Groundfish ABC's
FY 2013 - 2014

New England Fishery Management
Council
Science and Statistical Committee
August 24, 2012

GB Yellowtail Flounder

- Retrospective pattern increasing
- Have not achieved Fref/FMSY with catches below projection output
- Recruitment assumption may be optimistic
- Range of 200-500 mt seems necessary
- Higher end of range less likely to end overfishing

SNE/MA YTF Projections

- Two possible recruitment scenarios
  - Recent
  - Two stanza
  - Affect catches after 2013
- 75 pct of FMSY

SNEMA YTF Catches
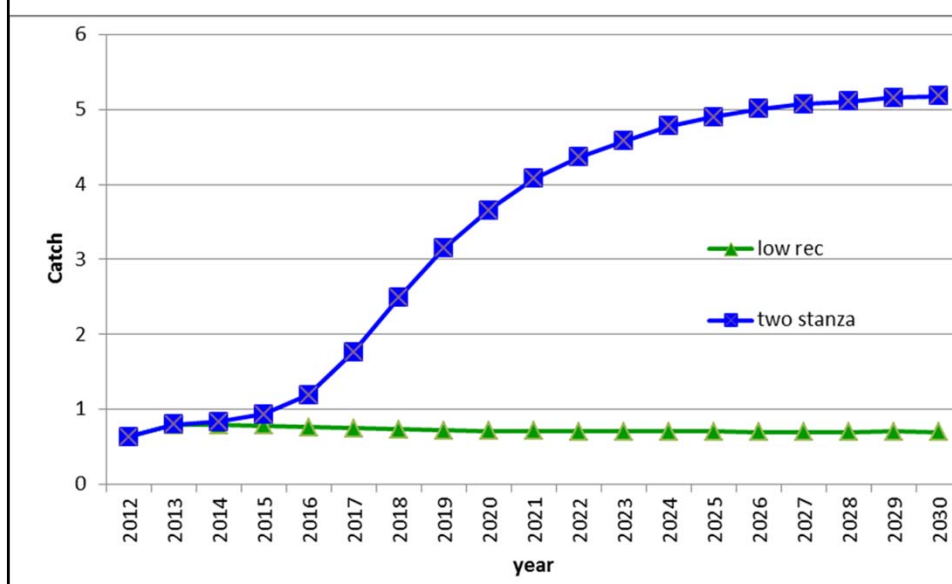
SNEMA YTF Recommendation

- 700 – 770 mt
  - Differs from default control rule
  - Similar to long-term catch under recent recruitment
  - Consistent with MSY if recent recruitment is likely
  - Should allow stock increases if two-stanza recruitment is more likely

Overview

- Review PDT work on setting catches
- OFLs/ABCs for seven stocks
  - GB yellowtail flounder, SNE/MA yellowtail flounder, CC/GOM yellowtail flounder, GOM haddock, plaice, witch flounder, white hake
- FY 2013 – FY 2015
- ABCs for seven stocks address in March
- GOM and GB cod, white hake addressed after benchmarks this winter

General Comments

- Three approaches identified:
  - Projections
  - Time series
  - Best stock size/best fishing mortality
- If projections are unreliable, how do we show a given catch will meet mortality objectives?
- If an alternative catch approach gives higher catches than the projection, why would expect it to meet mortality objectives?

How Far Off Were the OFLs/ABCs?

- American Plaice: in 2010, catching 57 percent of the ABC resulted in ~75 pct of FMSY
- How large would an adjustment be?
  - Projections run with actual catch
  - Realized exploitation compared to target exploitation
- OFL/ABC should have been set well below median projection output (exception: redfish)

FMSY Adjustment

Best Stock Size Estimate

- Does not account for expected changes in stock size
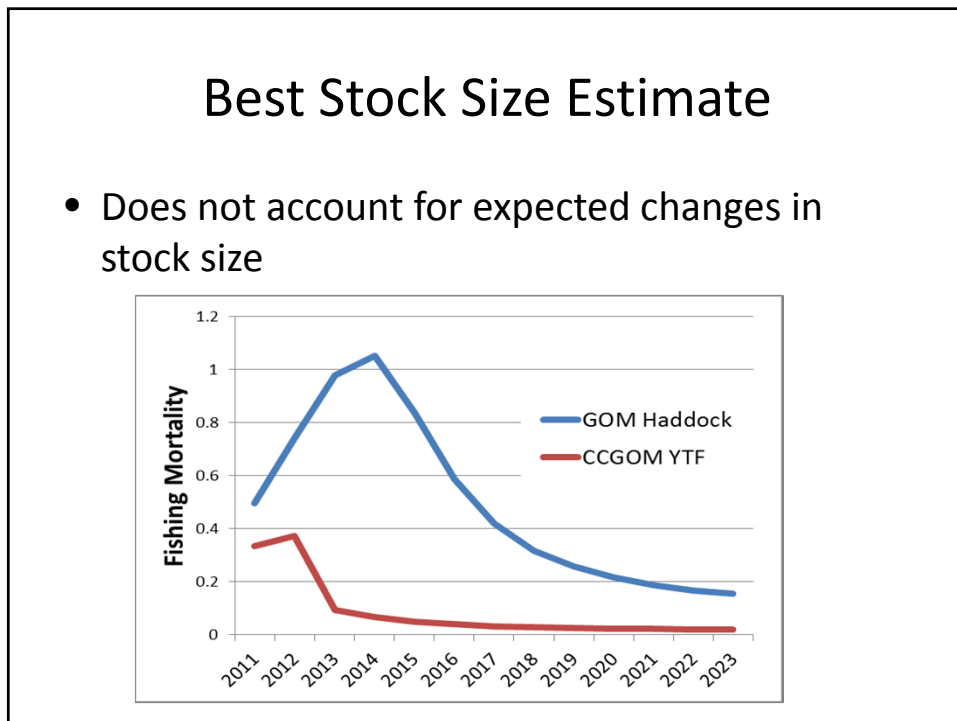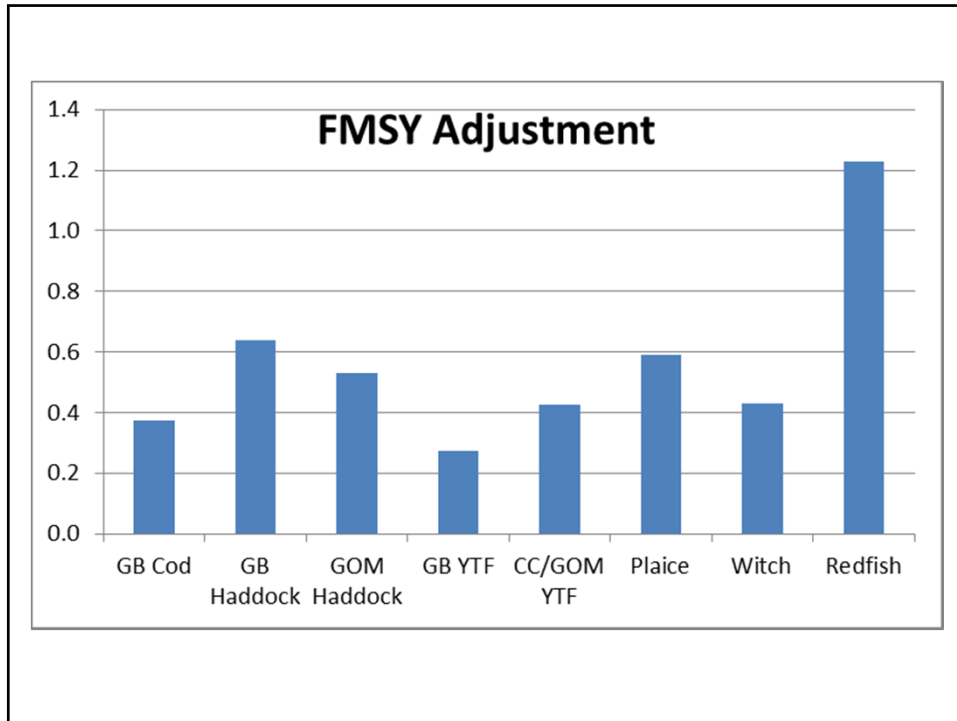
Leapfrog TACs (Pope 1983)

- Approximation of a projection model.
- TAC estimate in year T+1 at the status quo F.

Data Inputs

- 2 years of catch at age
- Weight at age data.
- Recruitment in year t and t+1.
- 2 years of effort data (F as a proxy for effort).
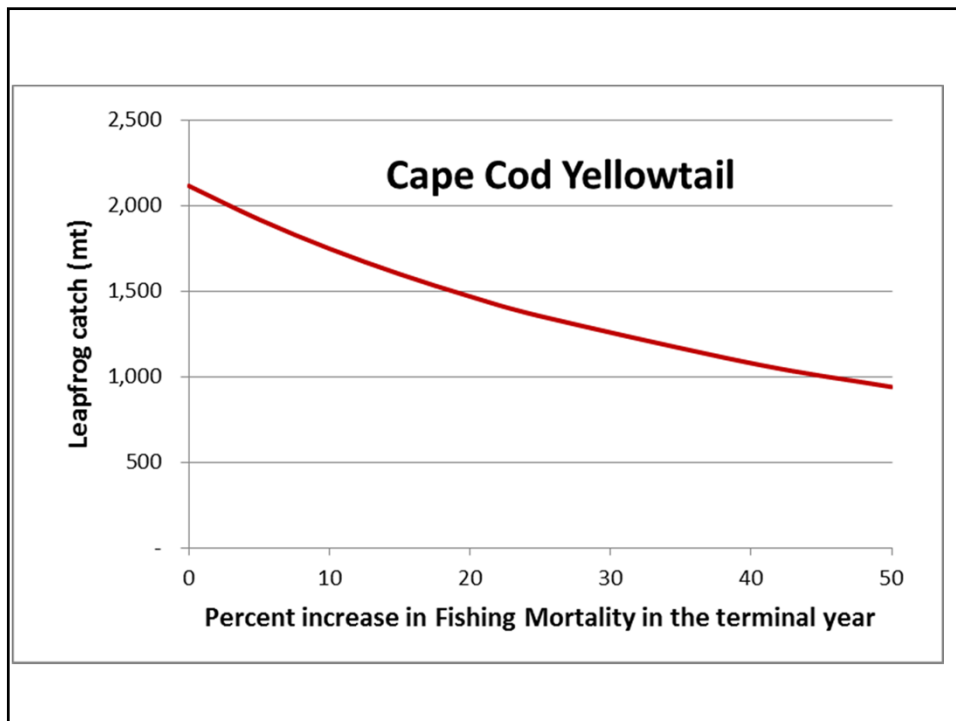
Summary

- Time series analysis not completed
- No recommendation which approach would work best
- In most cases the standard projections have not worked well and the median catch from those projections would not be expected to achieve mortality targets

CC/GOM Yellowtail Flounder

- VPA
- Two inshore survey strata dropped
- Residuals show patterning with blocks
- Mohn's rho values: SSB 0.68, F -0.19, R 0.34
- Retro adjusted (not necessary at GARM III)
- Updated reference points:
  - FMSY proxy: **0.26** (*0.239*)
  - SSBMY proxy: **7,080**mt (*7,790 mt*)
  - MSY : **1,600** mt (*1,720 mt*)

CC/GOM YTF Results
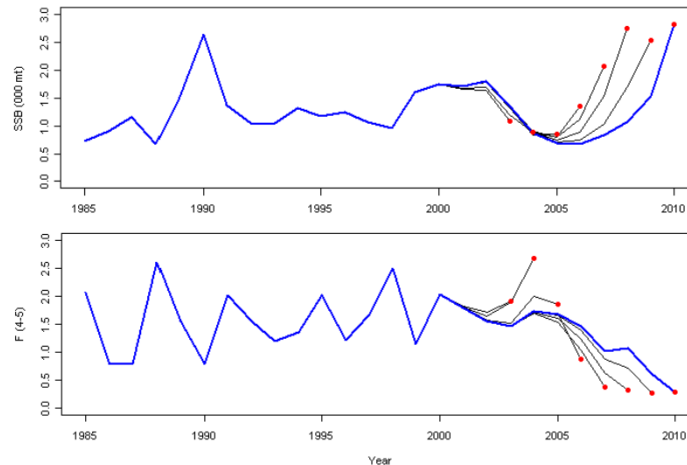
- Overfished, SSB 1,680 mt
- Overfishing, F=0.36

CC/GOM YTF Projections

- No unusual conditions/assumptions
- NAA rho-adjusted
- Frebuild above F75%; latter used for catch projections

CC/GOM YTF Projection Output

	OFL	Total ABC	U.S. ABC	Total CY Catch
2011	2011	1,355	1,041	1,032.8*
2012	2012	1,508	1,159	
2013	2013	713	548	
2014	2014	934	717	
2015	2014	1,153	887	

GOM Haddock

- VPA
- Minor change to survey +group in VPA
- No residual patterning
- F based on unweighted average (change)
- Mohn's rho values: SSB -0.218, F 0.95, R 4.62
- Updated reference points:
  - FMSY proxy: **0.46** (*0.43*)
  - SSBMY proxy: **4,904** mt (*5,900 mt*)
  - MSY : **1,177** mt (*1,360 mt*)

GOM Haddock Results
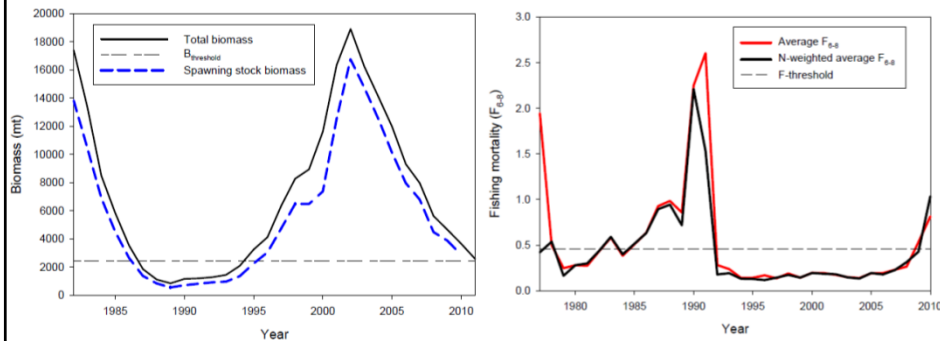
- Approaching Overfished, SSB 2,868 mt
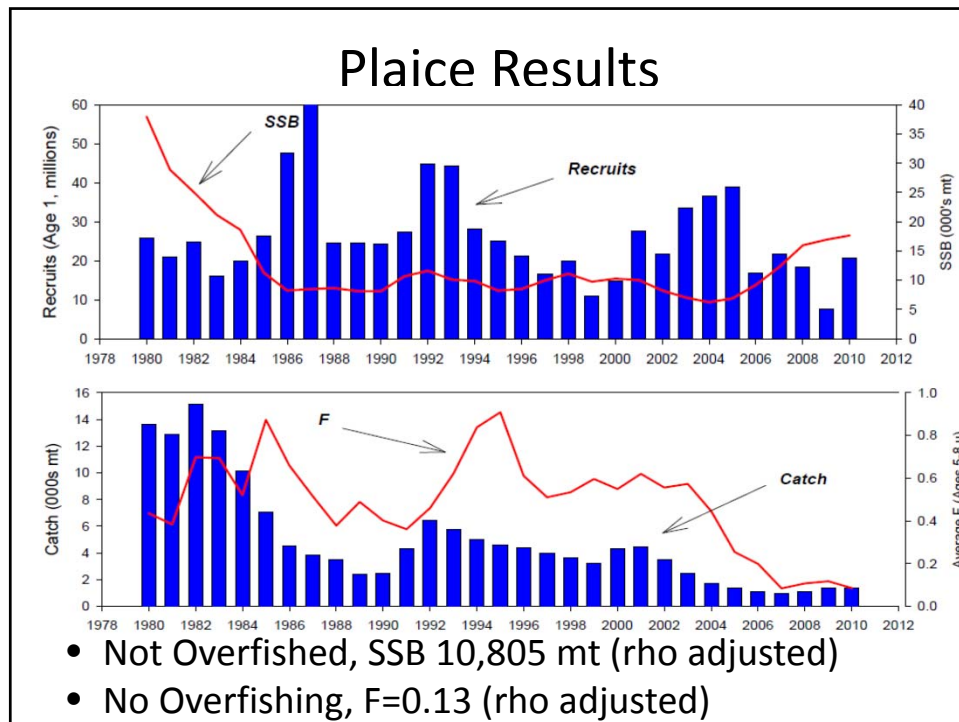- Overfishing, F=0.82

GOM Haddock Projections

- No unusual conditions/assumptions
- F75%

GOM Haddock Projection Output

	OFL	Total ABC	Total CY Catch
2011	1,536	1,206	695.6
2012	1,296	1,013	
2013	371	290	
2014	440	341	
2015	561	435	

American Plaice

- VPA
- Residual patterning (- early/+ late)
- Mohn's rho values: SSB 0.62, F -0.35, R 1.24
- Updated reference points:
  - FMSY proxy: **0.18** (*0.19*)
  - SSBMY proxy: 18,398 mt (*22,243 mt*)
  - MSY : **3,385** mt (*4,059 mt*)

Plaice Results

- Not Overfished, SSB 10,805 mt (rho adjusted)
- No Overfishing, F=0.13 (rho adjusted)

Plaice Projections

- No unusual conditions/assumptions
- Retro adjusted NAA
- F75%

Plaice Projection Output

	OFL	Total ABC	Total CY Catch
2011	4,483	3,444	1,893.1*
2012	4,727	3,444	
2013	2,035	1,557	
2014	1,981	1,515	
2015	2,021	1,544	

Witch Flounder

- VPA, split survey
- Residual blocks for ages 7 and 10
- Mohn's rho values: SSB 0.61, F -0.33, R 0.06
- Updated reference points:
  - FMSY proxy: **0.27** (*0.20*)
  - SSBMY proxy: 10,051 mt (*11,447 mt*)
  - MSY : **2,075** mt (*2,352 mt*)

Witch Flounder Results
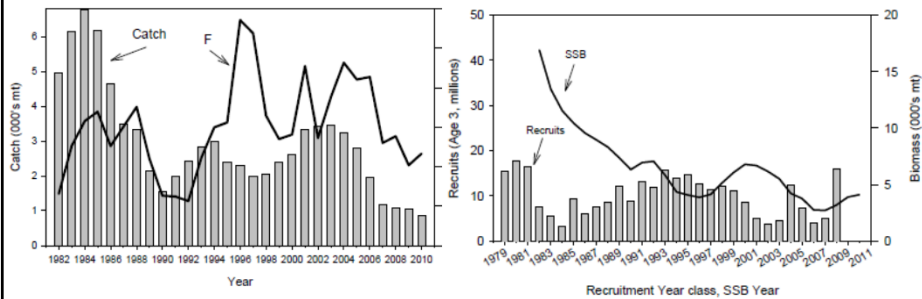
- Overfished, SSB 4,099 mt
- Overfishing, F=0.47

Witch Flounder Projections

- No unusual conditions/assumptions
- As a sensitivity run, geometric mean recruitment results in lower Frebuild and catch advice;
- Frebuild

Witch Flounder Projection Output

	OFL	Total ABC	Total CY Catch
2011	1,792	1,369	1,069.0
2012	2,141	1,639	
2013	1,196	783	
2014	1,506	984	
2015	1,800	1,176	

White Hake

- SCAA
- No updated assessment
- Rebuilding program
- Recommend keep OFL/ABC at 2012 values until assessment completed

White Hake Catch/Index
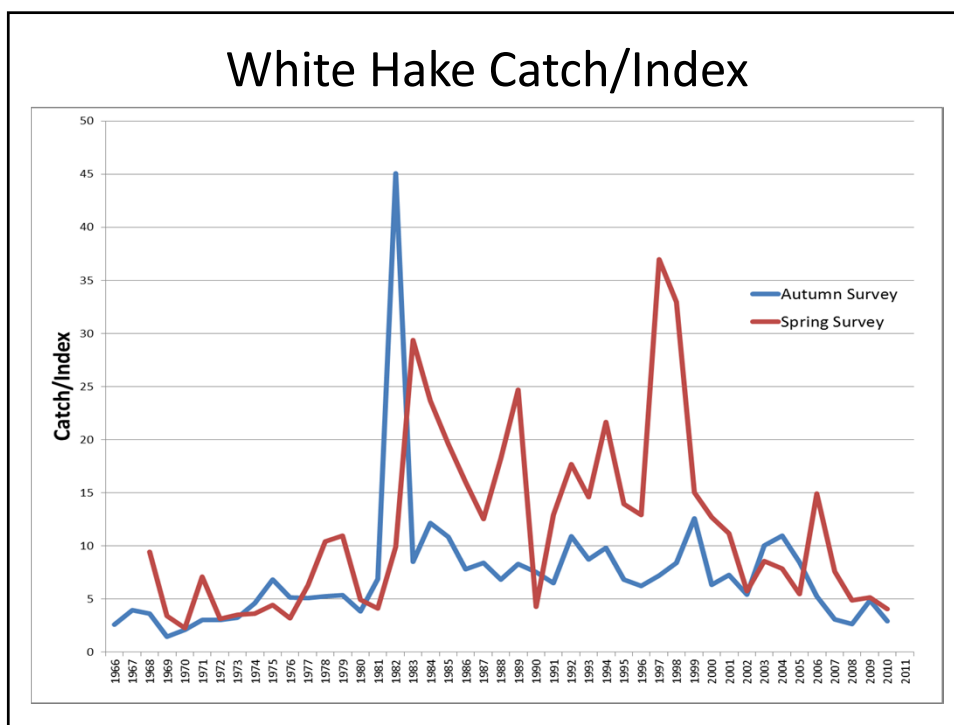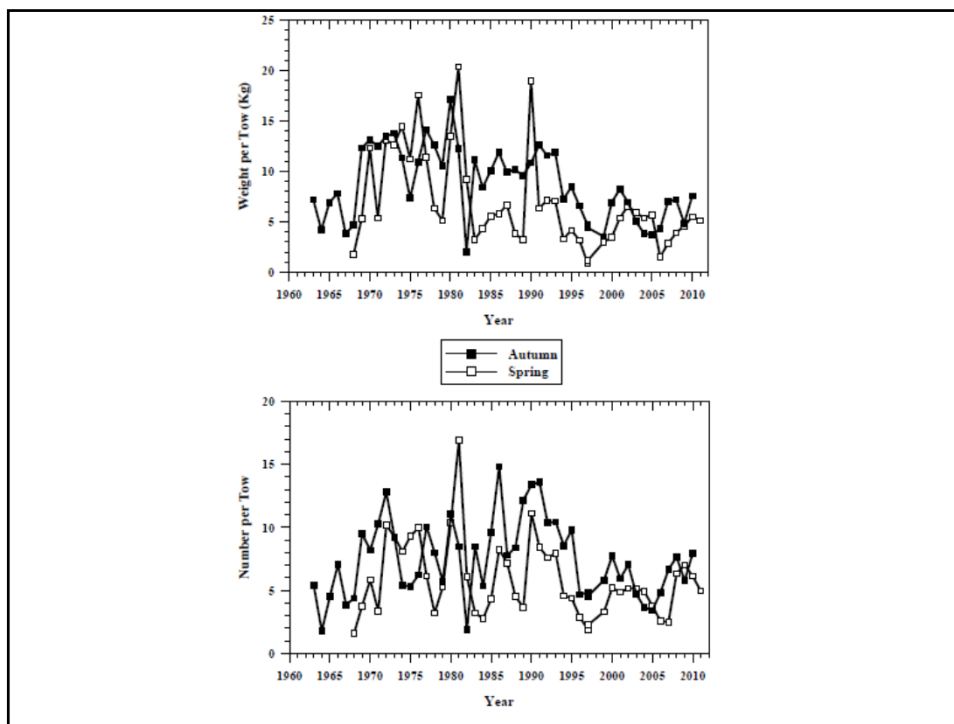
White Hake

	OFL	Total ABC	Total CY Catch
2010	4,130	2,832	2057
2011	4,805	3,295	2,903.1*
2012	5,306	3,638	
2013	5,306	3,638	