate used for the value of each variable.
- The stochastic approach provides a quantified estimate of uncertainty in the FMSY – specifically what SSC requested
- SSC used results from stochastic YPR model when setting ABC for 2010



Summary of differences between the models and what they are used for

- 2010 ABC is a projection of what F should be in the future based on assumptions about various parameters (stochastic YPR model used)
- F estimates for 2008 and 2009 incorporate actual data from those years and a model is used to calculate back what “actual” F level was (CASA model)
- Fishing mortality measures the rate of removals, and does not depend on the method used to calculate the reference points.

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- For example, F estimate for 2009 is 0.30. This value can and should still be compared to the current OFD threshold because that is the rate of removal for 2009 based on fishery and biomass conditions that year.
 - As for 2010, the projected ABC is equivalent to an F of 0.284. That is below the current OFD threshold and potentially new OFD threshold if approved
 - However, Council must set F_{target} so that both:
 - current overfishing threshold of 0.29 is not exceeded, and
 - target cannot be above current estimate of ABC ($F=0.284$) set by SSC.
 - Why can't Council just assume F_{max} of (0.37)?
 - Not formally peer reviewed (SSC not asked to review methods for scallop assessment – did not review various methods for setting F_{max}); still subject to change after SARC50
 - $F_{\text{threshold}}$ has to be integrated into FMP before it can be used as overfishing threshold – changing $F_{\text{threshold}}$ not included in FW21 – will be in A15 after results from SARC50 available.



OFL ($F_{\text{threshold}}$)	○ 80 million (A15 – needs SARC50 approval)	A15 - Between $F=0.36$ and $F=0.37$
	○ +65 million (current threshold)	FW21 – $F=0.29$
ABC (including discards)	65.2 million	$F=0.284$ Reduced for scientific uncertainty (25% chance of exceeding OFL)
	<i>-7.4 million</i>	<i>Account for mortality from dead discards and mortality from scallops killed incidentally by fishing gear</i>
ABC For fishery	57.8 million	This value still does not take into account spatial issues with fishery, management uncertainty, and other issues than impact setting OY such as impacts on bycatch and EFH
ACT (F_{target})	FW21 considered range of 41.5 to 53.5 million	$F=0.18$ to $F=0.24$ Different levels of risk and impacts



So where should F_{target} be for 2010?

- In 2008 and 2009 $F_{\text{target}}=0.20$, but updated estimates (using the same CASA model approach) estimate 0.28 and 0.30 respectively.
- For 2010 – threshold is 0.29
- ABC for 2010 has an F of 0.284
- Current OFD says F_{target} should be 80% of $F_{\text{threshold}}$ (0.23) unless PDT recommends something else
- Two options considered in FW21 (0.20 and 0.24)
 - 0.20 – status quo method for F_{target}
 - 0.24 – higher based on adjustments made to LPUE and assumed # of active vessels as well as results from A15 analyses that 0.24 has 25% chance of exceeding ABC (still assuming fishery is spatially uniform)



Comparison of $F = 0.20$ and 0.24

- $F = 0.24$ has higher landings and economic revenues for 2010 but lower landings and benefits after 2010, reflecting localized overfishing
- $F = 0.20$ has lower landings and revenues in 2010, but less bycatch (of yellowtail, turtles etc.), costs, and higher long-term yields and benefits



Selecting F_{target} for FW21

- What level of risk is Council comfortable with?
- Tradeoff between higher long-term yield and reduced bycatch ($F = 0.20$) and higher short-term yield ($F=0.24$)
- Other factors to consider like non uniform nature of fishery, impacts on EFH, bycatch, turtles, economics, etc.



Main Council Rationale for $NCL/F=.20$:

- Executive Summary explains:
 1. Reduce the risk of overfishing
 2. Short-term economic impacts outweighed by long-term benefits
 3. Reduced impacts on finfish bycatch, sea turtles and EFH




1. Reduce risk of overfishing

- Updated evaluation of F for 2008/09
 - In 2008 Ftarget of 0.20 – landings of 44.4
 - Actual F = 0.28 and landings of 53 mill lb. (preliminary ~ +8 million)
 - In 2009 Ftarget of 0.20 – landings of 45.9
 - Actual F = 0.30 and landings likely over 57 mill lb. (preliminary ~ +11 mil.)
- Council discussed that both 0.24 and 0.20 below current OFD threshold (0.29) and ABC set by SSC (0.284) but have different level of risk
- While Council recognized improvements made to how PDT estimates F in FW21 – revisions have not been tested or formally reviewed and approved by benchmark assessment process
- Confusion about comparing current and future F estimates to each other
 - Both are calculations of F – not dependent on reference points or which model used
 - Specifically, if optimal level of F changes (e.g. 0.29 compared to 0.37), does not change current estimate of F for 2008/2009 or current estimate of F for 2010.



2. Short-term economic impacts outweighed by longer term benefits

- Revenues, Producer and Consumer surpluses, and total economic benefits for proposed action lower than other alternatives in short term (2010)
- But exceed levels for all other alternatives in the long-term with exception of closure low F option (CL/F=.18)
- Proposed action will increase total economic benefits to nation compared to No Action and NCL/F=.24.
 - For 2010-2016: NCL/F=.20 increases benefits \$15-\$22 million and NCL/F=.24 decreases benefits 5 million compared to No Action.
 - For 2010-2023: NCL/F=.20 increases benefits \$86-\$125 million and NCL/F=.24 increases benefits \$54-81 million compared to No Action.



	NCL/F=.20	NCL/F=.24
DAS (full-time)	29 DAS	38 DAS <i>(+9 DAS)</i>
AA trips	4	4
2010 Projected landings	41.5 million lbs.	47.3 million lbs. <i>(+5.8 million)</i>
2010 Projected revenue	\$303 million	\$344 million <i>(+ \$41 mill)</i>
2011-2016 Projected landings	389.5 million lbs.	<i>379.2 million lbs. (-10.3 million)</i>
2011-2016 Projected revenue (7% discount rate)	\$2,174 million	\$2,116 million <i>(- \$58 mill)</i>
2010-2016 Projected landings	431.0 million lbs.	426.5 million lbs. <i>(-4.5 million)</i>
2010-2016 Projected revenue (7% discount rate)	\$2,477 million	\$2,460 million <i>(-\$17 mill)</i>



	TOTAL REVENUE (7% Discount Rate - 2008 prices, in millions of dollars)			
2008	364			
2009	367			
	No Action	NCL/F=.20	NCL/F=.24	Difference (.20 vs .24)
2010	351	303	344	-41
2011	390	406	395	11
2012	403	413	397	16
2013	360	371	357	14
2014	356	362	352	10
2015	328	330	325	5
2016	281	291	290	1
2010-2016	2469	2476	2460	16
2011-2016	2118	2173	2116	57



Clarifications about economic analyses

- FW21 required to show impacts of alternatives compared to No Action - cost-benefit analyses take projected catch and projected revenue estimates and compare results to No Action, not 2009 actual catch and actual revenue
- No Action is not the same as 2009 allocations
No Action = 4 trips and 42 DAS = 50 million lbs.
FY2009 = 5 trips, 37 DAS = 57 million lbs. (preliminary)
- FY2009 measures not an option in FW21
- In terms of impacts, it is not accurate to take actual catch from 2009 and combine with projected price for no action in 2010
- In addition, some estimates have overlooked cost savings from lower DAS allocations under proposed action
- For example, cost savings in 2010 under proposed action = \$10 million less compared to No Action and price in 2009 closer to \$6.45 – not over \$7 as projected for 2010 (\$7-7.31).
- Compared to No Action, proposed action projects average decrease in revenues per vessel of about \$99,000 (in 2010 only) after cost savings and price differences are taken into account.



3. Reduced impacts on finfish bycatch, sea turtles and EFH

- F=0.20 has lower area swept projections than F=0.24 in 2010, and slightly lower for 2010-2016
- YT Flounder ACL sub-component

Expected YT catch by scallop vessels (in mt.)

		2010	2011	2012
GB	F=0.20	110	226	353
	F=0.24	146	230	352
SNE	F=0.20	111	95	150
	F=0.24	135	99	152

- F=0.24 needs 33% more GB YT (36 mt) and 22% more SNE YT (24mt) to keep 2010 YT allocation = 100% of projected scallop catch of YT



3. Reduced impacts on finfish bycatch, sea turtles and EFH (cont.)

- FW21 includes specific measures to comply with RPM that will minimize impacts on sea turtles (seasonal closure in Delmarva and limit # of AA trips in MA from June15-Oct31)
- However, it was noted that $F=0.20$ scenario will also limit effort in open areas in MA compared to recent years and other alternatives because DAS allocations lower
- EFH –
 - Area swept projections higher for $F=0.24$ – so higher impacts on EFH compared to $F=0.20$ –
 - But both less than No Action and recent years.
 - 2010 F is lower in Channel (including proposed HAPC area) under $F=0.20$ compared to $F=0.24$.



General implications of possible re-submission of FW21 and/or FW44 if proposed action changes

- FW21 and FW44 have already been submitted including measures based on $F=0.20$ scenario in scallop plan.
- If no changes are made today FW21 likely to be implemented prior to June 15 and FW44 before May 1.
- If the proposed action is changed today staff will most likely have to resubmit at least FW21 to include new analyses.



Delay of FW21 submission implications

- New analyses will likely push back final submission to late February
- This will likely push implementation to mid-July – best case
- If FW21 not in place before June 15 – NL will not open to LA or GC vessels until it is implemented. Could have impacts on scallop fishing mortality and bycatch.
- Turtle RPMs will not be in place until after “turtle season” has already started (June 15-Oct31). No measures in place to prevent vessels from taking 3 access area trips between June15 and implementation of FW21 (unlikely).
- RSA awards will be delayed until implementation (already late)
- GC vessels would not be permitted to lease partial allocations until FW21 implemented and would be fishing under “No Action IFQ amounts” longer – diff than FW21 IFQ amounts
- GC vessels would still be permitted to receive compensation for carrying an observer in access areas for any portion of a day



Delay of A15 submission implications

- A15 submission has already been delayed based on unplanned additional work staff has been engaged in related to post-FW21 decision (e.g. reviewing outside reports, letters, press related questions, etc.)
- If no changes to FW21, A15 submission expected mid-Feb, final action still possible in June 2010.
- If FW21 changed and staff needs to resubmit with diff proposed action, A15 submission expected to be delayed one month, and final action in June not probable.
- If A15 final action not in June – very, very unlikely that ACLs/AMs would be in place by start of FY2011, as required by MSA.



FW44 implications

- Allocation of GB and SNE/MA yellowtail flounder in FW44 was based on estimated catch for a given yield of scallops:
 - 2010: 100% of expected catch
 - 2011 and 2012: 90% of expected catch
- Expected catch depends on scallop management program
- If management program is changed, what does Council want to do with the yellowtail flounder allocations?




FW44 implications

- FW 44 analyses will need changes to match scallop program
- If FW 44 percentages are retained, largest difference in YTF allocation is 2010.
- Current information suggests only small differences in 2011 and 2012.
- This could change later this year after GB YTF and scallop assessments updated.



	GB YT (mt.)		
	2010	2011	2012
Scallop Fishery			
FW 44 Allocation (NCL/F=.20)	110	203.4	317.7
NCL/F=.24 Expected Catch	146	230	352
<i>Difference</i>	-36	-26.6	-34.3
NCL/F=.24 FW44 Allocation 100/90/90	146	207	316.8
Groundfish Fishery			
FW 44 ACL (NCL/F=.20)	999	799	822
NCL/F=.24 with 100/90/90	964	795	823
<i>Difference</i>	-35	-4	1



	SNE YT (mt.)		
	2010	2011	2012
Scallop Fishery			
FW 44 Allocation (NCL/F=.20)	111	85.5	135
NCL/F=.24 Expected Catch	135	99	152
<i>Difference</i>	<i>-24</i>	<i>-13.5</i>	<i>-17</i>
NCL/F=.24 FW44 Allocation 100/90/90	135	88.7	136.4
Groundfish Fishery			
FW 44 ACL (NCL/F=.20)	332	527	760
NCL/F=.24 with 100/90/90	310	524	759
<i>Difference</i>	<i>-22</i>	<i>-3</i>	<i>-1</i>



FW44 implications

- Staff recently learned (Jan 21) that if FW21 proposed action changes the Council could simply send a letter to NMFS explaining Council decision about YT allocation
- FW44 would not have to be formally re-submitted
- At some point analyses in FW44 EA would have to be updated



○ Questions?