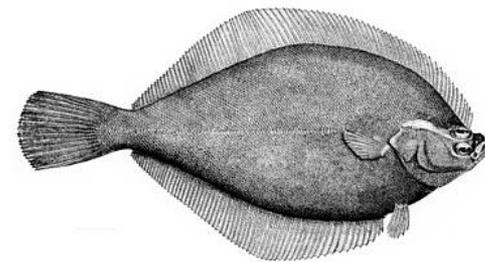
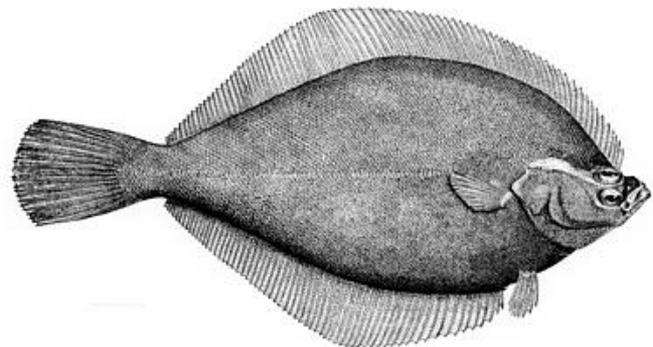
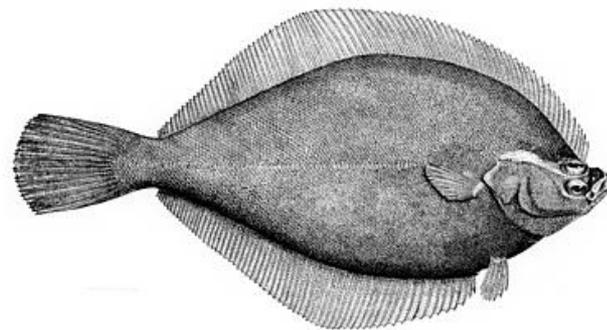
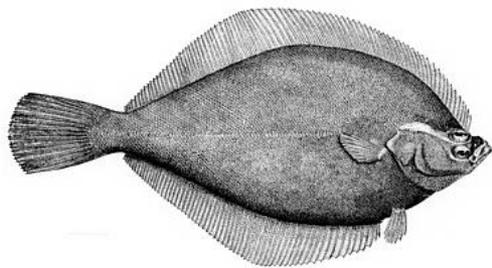




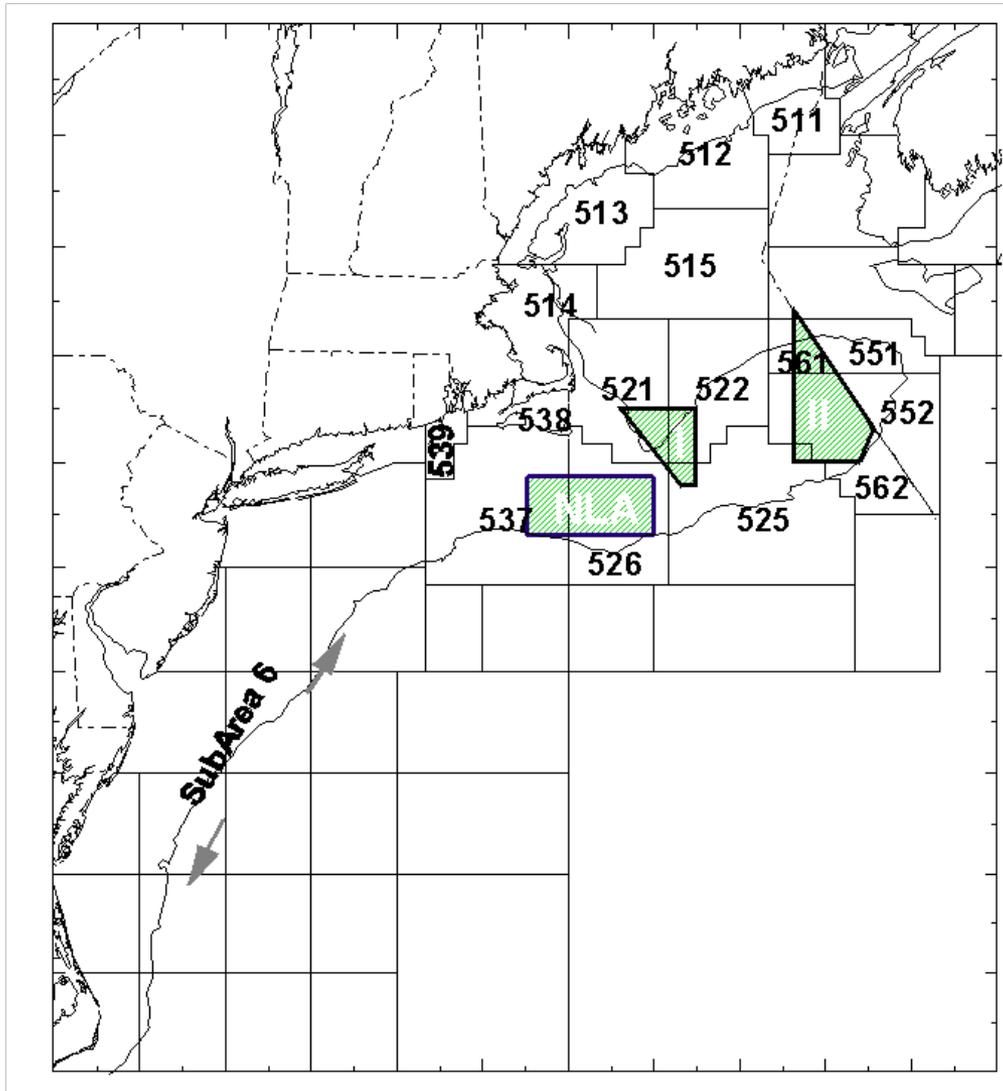
Georges Bank Yellowtail Flounder



**Chris Legault
NEFSC
Woods Hole**

12 August 2013

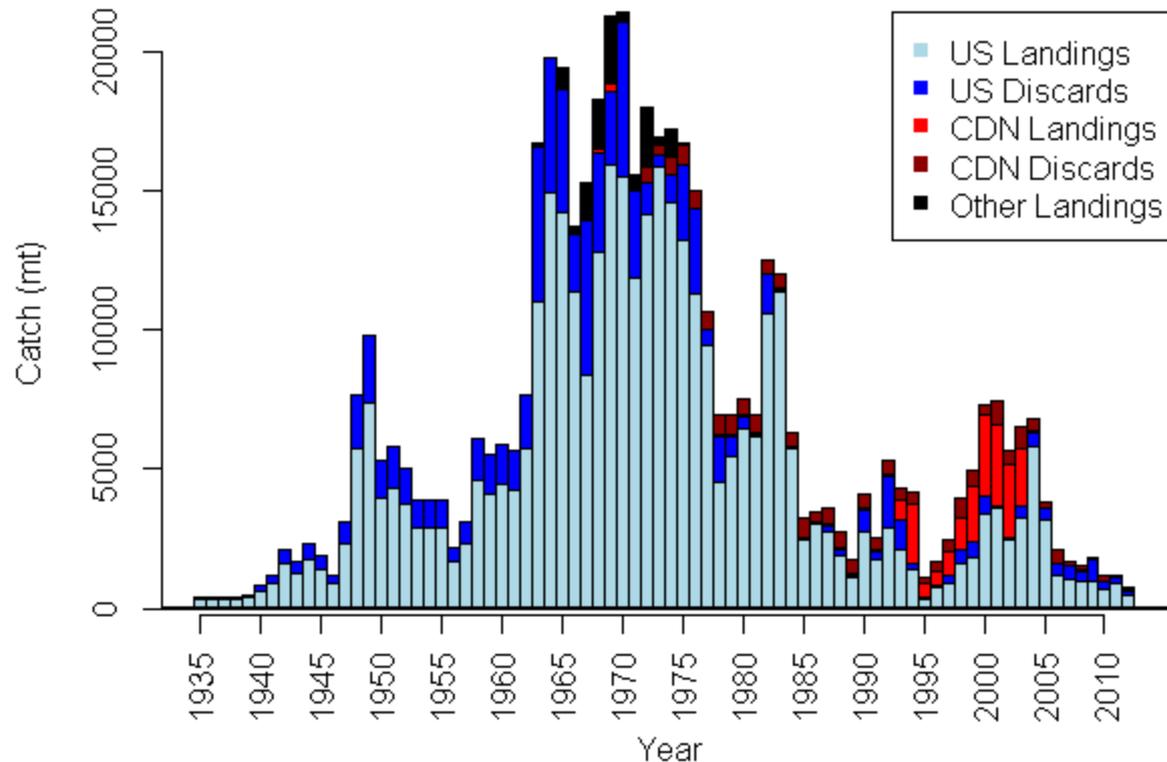
Georges Bank Yellowtail Flounder



USA catches:
SA 522,525,561,562

CA catches:
SA 551,552

Catch

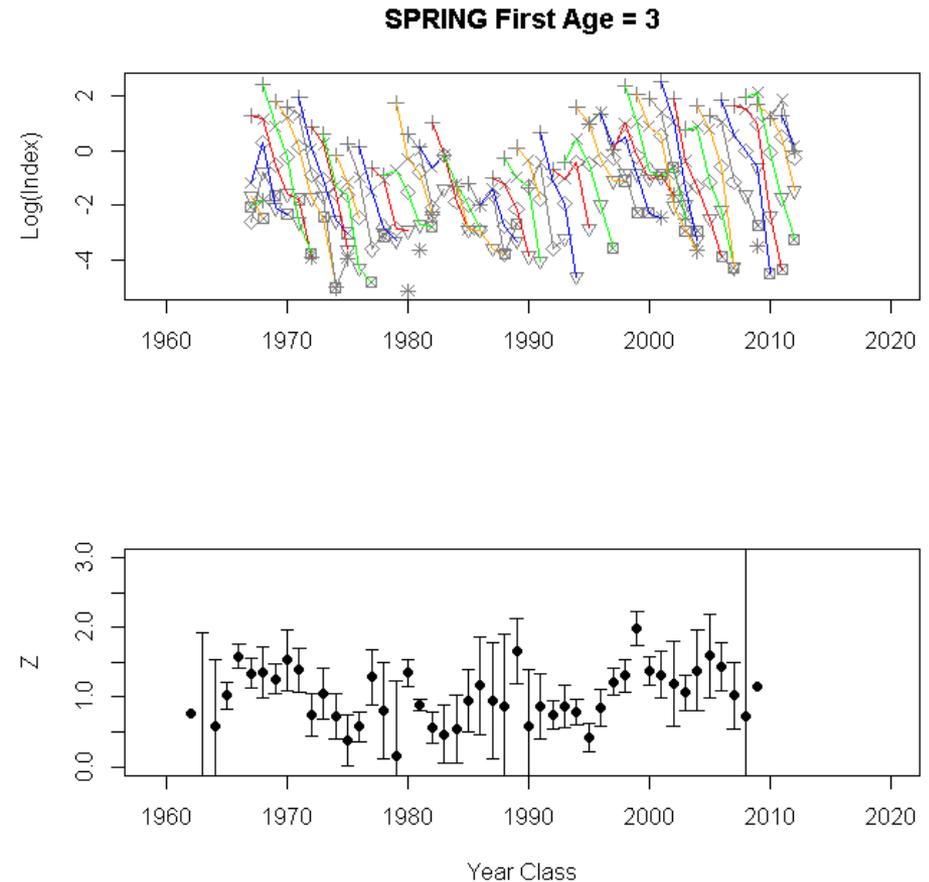
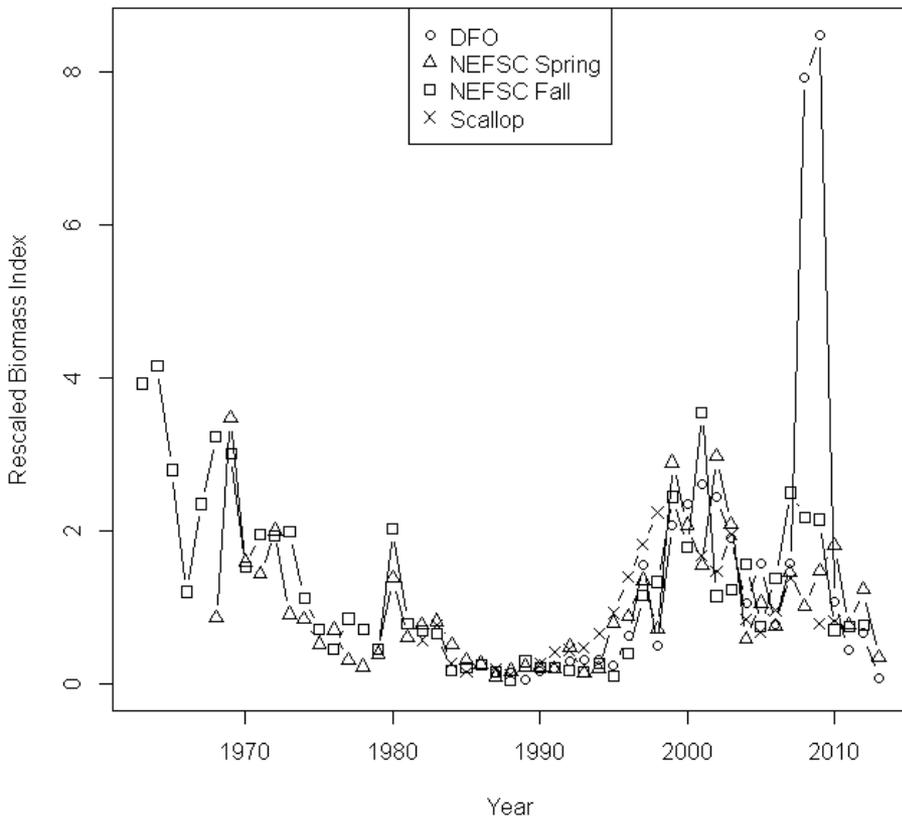


Combined Canada and USA catches in 2012 were 722 mt

- First time since 1940 that catch has been less than 1,000 mt
- US catch: 631 mt (443 mt Indgs, 188 mt discards) FY quota: 94%
- CA catch: 91 mt (46 mt Indgs; 45 mt discards) CY quota: 16%

Surveys

- Continued agreement among surveys
- Total mortality estimates high



Model

The Split Series formulation was approved at the last benchmark assessment and is used to estimate current stock size and fishing mortality.

The TRAC acknowledges that the assumptions made about population dynamics in the model do not fully capture the trends in the data. However, the model's conclusion that stock conditions are poor is valid.

TRAC recommends basing 2012 status and 2014 catches on the *adjusted* model projection results.

SSB

1994: 2,800 mt

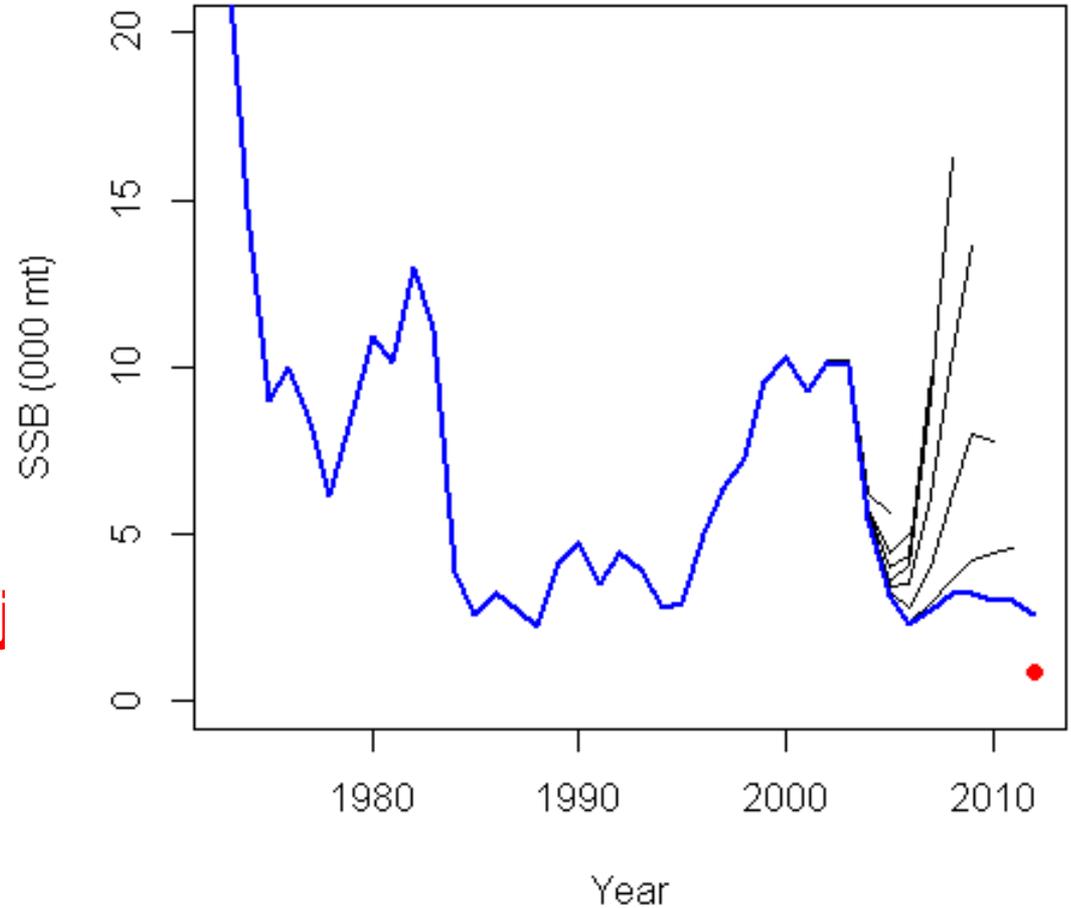
2003: 10,900 mt

2006: 2,400 mt

2011: 3,100 mt

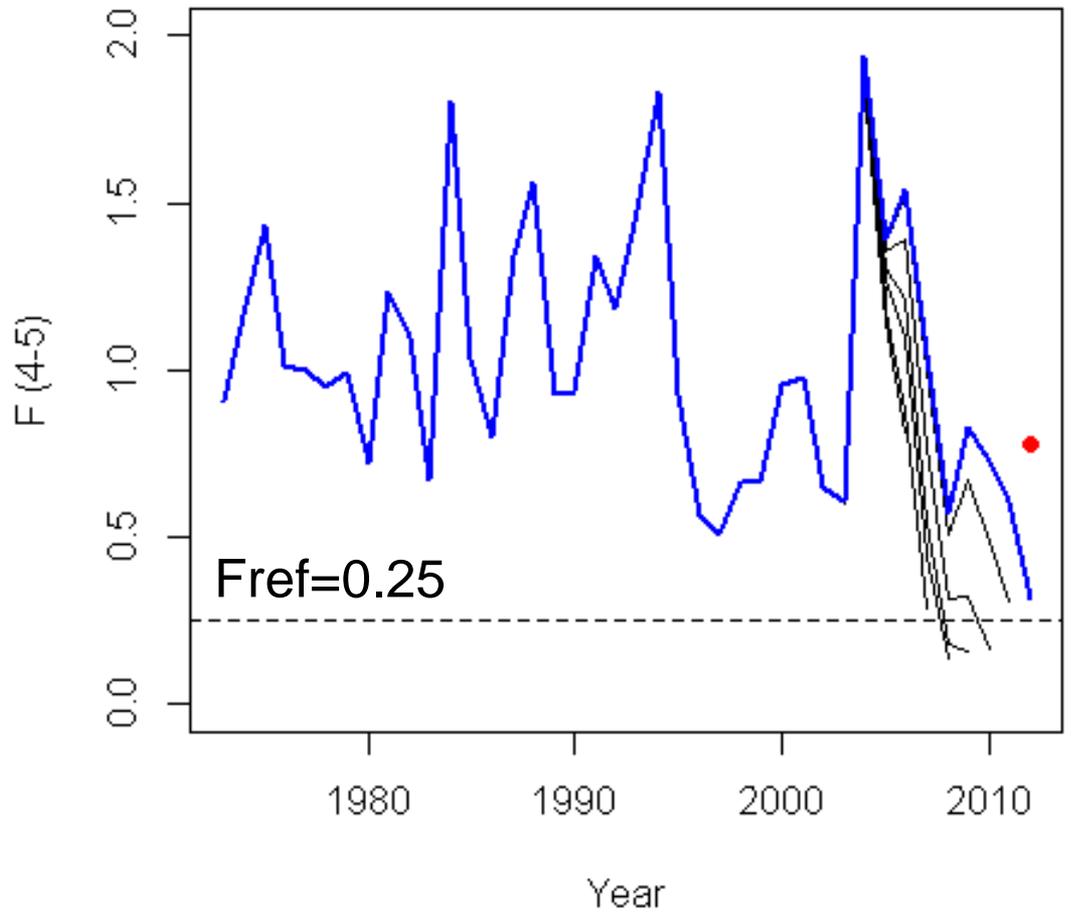
2012: 2,600 mt

2012: 869 mt (rho adj)



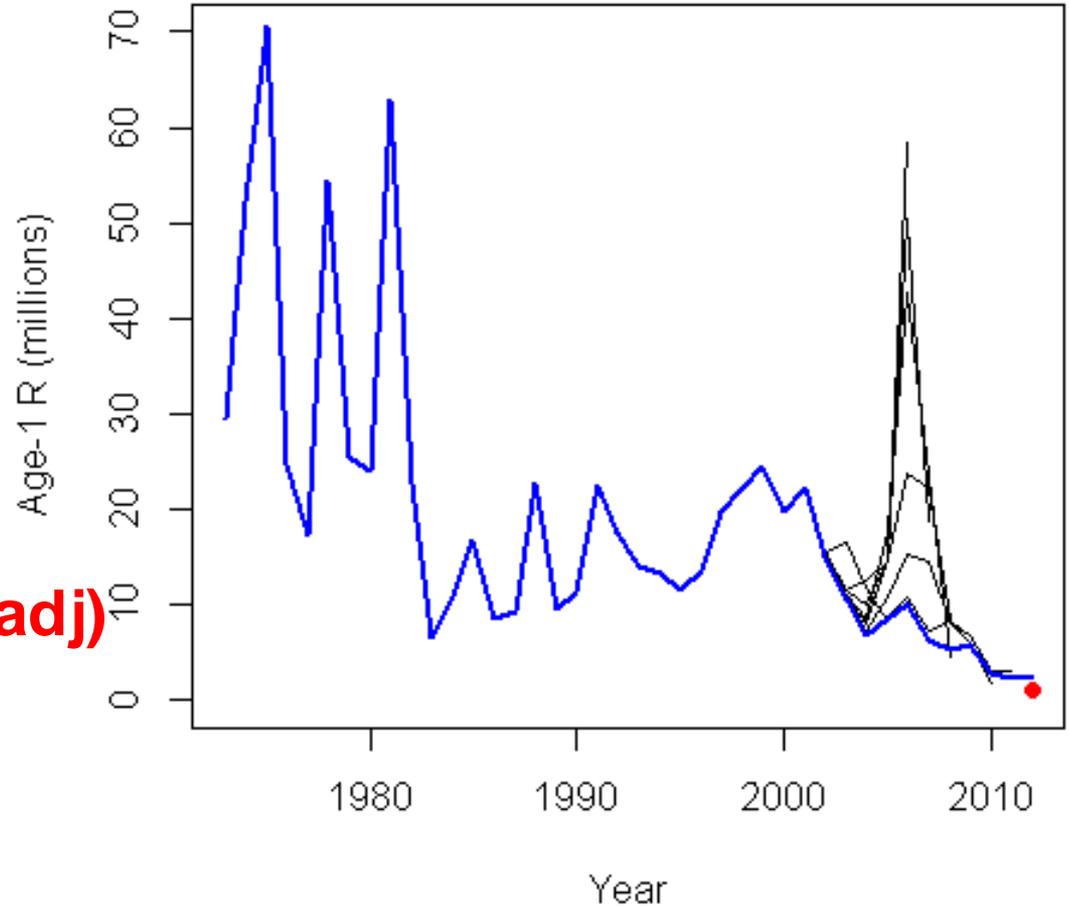
Fishing Mortality

1994: 1.83
2003: 0.61
2006: 1.54
2011: 0.60
2012: 0.32
2012: 0.78 (rho adj)

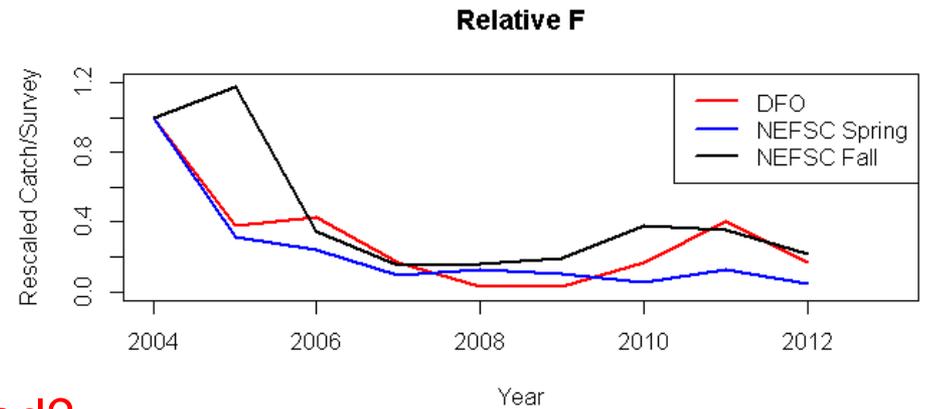


Recruitment

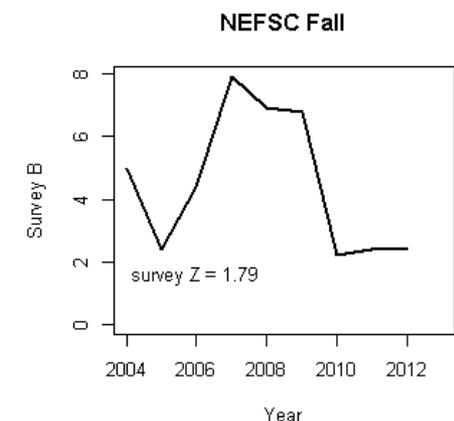
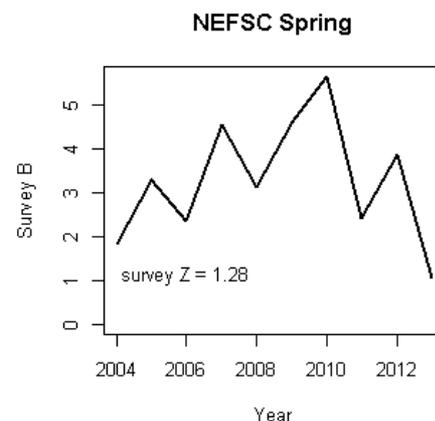
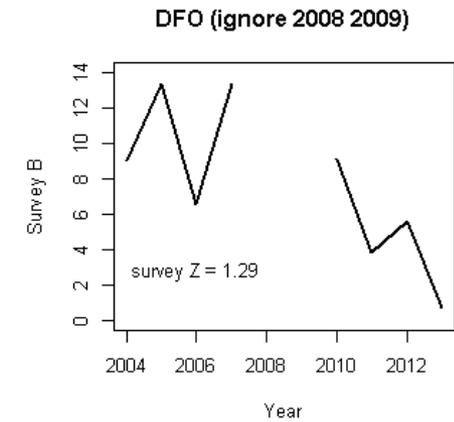
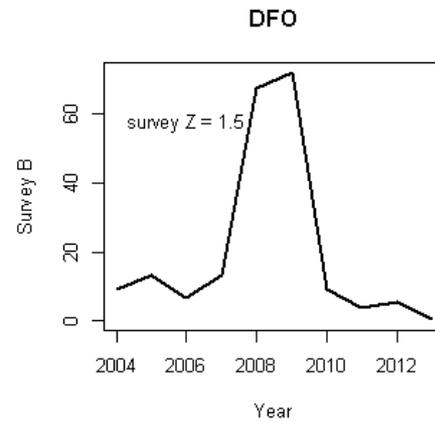
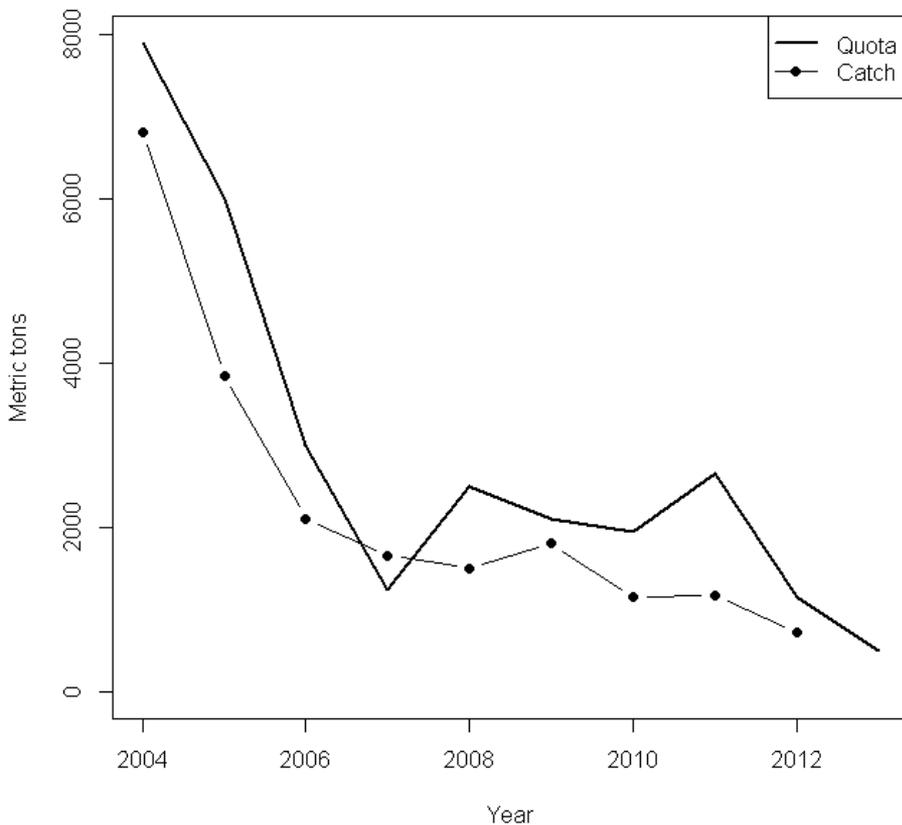
1994: 13.2 million
2003: 10.6 million
2006: 10.1 million
2011: 2.3 million
2012: 2.3 million
2012: 1.2 million (rho adj)



A Look Back



How has quota management performed?

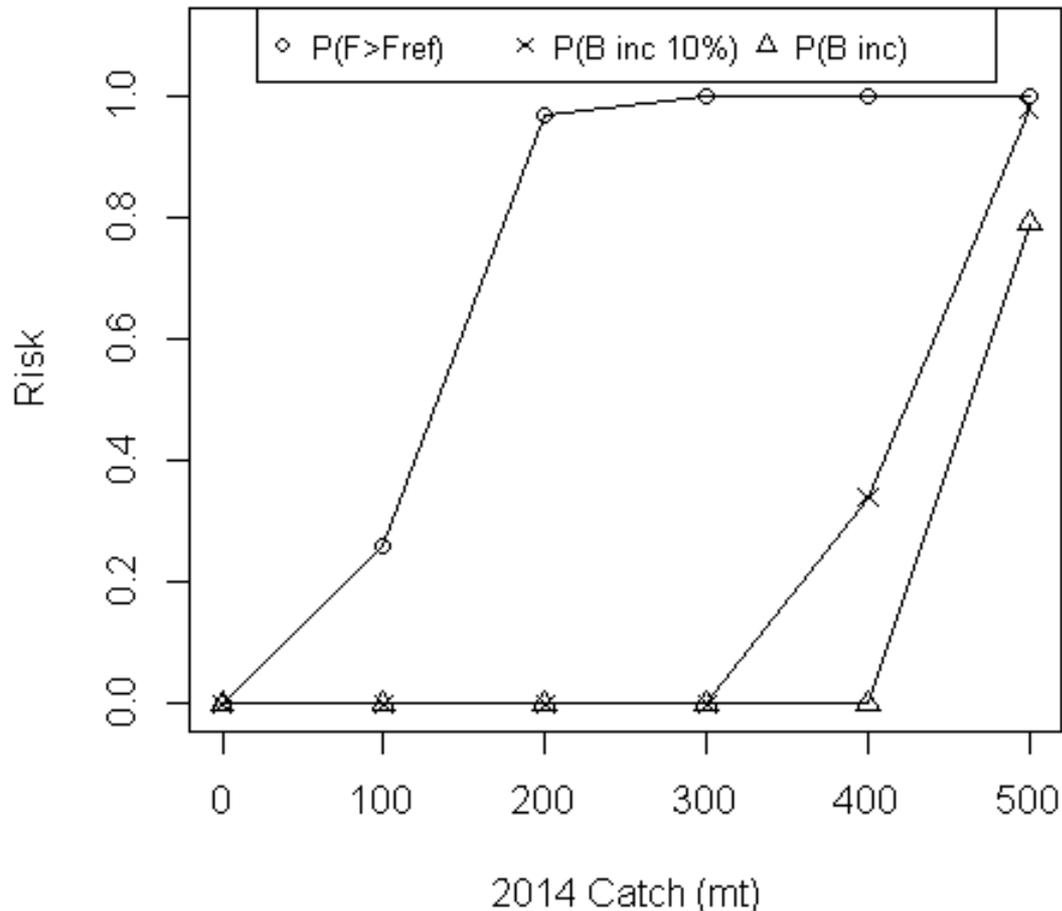


Harvest Strategy

TMGC adopted a strategy to maintain a low to neutral risk of exceeding the fishing mortality limit reference, $F_{ref} = 0.25$ (established in 2002 by the TMGC).

When stock conditions are poor, fishing mortality rates should be further *reduced* to promote rebuilding.

2014 Catch Advice



- 123 mt ($F = F_{ref}$)
- < 200 $P(F > F_{ref})$
- < 500 $P(B \text{ inc})$
 - Could be optimistic

“Catches well below 500 mt are likely needed to achieve the harvest strategy”

Summary

- Catch in 2012 low and below quota
- Surveys down or same from last year
- $F_{2012} > F_{ref}$
- Biomass lowest in time series
- Recruitment poor recently
- Major retrospective issue
- 2014 catch advice well below 500 mt