Scallop Report Framework 29

Jonathon Peros, NEFMC Staff, Scallop PDT Chair

December 7, 2017 Newport, RI



Fishery Management Council

Today's Meeting:

Goal: Review FW29 measures, analysis, and identify preferred alternatives.

Outlook:

- "Decision Draft" submission of FW29 in December.
 - Delay in Final Action will delay the Framework.
 - Tracking OHA2 Decision anticipated by January 4, 2017.
- Time is short. 3 ¹/₂ months until start of 2018 FY (April 1).

Framework 29: Purpose and Need

Need:

- Prevent overfishing, improve YPR
- Manage total removals from the NGOM
- Reduce bycatch if estimate exceeds catch limits
- Facilitate access to scallops in HMA that may open
- Ensure equality in allocations

Purpose:

- Set Specifications, including Annual Projected Landings
- Set landing limits for LA and LAGC in NGOM
- Modify/Develop reactive flatfish accountability measures
- Modify/Develop access area boundaries
- Adjust LA allocations with unharvested CAI carryover

Framework 29 Timeline

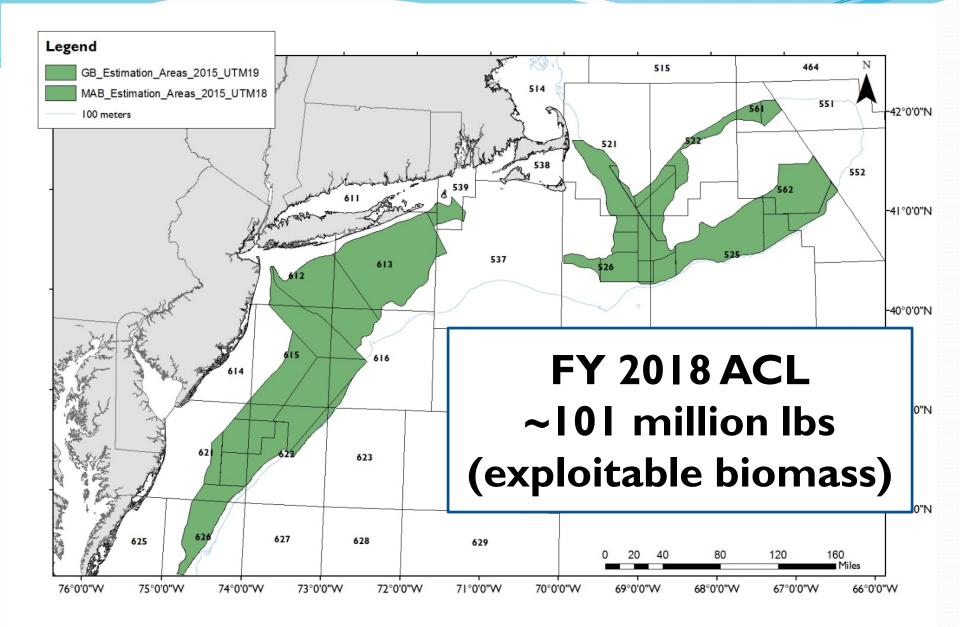
- **APRIL:** Council initiates FW29
- MAY DECEMBER: Development of action
- **SEPTEMBER:** Update on progress at Council meeting
- OCTOBER: NMFS publishes NOA of OHA2, starts clock for decision by January 4, 2018.
- OCTOBER AP/CTE: Tasking to develop measures that include access to areas that may open through OHA2
- **NOVEMBER:** PDT work on measures, NEPA analyses.
- DECEMBER: Council takes final action.

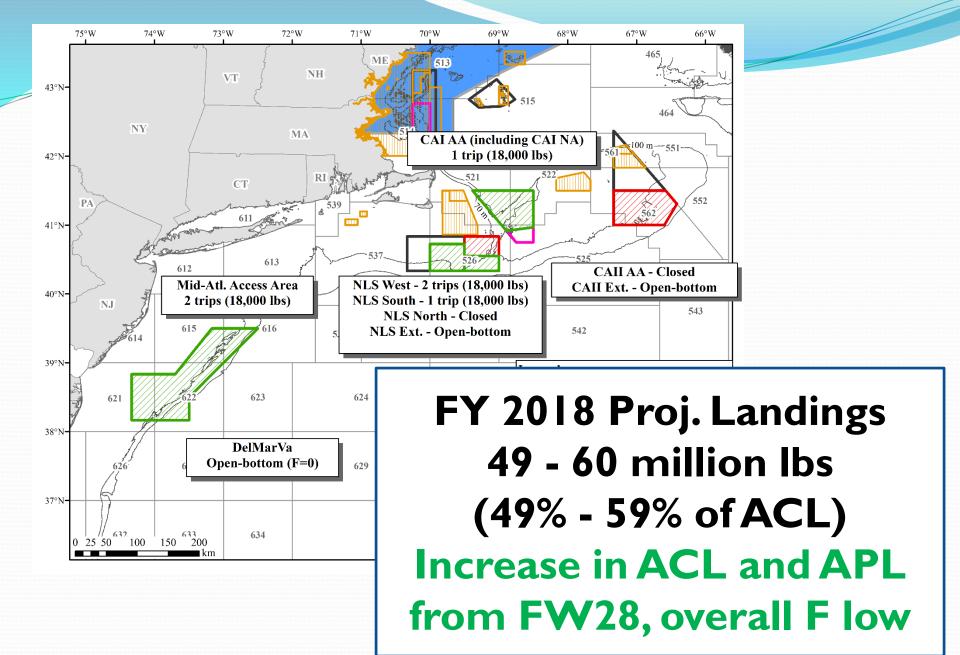
Presentation Outline:

- Framework Overview and Preliminary Analyses
- 4.1 OFL and ABC for 2018/2019
- 4.2 Northern Gulf of Maine Management Measures
- 4.3 Allocation of Closed Area I Carryover
- 4.4 Specifications for FY 2018 and FY 2019 (default)
- 4.5 LAGC IFQ fishing in Access Areas
- 2019 Default Measures (4.4.8 in FW29)
- 4.6 Measures to Reduce Fishery Impacts
- 4.7, 4.8, 4.9 Flatfish Accountability Measures



Overview of FW29 Specifications and Preliminary Analyses





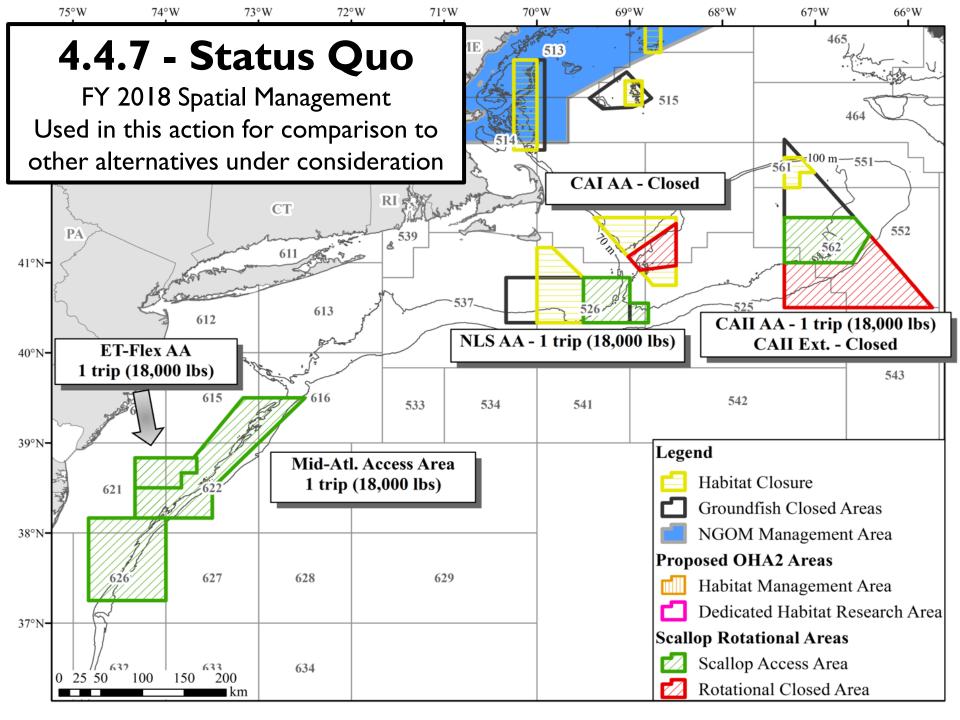
Specification Alternatives

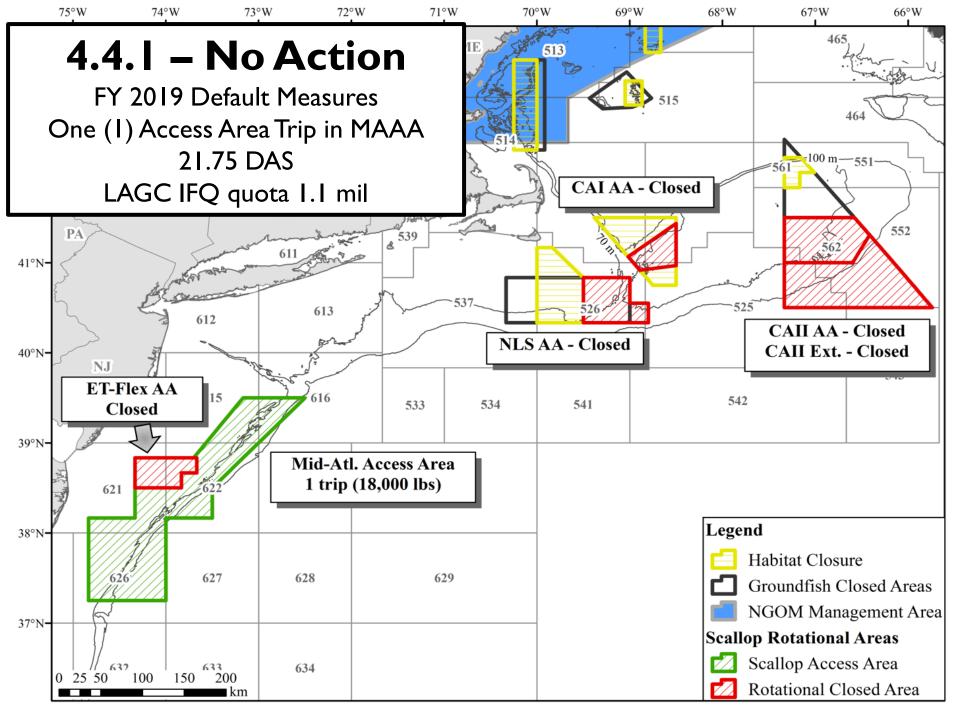
- I I Total Options, including Status Quo and No Action
- Increase in Annual Projected Landings (fishery allocations) with most scenarios under consideration from FW28 levels.
- Alternatives 2 5 each consider two F rates for open area fishing.
- Several spatial management configurations.

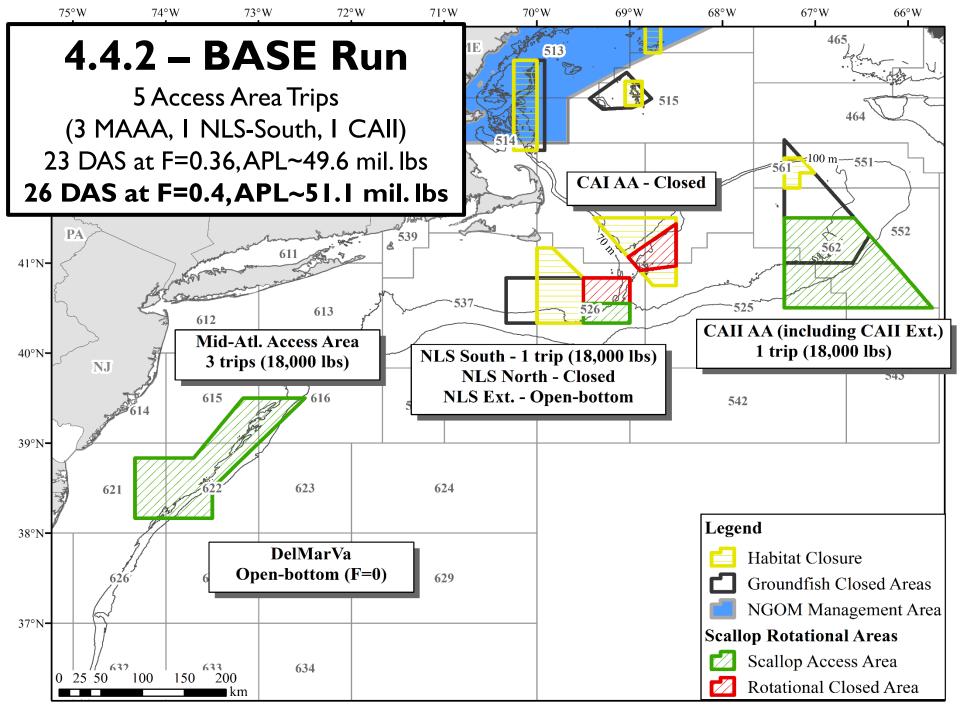
Specification Alternatives

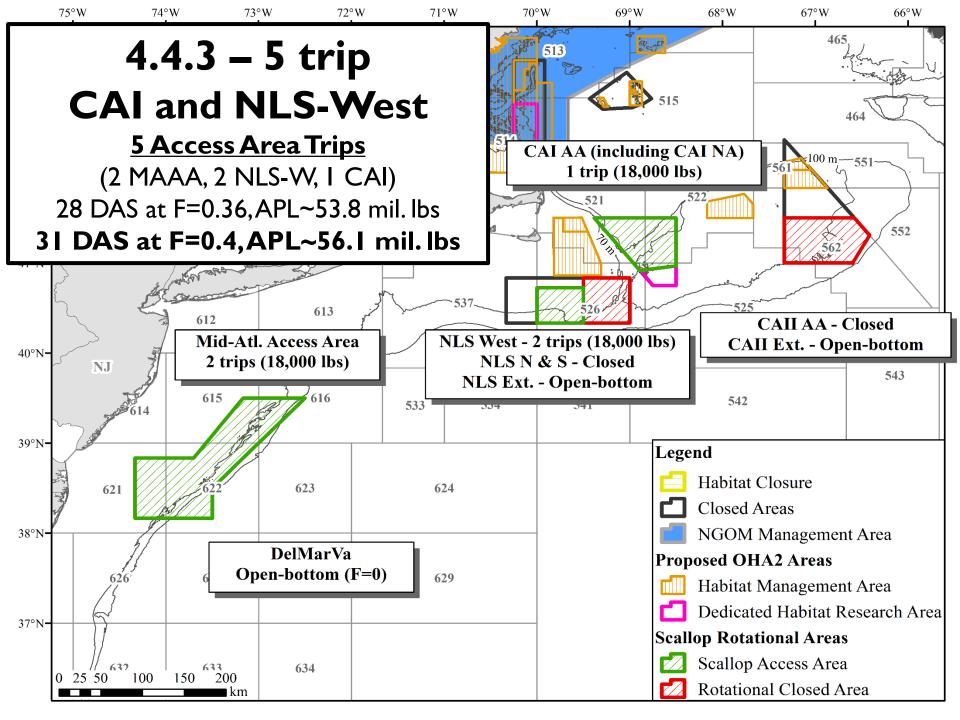
See <u>Handout</u> of Document 2a, "Table 8"

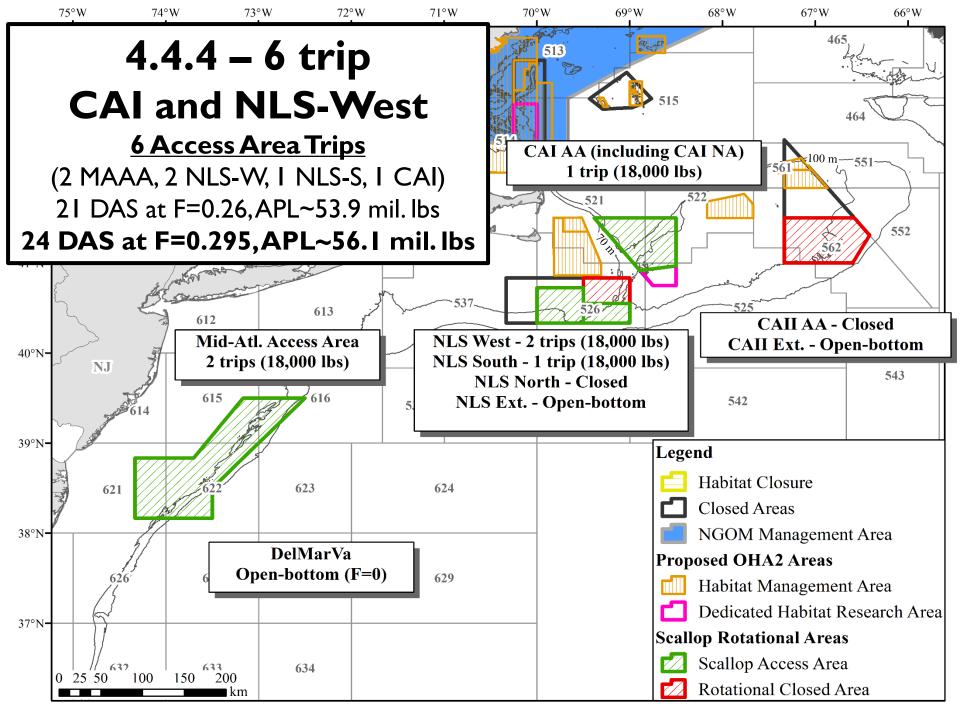
Correction TO TABLE	8 in DOCUMENT	2a, there ar	e NO CH	ANGES t	o any va	lues shown	in this t	able.			
This version corrects	the spatial mana	gement con	figuratio	ons show	n for Alt	ternatives 3	and 5. I	n the last ve	rsion, th	nese were s	wapped.
	Status Quo	Alternative 1	Altern	ative 2	Alte	rnative 3	Alte	rnative 4	Alte	rnative 5	Alternative 6
FW 29 Measure	FW 28 preferred	No Action	Base	Runs	Both CA	and NLS-W	Both CA	and NLS-W	Only NLS	West opens	Only CAI
	applied in 2018	(FW 28 Def.)				5 trip option		5 trip option			Opens
Section in FW29	4.4.7	4.4.1	4.4.2.1	4.4.2.2	4.4.3.1	4.4.3.2	4.4.4.1	4.4.4.2	4.4.5.1	4.4.5.2	4.4.6
Open Area F	F=0.44	F=0.39	F=0.36	F=0.4	F=0.36	F=0.4	F=0.26	F=0.295	F=0.36	F=0.4	F=0.36
Run Title	sq	na	BASE36	BASE40	5BOTH36	5BOTH40	6BOTH26	6BOTH295	NLSW36	NLSW40	CAIF36
Landings w/ CAI carryover					57.7 mil	59.9 mil	57.9 mil	60 mil	57.8 mil	59.9 mil	53.0 mil
APL after set-asides	41.7 mil	22.3 mil	49.6 mil	51.5 mil	53.8 mil	57.6 mil	53.9 mil	56.1 mil	53.9 mil	55.9 mil	49.0 mil
FT LA DAS	25	21.75	23	26	28	31	21	24	28	31	23
FT Access Area Allocation	72,000	18,000	90,000	90,000	90,000	90,000	108,000	108,000	90,000	90,000	90,000
FT trips at 18,000 lbs	4	1	5	5	5	5	6	6	5	5	5
LAGC IFQ Only (5%) Quota	2.08 mil	1.1 mil	2.48 mil	2.57 mil	2.69 mil	2.8 mil	2.7 mil	2.8 mil	2.7 mil	2.8 mil	2.45 mil
Projected Open Area LPUE	2,178	2,221	2,508	2,476	2,531	2,500	2,607	2,581	2,531	2,500	2,508
Area Swept Est. (sqnm)	4,214	2,581	2.852	3.095	2,673	2,941	2.050	2.271	2,584	2,941	2,777
Area Swept Est. (Squin)	-1,21-1			-,		work 29 Specifica		,	2,304	2,341	2,777
Georges Bank Area		1		Í							
CL1ACC	Closed	Closed	Closed	Closed	1 trip CA I	1 trip CA I AA	1 trip CA I	1 trip CA I AA	Closed	Closed	1 trip CA I AA
CL1NA	Closed	Closed	Closed	Closed	AA (CL1ACC &	(CL1ACC & CL1NA)	AA (CL1ACC &	(CL1ACC & CL1NA)	Closed	Closed	(CL1ACC & CL1NA)
CL-2(N)	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
CL-2(S)	CA 11 AA	classed.	1 trip CA II	1 trip CA II	el	el	el	el	el	classed.	1 trip CA II AA
	CA II AA	Closed	AA	AA	Closed	Closed	Closed	Closed	Closed	Closed	(CL-2(S) &
CL2Ext	Closed	Closed		(CL-2(S) &	Open	Open	Open	Open	Open	Open	CL2Ext)
NLSAccN	NLS AA	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
NLSAccS			1 Trip in NLS-South	1 Trip in NLS-South	Closed	Closed	1 Trip in NLS-South	1 Trip in NLS- South	1 Trip in NLS-South	1 Trip in NLS- South	1 Trip in NLS- South
	NLS AA	Closed	NLS-SOUTH	NLS-SOUTH	2 Trips in	2 Trips in NLS-	2 Trips in	2 Trips in NLS-	2 Trips in	2 Trips in NLS-	South
NLSNA	Closed	Closed	Closed	Closed	NLS-West	West	NLS-West	2 mps miles- West	NLS-West	West	Closed
NLSExt NF	NLS AA Open	Closed Open	Open Open	Open Open	Open Open	Open Open	Open Open	Open Open	Open Open	Open Open	Open Open
SCH	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open
SF	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open
MidAtlantic											
a Block Island	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open
b Long Island	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open
d MA inshore	Open Open	Open Open	Open Open	Open Open	Open Open	Open Open	Open Open	Open Open	Open Open	Open Open	Open Open
e HCSAA	МААА	MAAA	open	open	open	open	open	open	open	open	open
			3 Trips	3 Trips	2 Trips		2 Trips		2 Trips		
ET Open	MAAA	MAAA	MAAA	MAAA	MAAA	2 Trips MAAA	MAAA	2 Trips MAAA	MAAA	2 Trips MAAA	2 Trips MAAA
g ET Flex	ET-Flex	Closed	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
h DMV	МААА	МААА	Open, DMV@F=0	Open, DMV@F=0	Open, DMV@F=0	Open, DMV@F=0	Open, DMV@F=0	Open, DMV@F=0	Open, DMV@F=0	Open, DMV@F=0	Open, DMV@F=0
Virginia	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open

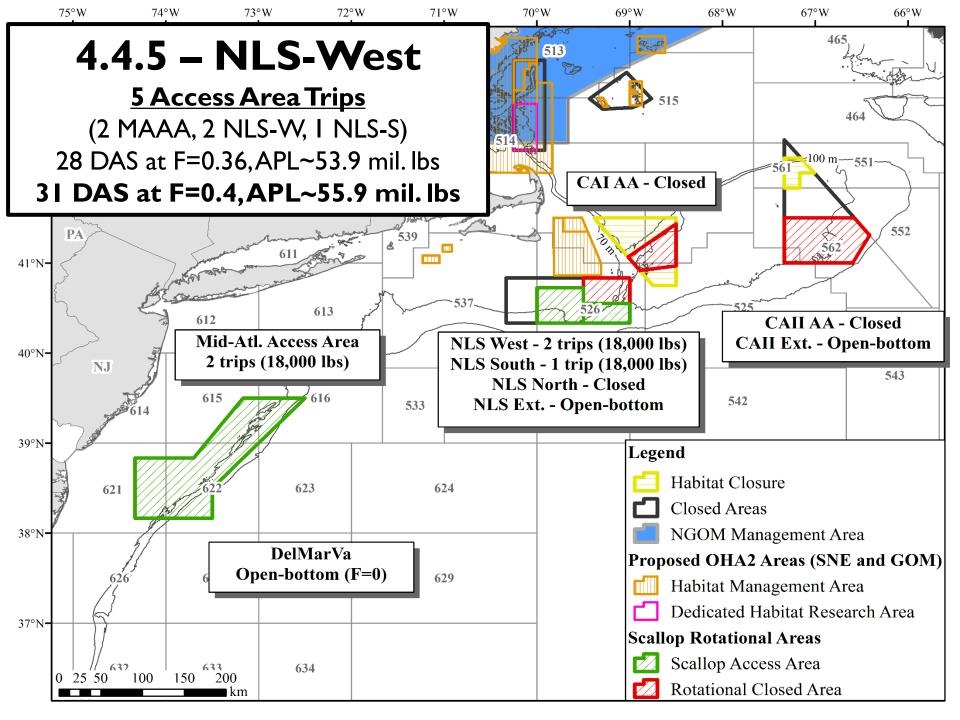


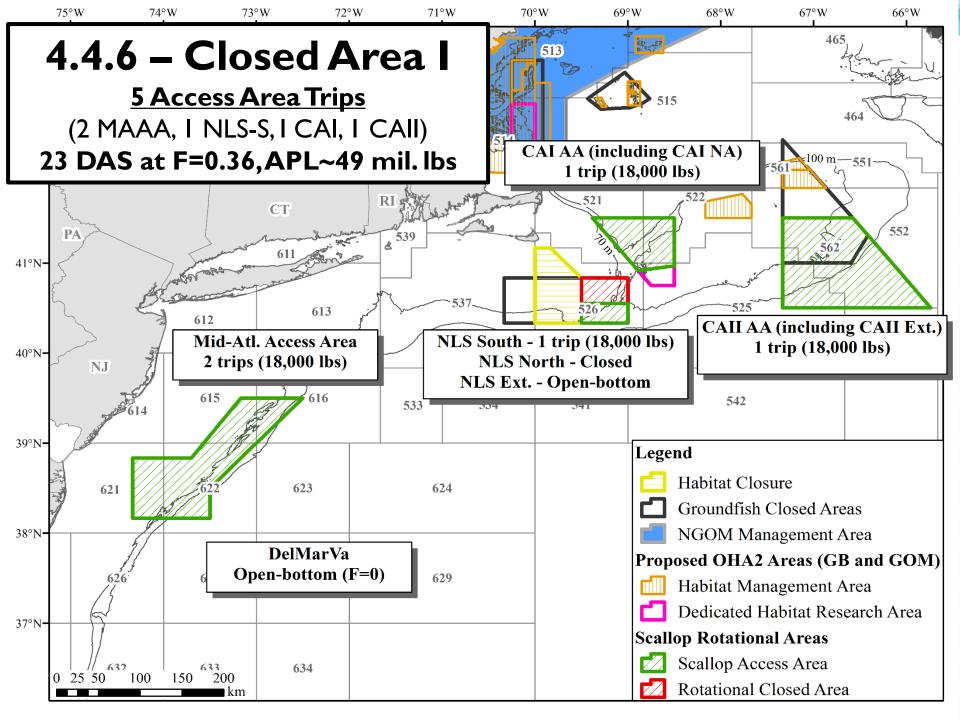










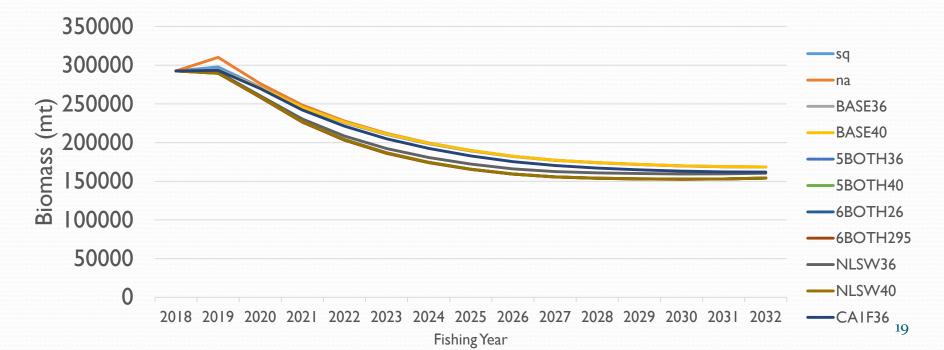


Overall Summary of AA options

"Rank"	Alternative	Impacts
Best	Alt. 4 – "6 trips" Both CAI + NLSW	Highest Landings and Revenue, Lowest bycatch and swept area, Low F
Better	Alt. 5 – NLS-only Alt. 6 – CAI-only	Positive impacts relative to Alt. 2 (BASE) for revenue, bycatch reduce, biological
Good	Alt. 2 - BASE	Positive impacts relative to SQ and NA, increase in landings from FW28
Not Ideal	Alt. I - No Action Alt. 7 - Status Quo	Lowest Landings and Revenue, Highest Bycatch and Swept Area (SQ)

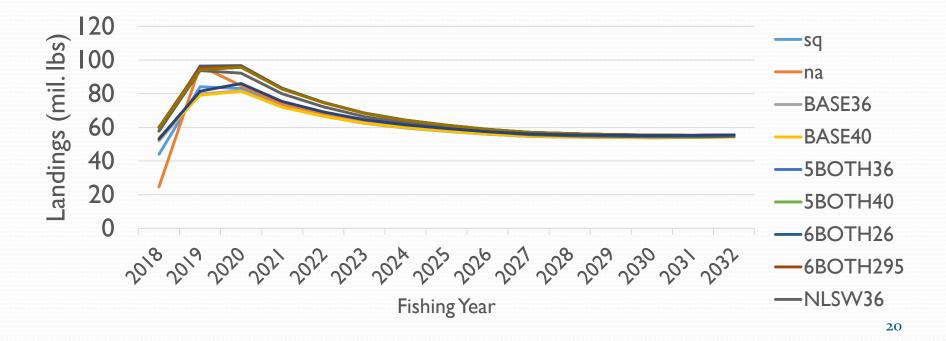
Projected Biomass

- Overall the projected biomass estimates are similar in the short and long run.
- No Action (default measures, lowest allocation), results in slightly higher biomass in the short term.
- Alternative 2 BASE runs assume EFH areas remain closed.



Biological Considerations

- Overall F for all runs less than F=0.18.
- Risk of overfishing is low for all alternatives under consideration.
- Landings projections generally reflect assumptions re: OHA2
 - Higher if areas open, lower if they stay closed



Summary of Economic Impacts

FW 29 Measure	Status Quo	Alternative 1 No Action (FW 28 Def.)	Alterna Base		Alterna Both CAI a W open opti	and NLS- , 5 trip	NLS-W	ative 4 AI and open, 6 ption	Only N	native 5 NLS West Dens	Alternative 6 Only CAI Opens
Section in FW29	4.4.7	4.4.1	4.4.2.1	4.4.2.2	4.4.3.1	4.4.3.2	4.4.4.1	4.4.4.2	4.4.5.1	4.4.5.2	4.4.6
Open Area F	F=0.44	F=0.39	F=0.36	F=0.4	F=0.36	F=0.4	F=0.26	F=0.295	F=0.36	F=0.4	F=0.36
Landings w/ CAI carryover (mil Ibs)					57.7	59.9	57.9	60	57.8	59.9	53.0
Revenue, mil.\$ (2017\$)	573	340	641	659	713	733	713	734	698	733	665

Positive ST and LT economic impacts with all alternatives.

- Alternatives that include access to NLS-W or CA-I (Alt. 3,4,5,6) result in higher benefits compared to no openings through OHA2 (SQ,Alt. I & 2)
 - Higher benefits generally a result of redirecting effort out of CAII in 2018 to areas with larger scallops and/or higher densities.
- Alternatives 3 and 4 (Both CAI and NLS-W open) have the highest landings, revenues, and total benefits in FY 2018.

Summary of EFH Impacts

- Lowest overall swept area estimates for Alternatives that open both NLS-W and CAI → High densities of large animals
- Alt. 3-6 appreciably less swept area than SQ, NA, and Alt. 2

	Alt. 2	Alt. 4	Alt. 5	Status Quo
	4.4.2.2	4.4.4.2	4.4.5.1	4.4.7
	BASE F=0.4	6BOTH F=0.295	NLSWest F=0.36	Status Quo F=0.44
Access Area (sq nm)	885	443	318	1,459
Open Area (sq nm)	2,209	1,828	2,264	2,754
Total (sq nm)	3,094	2,271	2,583	4,213
Total Landings	53.8 mil Ibs	60 mil Ibs	57.8 mil Ibs	44 mil. Lbs

Summary of impacts on Protected Resources

- There are no major PR interaction concerns if NLS-West and/or CAI-N are open and fished.
- AA effort to the NLS-West and(or) CAI will likely have positive impacts on PR compared to Status Quo.
- Open area configuration with NLS-ext and CAII-ext open bottom may reduce open area fishing in MAAA.
- Alternatives with 2 trips in MAAA have positive impact relative to 3 MAAA trip option.

Updates on flatfish catch & ACLs

- Final year end groundfish catch report for FY2016 has been released. No Reactive Scallop AMs triggered for FY2018.
- Update Sub-ACLs for FY 2018. See below.

Stock	Sub-ACL FY 2017	FY 2018 Sub-ACL	% Change	
GB Yellowtail Flounder	32 mt	33 mt	3.10%	
SNE/MA Yellowtail Flounder	34 mt	5 mt	-85.30%	
GOM/GB Windowpane	36 mt	l8 mt	-50%	
SNE/MA Windowpane Flounder	209 mt	I 58 mt	-24.40%	

See Documents 4, 7, and 8

Impacts: Flatfish Bycatch Estimates

 The projections are forecasts (with error) and should not be taken as precise estimates.

	Georges Bank Yellowtail	Northern Windowpane	SNE/MA Yellowtail	Southern Windowpane
2018 US ABC	213	92	68	473
Scallop Allocation (% of ABC)	16%	21%	90% of Estimate	36%
Sub-ACL (mt)	33	18	5	158
Range of Projected Catch (mt)	5.57 - 43.44	46.69 - 68.08	3.84 - 5.25	228.6 - 308.23

Measures implemented by Council to reduce bycatch in Scallop Fishery:

- Zero possession/prohibition of retention
- 10" twine top to allow escapement of flatfish from dredge
- Maximum 7-row apron
- Seasonal Closure of CAII AA from Aug. 15 Nov. 15 to protect YT, and secondarily windowpane
- Prohibition of RSA compensation fishing in CAII (1.25 million lbs) (Proposed again this year)

Impact of Spatial Management on Scallop Fishery Bycatch: FW 29

- Where the fishery is allocated access area trips matters;
- The impacts of rotational management on flatfish stocks are likely to be mixed.
- The highest bycatch estimates of Georges Bank yellowtail flounder (~36 mt - ~46 mt) are when CAII is open.
- Closing Closed Area II in 2018 results in substantially lower bycatch estimates of yellowtail (~5.5 mt - ~13 mt), which are below the sub-ACL for this stock.
- Closing Closed Area II in 2018 also reduces bycatch estimates for Northern windowpane flounder.

Overall Summary of AA options

"Rank"	Alternative	Impacts
Best	Alt. 4 – "6 trips" Both CAI + NLSW	Highest Landings and Revenue, Lowest bycatch and swept area, Low F
Better	Alt. 5 – NLS-only Alt. 6 – CAI-only	Positive impacts relative to Alt. 2 (BASE) for revenue, bycatch reduce, biological
Good	Alt. 2 - BASE	Positive impacts relative to SQ and NA, increase in landings from FW28
Not Ideal	Alt. I - No Action Alt. 7 - Status Quo	Lowest Landings and Revenue, Highest Bycatch and Swept Area (SQ)

Framework 29 Measures

Document 2a: Document 2: Draft Framework 29 "Decision Document" Version 3 (12/4/17)v.2 – Council Mailing Summary of Measures Update Sent 11/27/17 Additional updates **High Level Impacts NEW:**AP/CTE Input expected #2a DECISION DOCUMENT DRAFT for Council Mailing Copy (version 2) Framework Adjustment 29 November 27, 2017 to the Atlantic Sea Scallop FMP Council Mailing Copy (11/27/17, version 2) Framework 29 to the Scallop FMP This decision document will be updated again for the Council after the Advisory Panel and Committee meet to reflect their input on alternatives under consideration in this action (version 3). An earlier version of this document was sent to the AP and Committee on Nov. 22, 2017. Including a Draft Environmental Assessment (EA), an Initial Regulatory Flexibility Analysis and Stock Assessment and Fishery Evaluation (SAFE Report) Scallop Report - Council Meeting Initial Council Meeting: April 18-20, 2017 Final Council Meeting: December 7, 2017 Submission of Decision Document: Submission of Preliminary EA: Newport, RI Submission of Final EA:

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Section 4.1 – OFL and ABC

- SSC Approved PDT Recommendation for OFL and ABC.
- Survey estimates adjusted to account for observed slow growth in the Nantucket Lightship and Elephant Trunk "flex" areas. The net impact of these adjustments is that estimates are 1) more accurate 2) lower than unadjusted values.
- Even with modifications to model parameters, overall increases overall biomass estimates, OFL, and ABC

	FY	OFL	ABC including discards	Discards	ABC with discards removed
Alt. I – No Action	2018	69,678	56,992	13,850	43,142
Alt. 2 – Updated	2018	72,055	59,968	14,018	45,950
OFL and ABC	2019	69,633	58,126	12,321	45,805

Section 4.1 – OFL and ABC

Document 2a: Page 5

• Document 2: Pages 20 - 23

Section2.1		OFL and ABC	PDT Pref.	AP Pref.	CTE Pref.
4.1.1	Alt. I	No Action for OFL and ABC			
4.1.2	Alt. 2	Updated OFL and ABC for FY2018 and FY2019 (default)	**	**	**

 PDT, AP, and Committee support Alternative 2 (4.1.2), updating OFL/ABC for 2018 and 2019.

Section 4.2 - Northern Gulf of Maine

- Document 2a: Page 6 8
 Document 2: Pages 23 27

Three Alternatives under Consideration:

Alternative I – No Action, NGOM TAC set at 95,000 lbs

- No change to management measures in the area.
- Alternative 2 See next slide
- Alternative 3 Set NGOM TAC at Zero
 - The NGOM Management Area would not open to scalloping.

Section 4.2 - Northern Gulf of Maine

- Alternative 2 does several things:
 - I. Set the overall TAC for 2018 and 2019 based on 2017 survey data of Stellwagen Bank and Jeffreys Ledge (F=0.15 or F=0.18)
 - Caps removals for all fishery components, and develops 2. separate TACs for LA and LAGC (two ways to split the TAC)
 - 3. LA share of NGOM TAC could only be fished as NGOM RSA compensation pounds. Additional reporting requirements (VMS hails) for these trips. Preference to NGOM research.
 - 4. Overages deducted from following year's TAC
- Rationale: This TAC split is intended to be a short term solution...until a future action can be developed to address NGOM issues more holistically. Not intended to be permanent.

Section 4.2 - Northern Gulf of Maine

FY 2018	F=0	0.15	F=0.18		
	165,000 lb (overall TAC	200,000 lb o	overall TAC	
Alternative 2	4.2.2.1.1a 4.2.2.1.2a		4.2.2.2.1b	4.2.2.2.2b	
Sub-Option:	(70k, 50/50)	(95k, 25/75)	(70k, 50/50)	(95k, 25/75)	
LA (RSA) TAC (lbs)	47,500	52,500	65,000	78,750	
LAGC TAC (lbs)	117,500	112,500	135,000	121,250	

• If Alternative 2 is preferred, additional decisions:

• Overall TAC of F=0.15 or **F=0.18**

• subTAC split: 70k, then 50/50 or 95k, then 25/75

CTE Supports for Alternative 2, Option 2b, sub-Option 1b <u>4.2.2.1b</u>

Section 4.3 – Allocate CAI Carryover

- I,638,604 pounds of LA CAI Carryover, I 30 LA vessels
- Allocation is primarily from FY 2013. Trips were allocated through a lottery, but not harvested because it was not economically feasible.
- Alternative 2 would allocate these pounds if either NLS-West or CAI Access Areas open through OHA2 for FY 2018

Allocation Year	Authorized	Landed	Underharvest
FY 2012	590,641	306,461	284,180
FY 2013	I,534,000	179,576	I,354,424
Total	2,124,641	486,037	I,638,604

Section 4.3 – Allocate CAI Carryover

Document 2a: page 9 Document 2: pages 28-29

Section 4.3	Allo	cate LA Closed Area I Carryover	PDT	AP	CTE
		Pounds	Pref.	Pref.	Pref.
4.3.I	Alt. I	No Action			
		Allocate LA CAI Carryover Pounds			
		for FY 2018, contingent upon OHA2	**	**	**
4.3.2	Alt. 2	approval			

PDT, AP, and Committee Support Alternative 2

Section 4.4 – Specifications

- Document 2a: Table 1, page 4. See also: p.10-15
- Document 2: Pages 29 48, impacts in Section 7
- Handout Document 2a, Table 5 correction (All allocations stayed the same)
- Anticipate NMFS to make a decision on OHA2 by January 4, 2018, after the Council takes final action on FW29
- Time is short, 3 $\frac{1}{2}$ months out from April 1 start of FY.
- The Council has developed a range of measures to facilitate harvest of scallops in the Nantucket Lightship and/or Closed Area I if these areas open.
- The AP and Committee identified a preferred alternative for all OHA2 scenarios in FW29.

Section 4.4 – PDT Input Document 6c

- Option of F=0.4 vs. F=0.36, PDT recommends F=0.36
- If Council wants to further reduce impacts on open bottom, the PDT recommends Alt. 4, "6 trip" option.
- PDT has reservations about 3 AA trips in MAAA (and NLS-West)
- At low levels of DAS, there is uncertainty around how they fishery will utilize DAS.
- Substantial uncertainty around NLS-ext estimates, which impact DAS in most FW29 Alternatives

AP & Committee Preferred

OHA2 Scenario	AP and CTE preferred alternatives (same)	"Rank"
Both CAI + NLSW	4.4.4.2 – 6 trip option with F=0.295	Best
NLS-only	4.4.5.2 – NLS West F=0.4	Better
CAI-only	4.4.6 – CAI F=0.36	Better
No Change	4.4.2.2 – BASE F=0.4	Good

Section 4.5 – LAGC IFQ AA Allocations

- Document 2a: Pages 16 17 Document 2: Pages 49 50

• 4.5.1 - Decision 1: How to allocate IFQ AA trips?

- Alt I. Default Trips (558 trips)
- Alt 2. 5.5% of AA allocation
 - 5 trip options: 2,855 total trips
 - 6 trip options: 3,426 total trips

• 4.5.2 - Decision 2: Where to allocate those trips to?

- Alt I. 558 trips to MAAA
- Alt 2. Allocate LAGC IFQ Access Area Trips Proportional to Allocations in each area, and allocate the equivalent of CA II trips to evenly to Georges Bank access areas

Section 4.5 – LAGC IFQ AA Allocations

- Document 2a: Pages 16 17
- Document 2: Pages 49 50

Fishery Allocations to the LACC IEO Component		PDT	AP	CTE
Fishery Allocations to the LAGC IFQ Component		Preferred	Preferred	Preferred
4.5.1 - Allocation of the LAGC IFQ Trips in				
	Access Areas			
Alt. I	No Action (851 trips, default measure			
Alt. 2	5.5% of overall AA allocations	**	**	**
4.5.2 - LAGC IFQ Allocations by area				
Alt. I	Equal Disctribution to All Access Areas			
ΔI+ 2	Allocate LAGC IFQ Access Area Trips			
	Proportional to Allocations in each area, and	**	**	**
	allocate the equivalent of CA II trips to			
	evenly to Georges Bank access areas			

PDT, AP, and CTE support:

4.5.1 – Alternative 2 (4.5.1.2)

4.5.2 – Alternative 2 (4.5.2.2)

Issues to Clarify – Default Measures

Default Measures for FY2019 – Page 18 of Doc.2a

- For LA Vessels 75% of projected DAS, and I access area trip at 18,000 lbs in the MAAA.
- For LAGC vessels 75% of 2017 allocations, LAGC access area trips set at 5.5% of the total access area allocation for default measures. These trips would be available in the MAAA.

PDT, AP, and Committee Support this Approach

Section 4.6 – Measures to Reduce Fishery Impacts

- Measure focuses on RSA compensation fishing.
- Alternative 2 considers restrictions on RSA compensation fishing in FY 2018
 - NGOM Management Area (up to LA TAC)
 - CA II (yellowtail)
- This leaves the following areas available for compensation fishing:
 - Open Areas
 - All other access areas that may open (CAI, NLS-S, NLS-W, MAAA)

Section 4.6 – Measures to Reduce Fishery Impacts

Doc 2a. – Page 19

Document 2 – Page 50

Section 4.6	M	Measures to Reduce Fishery Impacts			CTE Pref.
4.6.I	Alt. I	No Action, RSA Comp fishing restricted to open areas			
4.6.2	Alt. 2	RSA Comp fishing prohibited in CAII, and limited to LA TAC in NGOM	**	**	**

• PDT, AP, and Committee Support Alt. 2 (4.6.2)

Sections 4.7 – 4.9 – Flatfish AMs

Doc 2a. – Pages 20 - 23 Document 2 – Page 50

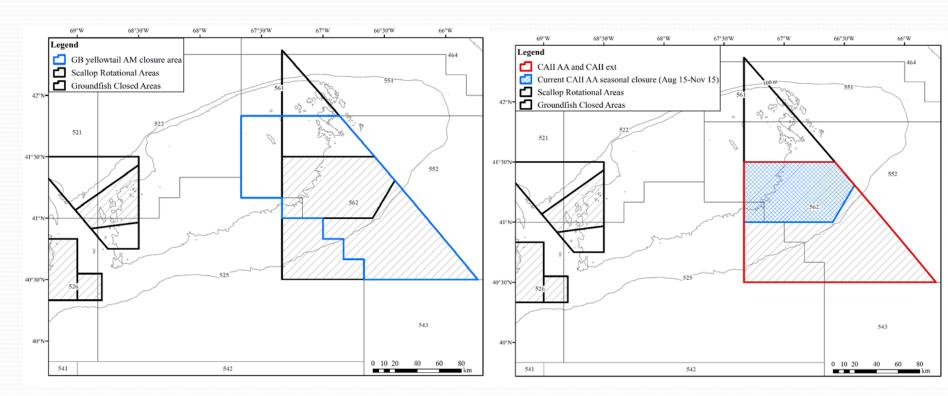
Document 7. – Draft Appendix of Flatfish AMs

- Measures generally focus on developing gear restricted areas → Streamline and simplify scallop AMs.
- GRA gear is the same gear used in SNE Windowpane AM
- PDT developed AM measures that aim to reduce catch of multiple flatfish stocks (i.e. GB yellowtail and Northern windowpane). With this approach, achieve bycatch savings for multiple stocks if AM is triggered.
- "Savings" are approximations Feb. 2018 is first time GRA gear will be required in an AM.

Section 4.8 – Georges BankYT Flounder

Alternative I – No Action Varying time/area closures

Alternative 3 – CAII + Ext GRA, 6 weeks, year round



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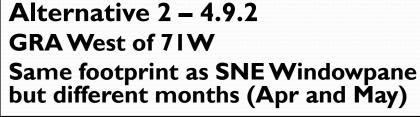
Georges Bank GRA Comparisons

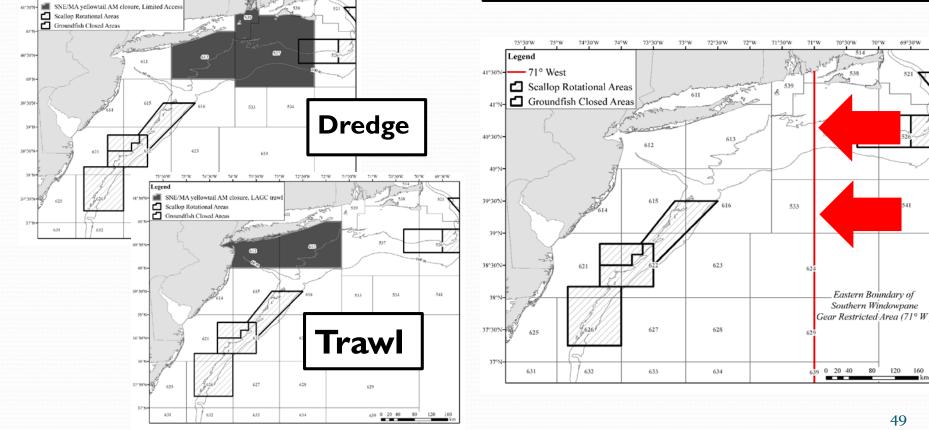
	Alternative 2 – GB Open Areas	Alternative 3 – Closed Area II + Ext
Small AM	GRA - April I – April 30 Savings: GBYT ~2% NWP ~9%	GRA Nov. 16 – Dec. 31 Savings: GBYT ~9% NVVP ~24%
	GRA - April I – May 31 Savings GBYT ~ 11% NWP ~21%	Sub-Option 1: Year round GRA GBYT ~33% NWP ~46%
Large AM		Sub-Option 2: CLOSURE Nov. 16 – Dec. 31 st Savings: GBYT ~28% NWP ~51%

Section 4.9 – SNE/MA Yellowtail Flounder

Alternative I – 4.9.I 3 diferent reactive AMs by gear and component

Legend





Section 4.7 – Northern Windowpane AMs

Doc 2a. – Page 17 Doc 2. – Pages 51-56

Section 47	Section 4.7 AMs for Northern Windowpane		PDT	AP	CTE
Section 4.7			Pref.	Pref.	Pref.
4.7.I	Alt. I	No Action			
4.7.2	Alt. 2	Reactive AM in GB Open Areas			
		Reactive AM in CAII and Extension			
		(same "small" AM for both sub-			
4.7.3	Alt. 3	Options			
		Large AM – Year Round GRA in		**	**
4.7.3.1	sOI	CAII and CAII-ext			
		Seasonal Closure in CA II and CAI ext			
4.7.3.2	sO2	(Nov 16 – Dec 31)			

Section 4.8 – GB Yellowtail AMs

Doc 2a. – Page 18 Doc 2. – Pages 56-61

Section 4.8	AMs for GBYT	PDT	AP	CTE	
			Pref.	Pref.	Pref.
4.8.I	Alt. I	No Action			
4.8.2	Alt. 2	Reactive AM in GB Open Areas			
		Reactive AM in CAII and Extension			
		(same "small" AM for both sub-			
4.8.3	Alt. 3	Options			
		Large AM – Year Round GRA in		**	**
4.8.3.I	sOI	CAII and CAII-ext		••	
		Seasonal Closure in CA II and CAI ext			
4.8.3.2	sO2	(Nov 16 – Dec 31)			

Section 4.9 – SNE/MA Yellowtail AMs

Section 4.9		AMs for SNE/MAYT		AP Pref.	
4.9.I	Alt. I	No Action			
		Reactive AM in GB Open Areas			
4.9.2	Alt. 2	Small AM – April (~10% savings)		**	**
		Large AM – April & May (~17% savings)			

