Groundfish ABCs FY 2012 - 2014

New England Fishery Management Council
Science and Statistical Committee
June 14, 2011

Overview

- Process
- Planned analyses
- Preliminary results
- Next actions
- SSC feedback

Process

- ABCs needed for 19 stocks:
  - Four with new assessments
  - Three index-based stocks
  - Twelve stocks without new assessment
- Executive Committee reviewed options
  - Not enough resources for assessments
  - Proposed projections supplemented by survey review

Timeline

- April/May: Augment PDT to develop ABCs
- June: Brief SSC
- August: ?
- September: SSC develop ABC recommendations
- November: Council approve ABCs and ACLs
- May 2012: Implementation

Planned Analyses

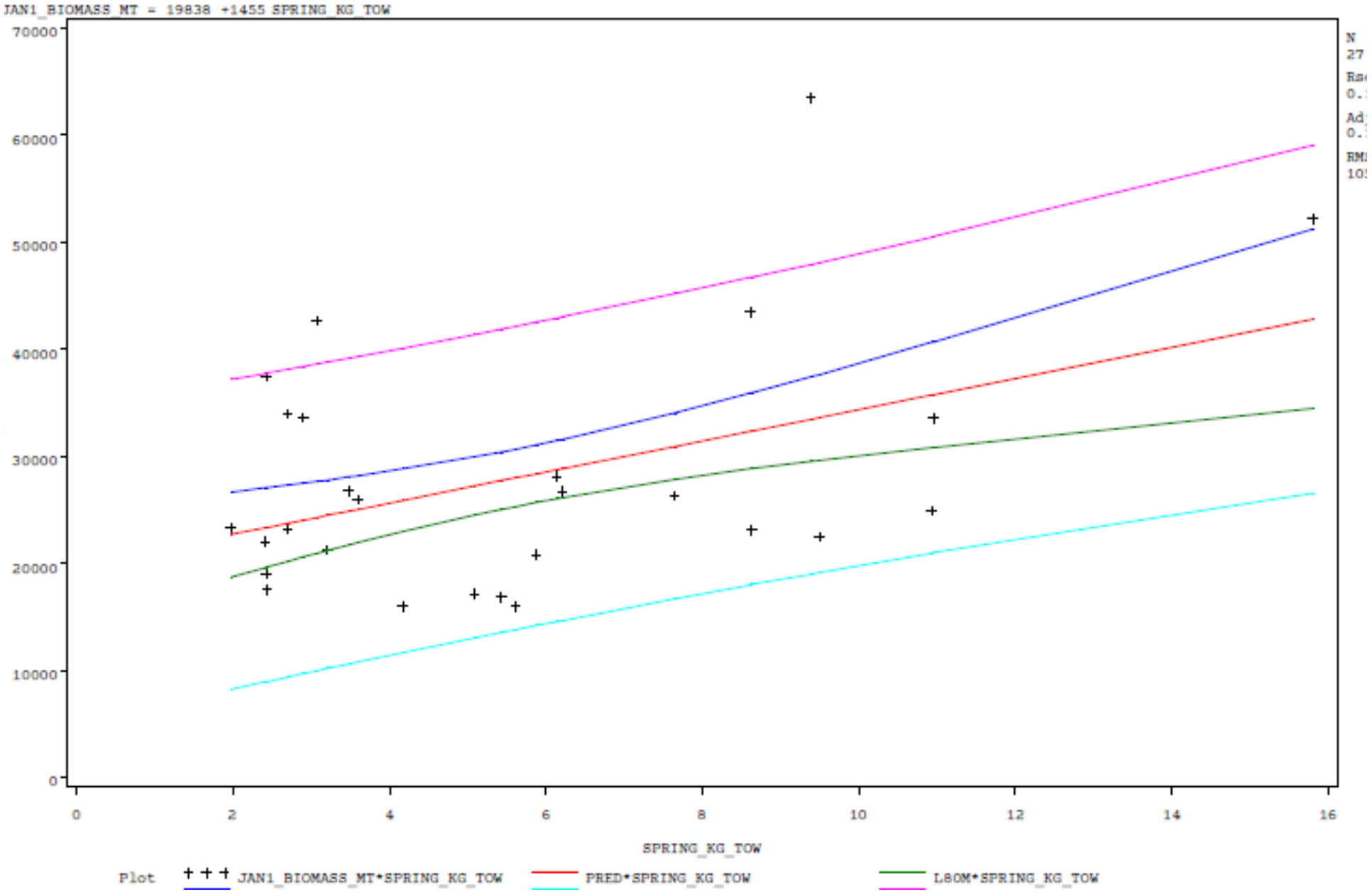
- Update catch and survey information (totals only, no age structure)
- Examine past performance of survey index in matching stock size
- Examine past performance of projections in accurately predicting future stock size
- Link surveys to projections: can surveys tell us whether projections are believable?
- Identify other options

Survey Performance

Preliminary Results

- Regression of survey biomass index on stock size
- Jackknife analysis to evaluate how well regression predicts stock size for missing value
- Compare regression predicted stock size to projected stock size for period 2008-2010

ock: gom
ependent variable: jan1_biomass_mt
dependent variable: spring_kg_tow



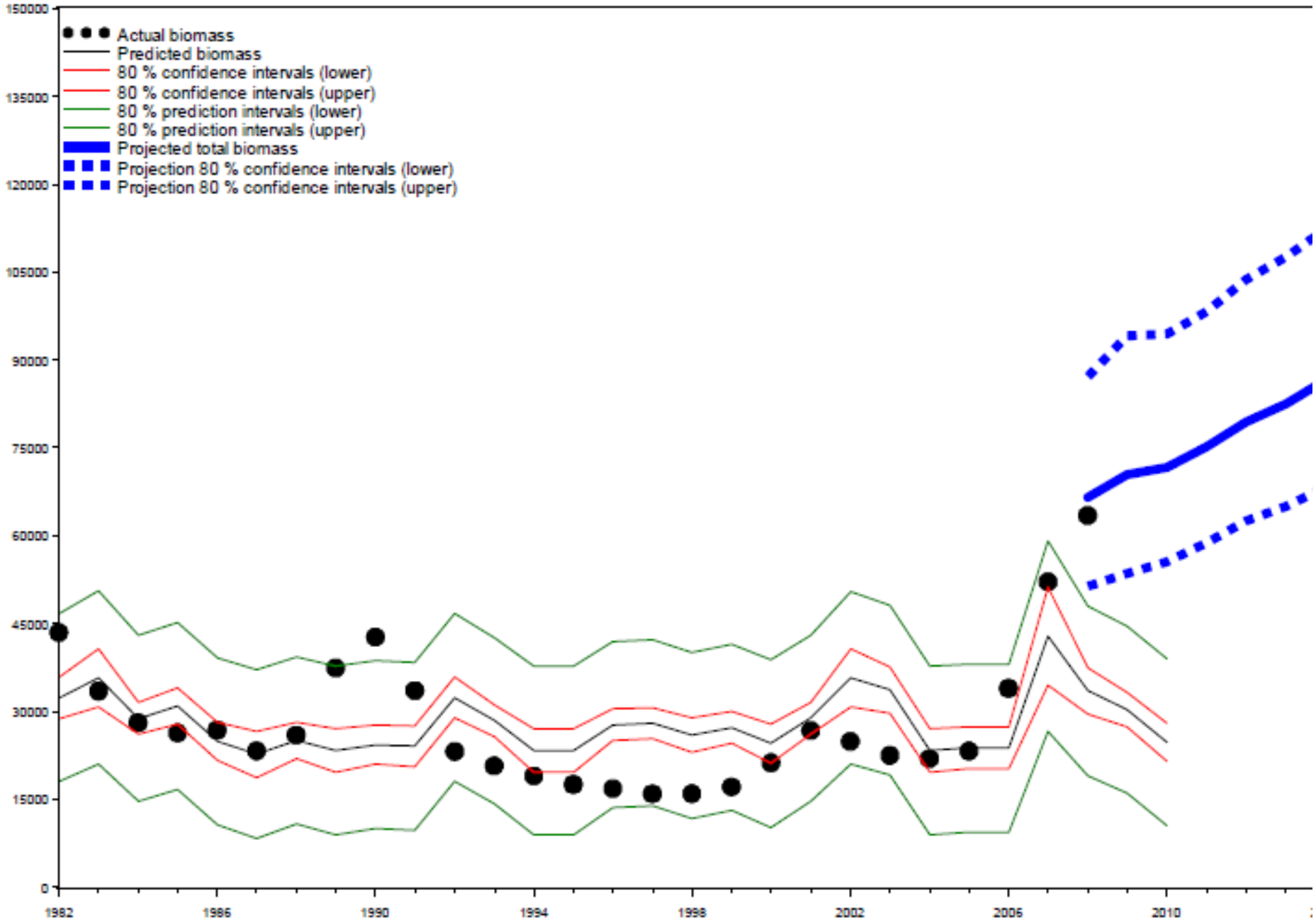
Stock	Biomass	Spring	Spring Ln	Autumn	Autumn Ln	S
GB Cod	Jan 1	-0.04	-0.07	-0.08	-0.07	
GB Cod	Mean	-0.09	-0.09	0.01	0	
GB Haddock	Jan 1	0.24	0.44	***0.81***	**0.77**	
GB Haddock	Mean	0.19	0.4	**0.81**	**0.77**	
GOM Cod	Jan 1	0.16	0.06	0.02	0.14	
GOM Cod	Mean	0.11	-0.02	-0.04	0.06	
GOM Haddock	Jan 1	**0.61**	**0.72**	**0.58**	**0.75**	
GOM Haddock	Mean	**0.57**	**0.66**	**0.67**	**0.72**	
SNMEA Yellowtail	Jan 1	**0.64**	**0.61**	**0.6**	**0.59**	
SNMEA Yellowtail	Mean	**0.53**	**0.58**	**0.59**	**0.62**	
CCGOM Yellowtail	Jan 1	0.13	0.17	0.03	0.15	
CCGOM Yellowtail	Mean	0.09	0.13	0.11	0.18	
American Plaice	Jan 1	**0.75**	**0.62**	0.45	0.18	
American Plaice	Mean	**0.74**	**0.57**	**0.55**	0.35	
Witch	Jan 1	0.24	0.23	0.33	0.29	
Witch	Mean	0.08	0.05	0.34	0.35	
White Hake	Jan 1	0.34	0.34	0.34	0.32	
White Hake (2)	Jan 1	0.35	0.36	0.36	0.34	

Green boldfaced font means r^2 >= 0.5

Yellow highlight means regression significant (p<= 0.05)

Note: Acadian redfish will be analyzed in a subsequent report

: gom
ndent variable: jan1_biomass_mt
pendent variable: spring_kg_tow
cted variable: total



Results

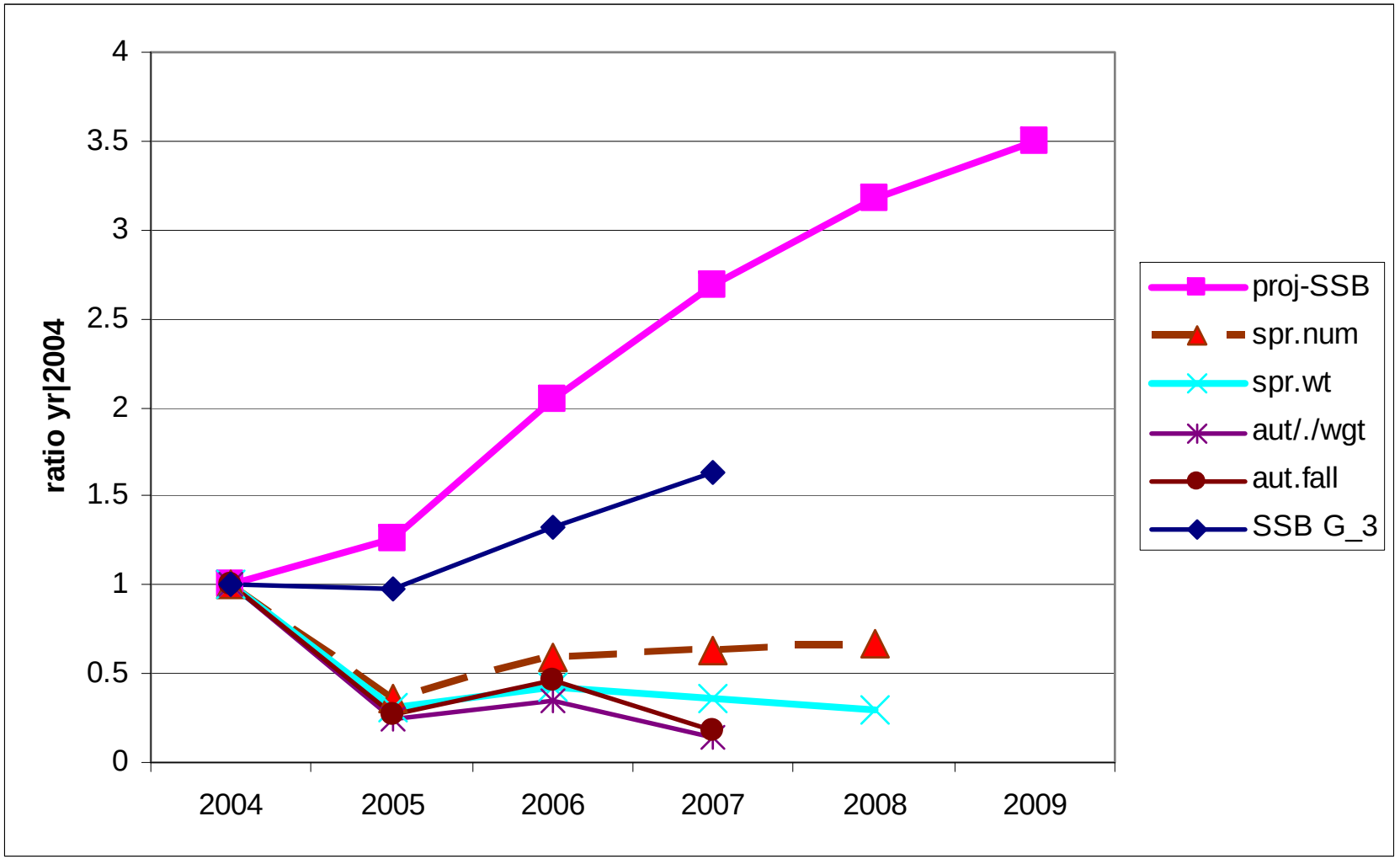
- See Table 2 in Palmer paper
- None of the regressions accurately estimated stock size more than 50% of the time
- Survey-predicted stock size prediction intervals are large
- Survey-predicted stock size usually smaller than projected stock size

Preliminary Conclusions

- Regression of survey index to biomass ins not a good predictor of stock size
- Surveys may still prove informative
- Suggestion projections may be biased high
- Fallback may be needed

GB Cod Example

Based on GARM II Projection



Projection Work

Shortcut to Example Projection Results (Preliminary).pptx.lnk

Next Steps

- Explore other ways to use surveys
- Finish projection work
- Reconcile surveys and projections
- Alternative approaches
- August?

Questions for SSC

- Bi-directional adjustments?
  - Increase catch if conclusion stock is growing faster than the projection?
  - Only react if projection appears biased high?
- Other approaches for setting ABC?