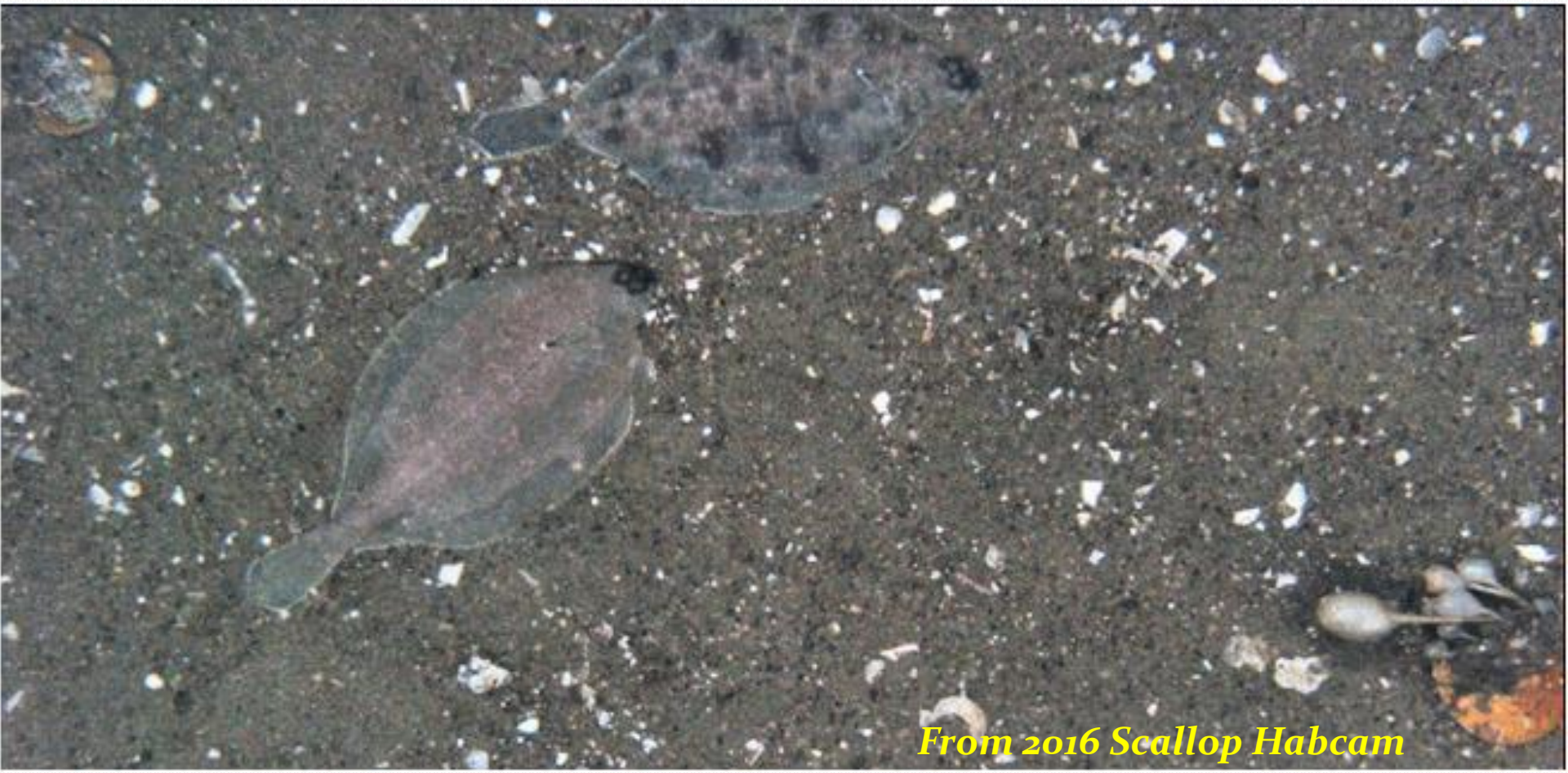
Framework Adjustment 56 Specifications and Management

Jamie M. Cournane, PhD
NEFMC Staff
Groundfish Plan Coordinator

Groundfish Advisory Panel and Groundfish Committee Meetings
January 18-19, 2017

New England Fishery Management Council

Framework Adjustment 56



Timeline for Framework 56

2016-2017	June, 2016	Council initiates action
	Jul-Jan	Develop specifications and management measures
	Sep	Council receives an update on progress
	Oct-Jan	Develop NEPA analysis
	Nov	Council takes final action (except for witch flounder specifications)
	Jan, 2017	Council takes final action on witch flounder specifications

Objectives

- **To meet regulatory requirements to prevent overfishing, ensure rebuilding, and help achieve optimum yield in the commercial and recreational groundfish fishery.**
- To evaluate an appropriate level of northern windowpane flounder catch in the scallop fishery.
- To evaluate an appropriate level of Georges Bank haddock catch in the mid-water Atlantic herring fishery.
- To evaluate the trigger for the Georges Bank yellowtail flounder and northern windowpane flounder accountability measures for the scallop fishery.

These include regulatory requirements:

- **Stock status changes, if any**
- Specifications:
  - US/CA stocks – Georges Bank cod, haddock, and yellowtail flounder for FY 2017- FY 2018
  - **Witch flounder for FY 2017 – FY 2019**

Range of Alternatives

4.1 Updates to status determination criteria and annual catch limits

4.1.1 Revised Status Determination Criteria

4.1.2 Annual Catch Limits

- US/CA stocks and **witch flounder**
- **Sub-component analysis** completed for all stocks
- Sub-Option 1: Develop an Atlantic Sea Scallop Fishery allocation for GOM/GB (northern) windowpane flounder
- Sub-Option 2: Increase the Midwater Trawl Atlantic fishery Sub-Annual Catch Limit for Georges Bank haddock
- Sub-Option 3: Exception to the scallop fishery AM implementation policy for the GB yellowtail flounder stock and northern windowpane flounder stock

Groundfish Assessments

- **TRAC Assessments** (July 2016)
  - Georges Bank yellowtail flounder,
  - Eastern Georges Bank cod,
  - Eastern Georges Bank haddock

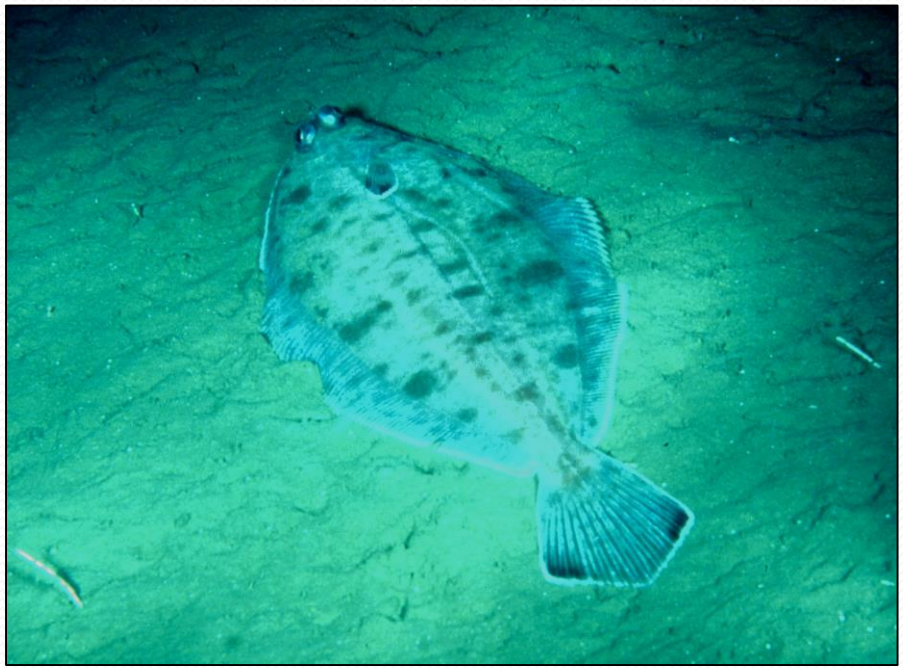
- **SAW/SARC 62** (Sept. – Dec. 2016)
  - Witch Flounder Benchmark

4.1 Updates to Status Determination Criteria and Annual Catch Limits

4.1.1 Revised Status Determination Criteria

4.1.1.1 Option 1: No Action

4.1.1.2 Option 2: Revised Status Determination Criteria



Witch Flounder. *Image courtesy of Steve W. Ross, UNC-W.*
http://oceanexplorer.noaa.gov/explorations/12midatlantic/background/canyons/media/witch_flounder.html

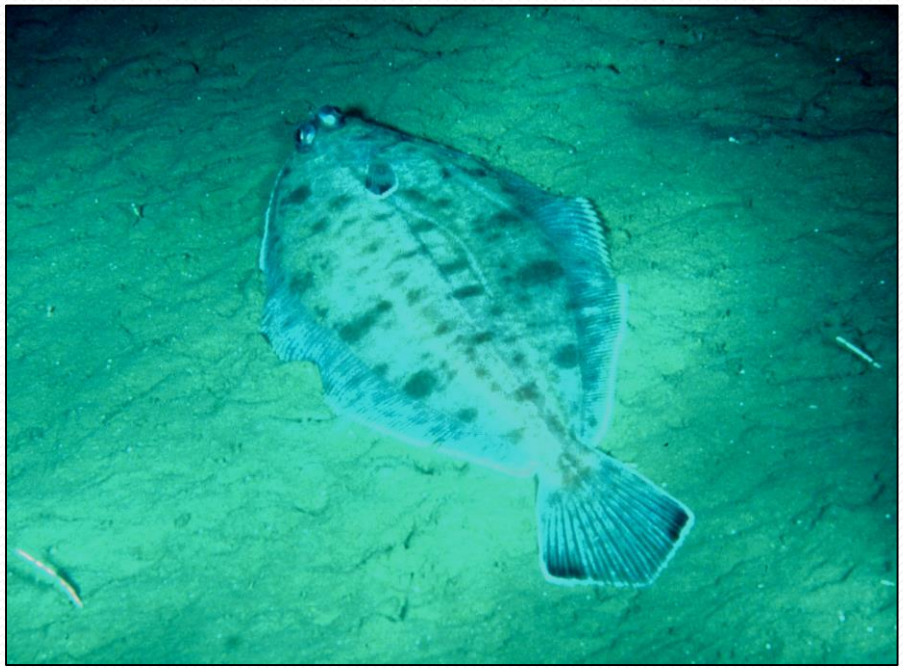
Option 2: Based on the findings of SARC 62: overfishing status and overfished status is now considered unknown for witch flounder.

4.1 Updates to Status Determination Criteria and Annual Catch Limits

4.1.2 Annual Catch Limits

4.1.2.1 Option 1: No Action

4.1.1.2 Option 2: Revised Annual Catch Limits – witch flounder



Witch Flounder. *Image courtesy of Steve W. Ross, UNC-W.*
http://oceanexplorer.noaa.gov/explorations/12midatlantic/background/canyons/media/witch_flounder.html

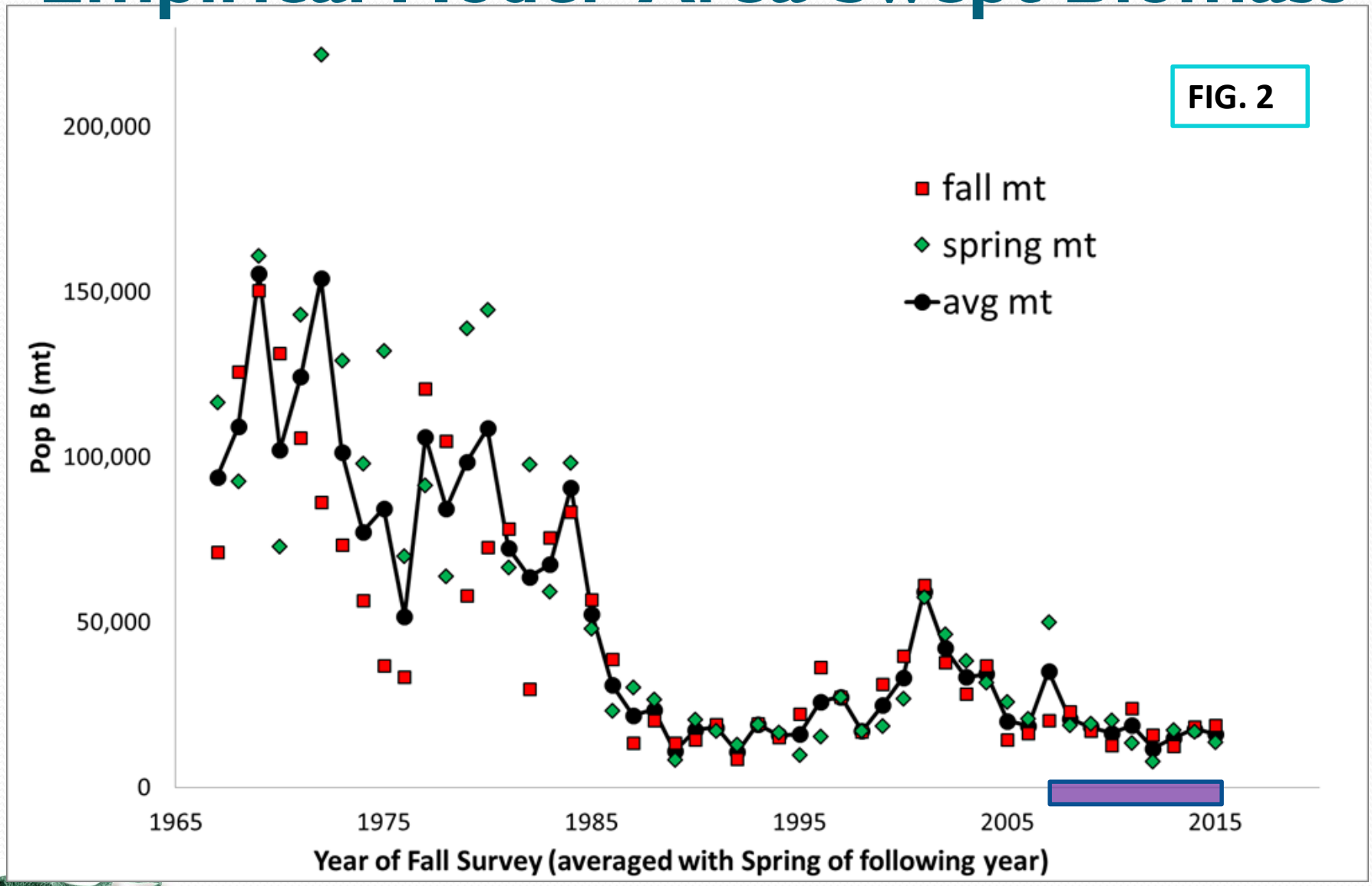
SARC 62 Summary

- Status: Unknown and Unknown
- Age structured models should not be use due to the major retro.
- Empirical area swept method suggests the biomass has declined over time.
- Age truncation is evident in both the landings and surveys.
- Empirical area swept method provides a 2017 OFL of 728 mt based on a relative exploitation rate of 0.05 (avg rate 2008-2015, range 0.03-0.07).

Basis for Catch Advice Options

- Using the empirical approach as a basis for catch advice, the PDT developed a set of options for the SSC to consider as candidate OFLS and ABCs.
- The SAW WG and the SARC determined that the exploitation rates observed in the last 9 years can be used as a defensible, ad-hoc F_{MSY} proxy, since the biomass estimates from the NEFSC survey have been relatively stable over this time period.
- The SARC rejected the former FMSY proxy, F40%, as a basis for catch advice.

Empirical Model- Area Swept Biomass



Correction

- The SAW/SARC proposed FMSY proxy was determined by taking the mean exploitation rate (total catch divided by average survey biomass) for the 9 most recent years, resulting in a value of 0.05.
- The proposed FMSY proxy (0.05) was then applied to the most recent exploitable biomass (90% of the average survey biomass).
- The PDT suggested that this is an incorrect approach since different “biomass” is used when applying the rate than when determining the proposed FMSY proxy.
- All the catch advice options developed by the PDT incorporate the correction. The corrected average exploitation rate from 2007 to 2015 is 0.06 which was used in the PDT calculations.

Catch Advice Decision Points

1. Consider the appropriate level of rounding for the exploitation rate.
2. Consider if the average or other estimates within the range should be considered as an OFL estimate, or as an ABC estimate with the OFL remaining as unknown.
3. Consider the use of a three year moving average for the OFL/ABC estimate.

Candidate OFLs and ABCs

TABLE 1

Candidate OFLs or ABCs (with undefined OFLs)

	Three decimals places			Two decimal rounding		
	maximum	average	minimum	maximum	average	minimum
year	0.076	0.060	0.036	0.08	0.06	0.04
2017	1107	874	524	1165	874	583
2018	1107	874	524	1165	874	583
2019	1107	874	524	1165	874	583

Candidate OFLs and ABCs

TABLE 2

Candidate ABCs based on 75% of the OFL

	Three decimals places			Two decimal rounding		
	maximum	average	minimum	maximum	average	minimum
year	0.076	0.060	0.036	0.08	0.06	0.04
2017	830	656	393	874	656	437
2018	830	656	393	874	656	437
2019	830	656	393	874	656	437

Candidate OFLs and ABCs

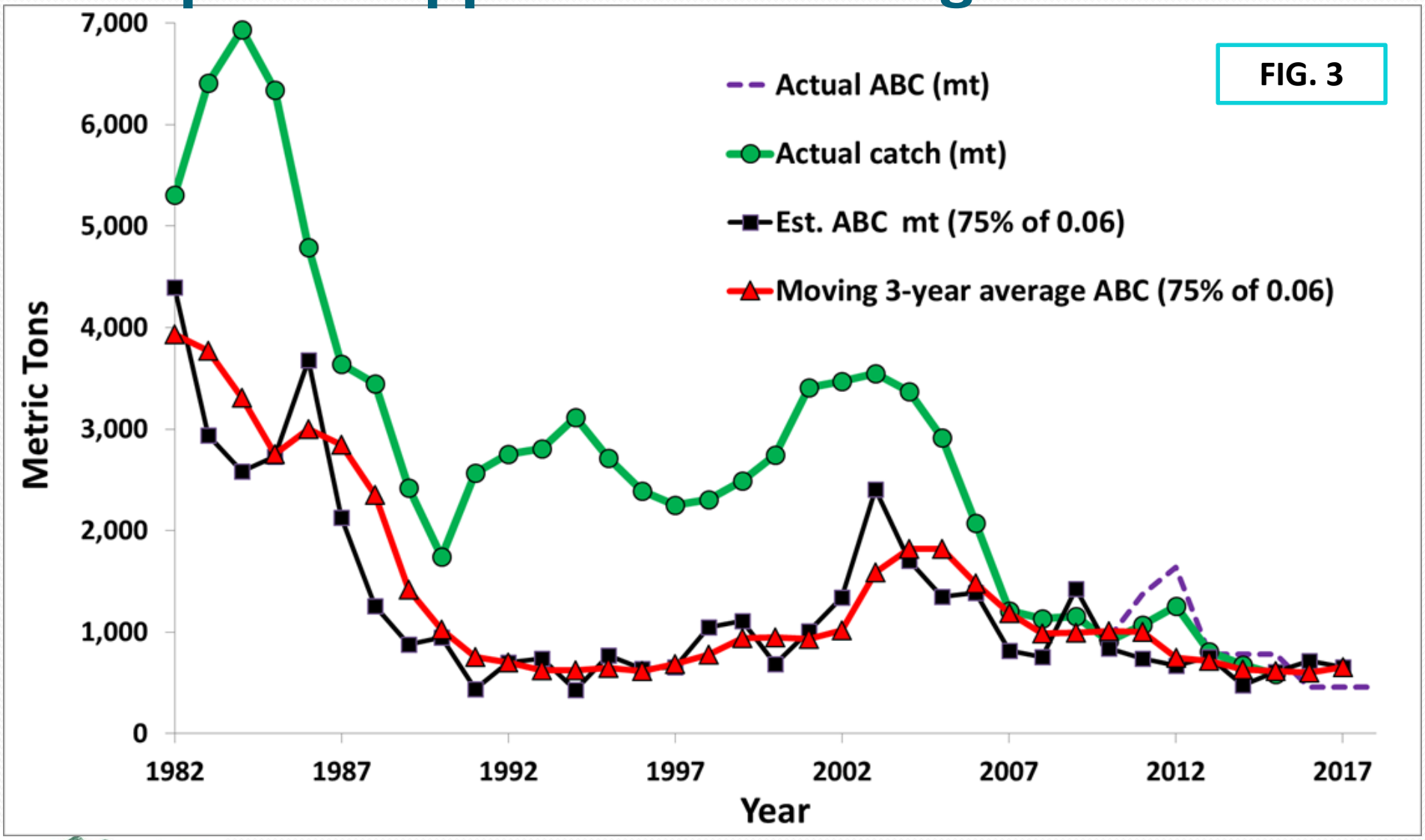
TABLE 3

	Candidate OFLs or ABCs (with undefined OFLs)
	Three year average exploitable biomass
year	0.060
2017	878
2018	878
2019	878

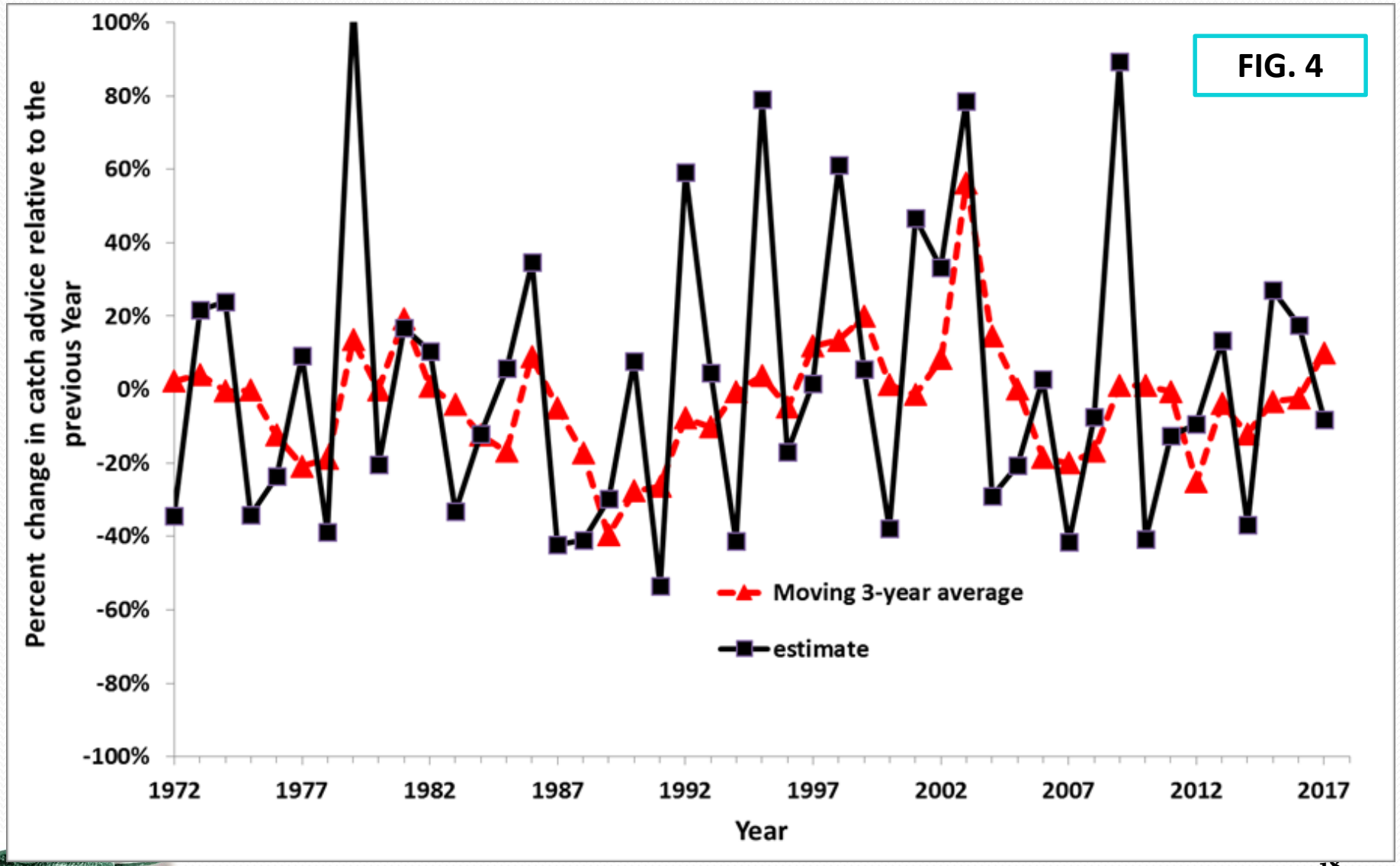
TABLE 4

	Candidate ABCs based on 75% of the OFL
	Three year average exploitable biomass
year	0.060
2017	659
2018	659
2019	659

Empirical Approach – Looking Back in Time

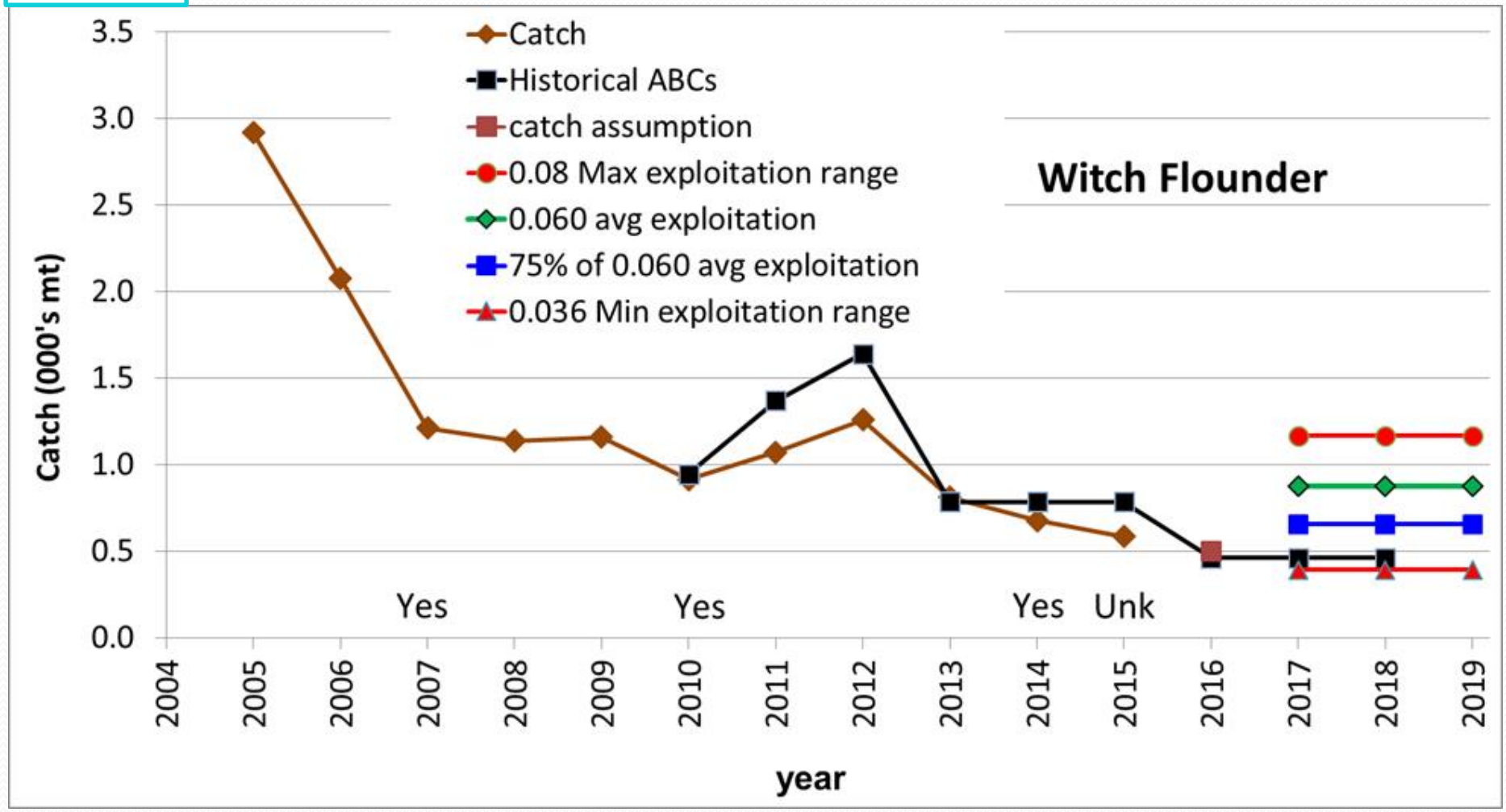


Comparison of Approaches – Relative Stability



Catch Performance

FIG. 1



PDT's CY 2016 Estimate of Catches

- The PDT estimated CY 2016 catches for witch flounder.
- The result is a catch estimate of 503.2 mt.

PDT's CY 2016 Estimate of Catches

TABLE 5

Estimated CY 2016 NE Multispecies Witch Flounder Catch (mt)

	ACLs and sub-ACLs; (with accountability measures (AMs))							sub-components: No AMs	
Stock	**Total Groundfish**	Groundfish*	Commercial Landings	Commercial Discard	Recreational	Herring Fishery	Scallop Fishery	State Water	Other
	A to G	A+B+C	A	B	C	D	E	F	G
Witch Flounder									
CY 2016	503.2	402.5	354.2	48.3				43.3	57.4

Values in live weight

*Includes estimate of missing dealer reports

Source: NMFS Greater Atlantic Regional Office

January 6, 2017: Data Date: January 2017

These data are the best available to NOAA's National Marine Fisheries Service (NMFS). Data sources for this report include: (1) Vessels via VMS; (2) Vessels via vessel logbook reports; (3) Dealers via Dealer Electronic reporting. Differences with previous reports are due to corrections made to the database.

Commercial

January - April, 2016 - Final FY15 data from Data Matching and Imputation System; May - December 2016 - FY16 current May - December catch, proportioned up by FY15 final to FY15 contemporaneous May - December catch.

State Water and Other Subcomponent - State water and scallop other subcomponent, FY16 estimate from annual trend starting in FY11, apportioned out monthly; non-scallop other subcomponent, FY16 estimate from annual trend starting in FY13, apportioned out monthly.

Rebuilding

- The plan is a 7 year plan set to rebuild by 2017 with a 75% probability.
- However without an analytical model and projections, progress toward rebuilding can no longer be tracked.

Catch Performance by Fishing Year

TABLE 6

			Total			Groundfish Fishery			Sector			Common Pool		
Fishing Year	OFL	ABC	ACL	Catch	Utilization	Sub-ACL	Catch	Utilization	Sub-ACL	Catch	Utilization	Sub-ACL	Catch	Utilization
2010	1,239	944	899	832.5	92.6%	852	725.3	85.1%	827	695.4	84.1%	25	30	119.9%
2011	1,792	1,369	1304	1186.0	84.8%	1236	997.1	74.1%	1211	992.9	75.3%	25	4.2	16.8%
2012	2,141	1,639	1563	1174.0	67.4%	1448	983.3	59.6%	1426	981.0	60.3%	22	2.3	10.3%
2013	1,196	783	751	745.2	99.2%	610	642.3	105.3%	599	638.9	106.6%	11	3.4	30.6%
2014	1,512	783	751	624.0	83.1%	610	515.4	84.5%	598	514.2	86.0%	12	1.2	9.6%
2015	1,846	783	751	643.0	85.6%	610	536.9	88.0%	596	523.2	87.8%	14	13.8	98.7%
*2016	521	460	441			370	186.2	50.3%	362	180.2	49.8%	8	5.9	75.1%
2017	732	460	441			370			362			8		
2018	954	460	441			370			362			8		

Sources: FY 2010-FY2015 Northeast Multispecies Fishery Final Year-End Results, NOAA/GARFO, accessed on 10/4/2016

*Inseason catch estimate as of 1/6/2017 for data reported through 1/3/17, NOAA/GARFO, accessed on 1/13/17

PDT Discussion

- Data (fishing landings and survey catch-at-age) indicates truncation of age structure and reduction in the number of old fish in the population
- 2013 year class – appears in all the surveys
- Some considerations when using an empirical approach for witch flounder:
  - Biomass estimates are noisy and looking back would have lead to large changes in catch advice from one year to the next
  - Uncertainty in the estimates of the exploitation rate in recent years
  - Does not include other important information about the stock (recruitment, age structure, etc.)

PDT Recommendations

- The PDT recommends that the three year moving average in exploitable biomass estimates and the mean exploitation rate observed over the last nine years (0.06) be used to derive catch advice.
- The PDT recommends that the three year biomass smoother be used, because it provides greater inter-annual stability in catch advice, and is more likely to reflect long term trends in the size of the resource.
- Under the approach recommended above, the OFL for witch flounder in FY 2017- FY 2019 would be 878 mt and then applying the control rule at 75% of the OFL (as an FMSY proxy) would result in an ABC of 659 mt in FY 2017 – FY 2019.
- Further, the PDT recommends that a set of standardized protocols are needed to guide the development of "empirical approaches" and their use for determining catch advice, to allow for greater consistency between species. The PDT hopes the NRCC's Plan B working group can discuss this issue in greater detail.

Draft SSC Recommendations
January 17, 2017

The OFL is unknown.

The ABC for FY 2017- FY 2019 is 878 mt. It is based on applying the empirical approach using a three year moving average (six surveys) in exploitation biomass estimates and the mean exploitation rate observed over the last nine years, 2007-2015, (0.060).

Revised Witch Flounder Specifications

(Based on 878 mt ABC and PDT's sub-component analysis)

Year	OFL	U.S. ABC	ACL Values									
			State Waters	Other sub-Components	Scallops	Ground fish	Comm Ground fish	Rec Ground fish	Sectors	Non-Sector Ground fish	MWT or Small Mesh	Total
2017		878	35	70		735	735		719	16		**839**
2018		878	35	70		735	735		719	16		**839**
2019		878	35	70		735	735		719	16		**839**

Goals for Today

- Discuss draft measures and draft impact analysis on witch flounder
- Groundfish Advisory Panel: Make recommendations to the Groundfish Committee
- Groundfish Committee: Make recommendations to the Council for Final Action