Draft Presentation
For Peer Review Only.
Does not represent
final NOAA Decision/Policy.
4/28/08

Photo: SMAST video survey

Yellowtail Flounder

(*Limanda ferruginea*)

C = Georges Bank[1]

D = Southern New England-Mid Atlantic[2]

E = Cape Cod-Gulf of Maine[3]

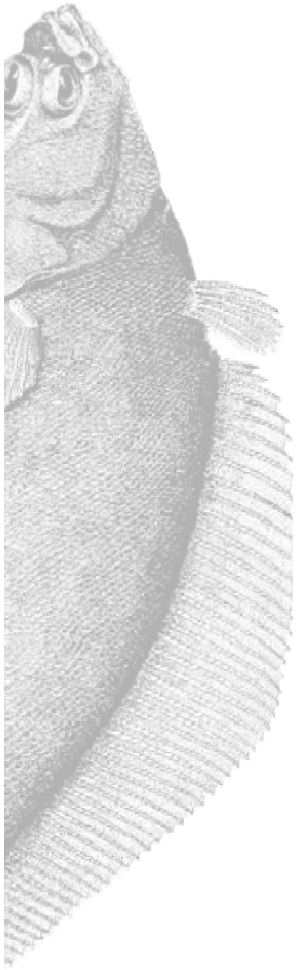
[1] Chris Legault

[2] Chris Legault and Steve Cadrin

[3] Chris Legault, Steve Cadrin, Jeremy King, and Sally Sherman

GARM3 Biological Reference Points Meeting

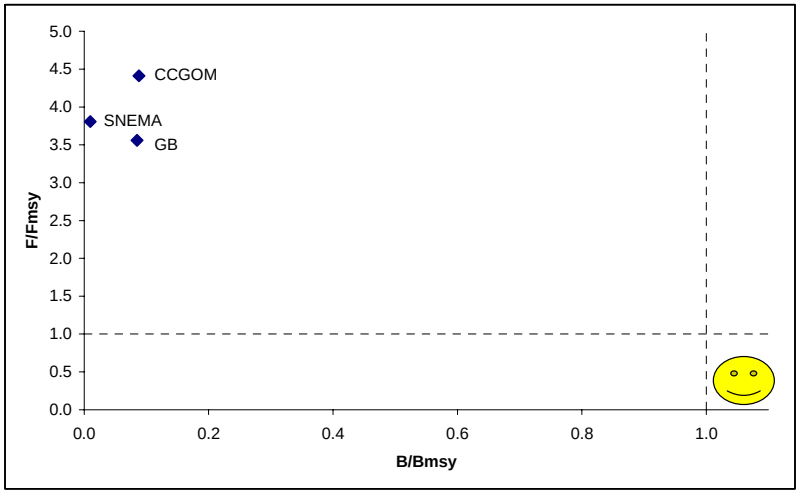
Last Assessments



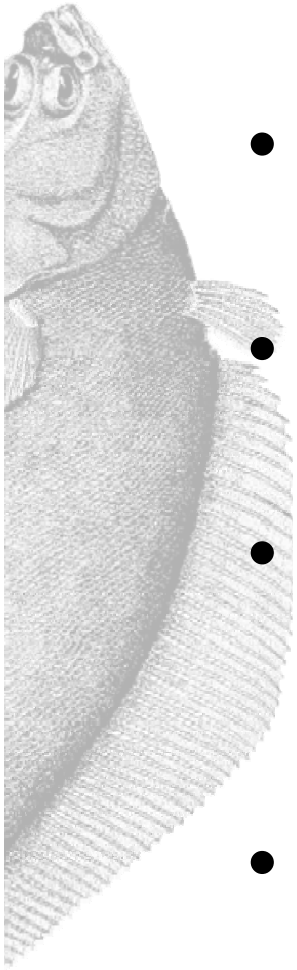
	GB	SNEMA	CCGOM
F recent	0.89	0.99	0.75
Fmsy	0.25	0.26	0.17
Fratio	356%	381%	441%
SSB recent	5000	690	1110
SSBmsy	58800	69500	12600
SSBratio	9%	1%	9%
Y recent	2162	363	618
MSY	12900	14200	2300
Yratio	17%	3%	27%

all 3 overfishing

all 3 overfished

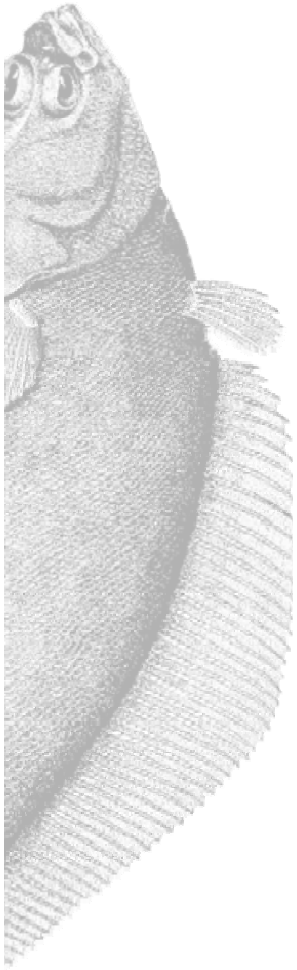


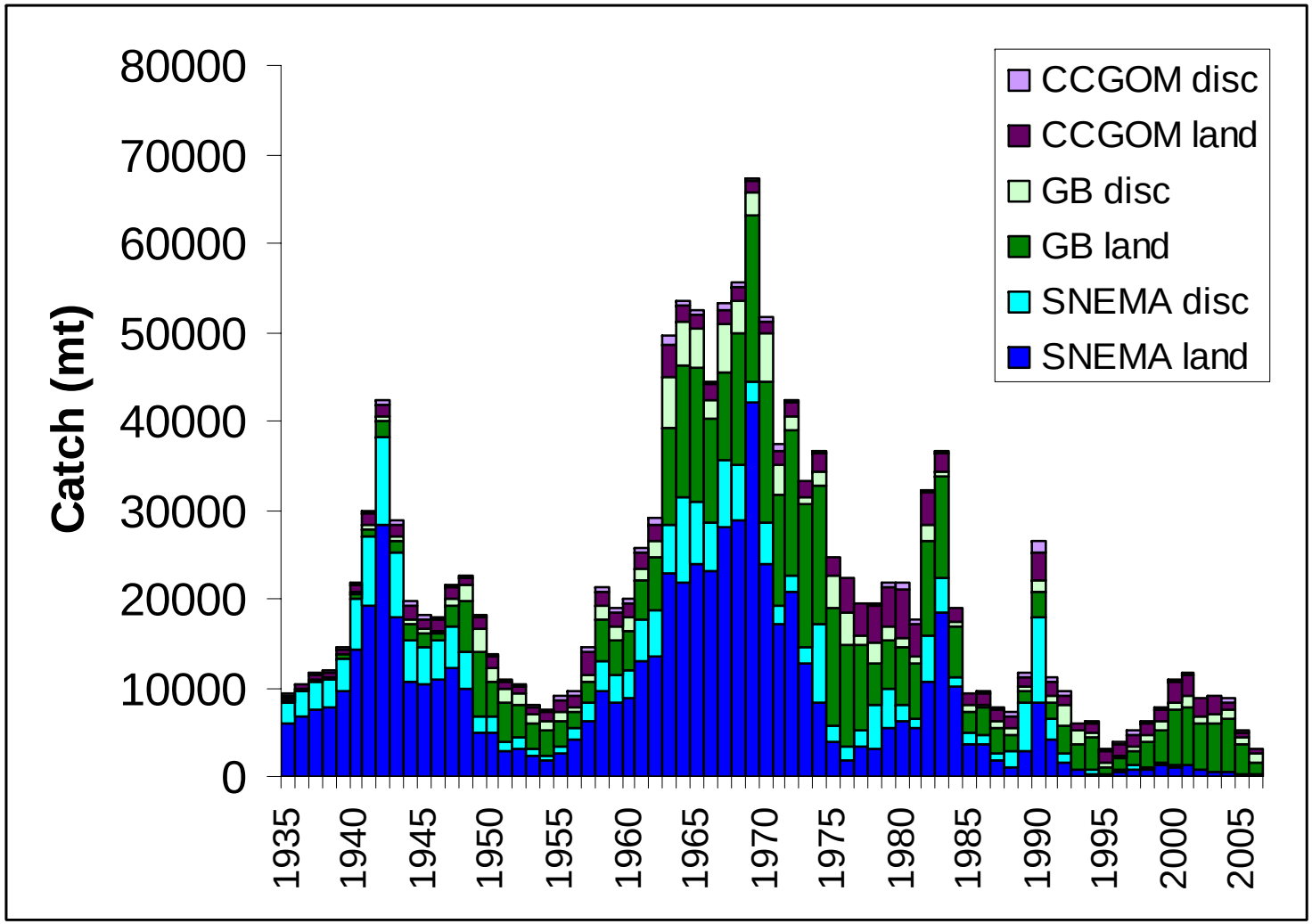
Data Changes

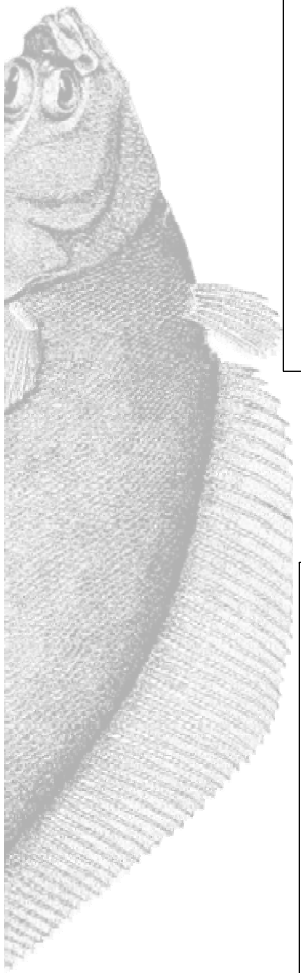


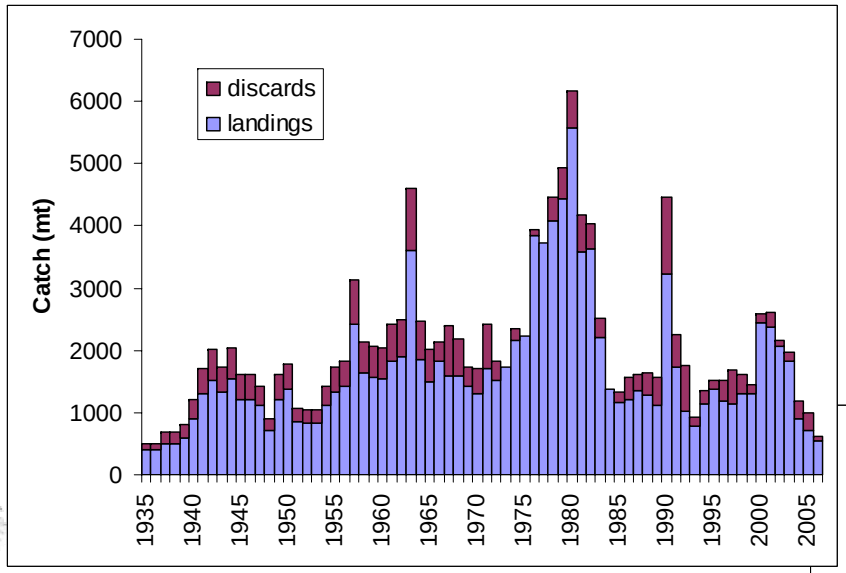
- 1994-2006 US Commercial Landings Trip Based Allocation
- 1994-2006 US Commercial Discards SBRM
- CCGOM
  - MADMF Surveys Revised
  - MENH Surveys New (2000-2006)
- Maturity Updated
  - Constant vectors all years

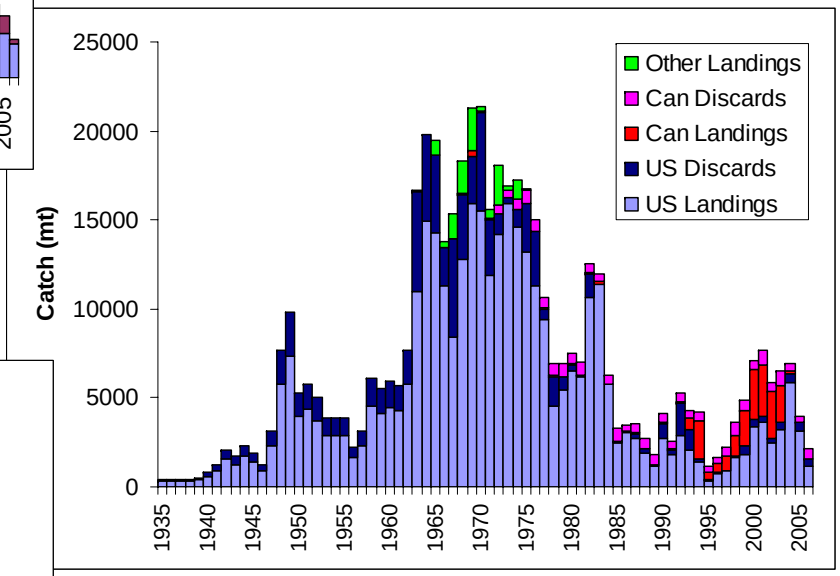
YT Catch

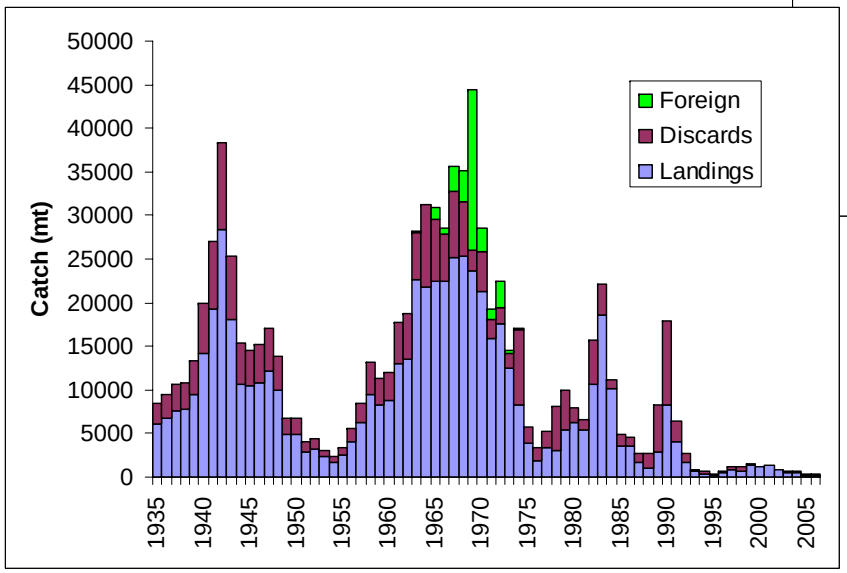


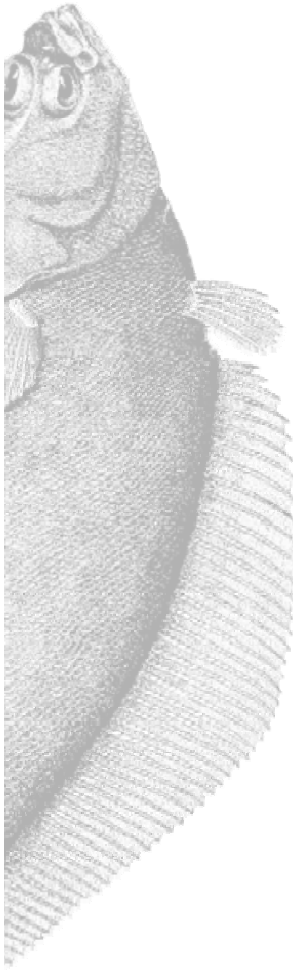

Catch (mt)
80000
70000
60000
50000
40000
30000
20000
10000
0
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
CCGOM disc
CCGOM land
GB disc
GB land
SNEMA disc
SNEMA land

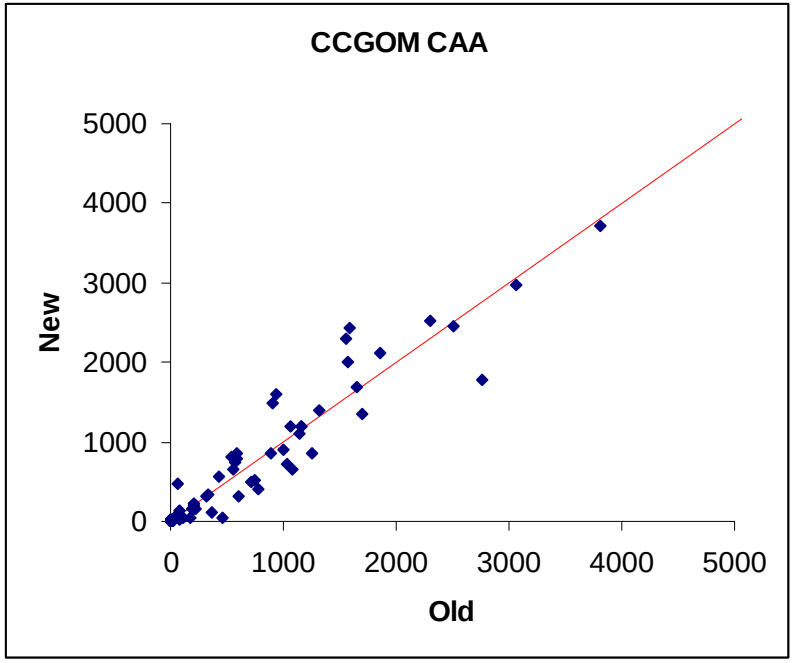


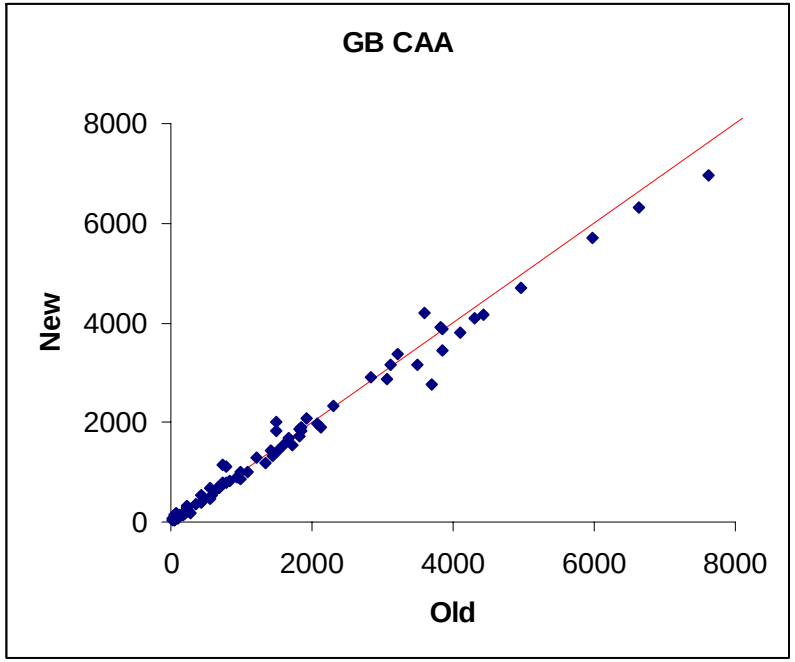

discards
landings
Catch (mt)
7000
6000
5000
4000
3000
2000
1000
0
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005

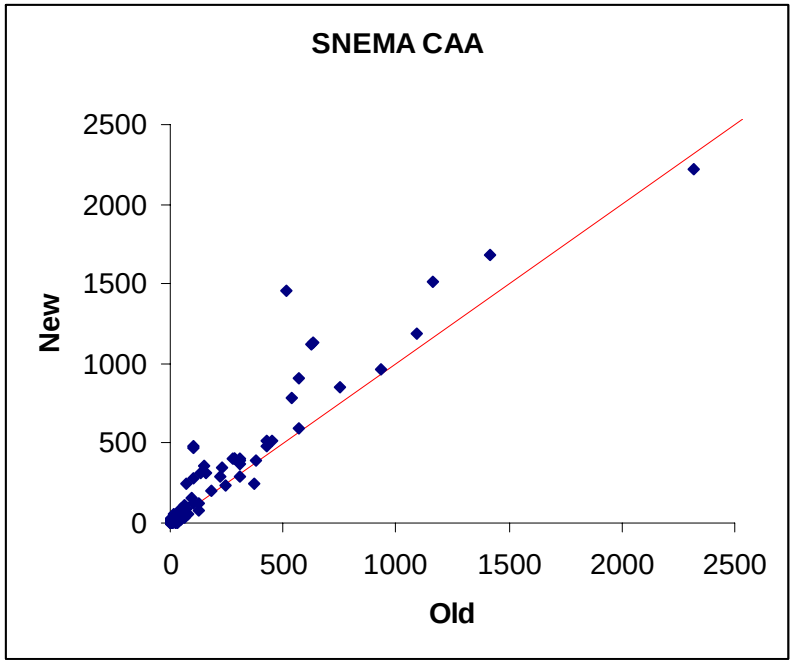

Other Landings
Can Discards
Can Landings
US Discards
US Landings
Catch (mt)
25000
20000
15000
10000
5000
0
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005


Foreign
Discards
Landings
Catch (mt)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005



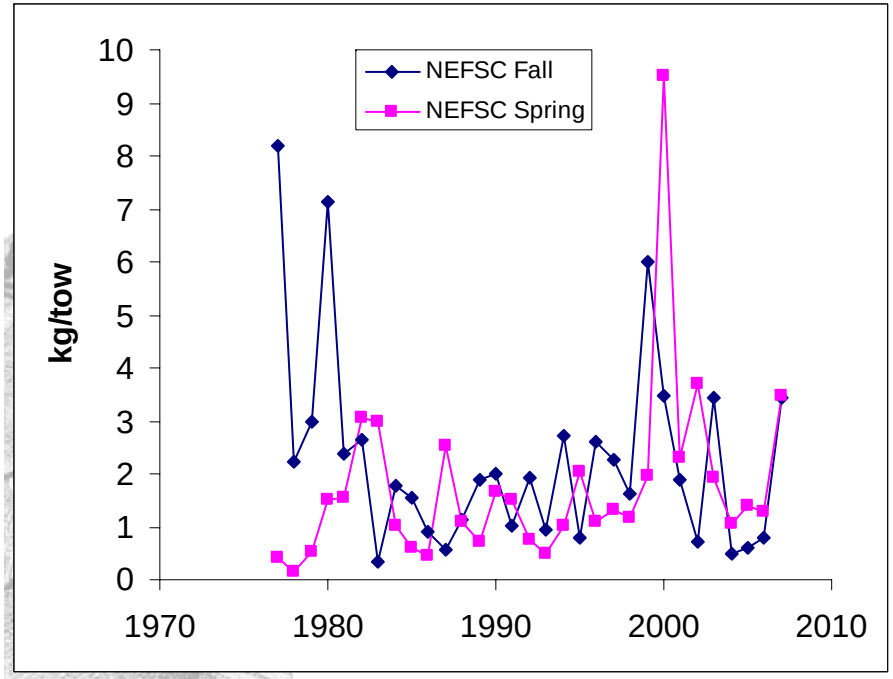

CCGOM CAA
New
Old
0
1000
2000
3000
4000
5000


GB CAA
New
Old
0
2000
4000
6000
8000

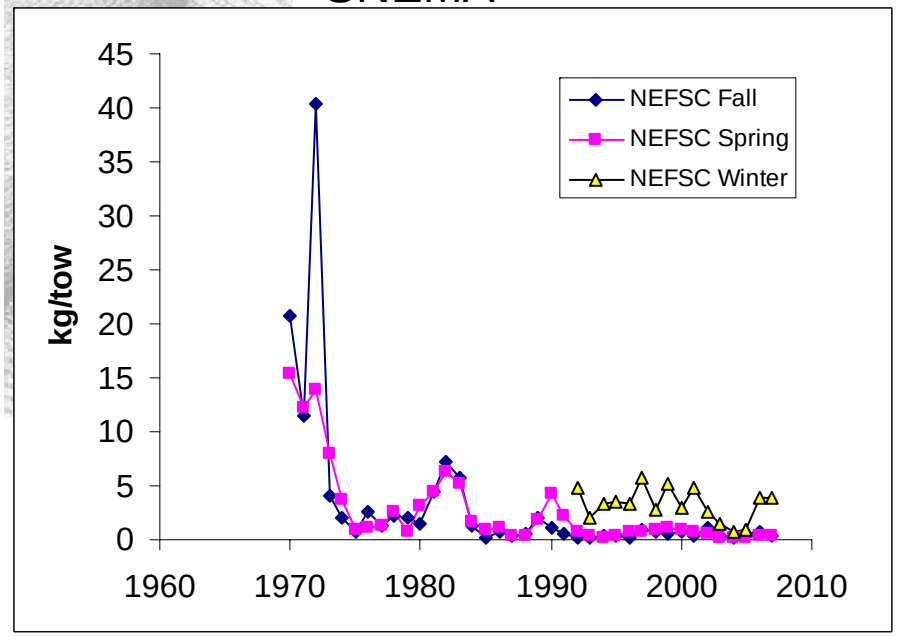

SNEMA CAA
New
Old
0
500
1000
1500
2000
2500

Surveys

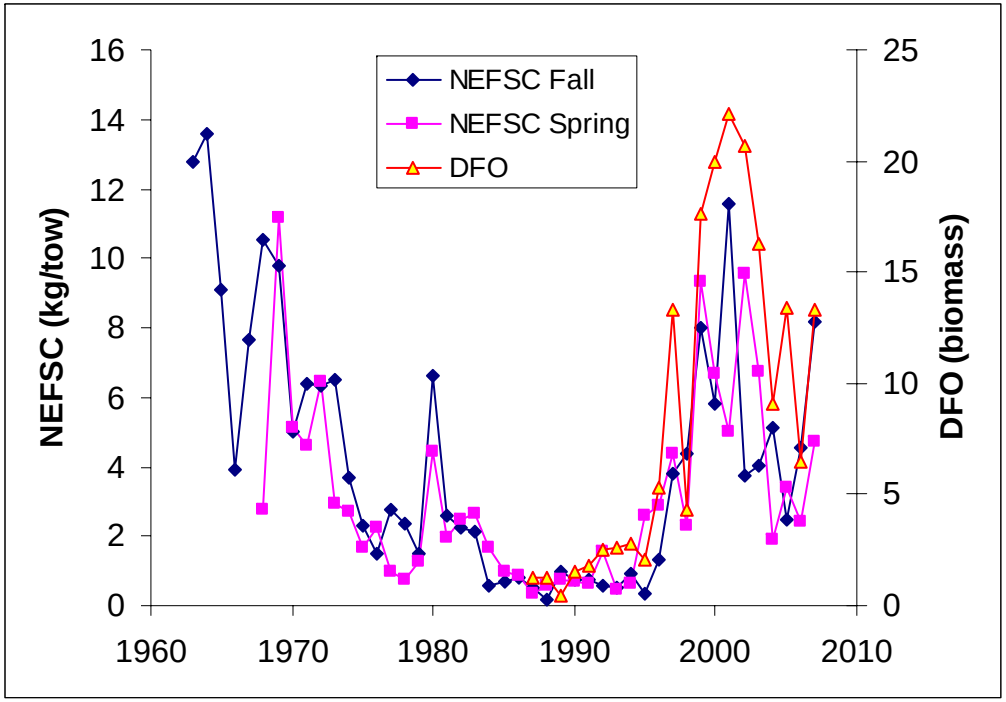
CCGOM



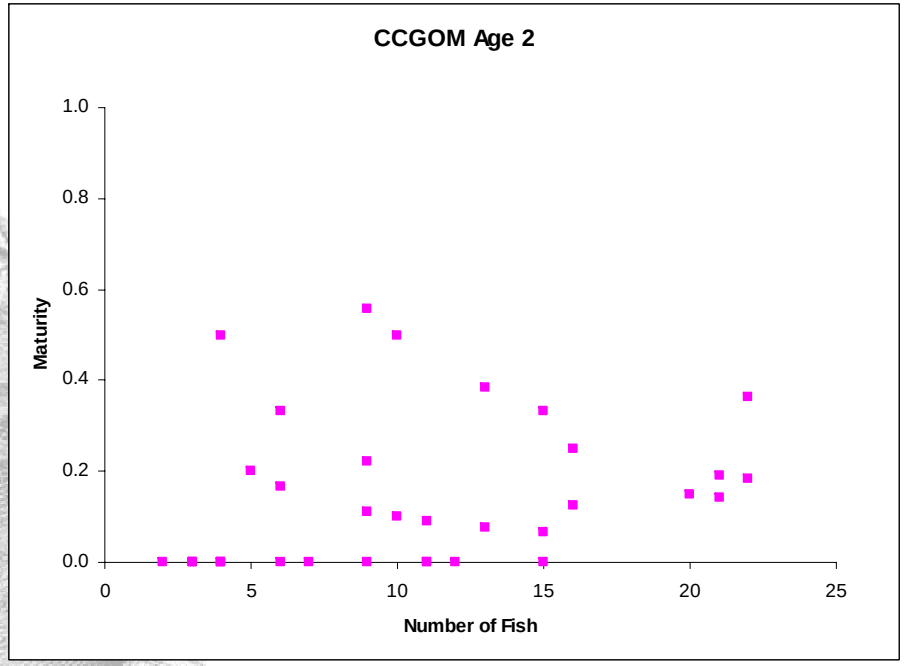
SNEMA

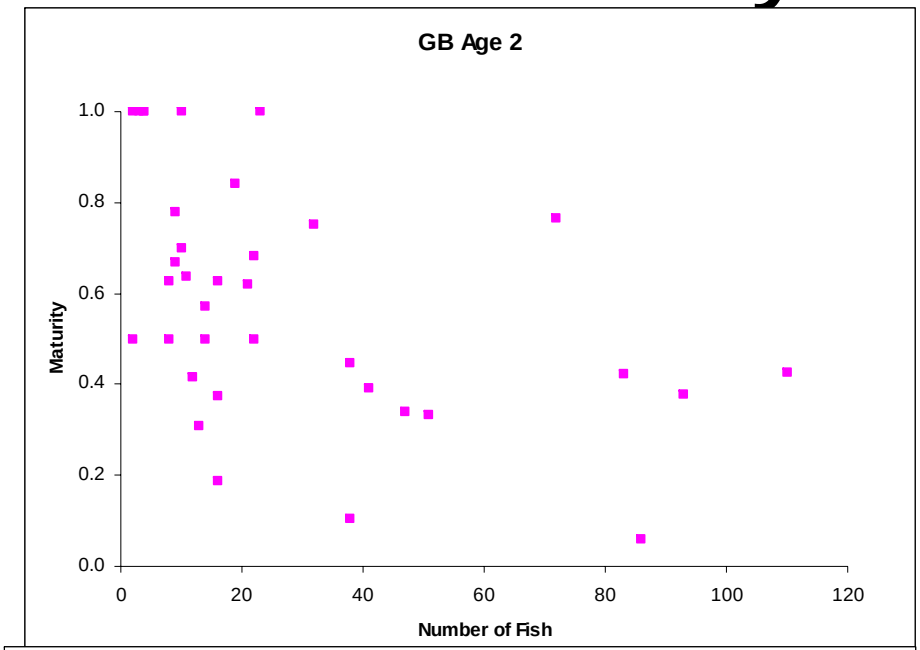


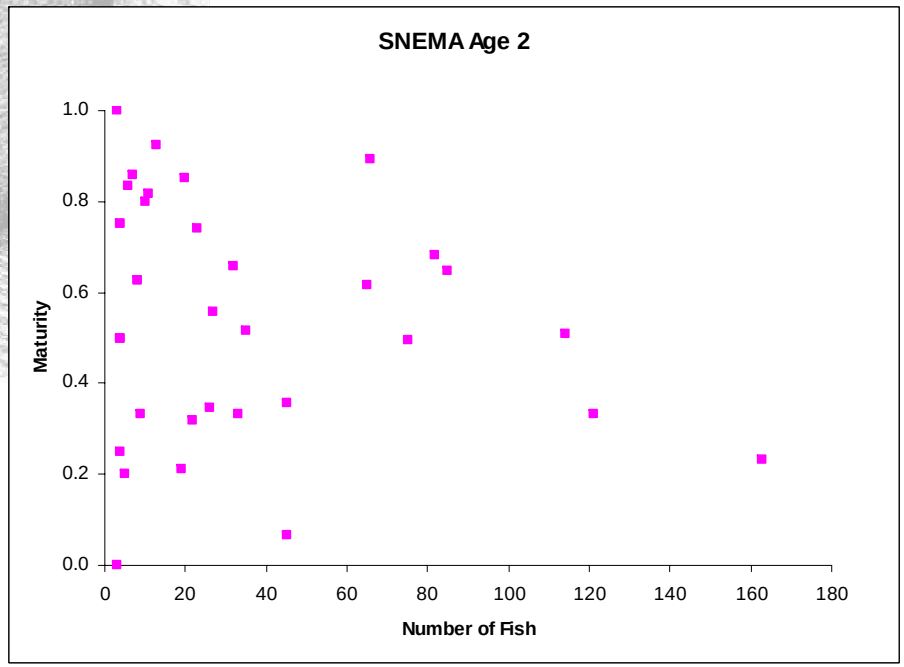
GB

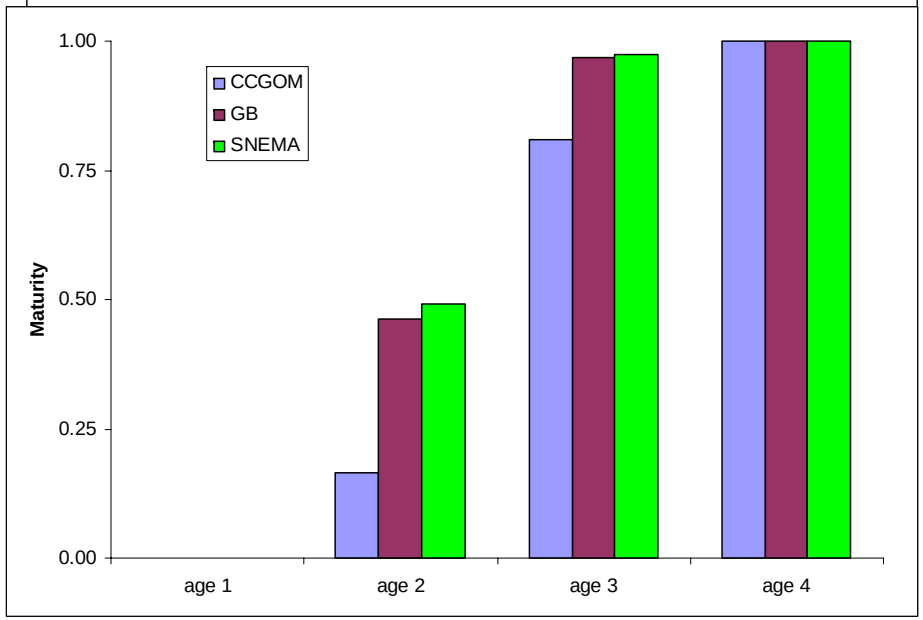


Maturity

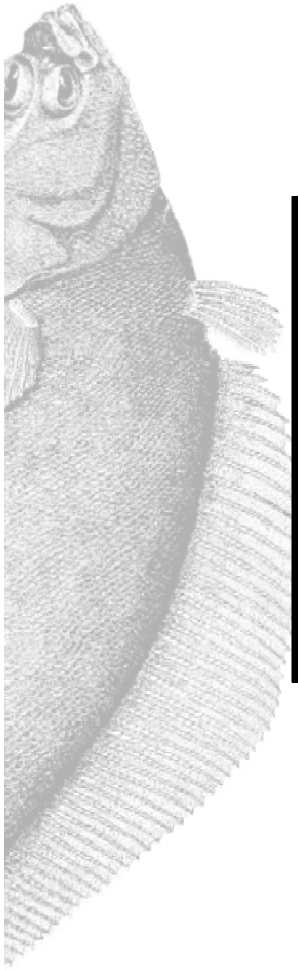

CCGOM Age 2
Maturity
Number of Fish
1.0
0.8
0.6
0.4
0.2
0.0
0
5
10
15
20
25


GB Age 2
Maturity
Number of Fish
1.0
0.8
0.6
0.4
0.2
0.0
0
20
40
60
80
100
120


SNEMA Age 2
Maturity
Number of Fish
1.0
0.8
0.6
0.4
0.2
0.0
0
20
40
60
80
100
120
140
160
180


CCGOM
GB
SNEMA
Maturity
1.00
0.75
0.50
0.25
0.00
age 1
age 2
age 3
age 4

Assessments

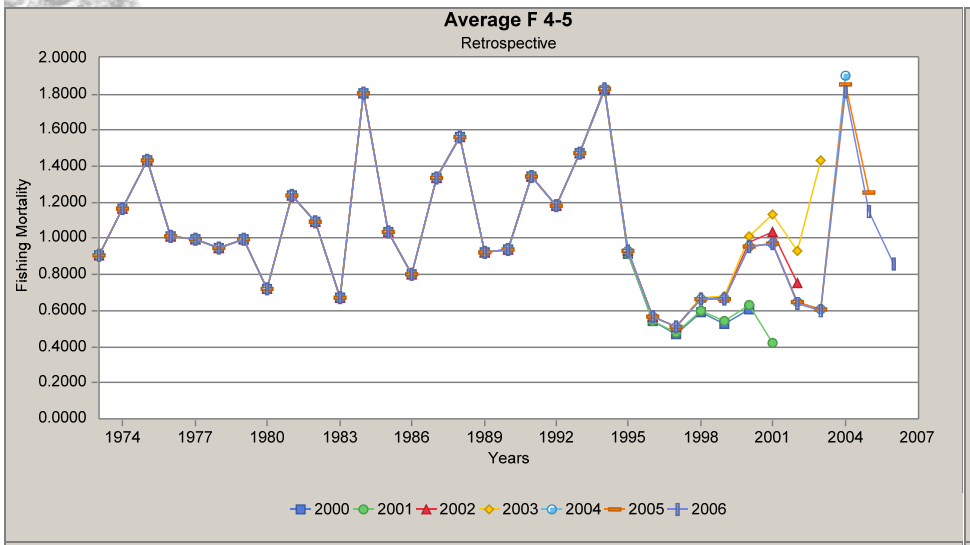


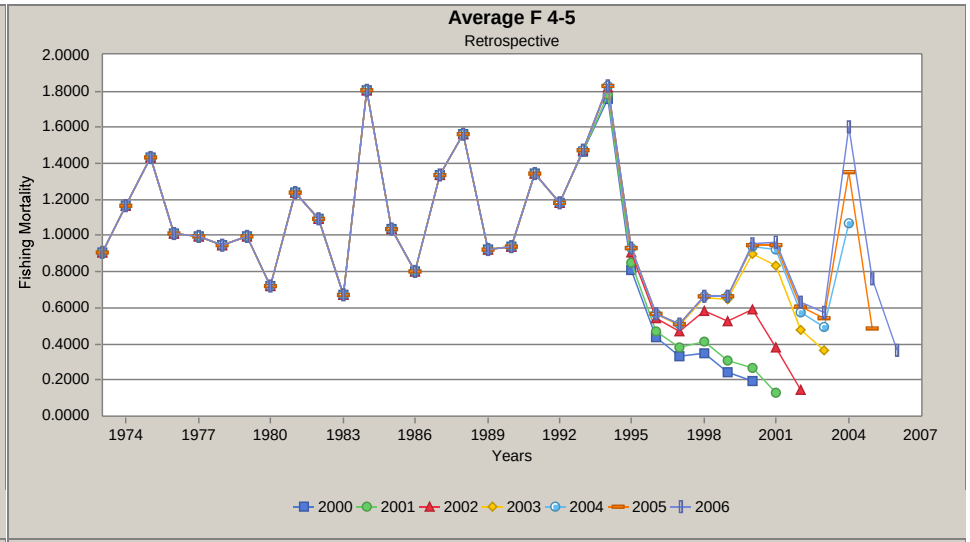
Assess	GB	SNEMA	CCGOM
Old	Major Change VPA 6+	VPA 7+	VPA 5+
Ref	Major Change VPA 6+	VPA 6+	VPA 6+
Alt	Base Case VPA	ASAP	ASAP

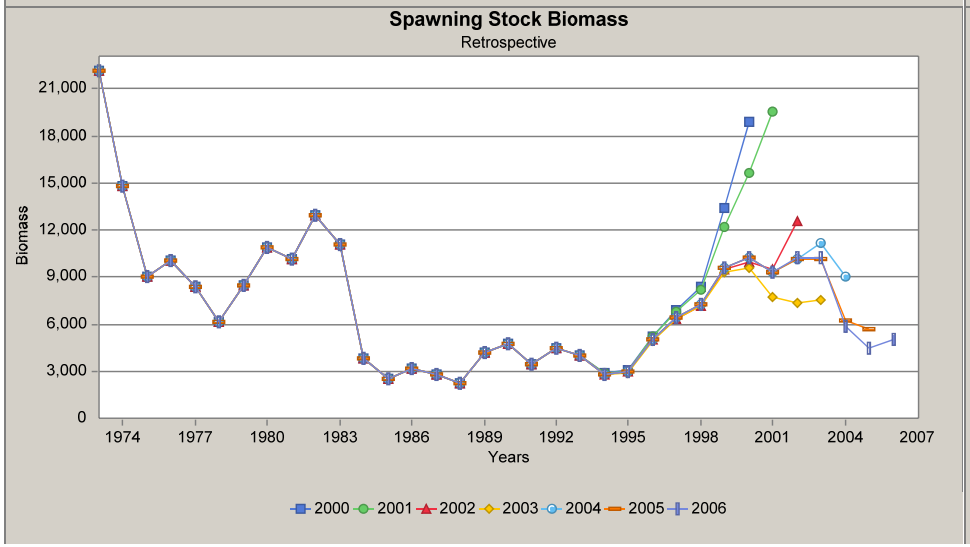
Georges Bank

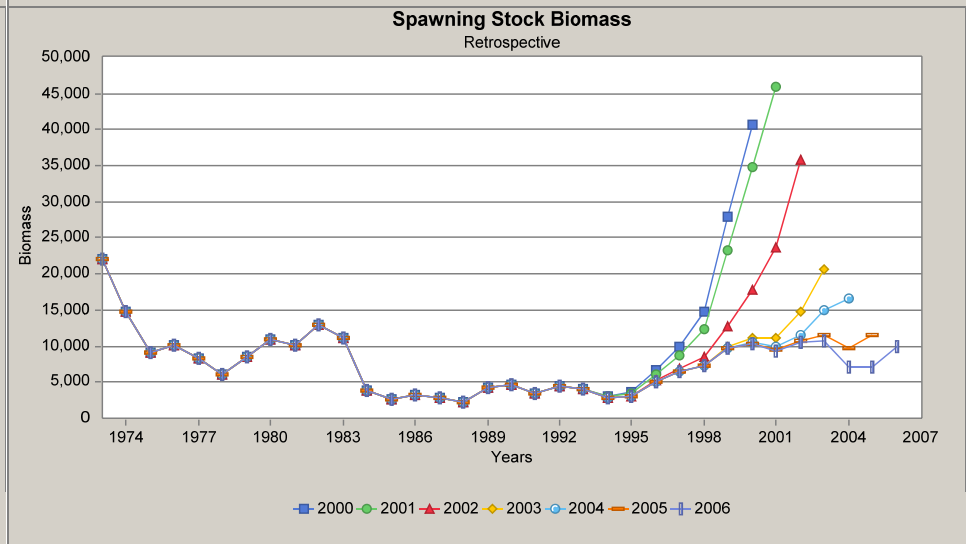
Major Change

Base Case

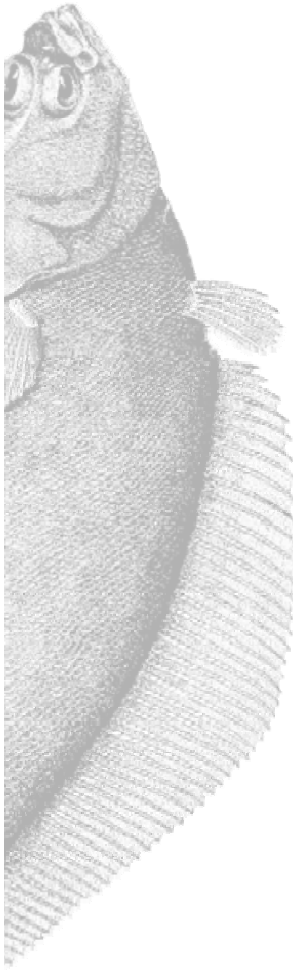


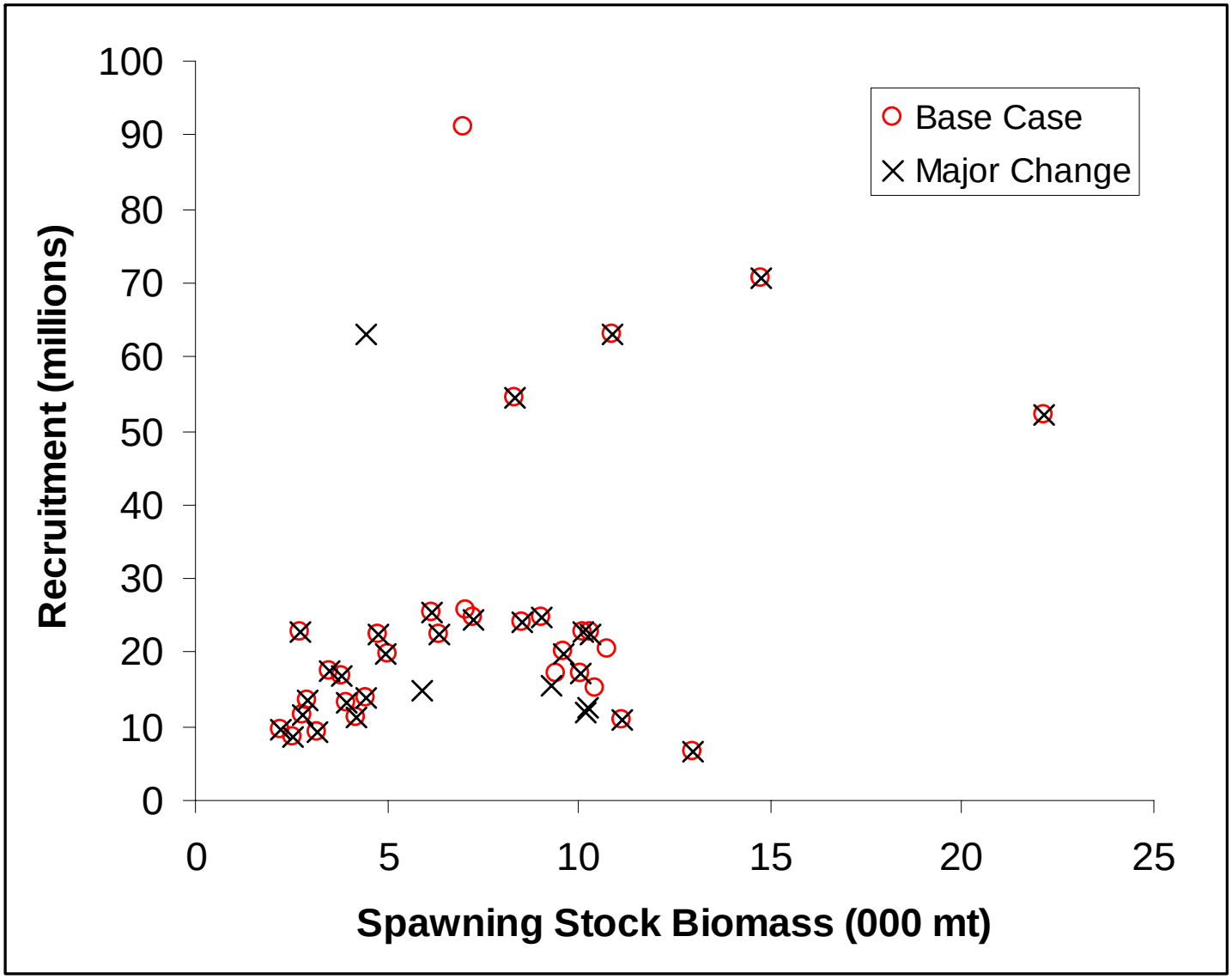




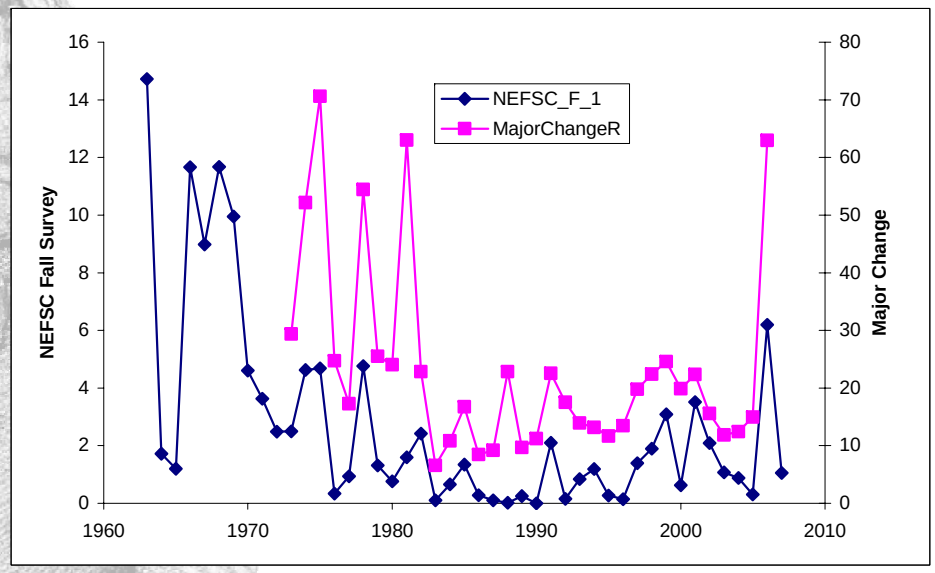


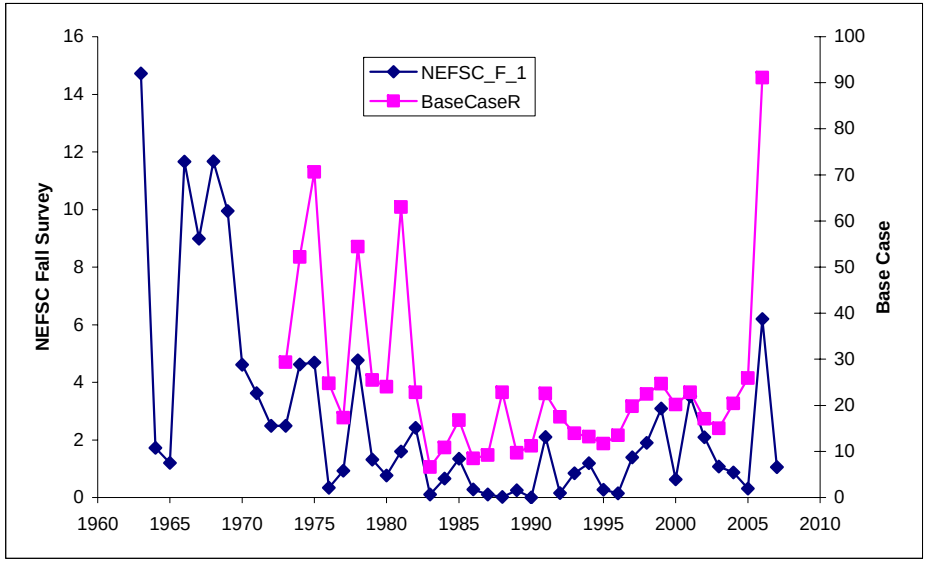
Georges Bank

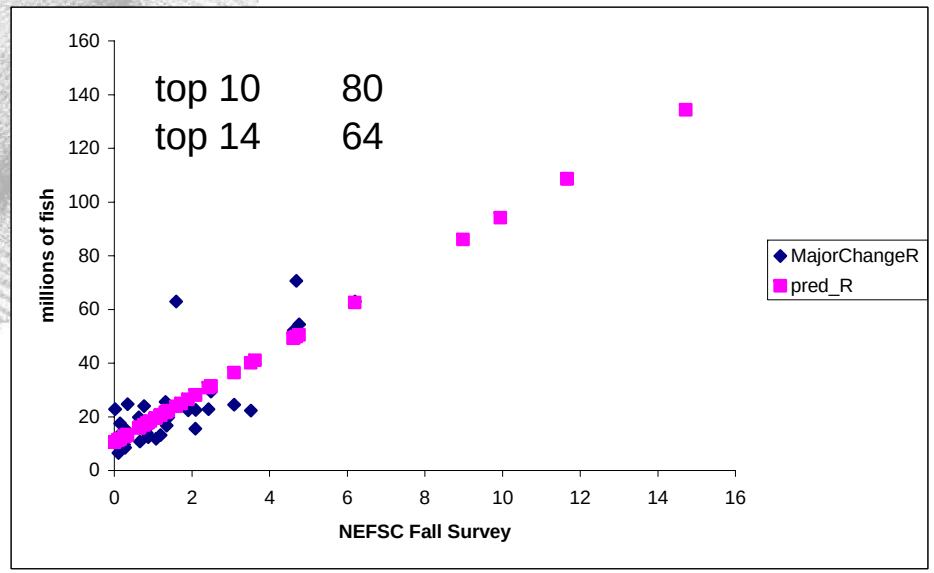


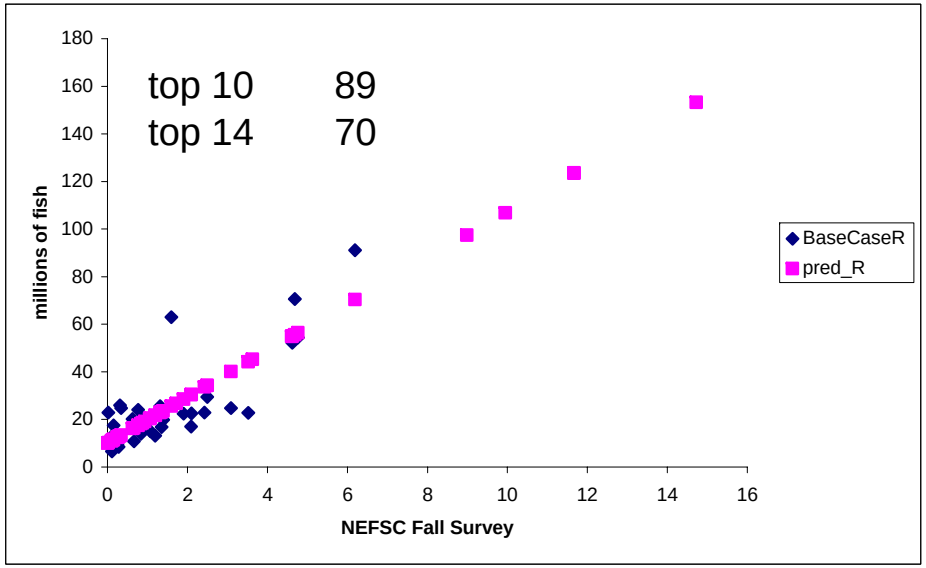


Georges Bank

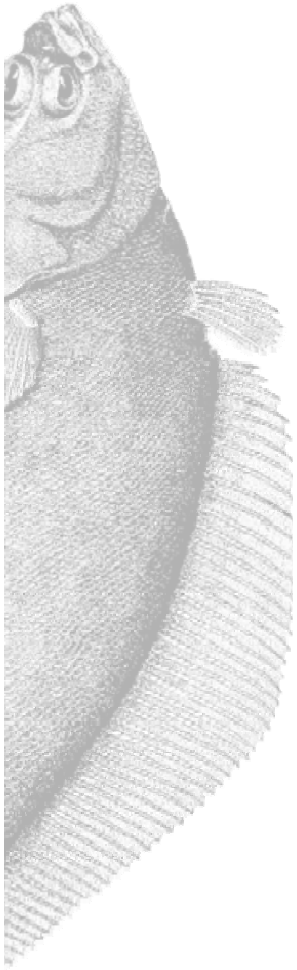








BRPs



Parametric

Model	R prior	Fmsy	SSBmsy	MSY	sigma	SSBmsyD
Base Case	none	0.395	39.7	12.9	0.53	35.1
	70	0.360	62.8	18.8	0.54	55.0
	89	0.345	82.2	23.7	0.55	71.4
Major Change	none	0.425	31.1	10.7	0.54	27.5
	64	**0.365**	**58.0**	**17.5**	0.56	50.2
	80	0.350	74.5	21.6	0.57	63.9

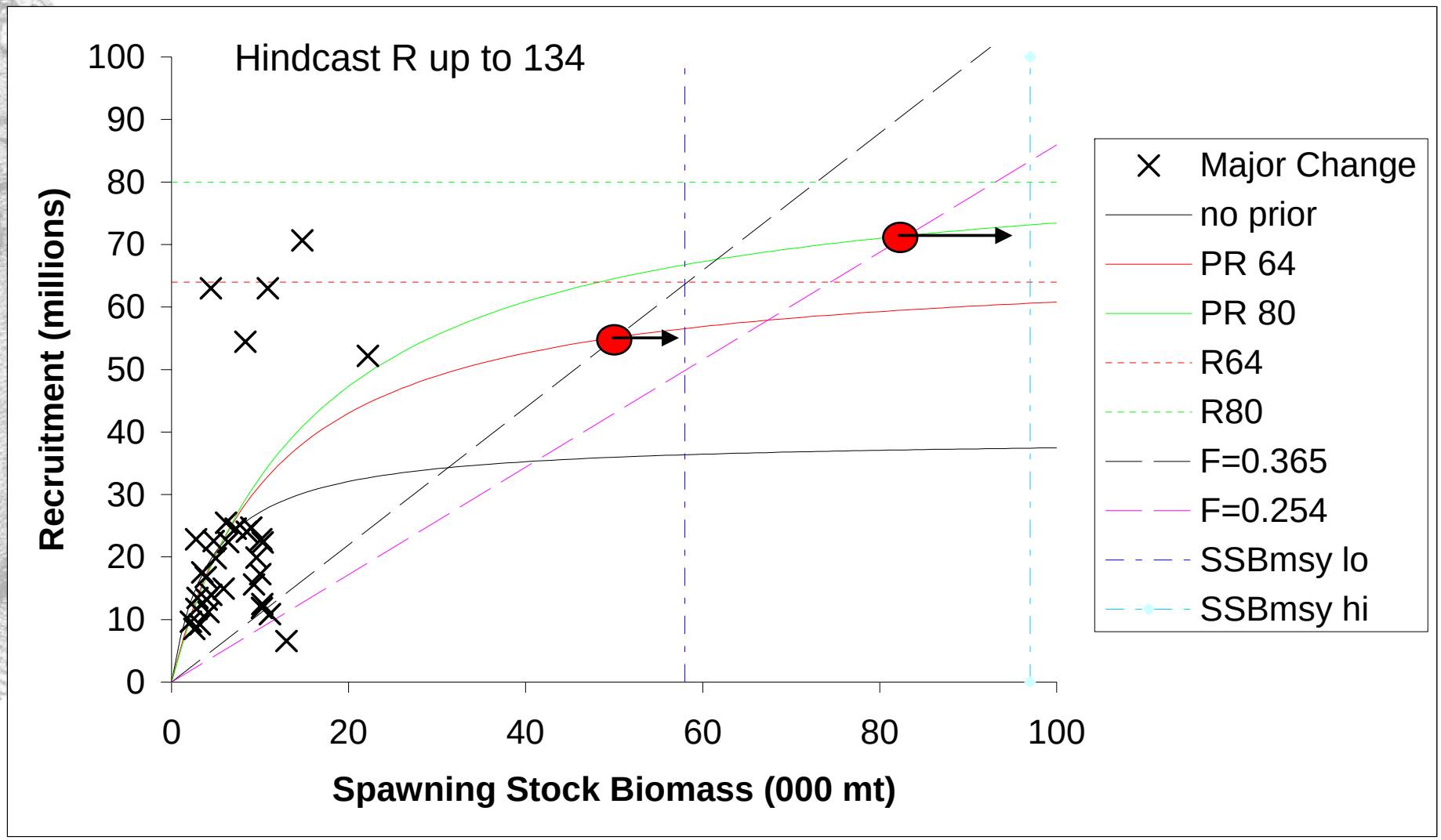
Empirical

Model	R range	Fmsy	SSBmsy	MSY
Base Case	1973-2006	0.252	27.2	5.9
	top 14	0.252	90.0	19.5
	top 10	0.252	108.0	23.4
Major Change	1973-2006	0.254	26.0	5.6
	top 14	0.254	80.6	17.5
	top 10	0.254	95.3	20.7

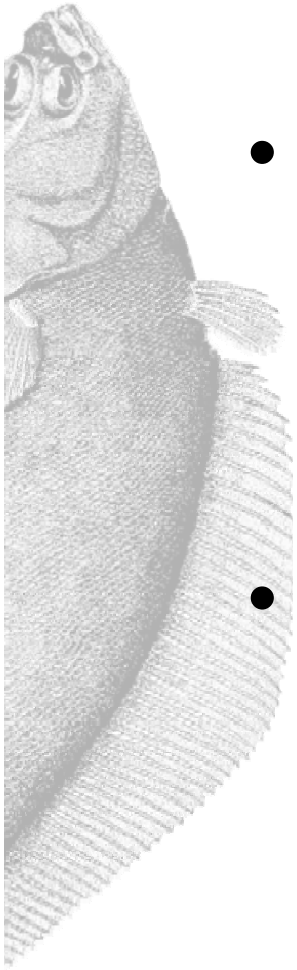
Mixed Approach (SR & F40)

Model	R prior	Fmsy	SSBmsy	MSY
Major Change	none	0.254	46.8	10.2
	64	0.254	78.0	16.9
	80	**0.254**	**97.0**	**21.0**

Georges Bank



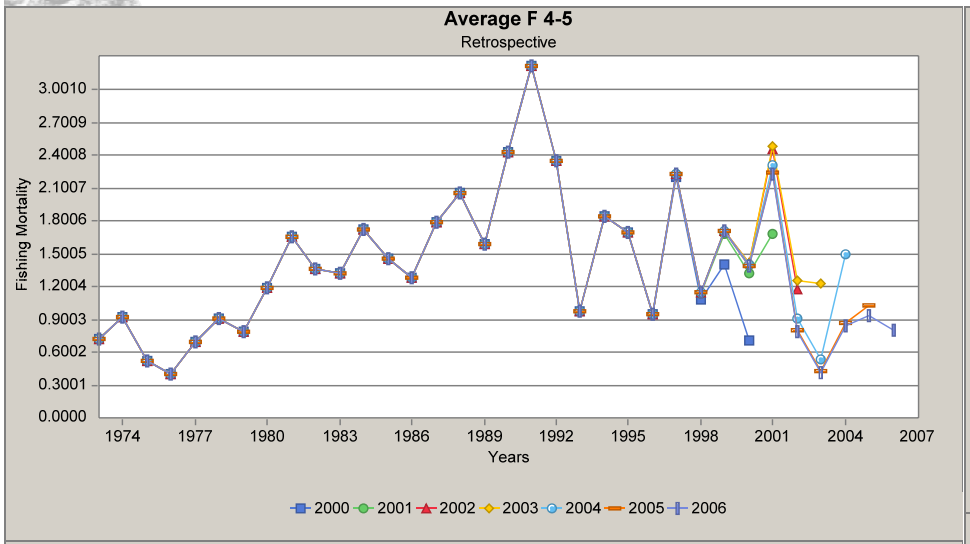
GB Caveats

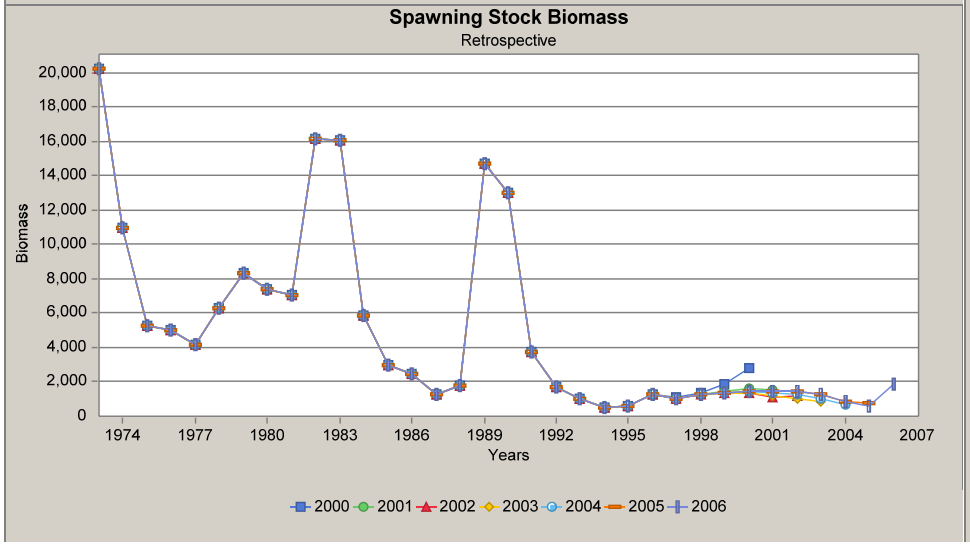


- 2005 yearclass large
  - Highly influential on short term projections
  - Not many observations of this cohort yet
  - Large cohorts have not panned out in past
- Fmsy or F40%SPR
  - Fmsy Major Change PR64 = F31%SPR
  - Fmsy Major Change PR80 = F32%SPR

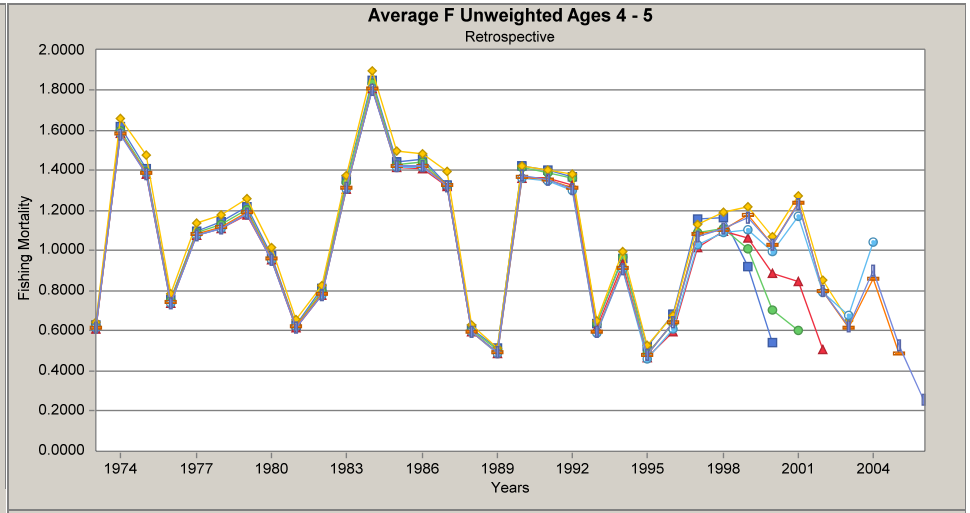
SNEMA

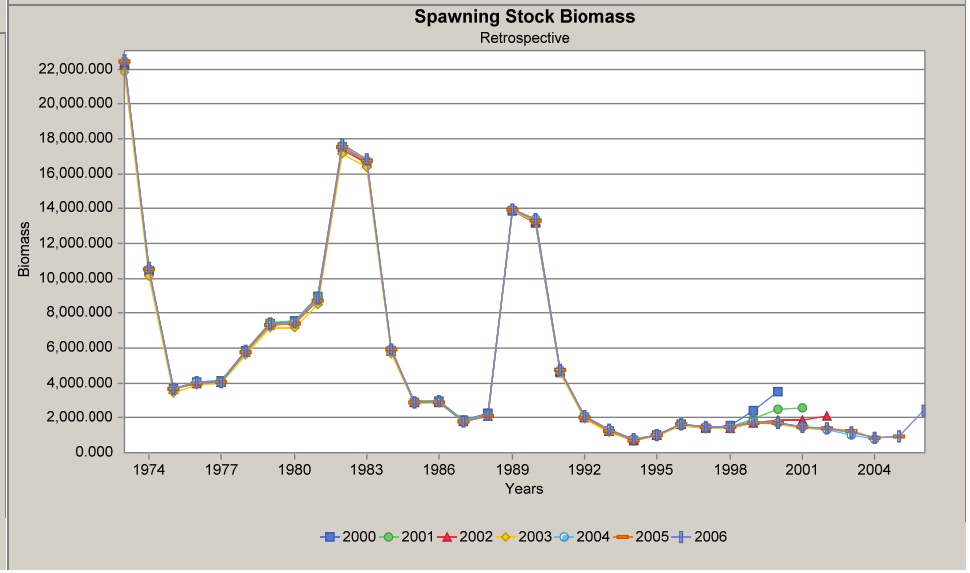
VPA



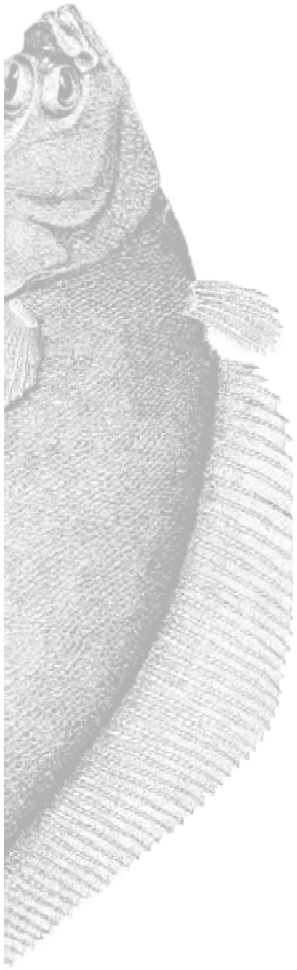


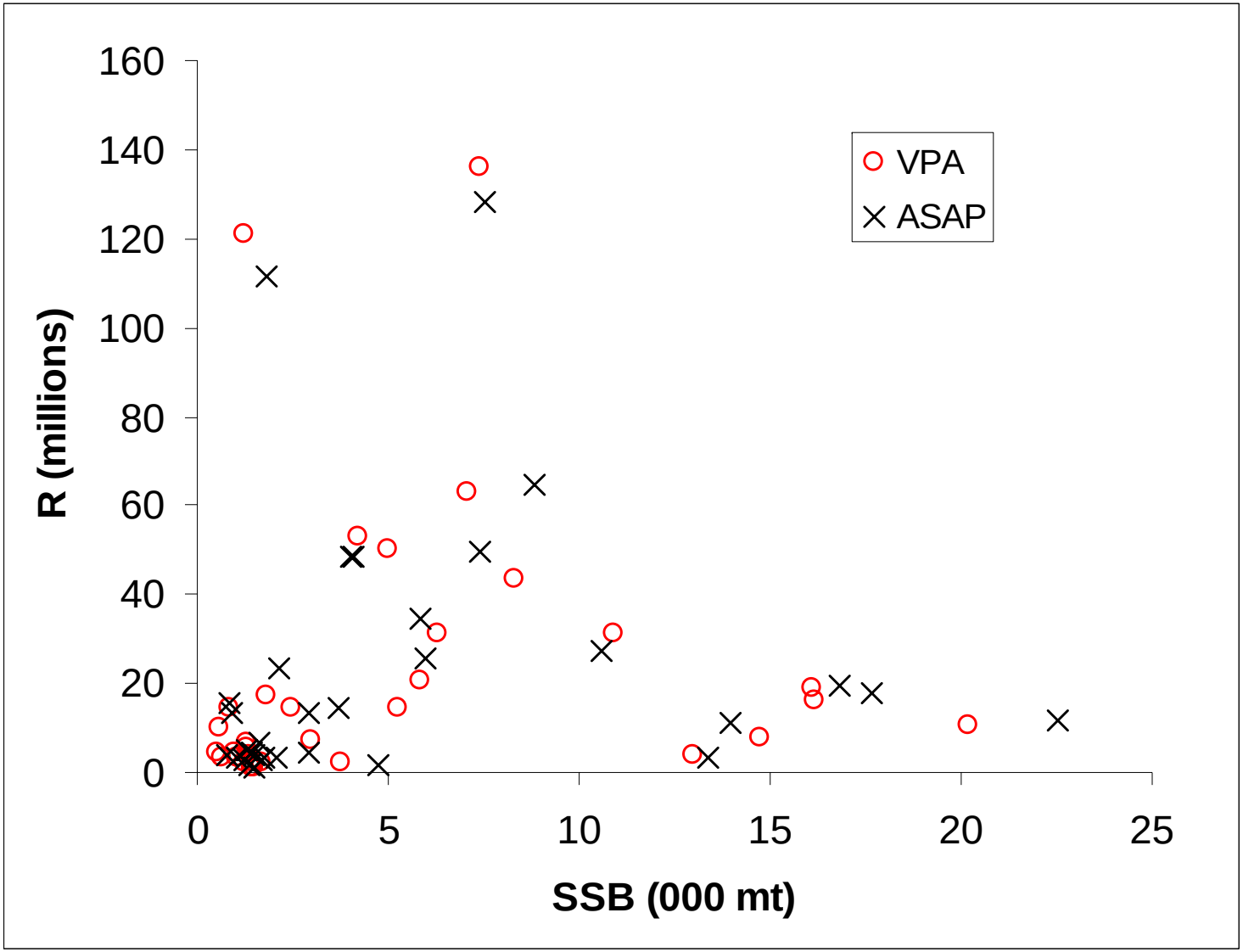
ASAP





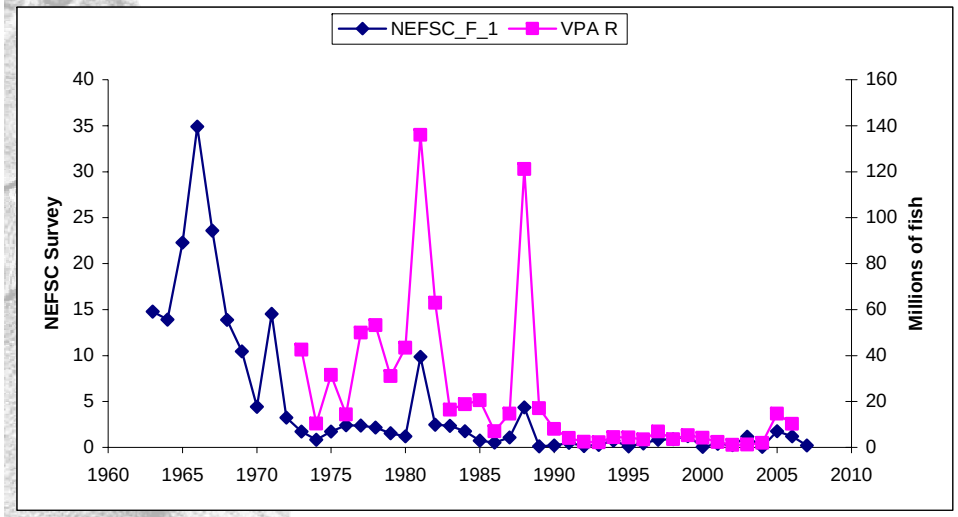
SNEMA

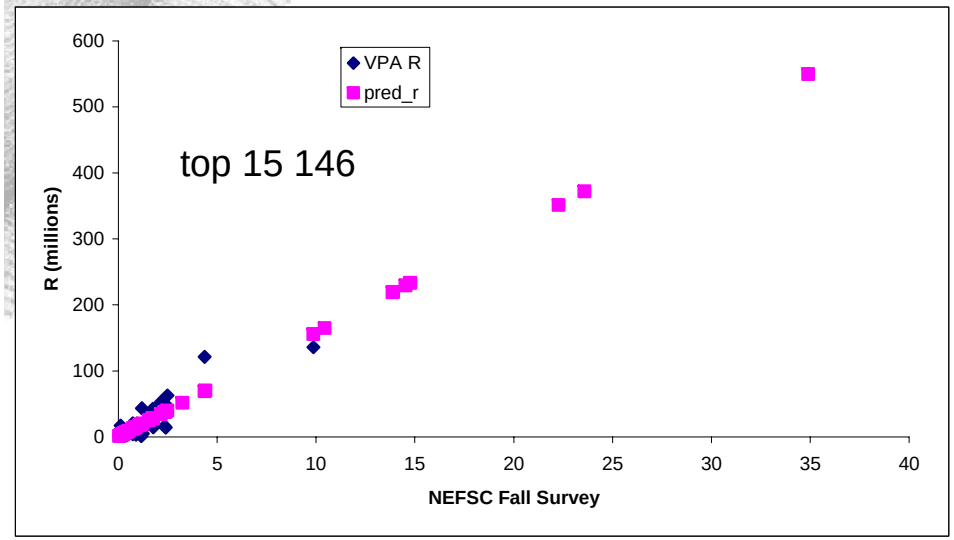



160
140
120
100
80
60
40
20
0
R (millions)
0
5
10
15
20
25
SSB (000 mt)
VPA
ASAP

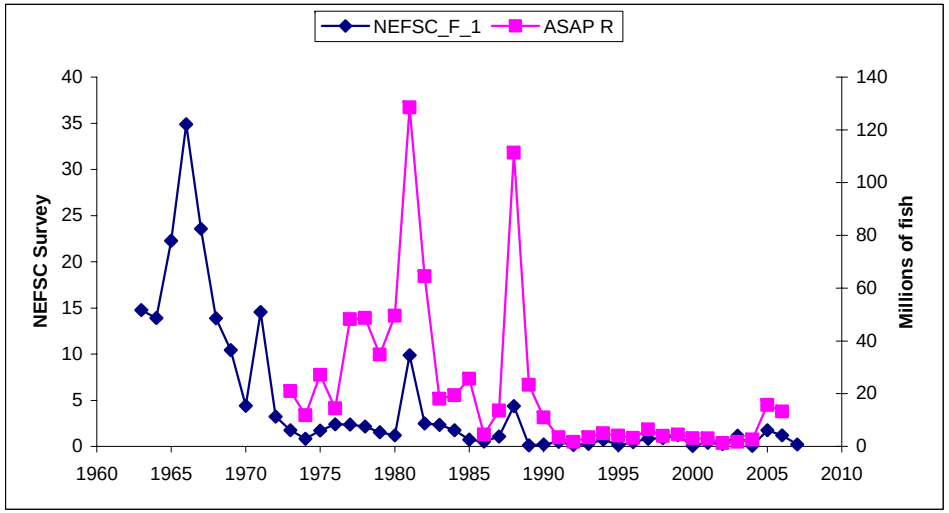
SNEMA

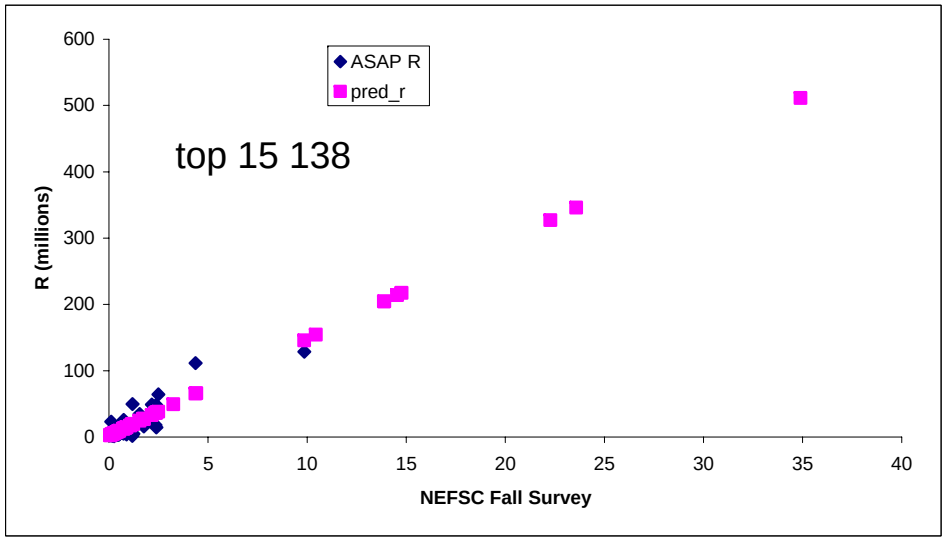
VPA



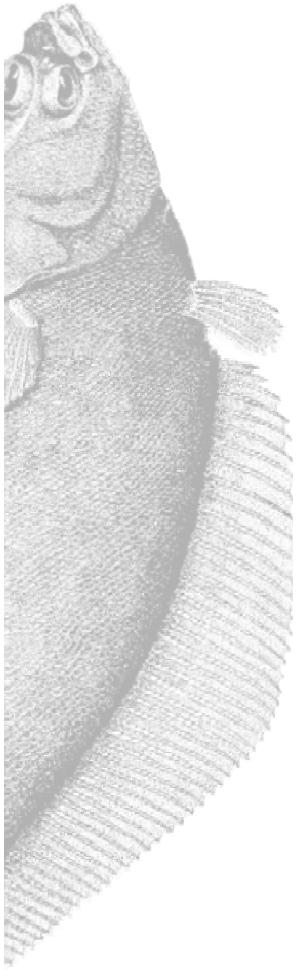


ASAP





SNEMA



Parametric

Model	R prior	Fmsy	SSBmsy	MSY	sigma	SSBmsyD
VPA	none	**0.500**	**45.8**	**18.4**	1.12	28.7
	146	0.455	150.3	55.7	1.19	87.0
ASAP	none	0.470	50.7	19.4	1.09	32.0
	138	0.435	141.0	50.4	1.15	83.7

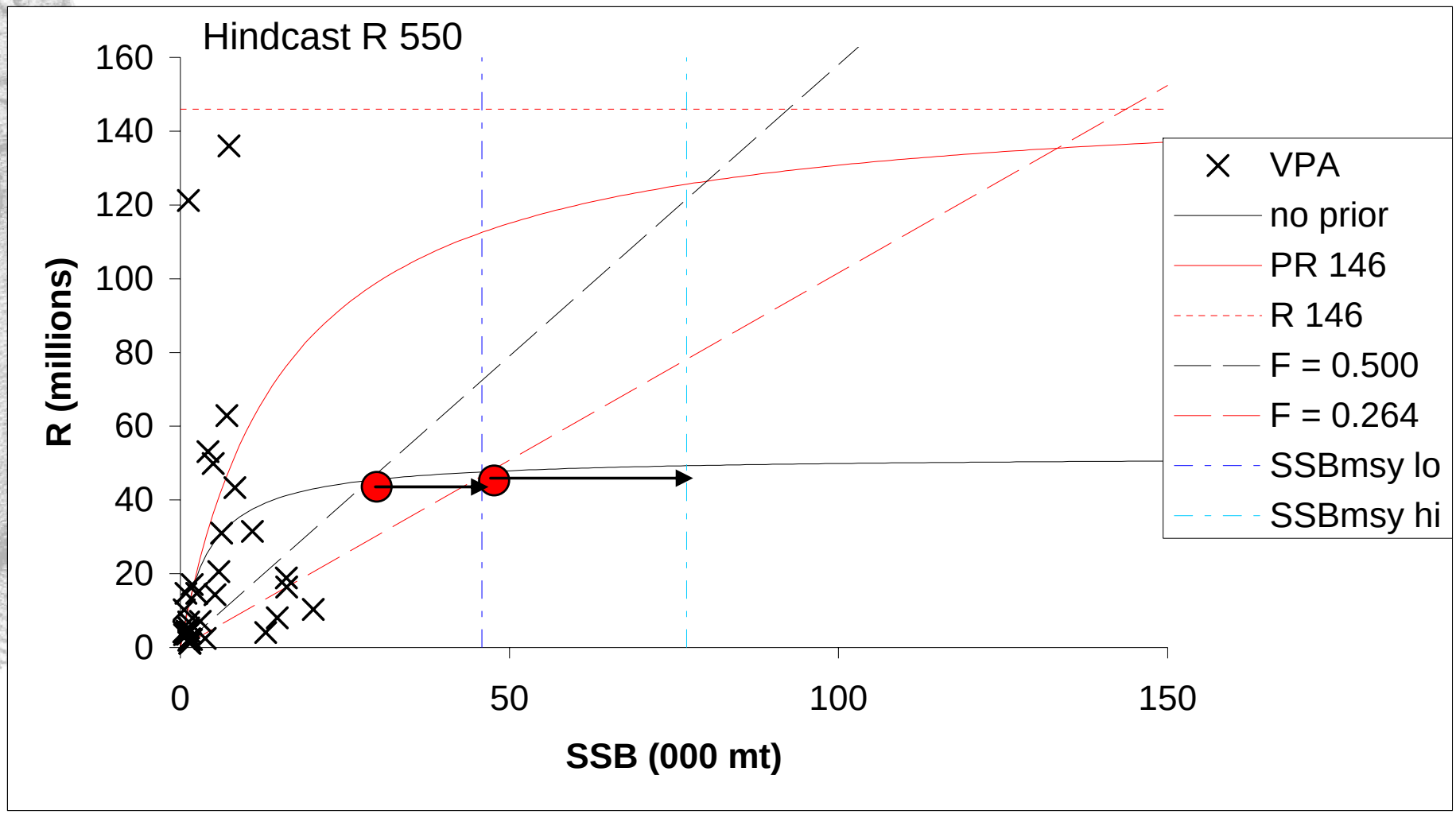
Empirical

Model	R range	Fmsy	SSBmsy	MSY
VPA	1973-2006	0.264	18.9	4.3
	top 15	0.264	179.3	40.7
ASAP	1973-2006	0.263	18.6	4.2
	top 15	0.263	167.7	38.1

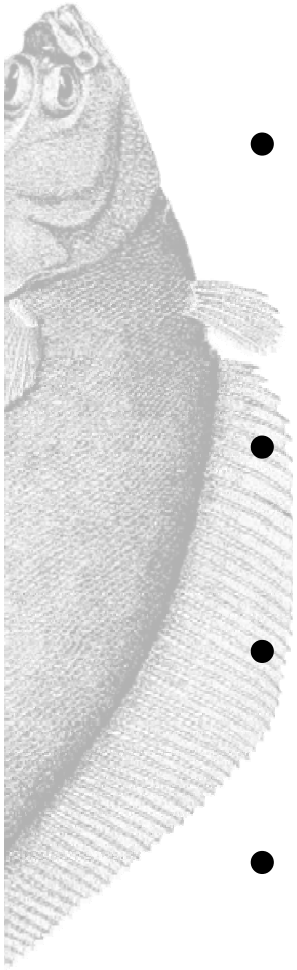
Mixed Approach (SR and F40)

Model	R prior	Fmsy	SSBmsy	MSY
VPA	none	**0.264**	**76.9**	**17.5**

SNEMA


Hindcast R 550
R (millions)
SSB (000 mt)
0
20
40
60
80
100
120
140
160
0
50
100
150
VPA
no prior
PR 146
R 146
F = 0.500
F = 0.264
SSBmsy lo
SSBmsy hi

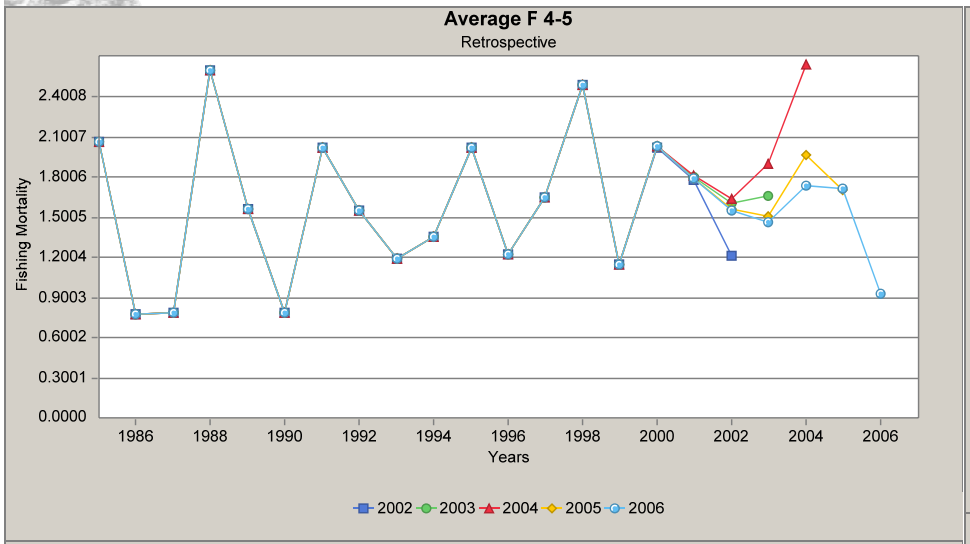
SNEMA Caveats

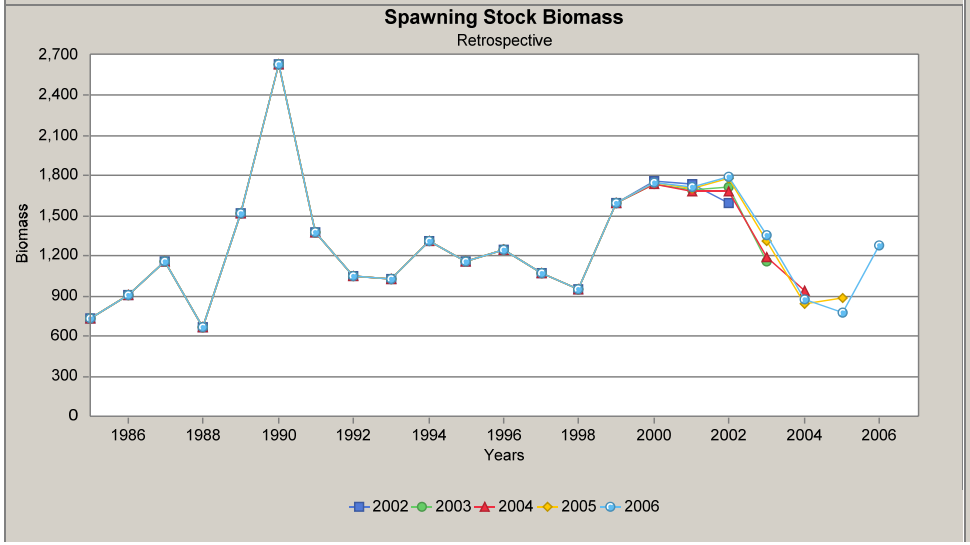


- 2004 and 2005 yearclasses appear strongest in recent decade
  - Hopefull sign
- ASAP low F in 2006 needs to be examined in more detail
- Fmsy vs F40%SPR
  - Fmsy VPA no prior = F26%SPR
- Sigma > 1 in parametric fits
  - Use lower sigma to set BRP and in proj?

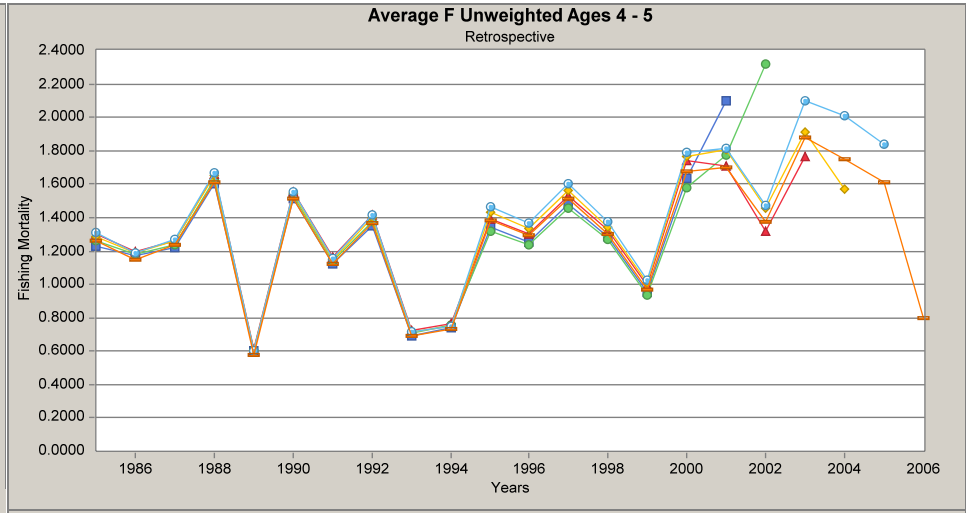
CCGOM

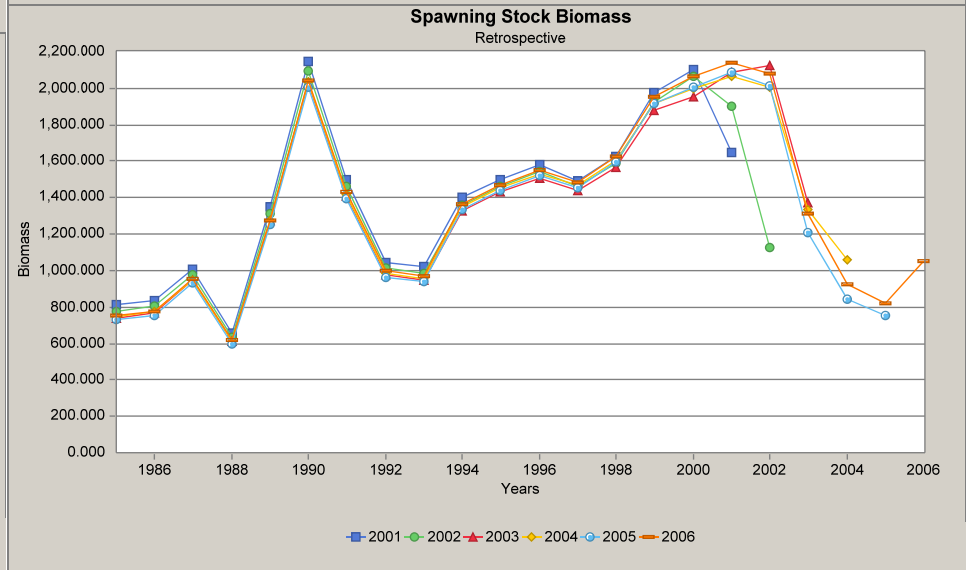
VPA



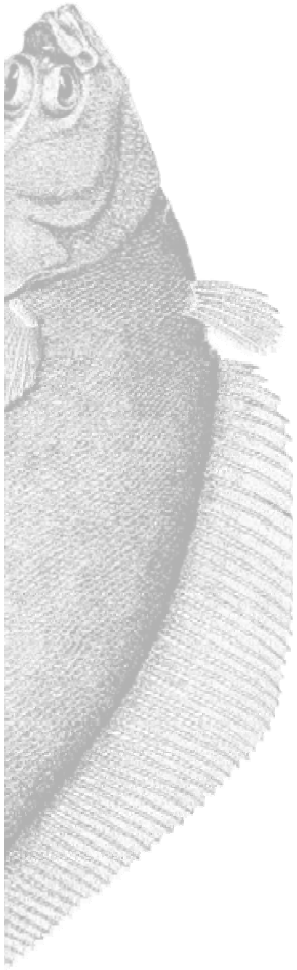


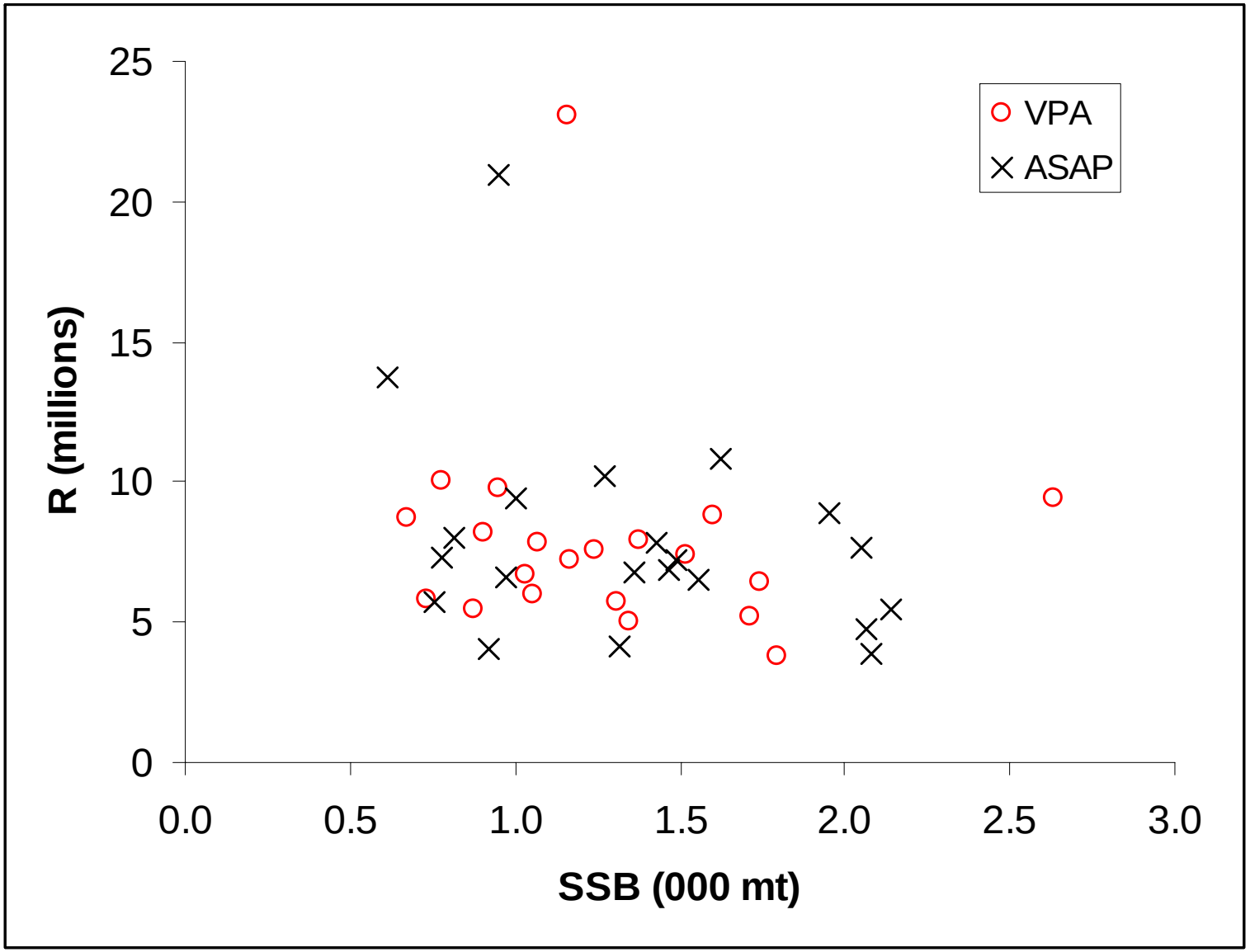
ASAP





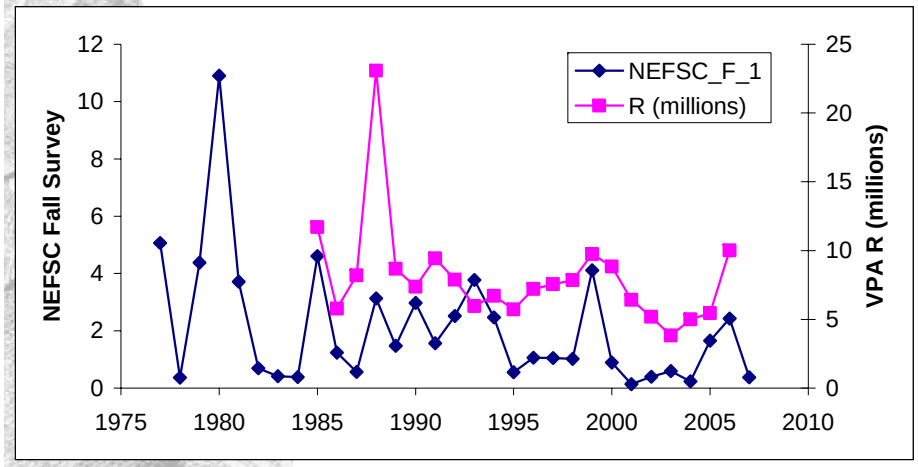
CCGOM

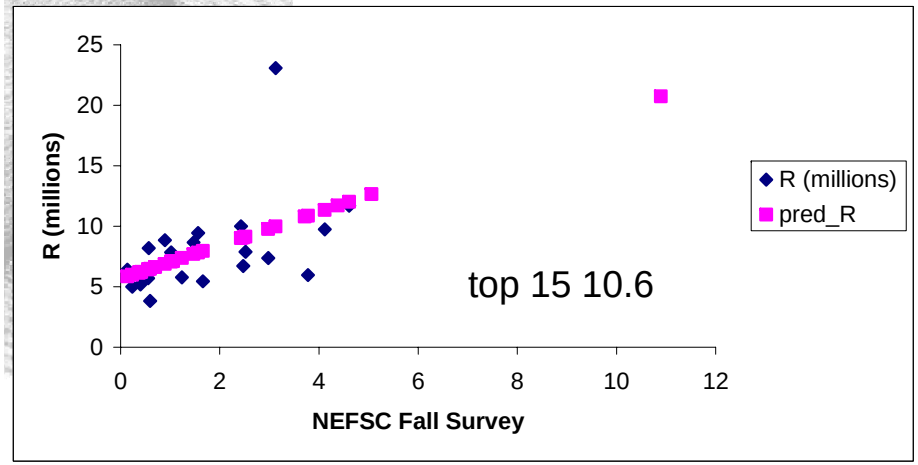




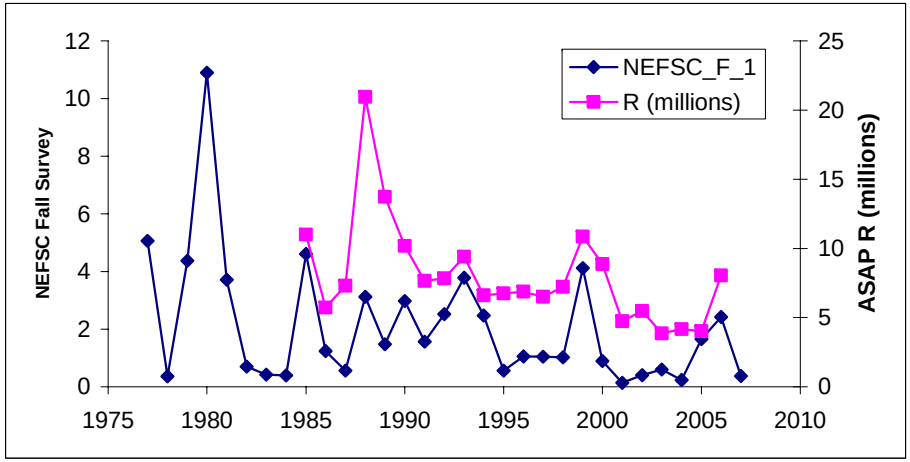
CCGOM

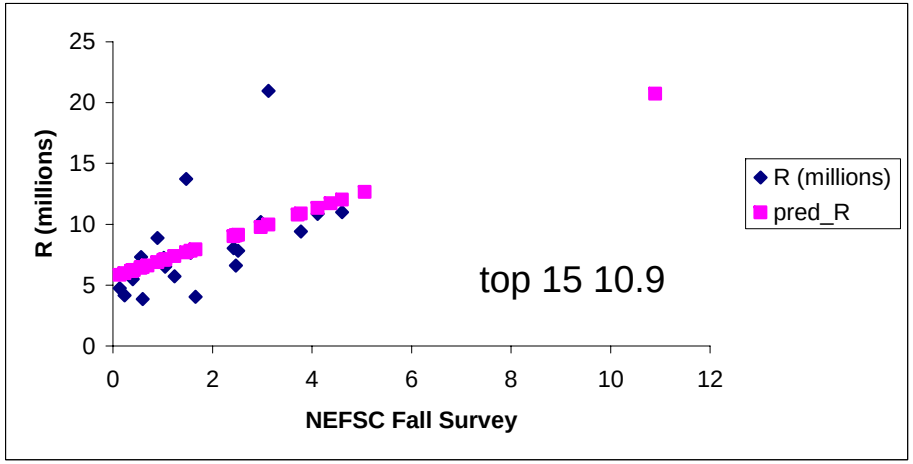
VPA



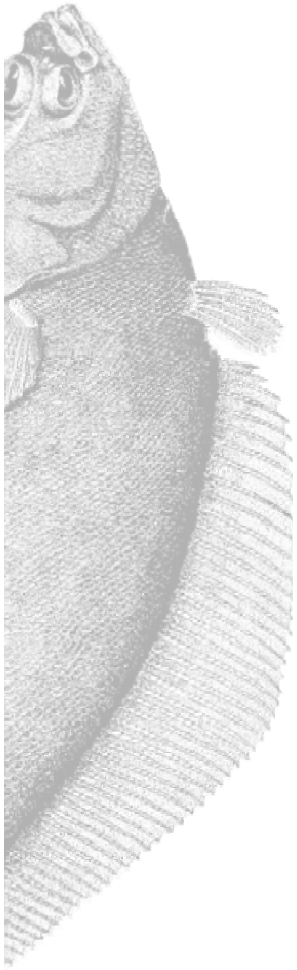


ASAP





CCGOM



Parametric

Model	R prior	Fmsy	SSBmsy	MSY	sigma	SSBmsyD	
VPA	none	0.690	3.55	2.09	0.35	3.40	* h=1
	10.6	**0.530**	**5.83**	**2.70**	0.38	5.52	
ASAP	none	0.700	3.71	2.15	0.40	3.51	* h=1
	10.9	0.550	6.14	2.87	0.45	5.68	

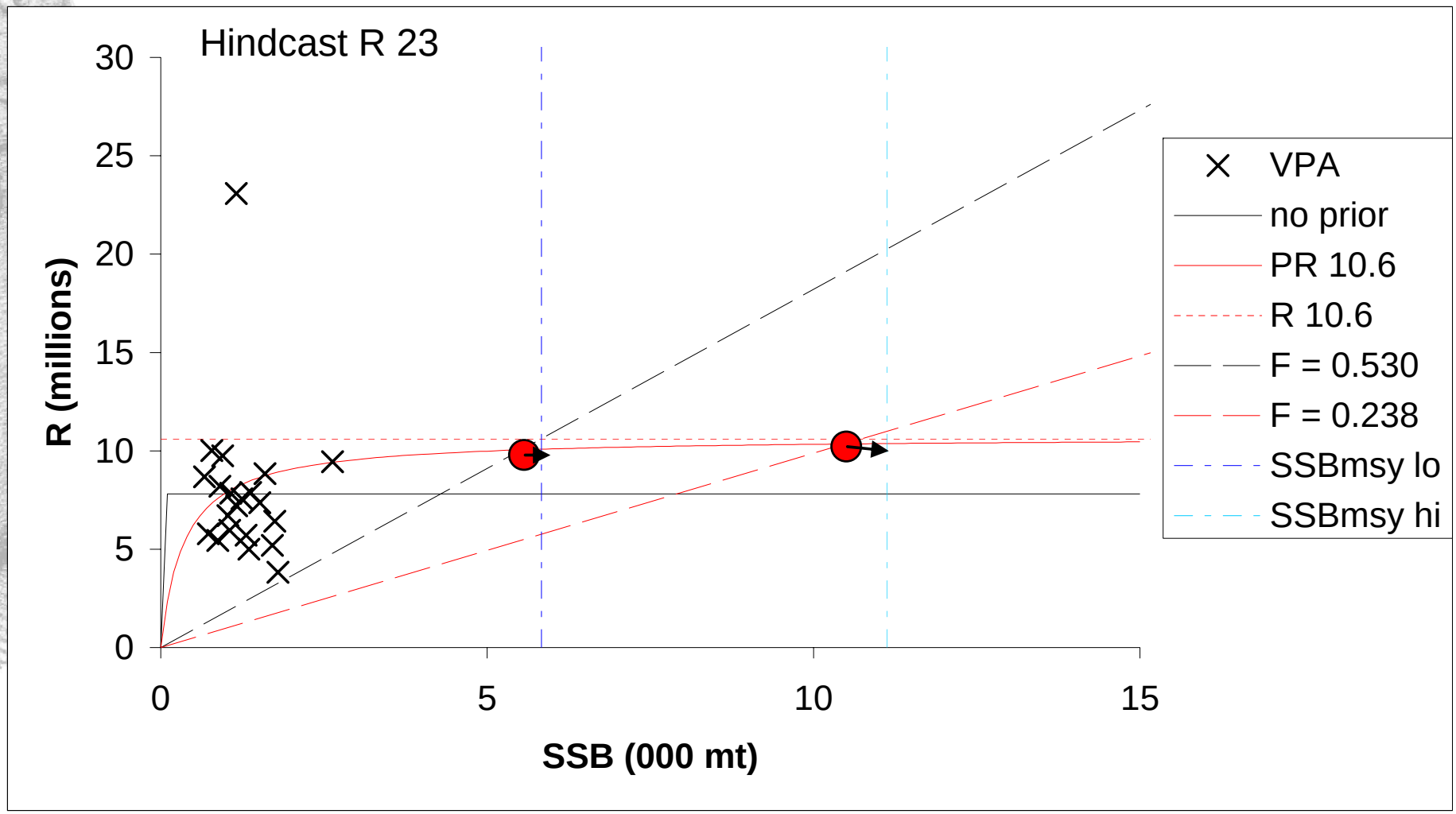
Empirical

Model	R range	Fmsy	SSBmsy	MSY
VPA	1985-2006	0.238	7.74	1.69
	top 15	0.238	10.87	2.37
ASAP	1985-2006	0.243	7.84	1.72
	top 15	0.243	11.24	2.47

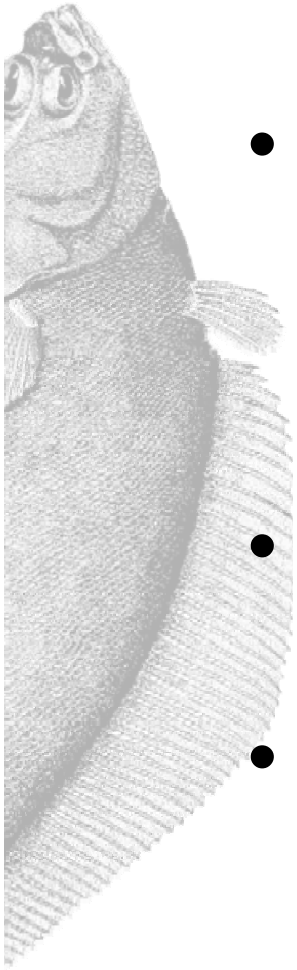
Mixed Approach (SR and F40)

Model	R prior	Fmsy	SSBmsy	MSY
VPA	10.6	**0.238**	**11.12**	**2.43**
ASAP	10.9	0.243	11.74	2.58

CCGOM

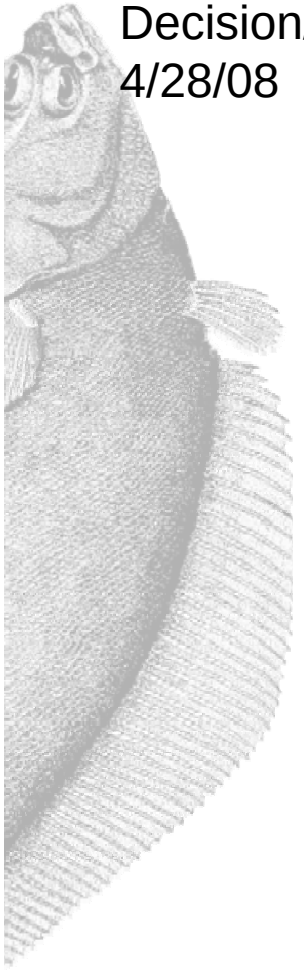

Hindcast R 23
R (millions)
SSB (000 mt)
0
5
10
15
20
25
30
0
5
10
15
VPA
no prior
PR 10.6
R 10.6
F = 0.530
F = 0.238
SSBmsy lo
SSBmsy hi

CCGOM Caveats



- Could not estimate BH curve with no prior (steepness=1) for either model
  - Time series too short?
  - Not enough contrast?
- Fmsy vs F40%SPR
  - Fmsy VPA PR10.6 = F22%SPR
- New MENH Survey Series need to be examined in more detail
  - So far look good

Draft Presentation
For Peer Review Only.
Does not represent
final NOAA
Decision/Policy.
4/28/08



YT Summary

Stock	BRP	Old	New Low	New High
GB	Fmsy	0.25	0.254	0.365
	SSBmsy	58.8	58.0	97.0
	MSY	12.9	17.5	21.0
SNEMA	Fmsy	0.26	0.264	0.500
	SSBmsy	69.5	45.8	76.9
	MSY	14.2	17.5	18.4
CCGOM	Fmsy	0.17	0.238	0.530
	SSBmsy	12.6	5.83	11.12
	MSY	2.3	2.43	2.70