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New England Fishery Management Council

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John Pappalardo, *Chairman* | Paul J. Howard, *Executive Director*

MEMORANDUM

DATE: November 2, 2009
TO: Groundfish Oversight Committee
FROM: Scallop Oversight Committee
SUBJECT: **Yellowtail Flounder ACLs and the Scallop Fishery**

A major sub-component of yellowtail flounder catch is incidental catch in the scallop fishery, most of which is discarded. Amendment 16 calls for this catch to be estimated and identified as an “other sub-component” until accountability measures (AMs) can be adopted through the scallop FMP. When the AMs are adopted, the sub-component will be considered a sub-ACL. This ACL will apply to all scallop fishery catches of yellowtail flounder.

The Scallop and GF PDTs estimated the scallop incidental catch of yellowtail flounder in 2010-2012 for Council action on GF Framework 44. At the September 2009 Council meeting staff presented the amount of YT needed to harvest scallop yield based on ratio of yellowtail discards to scallop kept catches for the four scallop rotational management scenarios in Scallop FW21, which will set measures for FY2010 only.

The Council passed the following motion:

*7b. Mr. Cunningham moved to substitute and Mr. Odlin seconded:
that the Council request the PDT to develop an analysis of groundfish/scallop revenue impacts under the different scenarios and the effects on fishing opportunities and that the PDT should determine the management uncertainty for the sub-ACL.*

*The motion to substitute **carried** unanimously on a show of hands (16/0/0).*

*The substitute motion **carried** unanimously on a show of hands (16/0/0).*

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This memo summarizes the analyses completed to date on the scallop revenue impacts under the four different scenarios in Scallop FW21. Overall, the Scallop PDT projected the scallop catch by YT stock area under each scenario. Then various YT allocation alternatives were considered ranging from the high end or “amount needed” to harvest all scallop yield by area to the minimum (either zero or 10% for GB and/or SNE since current regulations state that at least 10% of the total YT projected catch will be allocated to the scallop fishery for those two stock areas if a scallop access area is opening that year.)

Summary of Analyses

For CC/GOM yellowtail flounder the estimate of required yellowtail flounder allocation is always less than five percent. For GB yellowtail flounder the estimate of required allocation ranges from 11 to 29 percent, while for SNE/MA yellowtail flounder it ranges from 14 to 41 percent (Table 1). There are differences between the scallop scenarios with the no new closure scenarios requiring the least yellowtail flounder for GB and SNE/MA yellowtail stocks. The range is relatively large due to variety of scallop allocation scenarios under consideration (Table 2). Projected total revenue by scenario is summarized in Table 3.

Table 1 – Range of YT catch needed for the 4 scallop allocation scenarios under consideration

	2010	2011	2012
CC/GOM	2.0 - 4.5%	1.3 - 2.5%	0.8 - 2.8%
GB	11.4 - 22.4%	20.9 - 24.3%	25.9 - 28.8%
SNE/MA	22.5 - 40.9%	14.0 - 19.5%	15.0 - 15.3%

Table 2 – Summary of expected scallop catch and DAS allocations for 2010

	2010 Scallop Landings (mt)	2010 Estimate of DAS per FT vessel
No Closure F = 0.20	18829	29
No Closure - F = 0.24	21445	38
Closure F = 0.18	22299	42
Closure F = 0.20	24269	51

Table 3 – Projected total revenue for each scenario in FW21 for 2010-2012

	Projected Revenue (in million \$)		
	2010	2011	2012
No Closure - F=0.20	304	447	490
No Closure - F=0.24	344	435	472
Closure F=0.18	388	412	416
Closure F=0.20	358	424	437

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In terms of YT catch in the scallop fishery in the past, the expected values for 2010 are within the range of catches for each stock area in recent years. Table 4 summarizes the annual YT catch by scallop dredge gear (landings and discards) for 2004-2008. There are differences by year, but that is largely due to changes in scallop management that allocated access areas and DAS differently each year.

Table 4 – Summary of YT TACs and YT catch on scallop dredge vessels for 2004-2008 compared to estimates for 2010

Fishing Year		2004	2005	2006	2007	2008	2010 Estimates
CC/GOM	Total TAC	881	1233	650	1078	1406	863
	Total TAC for scallop fishery*	86.3	120.8	63.7	105.6	137.8	???
	Scallop AA open or closed	N/A	N/A	N/A	N/A	N/A	N/A
	Total YT catch by dredge gear (landings and discards)	18	6	12	35	5	17-30
SNE	Total TAC	707	1982	146	213	312	493
	Total TAC for scallop fishery*	69	194	14	21	31	???
	Scallop AA open or closed	open	closed	open	open	open	open
	Total YT catch by dredge gear (landings and discards)	125	130	168	188	151	111-202
GB	Total TAC	6000	4260	2070	900	1869	960
	Total TAC for scallop fishery*	588	417	203	88	183	???
	Scallop AA open or closed	open	open	open	open	closed	open
	Total YT catch by dredge gear (landings and discards)	84	194	254	122	134	110-215

*Scallop TAC has been calculated from total TAC = 9.8% of total TAC. These values have not been confirmed with regulations.

Note that the 2010 YT TACs are = ABC recommended by SSC

The Scallop PDT completed a relatively simple estimate of overall revenue loss if less YT were allocated to the scallop fishery than “needed.” For each FW21 scenario an estimate of YT needed by stock area was identified, as well as the associated percentage of the total YT that amount equals. The PDT then evaluated the overall impact on scallop revenue if some amount less was allocated to the scallop fishery.

For example, in 2010 under FW21 scenario “NCLF20” the scallop fishery “needs” 110 MT of GB YT to harvest all the scallops projected to be caught in the GB YT stock area. One-hundred ten metric tons of YT is equivalent to 11.4% percent of the total YT ACL for that stock area. Table 5 is a summary of the YT “needed” by the scallop fishery in MT and % of total YT ACL for each FW21 scenario.

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Table 5 – Summary of YT needed by scallop fishery in 2010-2012 in MT and % of total YT ACL

		total YT needed (mt)			% YT needed		
		2010	2011	2012	2010	2011	2012
No Closure - F=0.20							
	CC	30	26	32	3.40%	2.40%	2.80%
	GB	110	226	353	11.4%	20.9%	28.8%
	SNE	111	96	151	22.5%	14.0%	15.0%
No Closure - F=0.24							
	CC	39	26	32	4.5%	2.5%	2.8%
	GB	146	230	320	15.2%	21.2%	28.7%
	SNE	135	98	151	27.3%	14.3%	15.1%
Closure F=0.18							
	CC	17	13	10	2.0%	1.3%	0.9%
	GB	182	256	320	18.9%	23.7%	26.1%
	SNE	179	130	151	36.3%	19.0%	15.1%
Closure F=0.20							
	CC	20	13	20	2.4%	1.3%	0.8%
	GB	215	256	263	22.4%	24.3%	25.9%
	SNE	202	134	153	40.9%	19.5%	15.3%

If the Council decides to allocate a percentage of the YT ACL that is less than the scallop fishery needs to harvest all the projected scallop yield for a particular year, what would be the impacts of that decision be on total scallop revenue? One way to analyze the impacts of a lower reduction is to determine how much scallop catch would need to be forfeited if the scallop fishery was held to a lower amount of YT bycatch than projected. If only 10% of YT ACL is harvested in the example above compared to the needed 11.4%, the scallop catch associated with the 1.4% difference in allocation could be impacted. The total scallop catch projected by YT stock area is described in Table 6.

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Table 6 – Summary of projected scallop catch by YT stock area for 2010-2012

Projected Scallop TAC (in mt)			
No Closure - F=0.20	2010	2011	2012
CC	3,205	5,751	7,757
GB	1,078	3,862	6,026
SNE	14,218	17,728	16,186
No Closure - F=0.24	2010	2011	2012
CC	4,144	5,443	7,179
GB	1,435	3,836	5,842
SNE	15,399	17,287	15,783
Closure F=0.18	2010	2011	2012
CC	2,252	3,175	2,937
GB	2,114	3,902	5,210
SNE	19,577	18,184	17,668
Closure F=0.20	2010	2011	2012
CC	1,780	3,198	3,156
GB	1,785	3,911	5,410
SNE	18,349	19,826	19,436

If 10% is allocated rather than 11.4% the scallop fishery is projected to catch 96.5 mt of YT, rather than 110 mt at 11.4%. The ratio of the “new” projected YT catch to the “old” projected YT catch is the reduction factor that is then applied to scallop catch to give sense of scallop catch and revenue loss from a lower YT allocation. For the same example, $96.5 \text{ mt} / 110 \text{ mt} = 0.88$. The “old” projected scallop catch from open areas on GB for 2010 was 1,078 mt, when that is multiplied by the same reduction factor of 0.88, the new projected scallop catch for GB open areas is reduced to 946 mt (132 mt less scallop catch). One-hundred thirty two less scallop catch multiplied by the projected price per pound for scallop meat in 2010 comes out to a revenue loss of \$2.13 million dollars (Table 8). Table 7 is a summary of the reduction factor that would need to be applied to scallop open area catch in each stock area to get the equivalent needed reduction in YT catch if allocations are lower than projected YT catch. For example, in 2010 the fishery is projected to need 11.4% of the total GB YT ABC. If it is only allocated 10%, open area catch would need to be multiplied by 0.88 to keep open area catch of YT equivalent to a lower allocation since YT catch in access areas would not be impacted by future AMs.

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Table 7 – Reduction factor for each scenario

	Alternative YT Allocation %s			NCLF20			NCLF24			CLF18		
				Reduction factor			Reduction factor			Reduction factor		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
CC	5.00%	5.00%	5.00%									
	2.00%	2.00%	2.00%	0.59	0.83	0.71	0.44	0.80	0.71	1.00	0.77	2.22
GB	20.00%	30.00%	30.00%									
	15.00%	25.00%	25.00%			0.76	0.99	1.26	0.62			0.92
	10.00%	20.00%	20.00%	0.88	0.94	0.45	0.66	0.92	0.34	0.53	0.79	0.54
	0.00%	15.00%	15.00%		0.59	0.14		0.58	0.05		0.50	0.17
	0.00%	10.00%	10.00%		0.25	-0.18		0.25	-0.23		0.21	-0.21
SNE	30.00%	20.00%	20.00%									
	25.00%	15.00%	15.00%									
	20.00%	10.00%	10.00%	0.85	0.67	0.70	0.65	0.64	0.69	0.44	0.44	0.70
	15.00%	0.00%	0.00%	0.52			0.40			0.27		
	10.00%	0.00%	0.00%	0.19			0.15			0.10		

Table 8 below shows the total revenue loss for allocation alternatives less than the percentage “needed” by the scallop fishery. The ranges of impacts are very large in some cases depending on the FW21 scenario and how much less is allocated compared to what is needed.

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Table 8 – Summary of overall revenue impacts on the scallop fishery if lower YT allocations are awarded than “needed” (in millions of dollars)

	Alternative YT Allocation %s			No Closure, F = 0.2			No Closure, F = 0.24			Closure, F = 0.18		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
CC	2%	2%	2%	\$21.26	\$15.17	\$34.83	\$28.53	\$18.23	\$34.92		\$21.00	
GB	20%	30%	30%	*	*	*	*	*	*	*	*	*
	15%	25%	25%	*	*	\$12.34	*	*	\$18.47	*	*	\$3.25
	10%	20%	20%	\$2.13	\$1.12	\$25.69	\$2.71	\$1.43	\$22.55	\$15.91	\$3.99	\$18.03
	0%	15%	15%	*	\$7.33	\$31.97	*	\$7.37	\$39.77	*	\$9.38	\$32.81
	0%	10%	10%	*	\$13.54	\$51.35	*	\$13.32	\$11.47**	*	\$14.77	\$47.60
SNE	30%	20%	20%	*	*	*	*	*	*	*	*	*
	25%	15%	15%	*	*	*	*	*	*	*	*	*
	20%	10%	10%	*	*	\$75.30	\$65.30	\$86.51	\$77.94	\$18.04	\$18.04	\$28.63
	15%	0%	0%	*	*	*	\$111.30	\$316.92**	\$255.07	\$18.04	\$18.04	\$95.23
	10%	0%	0%	*	*	*	\$157.30	\$321.79**	\$255.07	\$18.04	*	\$95.23

* Cells that allocate more YT than scallop fishery projected to need

** Revenue impacts under estimated for these cells because less YT available in open areas than fishery needs

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This relatively simple approach does not account for reduced costs from shorter trips or other factors; this is a simple estimate of scallop yield reduced by lower allocation of YT in open areas. These analyses assume that fishing in access areas would not be impacted by YT bycatch limits; those programs would not be affected. Instead, open area catch amounts have been decreased to compensate for lower YT available.

Overall for all four scenarios the average price per pound of scallops in 2010 varies between \$7.13 and \$7.28 for this time period (Table 9). For the same example described above (allocation of 10% for GB when 11.4% needed in NCLF20 scenario) for every MT of YT not allocated, that impacts roughly 9.8 MT of scallop catch. That amount of reduced scallop catch multiplied by the projected cost of scallop meat in 2010 is about \$158,000.

Table 9 – Updated price estimates for scallop meats for the various scenarios in 2010-2012

	No Closure, F = 0.2	No Closure, F = 0.24	Closure, F = 0.18	Closure, F = 0.20
2010	\$7.31	\$7.27	\$7.25	\$7.28
2011	\$7.18	\$7.19	\$7.20	\$7.20
2012	\$7.13	\$7.15	\$7.17	\$7.17

The potential impacts of lower YT allocations on the scallop fishery were considered two additional ways: reduction in scallop catch as percentage of scallop catch for that YT stock area, and percentage of revenue loss from lower YT allocation compared to total projected revenue for the scallop fishery for that year and management scenario. Table 10 gives an idea of the amount of scallop catch that would be reduced in open areas in a specific YT stock area compared to the total scallop catch projected for that stock area. When the value is more than 100% that implies that the needed reduction in scallop catch equivalent to the lower YT allocation is more than the total projected scallop catch in open areas within that YT stock area. Lastly, Table 11 gives a sense of the specific revenue loss projected for lower YT allocations compared to the total revenues for the scallop fishery. In many cases, while lower YT allocations could result in reduced revenue in the millions, when compared to the total revenue for the fishery it is not a large percent. Using the same example, in 2010, if 10% of GB YT is allocated to the scallop fishery rather than the 11.4% needed for the NCLF20 scenario the expected loss in revenue is \$2.13 million dollars if scallop catch in open areas is reduced to account for a lower YT allocation. Total revenue for the NCLF20 scenario is \$304 million dollars, so a loss of \$2.13 is equivalent to a 0.7% loss in total revenue.

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Table 10 - Equivalent reduction in scallop catch per YT stock area (%)

Equivalent reduction in scallop catch per YT stock area (%)												
	Alternative YT Allocation (%)			No Closure, F = 0.20			No Closure, F = 0.24			Closure, F = 0.18		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
CC	5%	5%	5%	*	*	*	*	*	*	*	*	*
	2%	2%	2%	41.18%	16.67%	28.57%	42.97%	21.13%	30.87%	0.00%	41.80%	0.00%
GB	20%	30%	30%	*	*	*	*	*	*	*	*	*
	15%	25%	25%	*	*	13.03%	*	*	20.06%	*	*	*
	10%	20%	20%	12.28%	1.83%	27.12%	11.77%	2.35%	24.50%	47.09%	6.46%	*
	0%	15%	15%	*	11.99%	33.76%	*	12.13%	43.19%	*	15.19%	*
	0%	10%	10%	*	22.16%	54.23%	*	21.91%	12.46%	*	23.92%	*
SNE	30%	20%	20%	*	*	*	*	*	*	*	*	*
	25%	15%	15%	*	*	*	*	*	*	*	*	*
	20%	10%	10%	12.22%	28.33%	29.60%	26.47%	31.58%	31.34%	32.59%	6.27%	10.26%
	15%	0%	0%	38.81%	84.64%	100.00%	45.11%	115.69%	102.55%	42.72%	*	*
	10%	0%	0%	65.40%	84.64%	100.00%	63.75%	117.47%	102.55%	52.84%	*	*

* Cells that allocate more YT than scallop fishery projected to need

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Table 11 – Estimated revenue loss compared to total revenue (%)

	Estimated revenue lost (%)											
	Alternative YT Allocation (%)			No Closure, F = 0.20			No Closure, F = 0.24			Closure, F = 0.18		
				2010	2011	2012	2010	2011	2012	2010	2011	2012
CC	5%	5%	5%	*	*	*	*	*	*	*	*	*
	2%	2%	2%	6.99%	3.39%	7.11%	8.29%	4.19%	7.40%	*	*	*
GB	20%	30%	30%	*	*	*	*	*	*	*	*	*
	15%	25%	25%	*	*	2.52%	*	*	3.91%	*	*	*
	10%	20%	20%	0.70%	0.25%	5.24%	0.79%	0.33%	4.78%	4.10%	0.97%	*
	0%	15%	15%	*	1.64%	6.53%	*	1.69%	8.43%	*	2.28%	*
	0%	10%	10%	*	3.03%	10.48%	*	3.06%	2.43%	*	3.59%	*
SNE	30%	20%	20%	*	*	*	*	*	*	*	*	*
	25%	15%	15%	*	*	*	*	*	*	*	*	*
	20%	10%	10%	9.21%	17.78%	15.37%	18.98%	19.89%	16.51%	26.28%	4.38%	6.88%
	15%	0%	0%	29.24%	53.12%	51.91%	32.36%	72.85%	54.04%	34.44%	*	*
	10%	0%	0%	49.28%	53.12%	51.91%	45.73%	73.97%	54.04%	42.60%	*	*

* Cells that allocate more YT than scallop fishery projected to need

Adjustment for Management Uncertainty

The Council also needs to identify the level of management uncertainty related to the sub-ACL allocated to the scallop fishery. Management uncertainty is, in part, a function of the regulatory measures and monitoring programs in the fishery. In addition, the Council may want to consider effectiveness of AMs. The Council may want to consider whether the adjustment for management uncertainty should be the responsibility of the Scallop Committee rather than the Groundfish Committee, since the Scallop Committee is charged with developing AMs. In FY 2010, the allocation is considered an “other sub-component” and it may be appropriate to not have any adjustment. One way to address uncertainty in this situation is to increase the other-sub-component portion.

The Scallop PDT did not have the opportunity to address this issue specifically, but has mentioned in the past that management certainty in the scallop fishery is relatively high. General category vessels are managed under IFQs and the LA fishery is managed under a hybrid system of access area trips with possession limits and open area DAS. So where and how much is going to be removed is relatively controlled in this fishery. There is some flexibility in terms of when and where open area and GC fishing will take place that could impact YT bycatch rates.

Furthermore, there are several outside issues that may influence fishing behavior by area and/or season in FW21 that could impact YT bycatch rates. For example, if FW21 implements measures to comply with the turtle RPMs that limit fishing in the Mid-Atlantic during the summer and fall, that effort could be redistributed to other areas and seasons with different YT bycatch rates and could impact completely different YT stocks if the effort moves from the SNE YT stock area to GB or CC/GOM. These changes in fishing behavior are very difficult to predict as well as the impacts on YT bycatch rates.

***For these reasons, the level of uncertainty related to this sub-ACL should be ???
(Neither the Scallop PDT nor Scallop Committee had a chance to make a recommendation).***

Scallop Committee Meeting on November 3, 2009

The Committee reviewed the analyses in this memo and made the following motion related to an allocation recommendation for the YT sub-component in FW44 for the scallop fishery.

Motion 8: Robins/Tooley

Recommend that the Groundfish Committee consider allocating 100% of the projected YT ABC “needed” to the scallop fishery for each YT stock area for 2010, and 90% of what is needed for 2011 and 2012. Vote: 5:1:1, motion carried

Discussion on the motion:

The Committee decided to recommend 100% for 2010, because there is no tool in place to constrain YT catch in the scallop fishery for 2010 – AMs not in place until 2011 under Scallop A15. So if the scallop fishery is allocated less than projected scallop fishing is expected to need, there is a good chance that amount would be exceeded, and no AMs would be in place for the scallop fishery. For 2010 the Scallop Committee is under the impression that GF A16 is set up so that if the scallop fishery exceeds their sub-component ACL in 2010 and the GF fleet was near their ACL so that the combined ACL was exceeded, AMs would trigger in the GF fleet to account for the combined overage, even if the overage was actually due to higher bycatch levels in the scallop fishery. Technically, this could still happen in 2010 even with 100% allocation since fishery specific AMs will not be in place for the scallop fishery until 2011, but the chance of that occurring is lower if the scallop fishery is allocated 100% of projected YT needed for projected scallop catch.

The Committee was not overly content with the situation, especially with 2010; a unique year because of the different AM implementation schedules in each FMP. One suggestion was made that an option should be added to Scallop A15 to account for any YT overages by the scallop fishery in 2010 at a later date (i.e. in 2012 or 2013) after YT AMs are implemented in the scallop fishery. Some thought this would be a more fair approach. AMs would not be triggered in 2011 since A15 not in place yet, but overages would be addressed as soon as possible after YT AMs implemented in the Scallop FMP.

For 2011 and 2012 the Scallop Committee recommended that 90% of the projected YT catch needed for the scallop fishery by YT stock area should be allocated. This recommendation was made to recognize that there are high impacts to scallop revenue that trickle down into fishing ports in the Northeast if scallop catch is restricted so the allocation amount should be relatively high. However, the Committee recognized that there needs to be incentive in the scallop plan to reduce YT bycatch so 90% would afford that incentive.

The Committee added that this allocation decision needs to be responsive to scallop area rotation and the decision should be made as often as possible. Every three years is too long; scallop catch projections and access area schedules are likely to change and this process should be reviewed as often as it can be.

Many members expressed interest in addressing this issue in a more holistic way; initiating joint actions to consider measures that would provide more flexible use of YT between the fisheries, considering sectors to manage this bycatch, or even individual allocation of YT in the scallop fishery to provide maximum incentive to reduce YT bycatch were all discussed as possible ways to address this issue. Several members voiced that when the Council discusses priorities at the November Council meeting an overall plan should be discussed about how best to address this issue, especially since other species may be handled this way in the future.