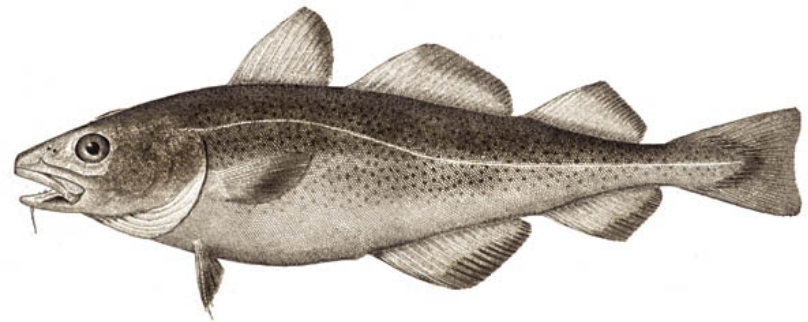
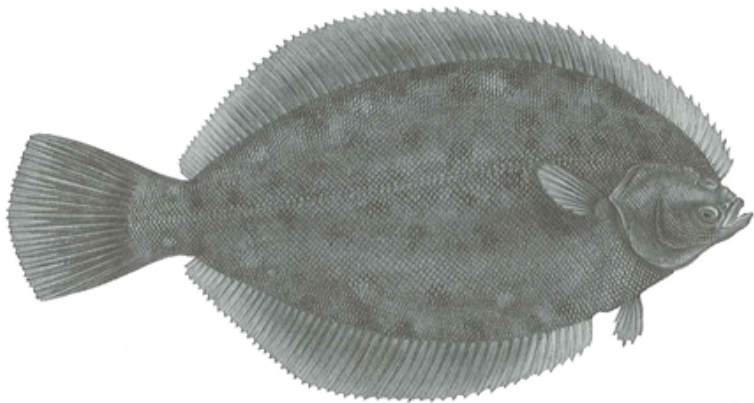


2013-2015 ABC Recommendations for  
Georges Bank Cod,  
Gulf of Maine Cod, and  
Southern New England/Mid-Atlantic  
Winter Flounder



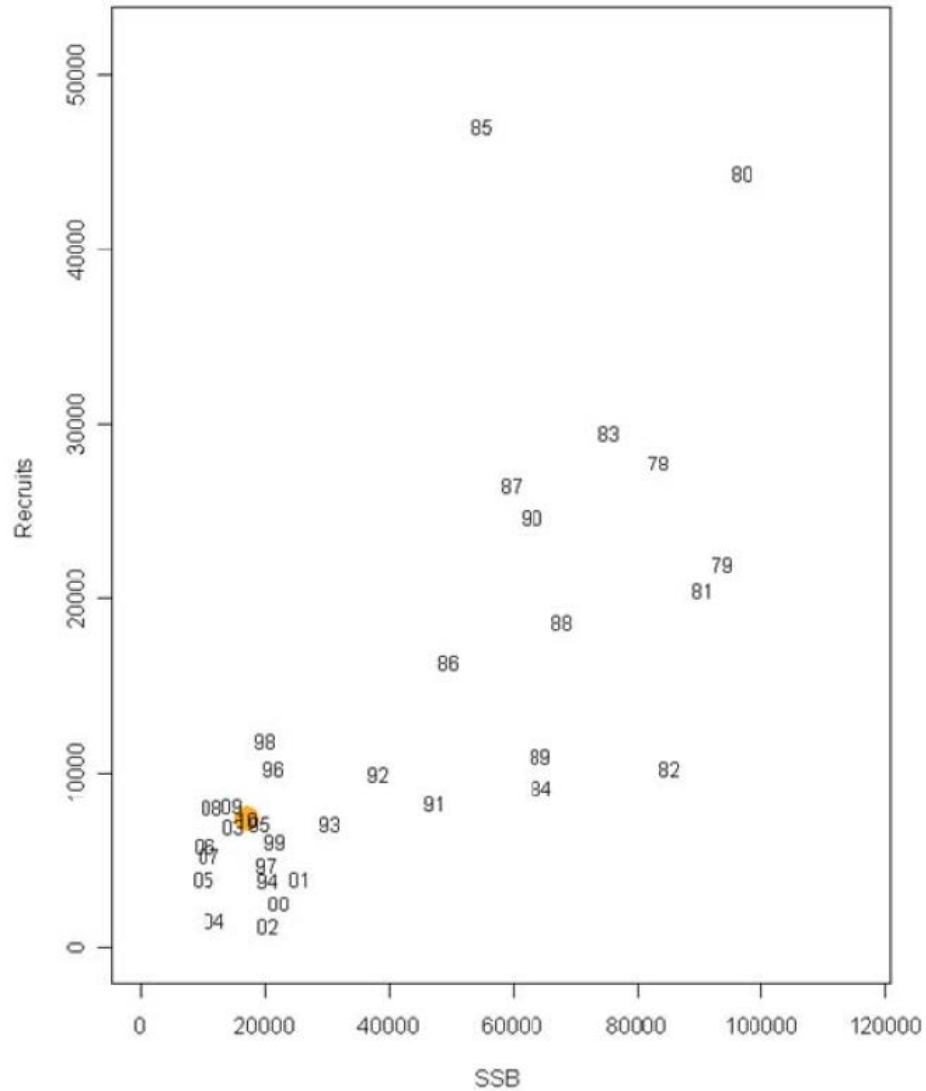
Jake Kritzer, Acting Chair

NEFMC Scientific & Statistical Committee

# Georges Bank Cod

- Recent projections tend to overestimate biomass when compared with new assessments.
- Actual catch  $\ll$  ABC for 2010-2012
- Distribution shifting to the north and east.
- SSB close to origin of S-R relationship.
- Age structure severely truncated.

# Georges Bank Cod





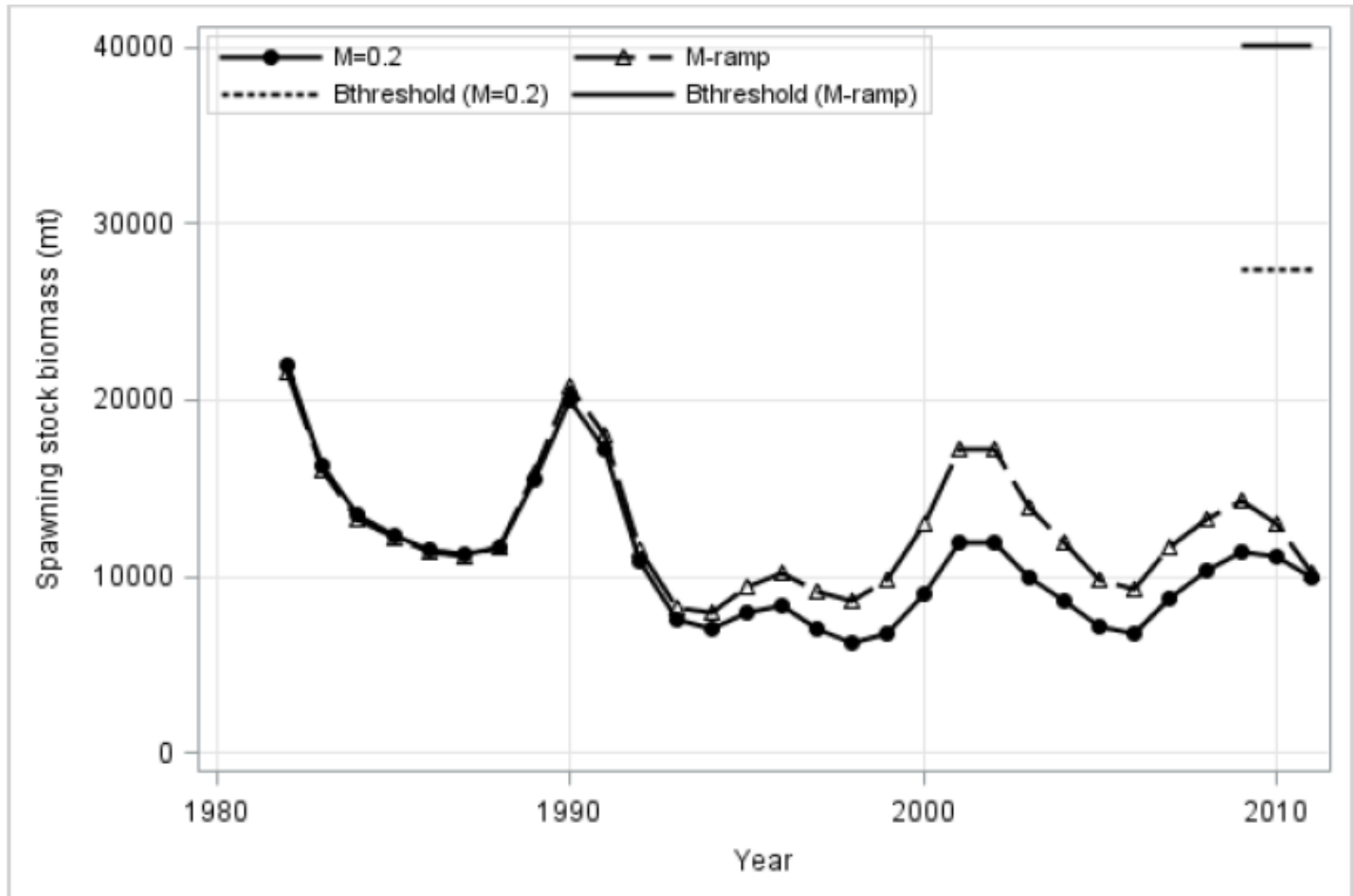
# Georges Bank Cod

- PDT recommended and SSC endorsed constant catch option to reduce risk of poor projections into future.
- Applies 75%Fmsy proxy to projected 2013 biomass, then retains that value for 2014-2015:
  - OFL: 2013 = 3,279mt, 2014 = 3,570mt, 2015 = 4,191mt
  - ABC for 2013-2015 = 2,506mt

# Gulf of Maine Cod

- Assessment considered two plausible scenarios:
  - Constant  $M=0.2$  (i.e., “base” model), consistent with cod life history traits.
  - Increased  $M$  from 0.2 to 0.4 (i.e., “M-ramp” model), consistent with tagging data, but mechanisms unclear.
- Multiple models enabled better understanding of uncertainty, but also introduced complications:
  - Persistence of change in  $M$ ?
  - Differences in projections?
  - Appropriate  $F$  value to use in determining catch advice?

# Gulf of Maine Cod



# Gulf of Maine Cod

**Table 4 – Consequence table for GOM cod constant catch scenarios**

75% of Fmsy:	0.135		Model							
F <sub>MSY</sub> :	0.18		Base Case				Mramp 0.4			
Model/Projection Approach	Year	Catch	SSB('000 mt)	F	Prob F>F <sub>MSY</sub>	Prob SSB< ½ SSBMSY	SSB('000 mt)	F	Prob F>F <sub>MSY</sub>	Prob SSB< ½ SSBMSY
Constant Catch 1,249 mt	2013	1,249	9.40	0.135	0.197	1	6.84	0.211	0.68	1
	2014	1,249	12.19	0.111	0.082	1	8.50	0.193	0.583	1
	2015	1,249	17.26	0.08	0.004	0.977	11.75	0.135	0.094	1
Constant Catch 1,550 mt	2013	1,550	9.34	0.17	0.42	100	6.77	0.267	0.891	1
	2014	1,550	11.86	0.143	0.232	100	8.21	0.252	0.867	1
	2015	1,550	16.63	0.104	0.035	0.982	11.26	0.178	0.48	1

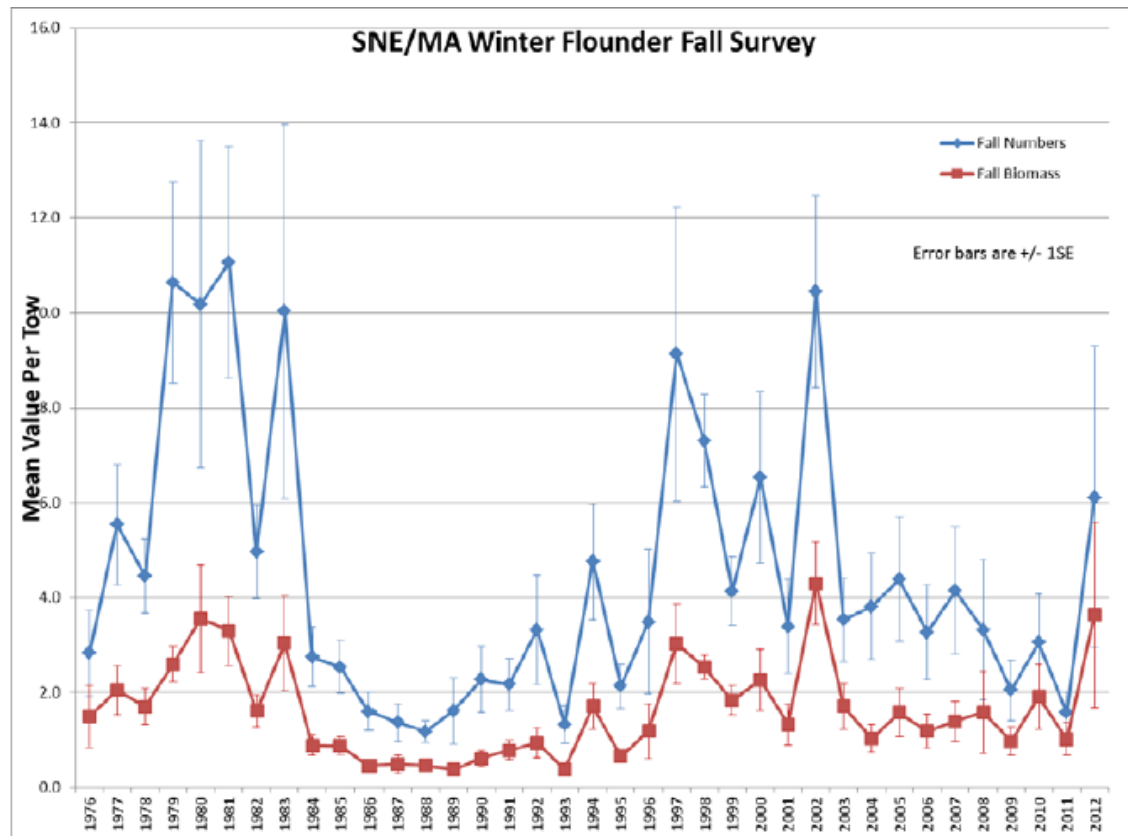


# Gulf of Maine Cod

- PDT provided and SSC endorsed 2 constant catch options to reduce risk of poor projections into future.
- Preferred: 75% of Fmsy proxy applied to projected 2013 biomass from base model and retained for 2014-2015:
  - OFL: 2013 = 1,635mt, 2014 = 1,966mt, 2015 = 2,705mt
  - ABC for 2013-2015 = 1,249mt
- Alternative: F declining from 0.27 in 2013 to Fmsy proxy in 2015 applied to projected biomass from M-ramp model
  - OFL: 2013 = 1,635mt, 2014 = 1,917mt, 2015 = 2,639mt
  - ABC for 2013-2015 = 1,550mt

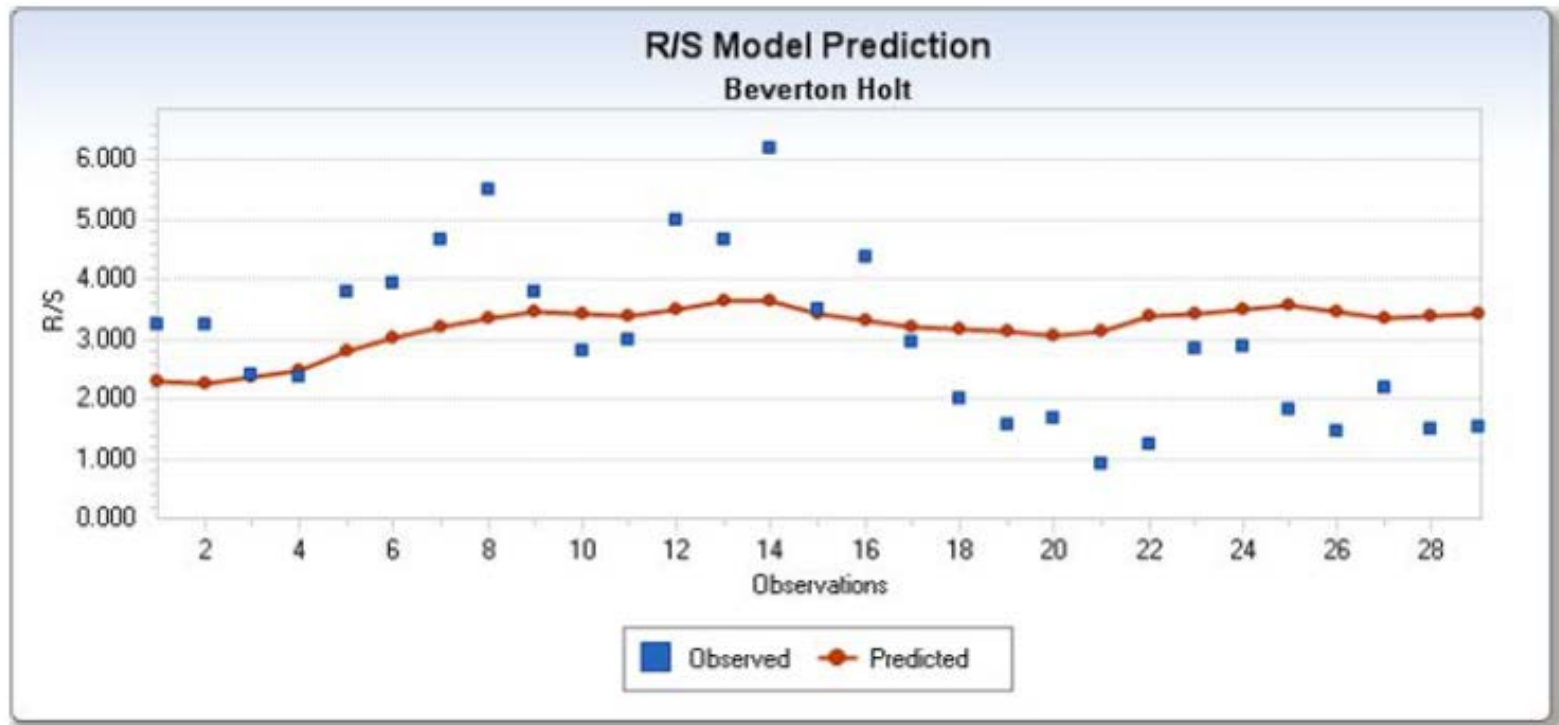
# SNE/MA Winter Flounder

- Some encouraging signs for this stock:
  - $F \ll F_{msy}$  in most recent assessment (18%).
  - Survey trends show recent upswing.



# SNE/MA Winter Flounder

- Troubling sign is consistent pattern of recent recruitment residuals below predicted relationship:



- New environmental state, or cycle that will be reversed?

# SNE/MA Winter Flounder

- PDT recommended and SSC endorsed constant catch option to reduce risk of poor projections into future.
- ABC set a long-term yield if 75% of  $F_{msy}$  is maintained indefinitely under more recent recruitment trends:
  - OFL: 2013 = 2,732mt, 2014 = 3,372mt, 2015 = 4,439mt
  - ABC for 2013-2015 = 1,676mt

# Other Recommendations

- Understand rationale, but uneasy with setting 2015 ABCs due to uncertainty in projections:
  - Urge new information be provided within 2014 to re-evaluate.
- Potential for regime shifts raised in discussions of all three stocks, plus others (e.g., whiting):
  - Regional or national process to define metrics and thresholds, determine if they've been reached, and appropriate management responses.
- Maintain progress on evaluation of GOM cod stock structure and spatial dynamics.