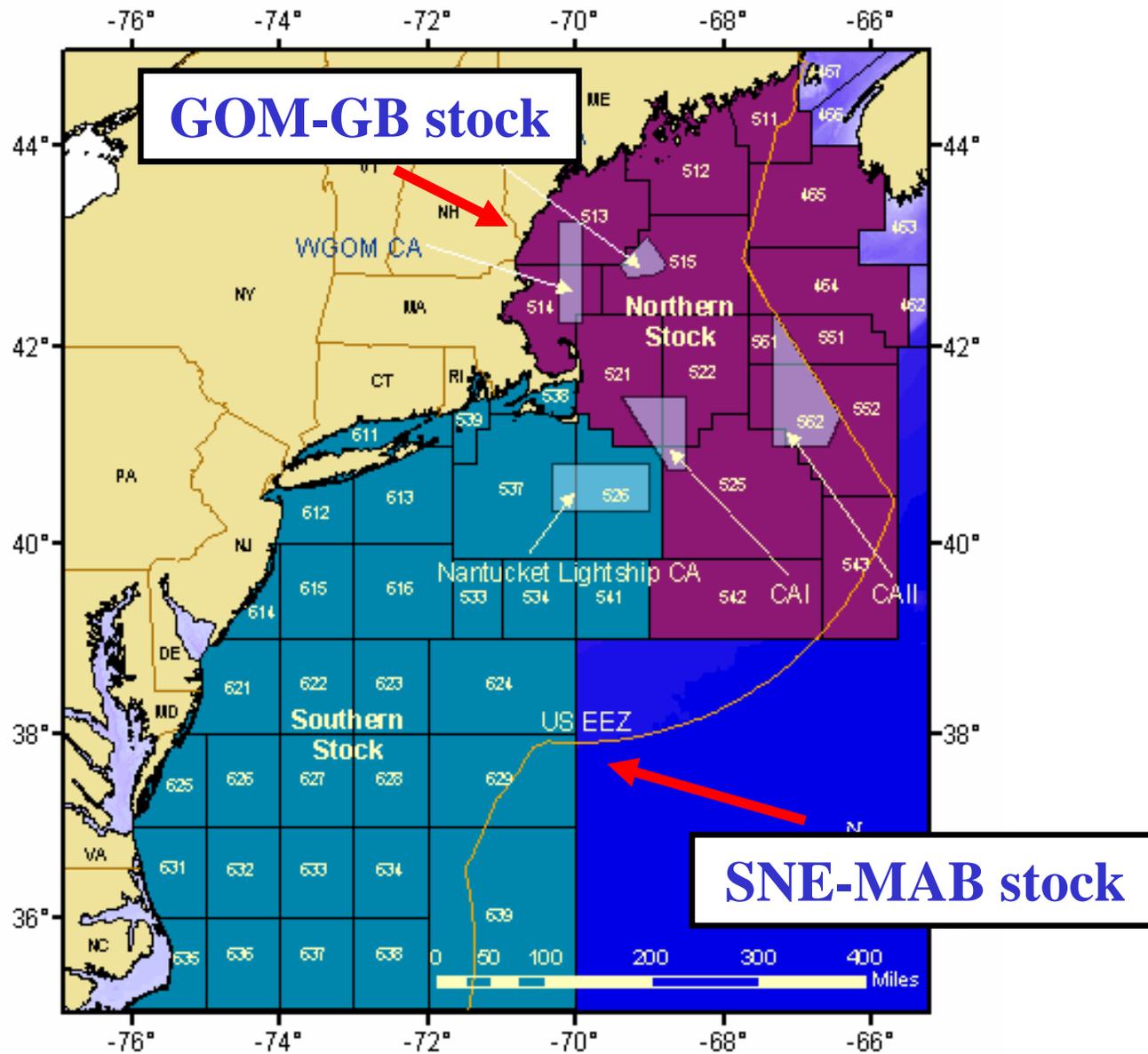


Draft Presentation
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Does not represent
final NOAA
Decision/Policy.
5/01/08

WP 4.P GOM-GB Windowpane Flounder



D.
Flescher



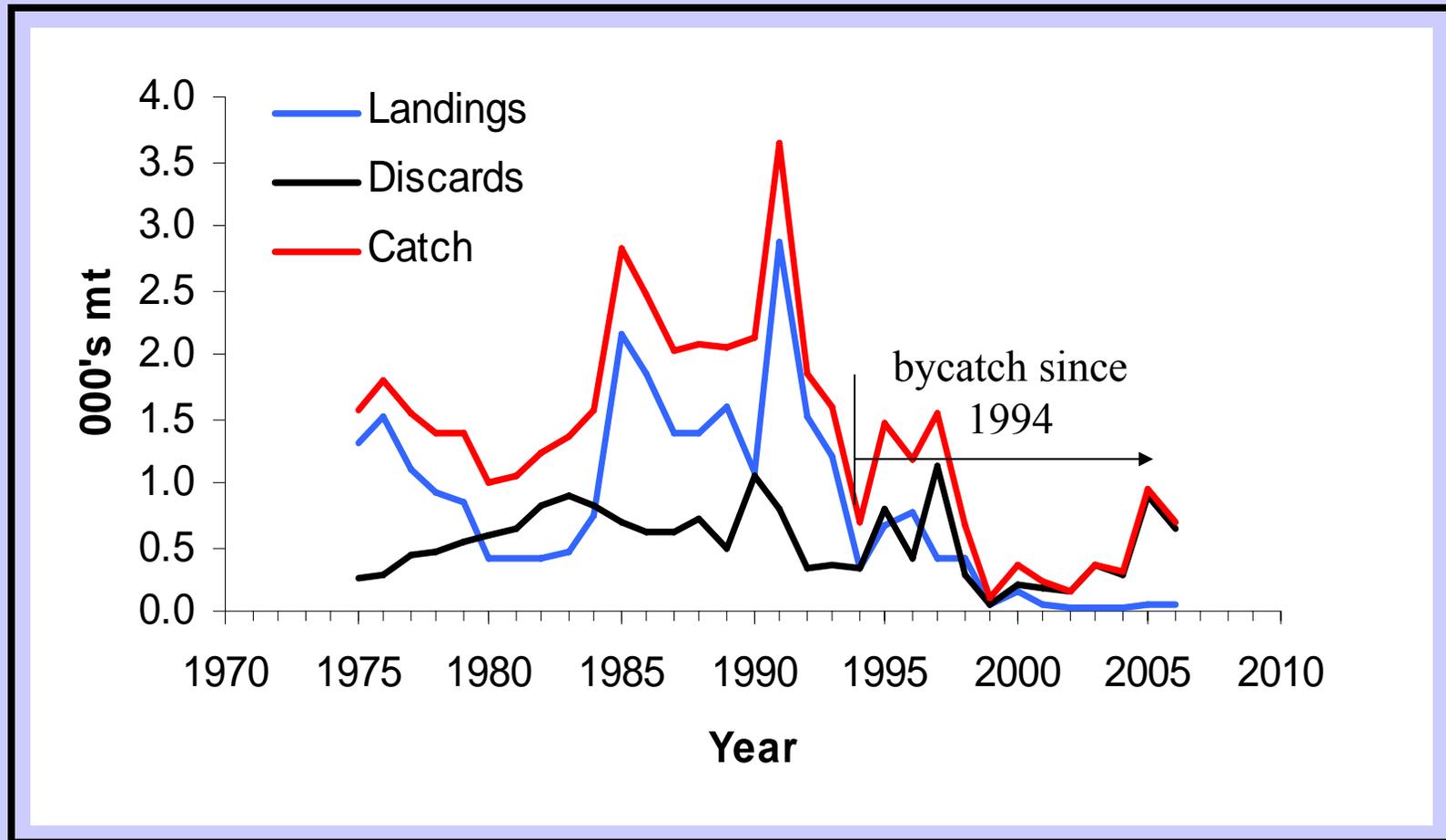
AIM Input Data

1975-2006

1. **Catch (incl. initial discard estimates for scallop dredge and lg and sm mesh BT fleets)**
2. **NEFSC fall survey biomass indices**

Relative F computed as catch/svy biomass index and regressed against stock replacement ratios

GOM-GB Windowpane



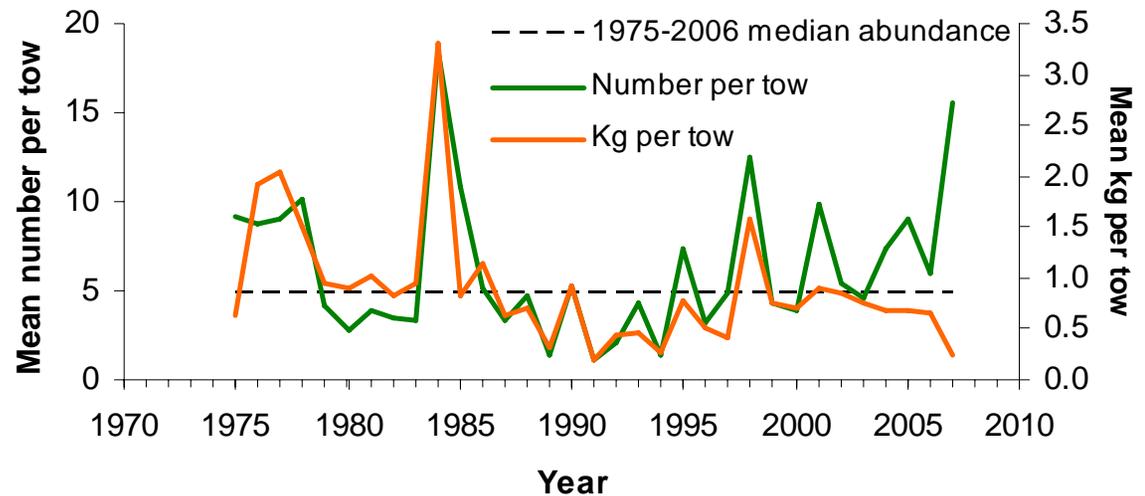
During directed fishery (1985-1991), catches were 2,000-3,600 mt, then declined to 800 mt in 1994; landed as bycatch since then.

Catches increasing since 2000 and predominately discards (10-20x landings)

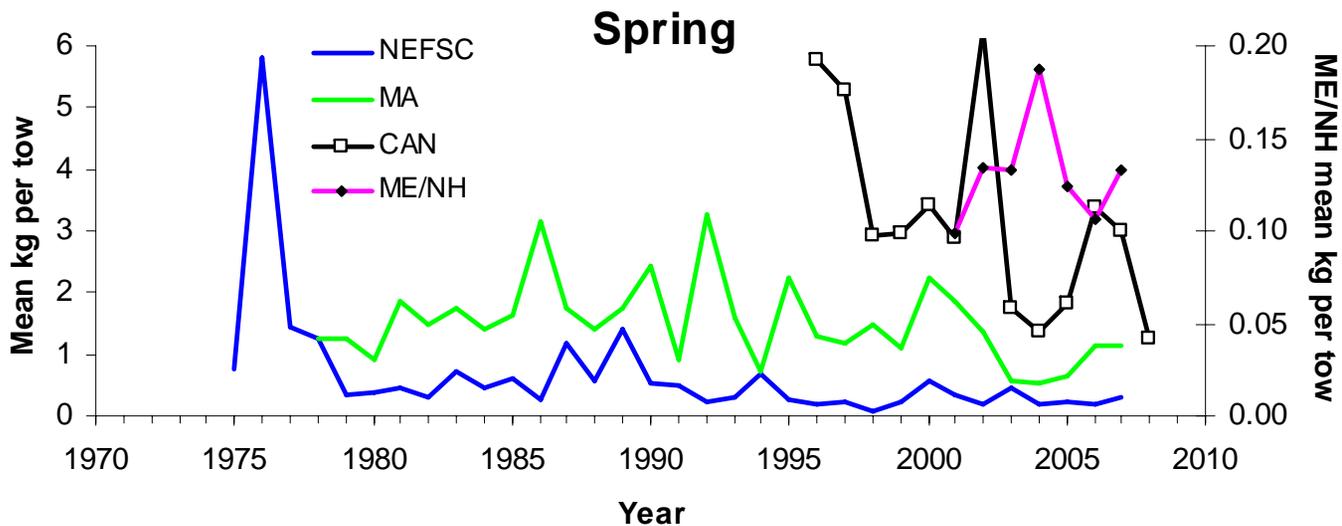
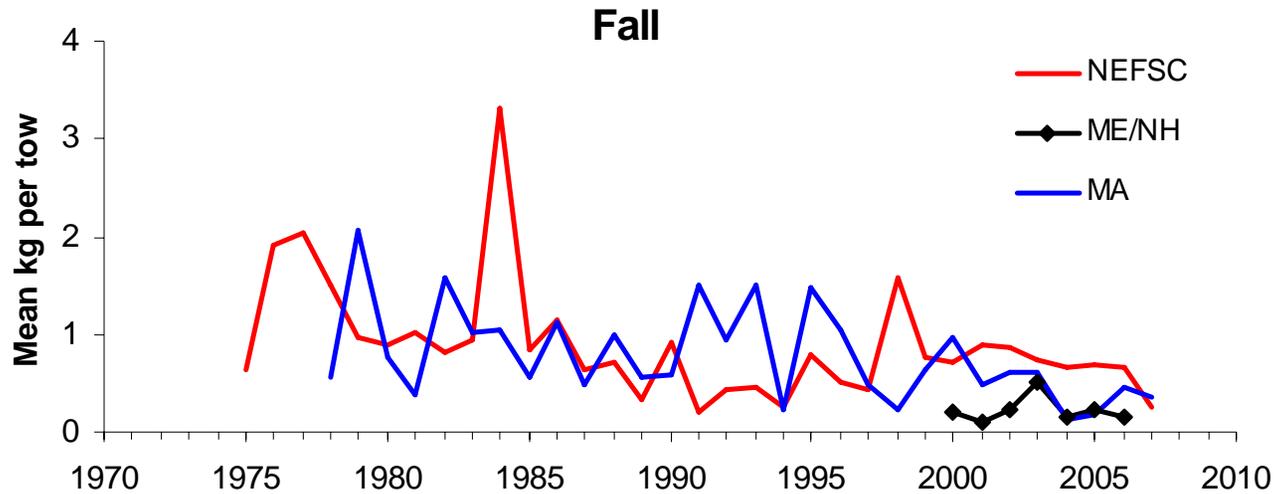
NEFSC Fall Survey Indices



- Rel. abundance increasing since 1991 and above median since 2004
- Rel. biomass increased during 1991-1998, then declined (2004-2007 decline due to high pre-recruit abundance)



Survey indices with NS regressions in AIM vs NEFSC fall surveys



AIM Results

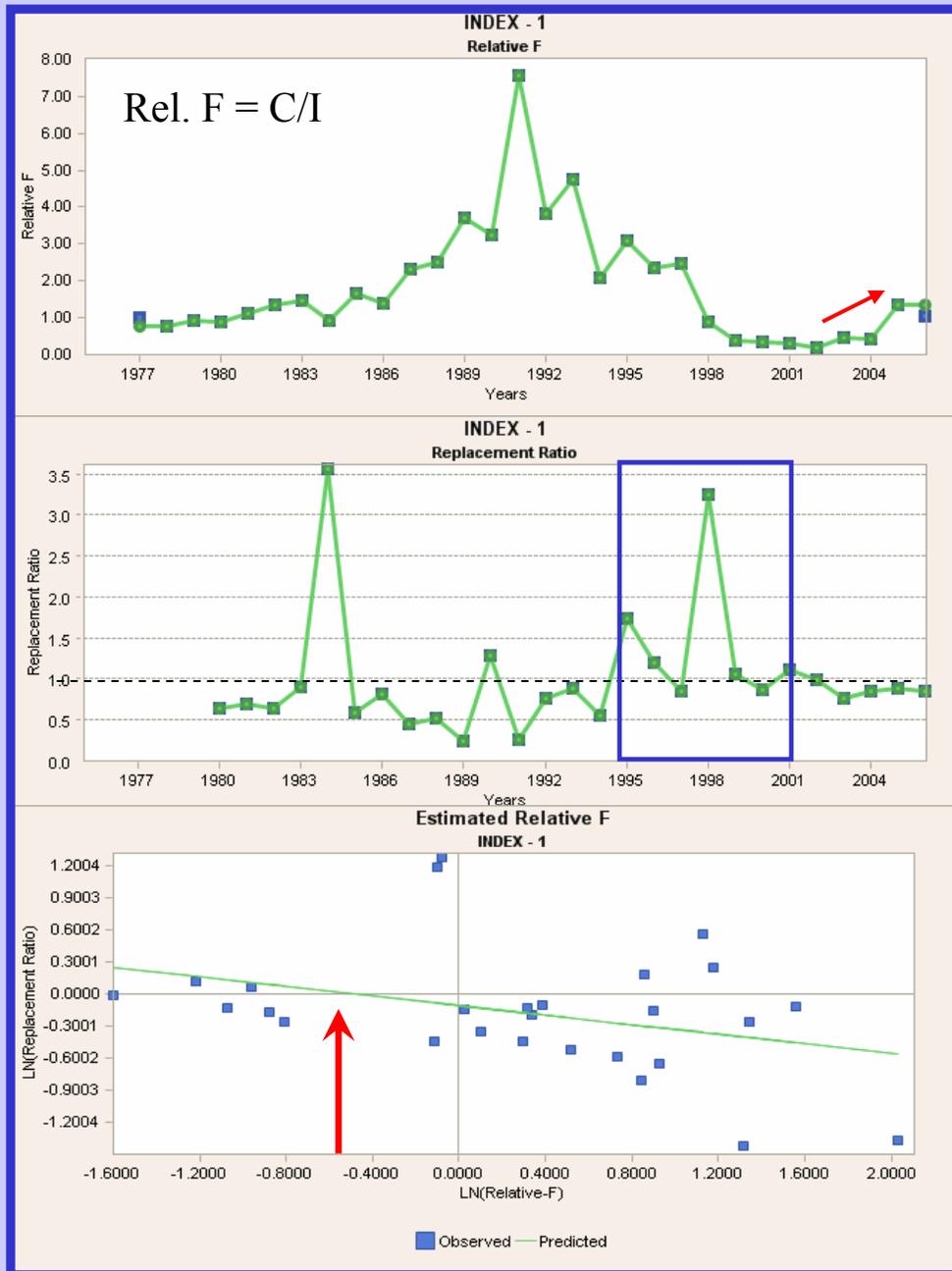
Rel. F increased during 2002-2006

← Replacement near or > 1.0 during 1995-2001

No replacement after 2002

Regr. of RR and rel F (p=0.101)

Stock can replace itself at rel. F = 0.62 (= F_{MSY} proxy)



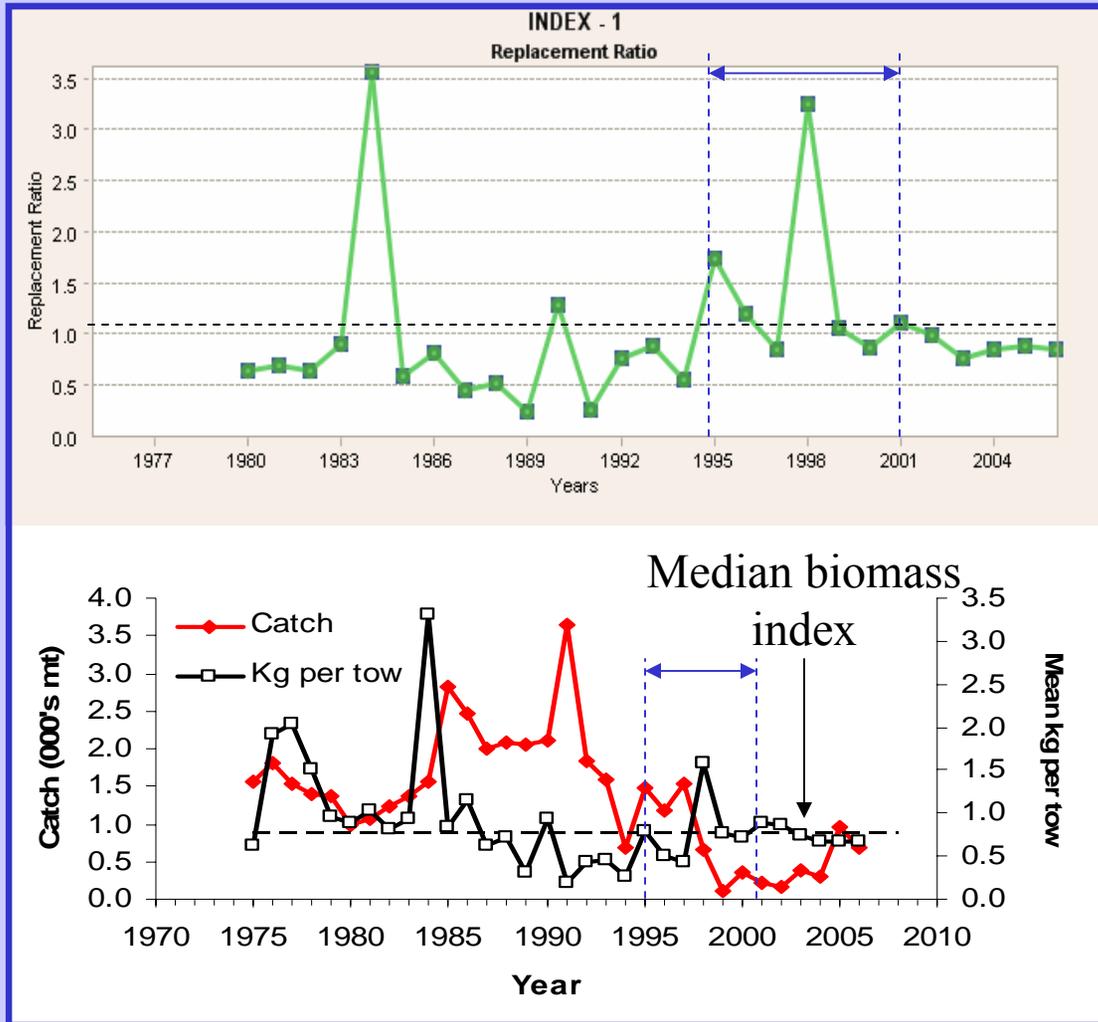
B_{MSY} proxy

During 1995-2001, when stock replacement was generally occurring, catches were sustainable
 Median catch₁₉₉₅₋₂₀₀₁ =

700 mt (MSY proxy)

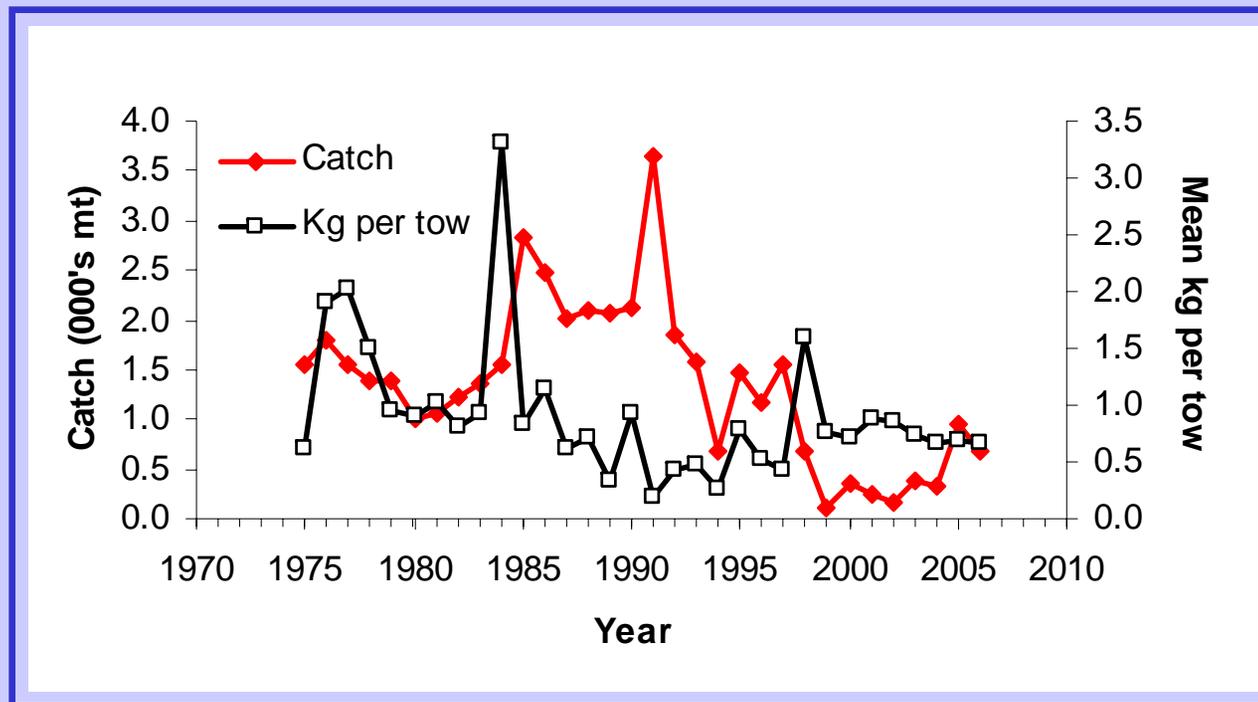
Applying AIM F_{MSY} proxy results in a

B_{MSY} proxy = 1.14 kg/tow



Alternative B_{MSY} proxy

75th percentile 1975-2006 biomass indices (=0.94)
results in similar MSY proxy = 600 mt



More uncertainty: relative F less precise prior to 1989 due to hindcast discards

Biological Reference Points

	<u>Current¹</u>	<u>AIM</u> <u>2008 GARM</u>	
F_{MSY} proxy (C/I)	1.11	0.62	0.62
B_{MSY} proxy (kg/tow)	0.94	1.14	0.94
MSY proxy	1,000 mt	700 mt	600 mt

¹ 2002 AIM results NS ($p = 0.197$), MSY proxy based on observed declines in biomass indices when landings > 1,000 mt, B_{MSY} proxy = 1975-1987 median biomass index (based on rel F trends in relation to fall survey indices)

BRP Source: 1998 OFD Review Panel

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5/01/08

WP 4.Q SNE-MAB Windowpane Flounder



D.
Flescher

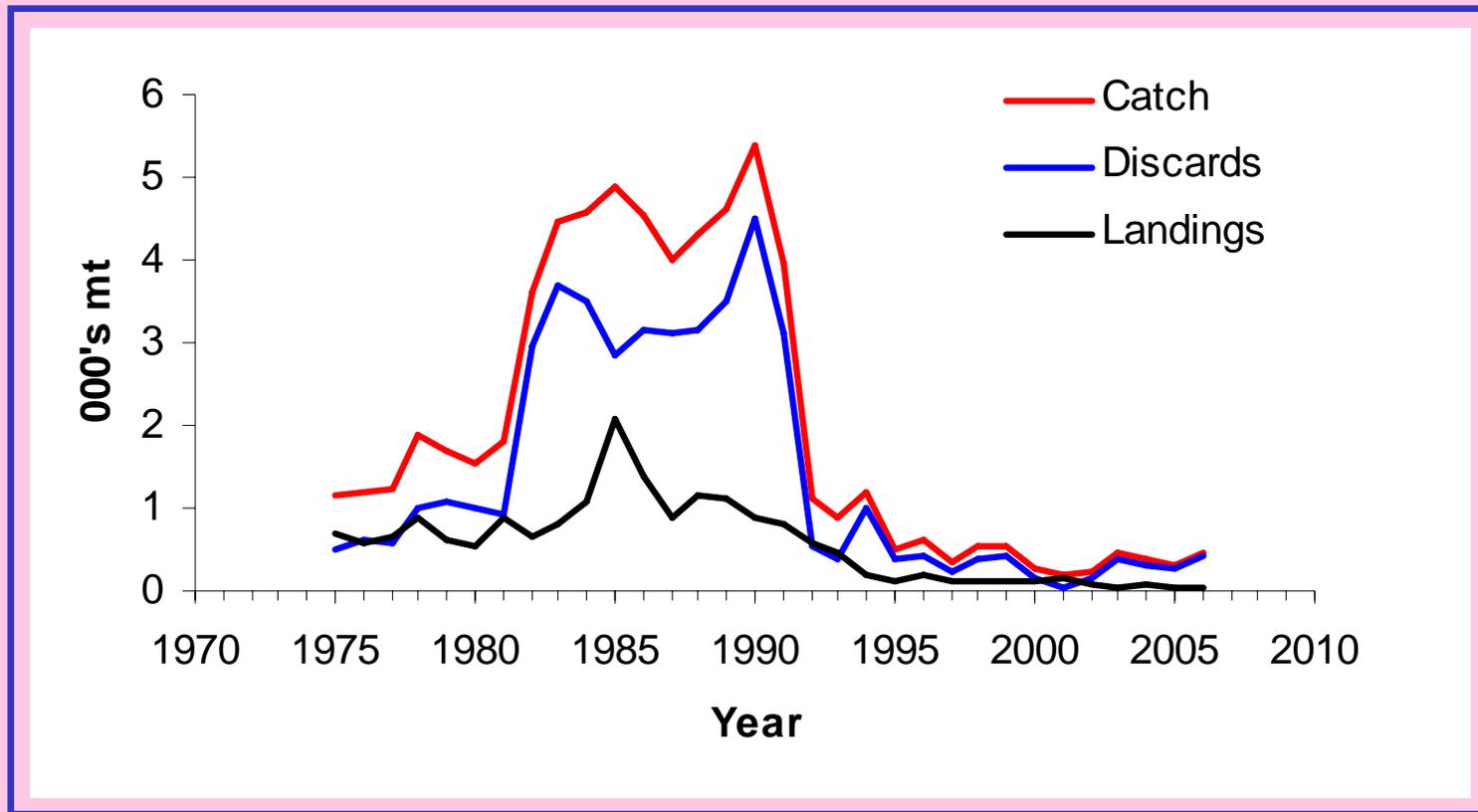
AIM Input Data

1975-2006

1. Catch (incl. initial discard estimates)
2. NEFSC fall survey biomass indices

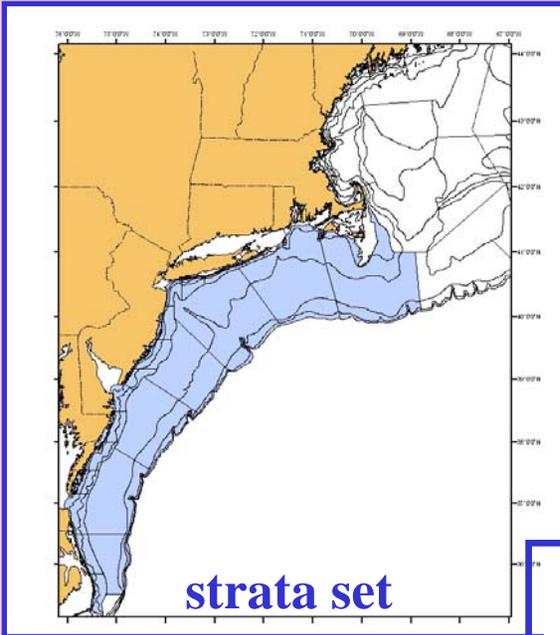
**Relative F computed as catch/biomass index
and regressed against stock replacement ratios**

SNE-MAB Windowpane 1975-2006

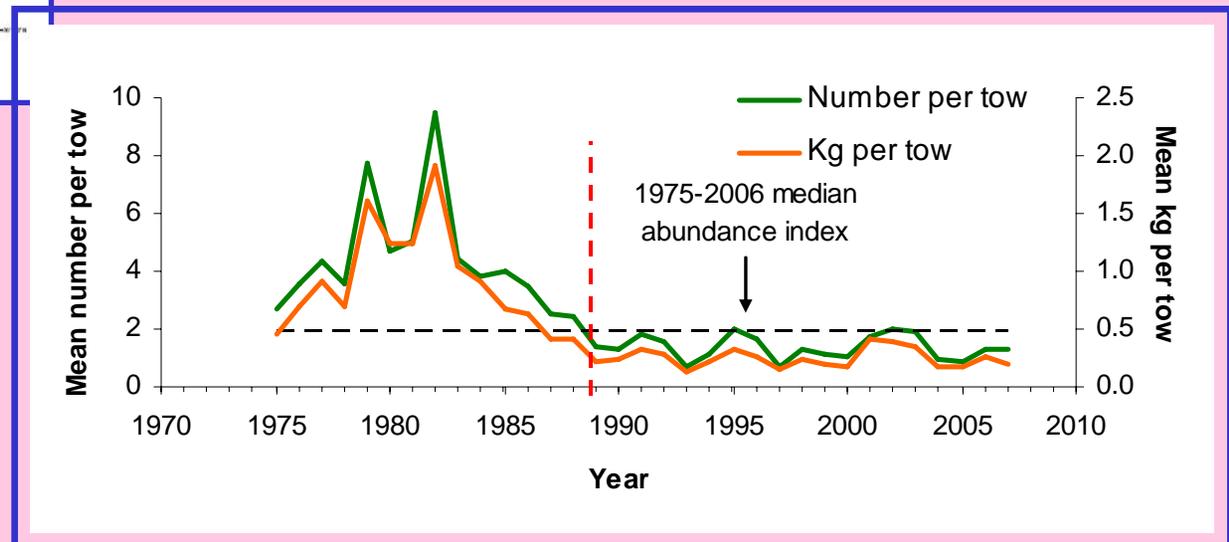


Catches primarily discards, highest during 1982-1991, then declined to lowest level in 2001 and have been increasing since then

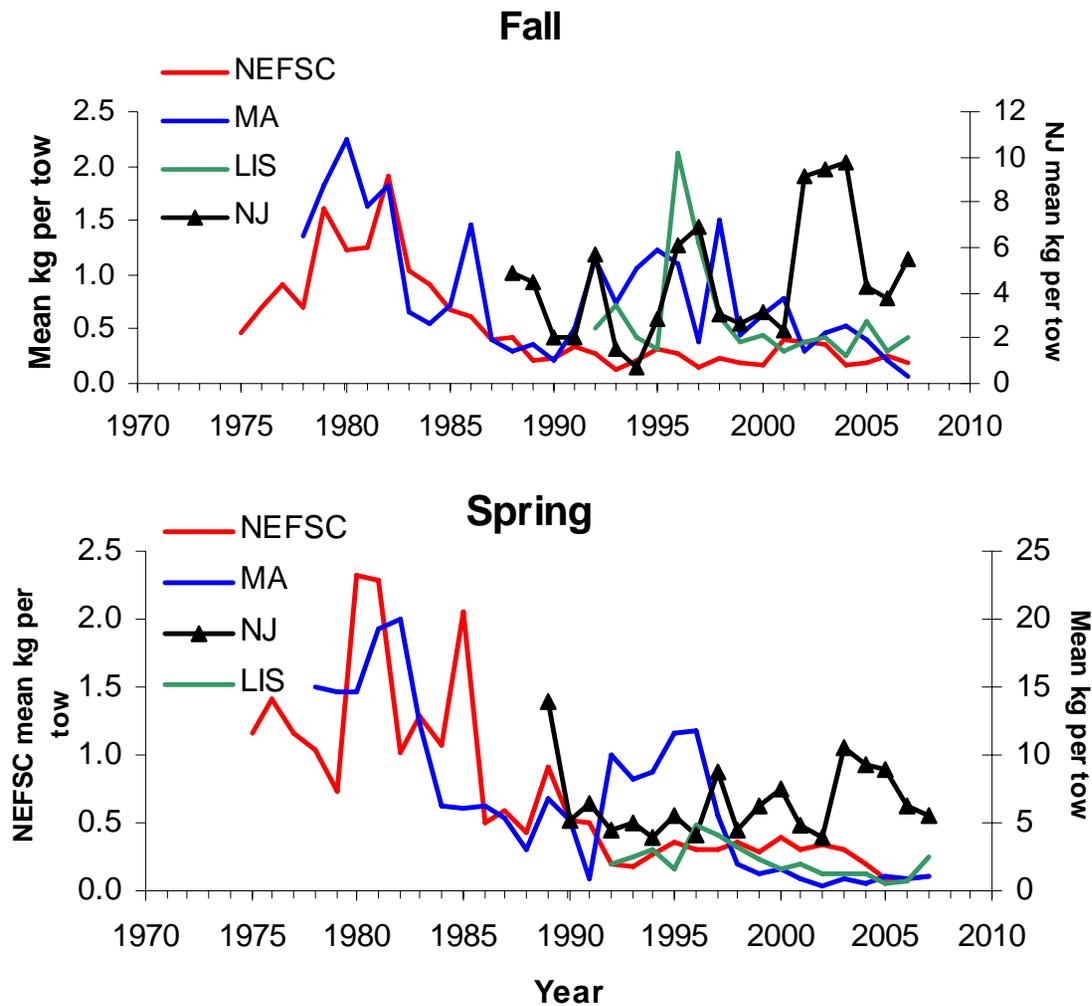
NEFSC Fall Survey Indices



- Two distinct stanzas: high rel. abundance (1979-1983) and very low (at or below median) since 1989
- Biomass indices show same pattern



Survey indices with NS regressions in AIM vs NEFSC fall surveys



AIM Results

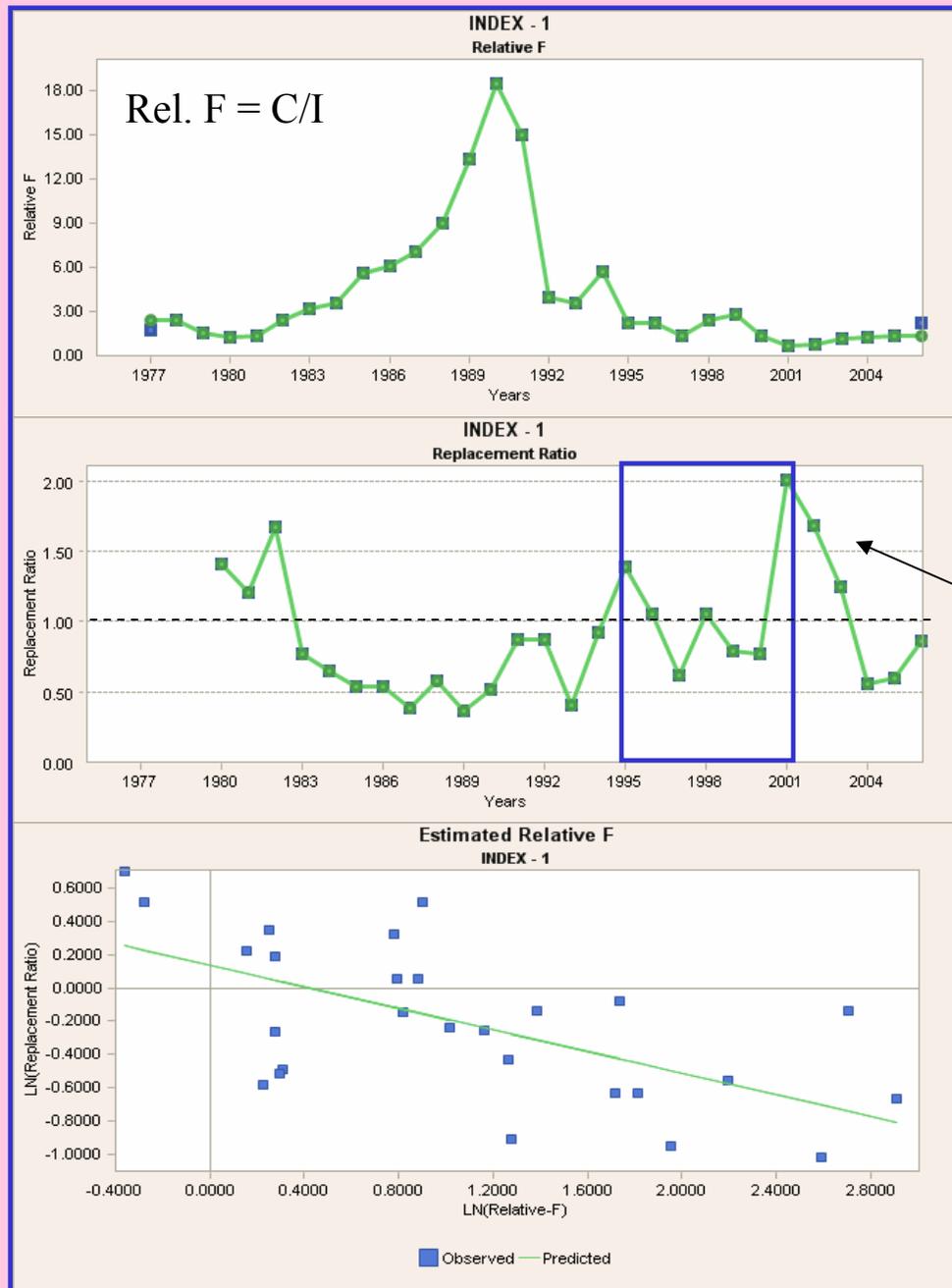
Since 2001, low rel F with slight increase

Replacement near or > 1.0 during 1995-2001, then rapid decline

Below 1.0 since 2004 but increasing

Regr. of RR and rel F ($p=0.003$)

Stock can replace itself at rel. F = 1.53 (= F_{MSY} proxy)



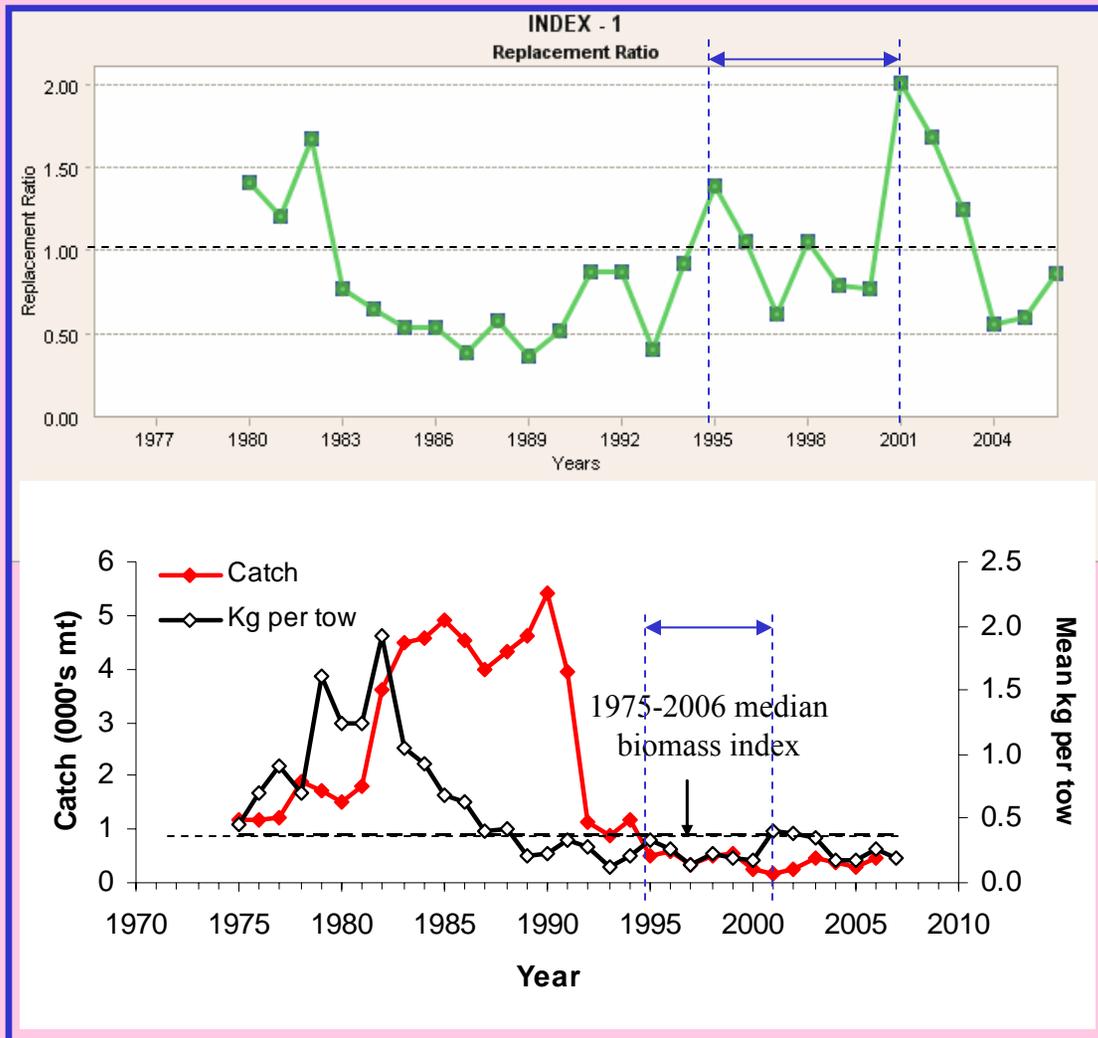
B_{MSY} proxy

During 1995-2001, when stock replacement was occurring during most years, catches were sustainable

Median catch₁₉₉₅₋₂₀₀₁ =

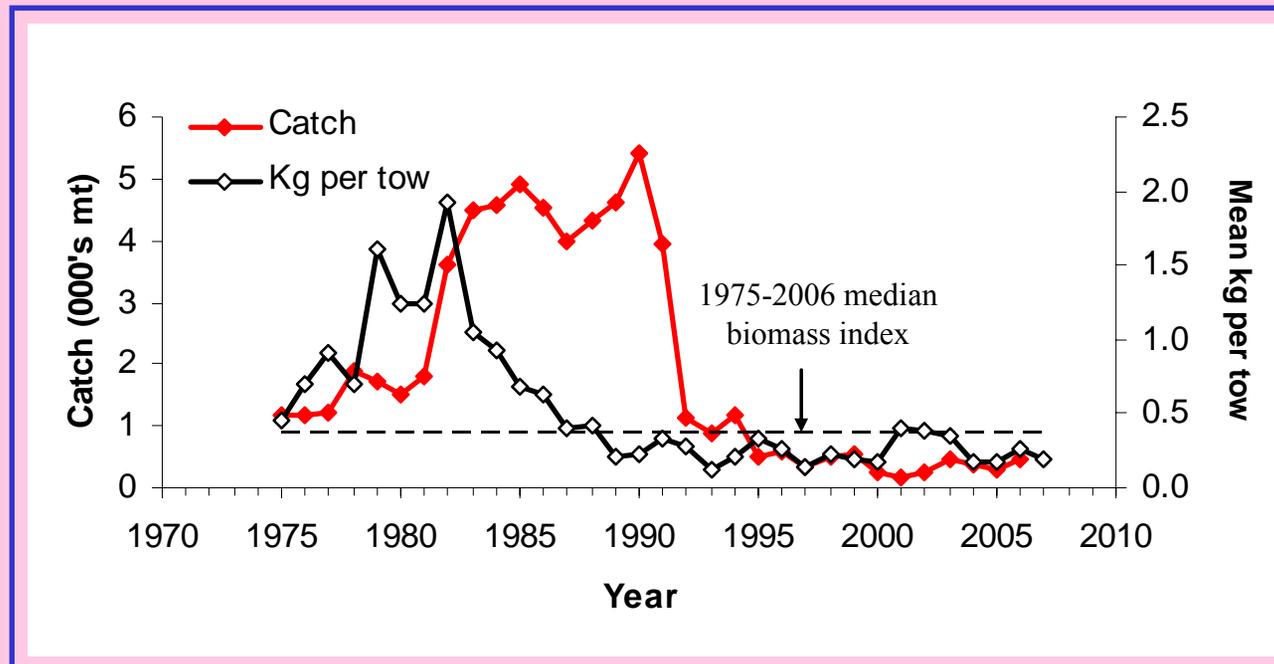
500 mt (MSY proxy)

B_{MSY} proxy = 0.33 kg/tow



Alternative B_{MSY} proxy

75th percentile 1975-2006 biomass indices (= 0.70)
results in higher MSY proxy = 1,100 mt



More uncertainty: Stock has shown little capacity to respond to man. actions during past two decades; assumes stock can rebuild to historical high biomass levels

Relative F less precise prior to 1989 due to hindcast discards

Biological Reference Points

	<u>AIM Current¹</u>	<u>AIM 2008 GARM</u>	
F_{MSY} proxy (C/I)	0.98	1.53	1.53
B_{MSY} proxy (kg/tow)	0.92	0.33	0.70
MSY proxy	900 mt	500 mt	1,100 mt

¹ F_{MSY} proxy estimated using AIM (p = 0.101), MSY estimated using ASPIC,
so B_{MSY} proxy = 0.9/0.98

