

Federal Fisheries Management of Spiny Dogfish

"Who?", "What?", "Why?" "How?"
...and "Huh?"

Jim Armstrong
Mid-Atlantic Fishery Management Council (staff)
Dover, DE





Federal

(3 – 200 mi.)

State
(0 – 3 mi)

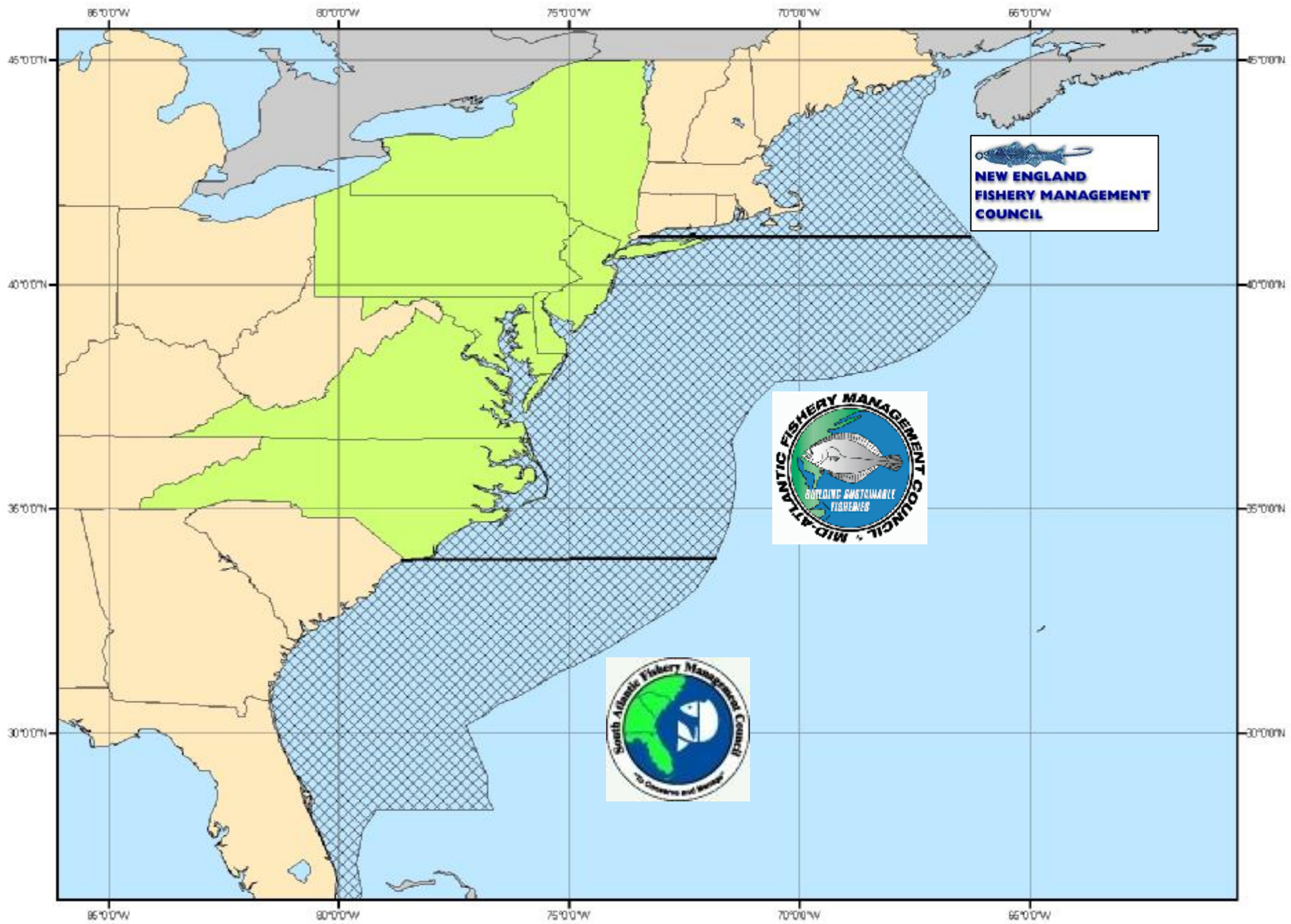


Magnuson Stevens Act

- Founding (1976) and current (2007) statutory basis for Federal fisheries management
 - Councils (8)
 - Federal FMPs
 - National Standards
 - Process

Magnuson Stevens Act

- Founding (1976) and current (2007) statutory basis for Federal fisheries management
 - Councils (8), NMFS WHO?
 - Federal FMPs WHAT?
 - National Standards WHY?
 - Process HOW?




**NEW ENGLAND
FISHERY MANAGEMENT
COUNCIL**

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

BUILDING SUSTAINABLE FISHERIES

South Atlantic Fishery Management Council

TO CONSERVE AND ENHANCE

SPINY DOGFISH



Who?

- MAFMC



- NEFMC



- NMFS



} Joint Management

Who?

- MAFMC



Lead

- NEFMC



Joint Management

- NMFS



What?

- Federal Spiny Dogfish FMP (implemented 2000)
- Requires that the Councils...
 - Recommend “a commercial quota and, possibly, other management measures to assure that the target F specified for the appropriate year will not be exceeded”

What?

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- Requires that the Councils...
 - Recommend “a commercial quota and, possibly, other management measures to **assure** that the **target F** specified for the appropriate year **will not be exceeded**”

Why?

- MSA...

- Councils (8), NMFS

WHO?

- Federal FMPs

WHAT?

- National Standards

WHY?

- Process

HOW?

Why?

- MSA...

- Councils (8), NMFS

WHO?

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WHY?

- Process

HOW?

National Standards

...management measures shall

1. Prevent overfishing ...
2. Be based on the best scientific information available

MSA § 304 (paraphrased)

Rebuild fishery in as short a time as possible

Process (How?)

Stock status update

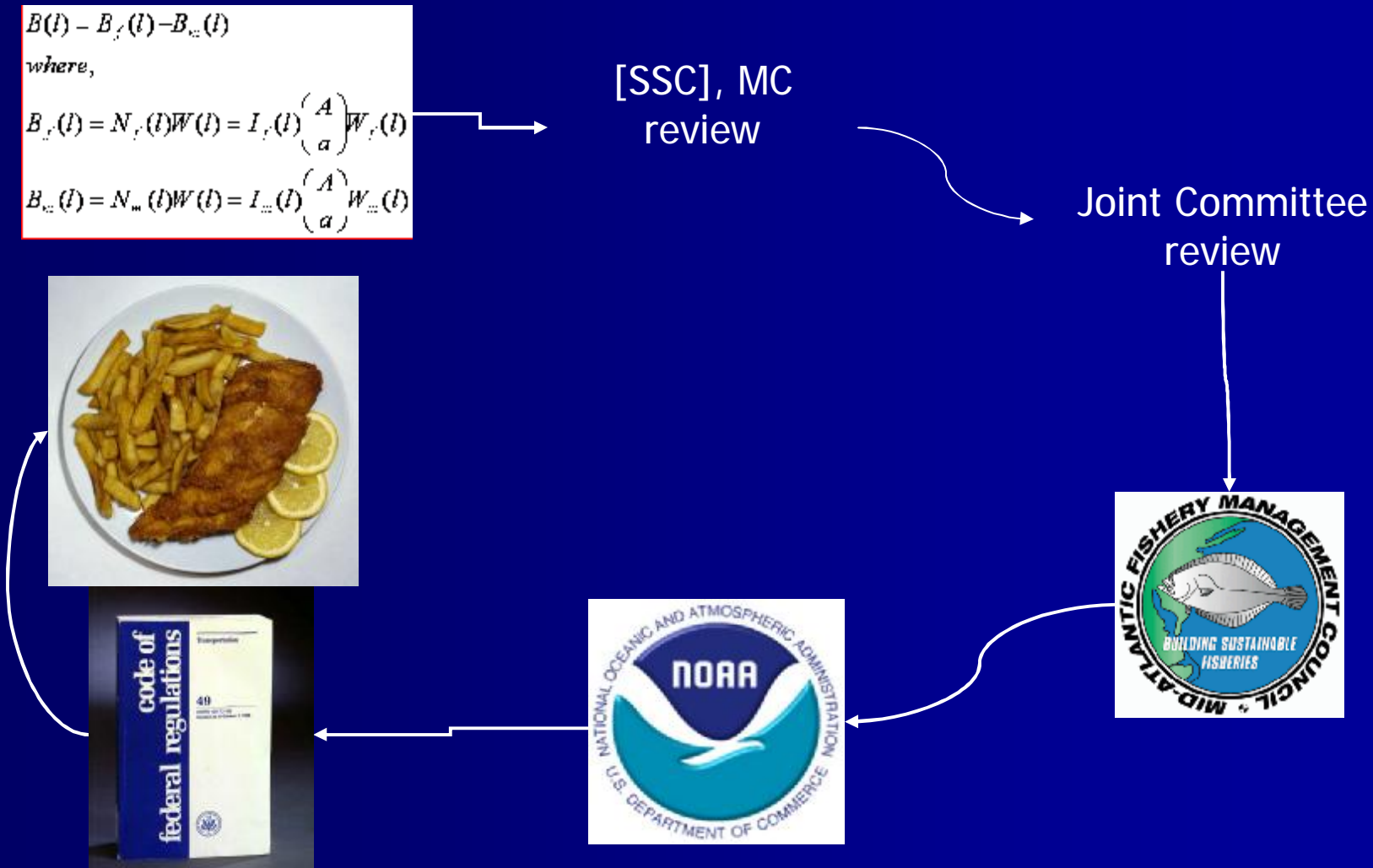
$$B(t) = B_f(t) - B_m(t)$$

where,

$$B_f(t) = N_f(t)W(t) = I_f(t) \binom{A}{a} W_f(t)$$
$$B_m(t) = N_m(t)W(t) = I_m(t) \binom{A}{a} W_m(t)$$

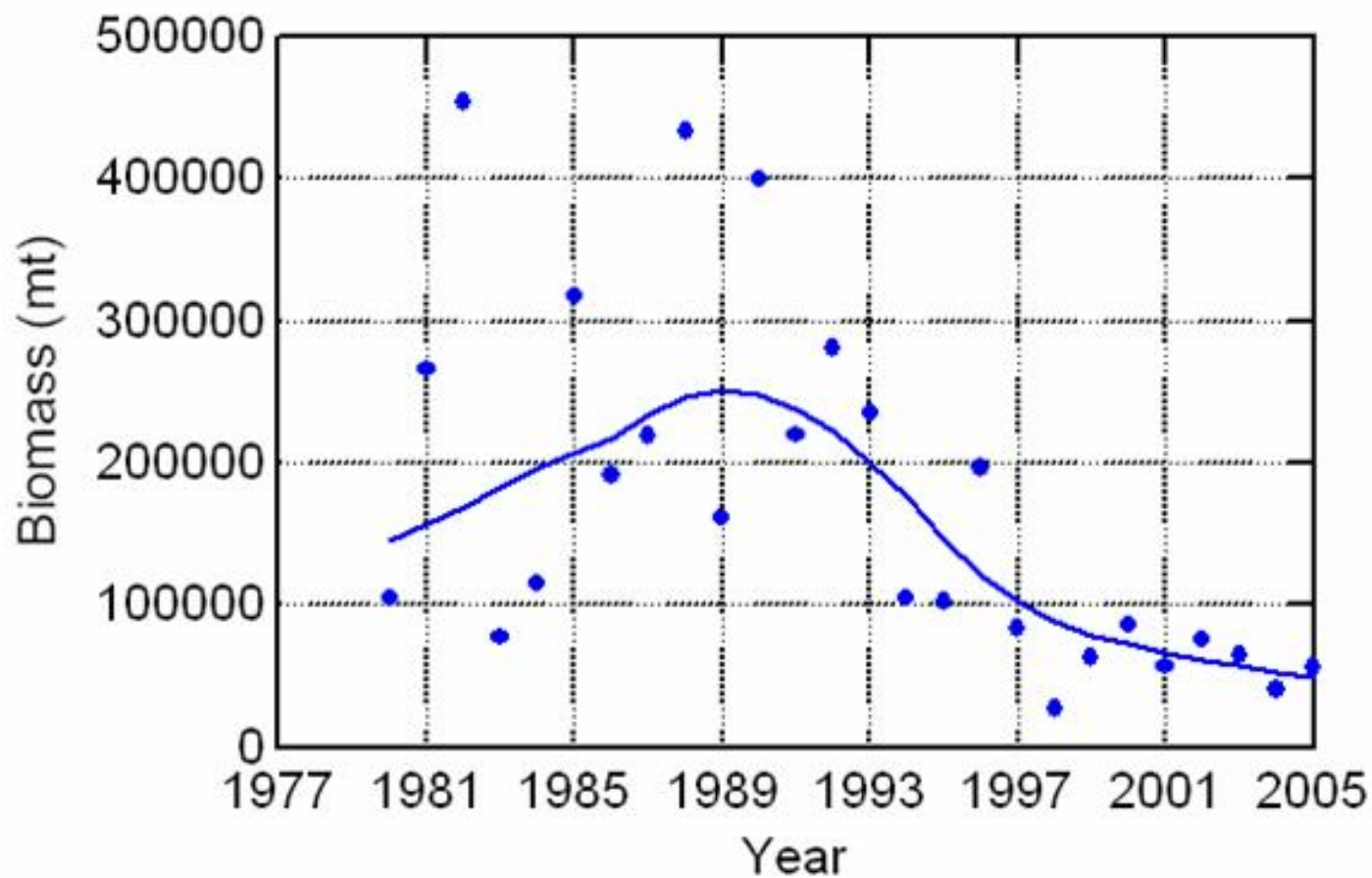
[SSC], MC
review

Joint Committee
review



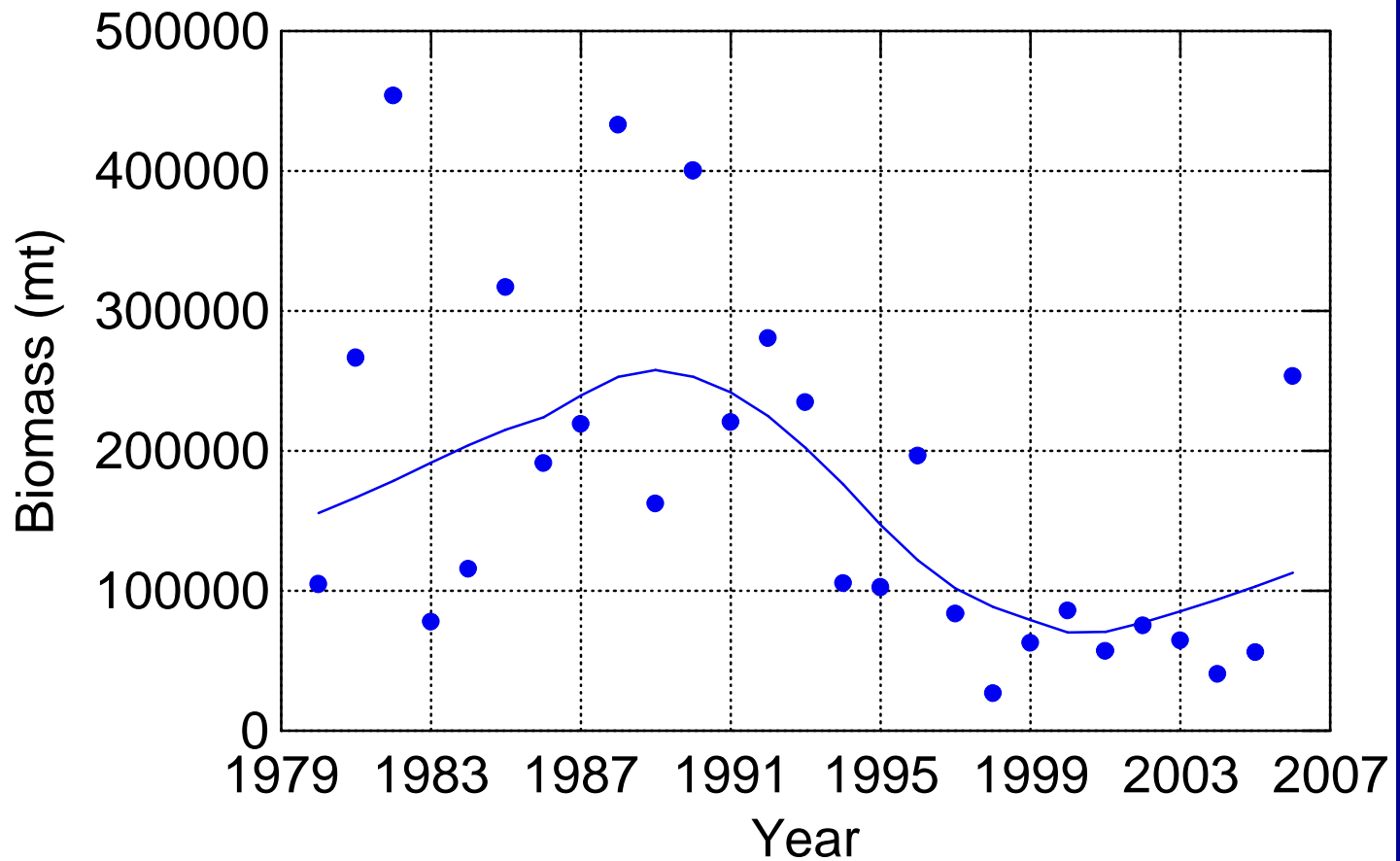
Spring Survey 2005

Female Spawning Stock (≥ 80 cm) (mt)



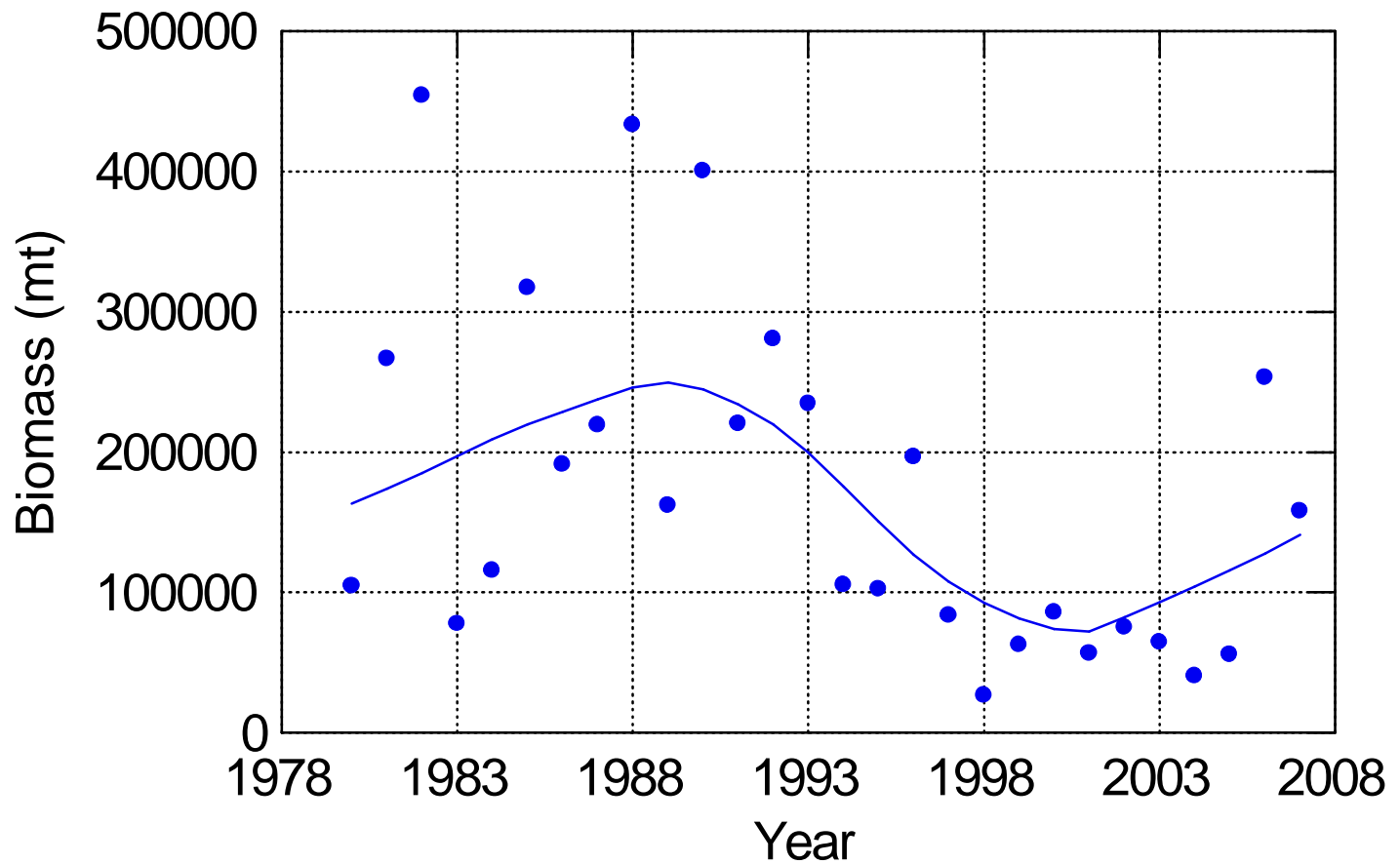
Spring Survey 2006

Female Spawning Stock (≥ 80 cm) (mt)



Spring Survey 2007

Female Spawning Stock (≥ 80 cm) (mt)



Spring Survey

- Stochastic estimator of SSB:

- **SSB (2004)** **48,000 mt**
- **SSB (2006)** **141,350 mt**
- **SSB (2006 predicted)** **138,758 mt**

- SSB (threshold) 100,000 mt
- SSB "target" 200,000 mt

Spring Survey

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Spiny dogfish – Summary of Stock Status

Overfished:	NO
Overfishing:	NO

Rationale:

Female biomass estimate ~ 141 kmt > $B_{\text{threshold}} = 100$ kmt

Landings and Discards 2006

- U.S. comm landings
 - 2,364 mt 5.212 million lb
- Canadian comm landings
 - 2,352 mt 5.186 million lb
- Discards
 - 3,814 mt 8.408 million lb
- Rec Removals
 - 652 mt 1.437 million lb

Landings and Discards for 2006

- U.S. comm landings
 - 2,364 mt 5.212 million lb 26%
 - Canadian comm landings
 - 2,352 mt 5.186 million lb 26%
 - U.S. comm discards
 - 3,814 mt 8.408 million lb 42%
 - Rec Removals
 - 652 mt 1.437 million lb 7%
-
- **Total 9,182 mt 20.242 million lb**

Spiny dogfish – Summary of Stock Status

Overfished:	NO
Overfishing:	NO

Rationale:

Female biomass estimate ~ 141 kmt $> B_{\text{threshold}}$
and

$$F_{\text{Target}} = 0.11 = F_{2006} \sim 0.11 < F_{\text{Threshold}} = 0.39$$

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Spiny dogfish – Summary of Stock Status

Recovered?	??
Overfishing:	NO

Rationale:

B_{target} = undefined

Monitoring Committee, Joint Committee, Councils

- Federal FMP (implemented 2000)
- Requires that the Councils...
 - Recommend "a commercial quota and, possibly, other management measures to assure that the target F specified for the appropriate year will not be exceeded"
- $F_{\text{target}} = F_{\text{rebuild}} = 0.11$

Monitoring Committee recommendations

- Methods
 - Review projections
 - Status quo
 - 6.0 million lbs
 - 8.0 million lbs
 - Other removals
 - Constant
 - Proportional increase

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Landings and Discards for 2006

- **U.S. comm landings**

- 2,364 mt 5.212 million lb

← Increase?

- **Canadian comm landings**

- 2,352 mt 5.186 million lb

- **Discards**

- 3,814 mt 8.408 million lb

← Changes?

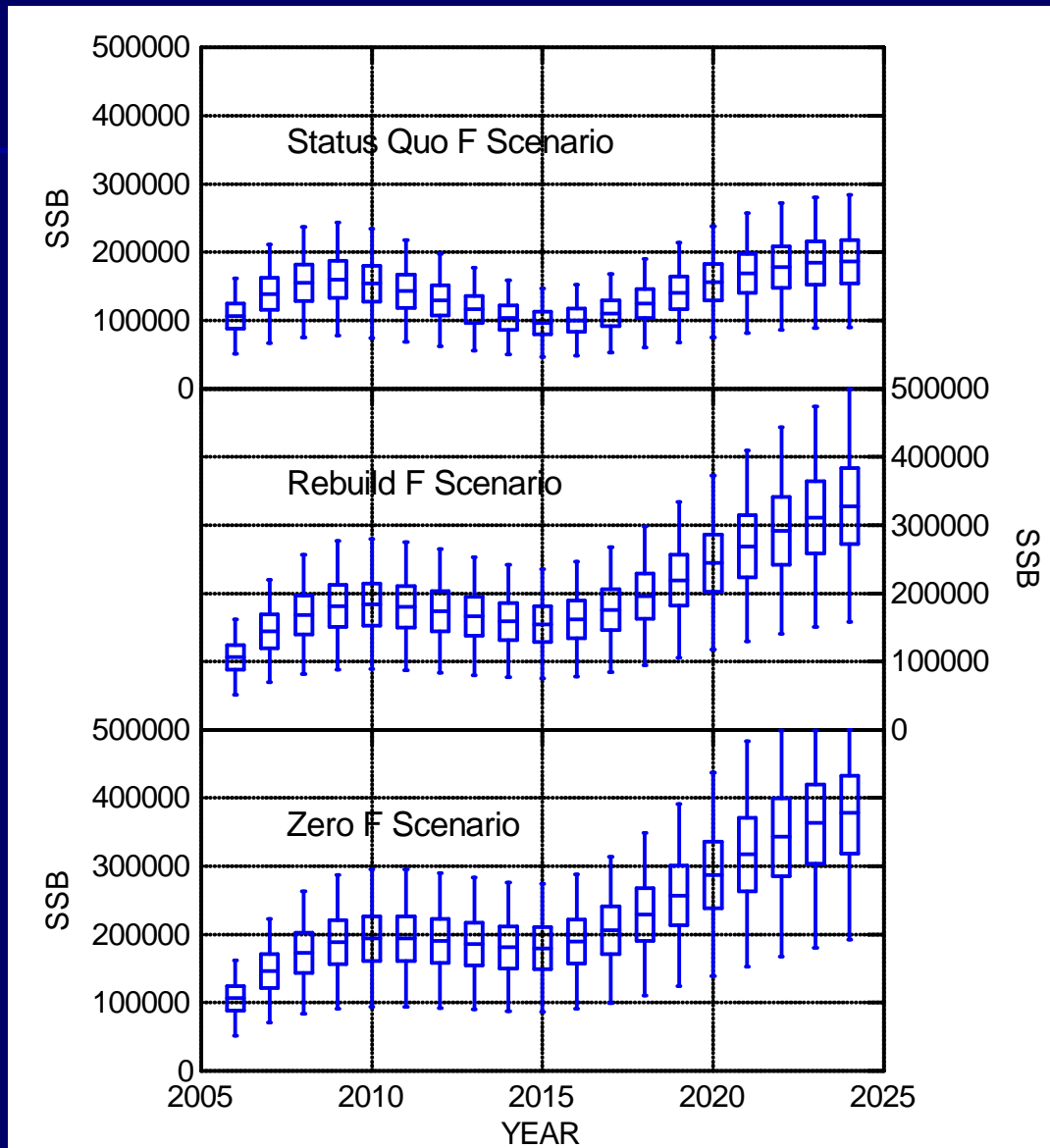
- **Rec Removals**

- 652 mt 1.437 million lb

- **Total 9,182 mt 20.242 million lb**

← F = F target

Projected Biomass Trends



Monitoring Committee recommendations

Scenario	F
Status Quo	0.109
Zero U.S. landings	0.080
6.0 million lb quota constant other removals	0.113
6.0 million lb quota increase other removals	0.120
8.0 million lb quota constant other removals	0.125
8.0 million lb quota increase other removals	0.131

Monitoring Committee review

Scenario	F
Status Quo (5.2 million lbs)	0.109
Zero U.S. landings	0.080
6.0 million lb quota constant other removals	0.113
6.0 million lb quota increase other removals	0.120
8.0 million lb quota constant other removals	0.125
8.0 million lb quota increase other removals	0.131

Monitoring Committee recommendations

- **Trip Limits**
 - No consensus recommendation
 - No direct link to target F
 - Federal and state regs should be the consistent
 - "Allocation issue"
 - Range:
 - 600 lbs (status quo Fed)
 - Discourages landings
 - Less likely to achieve quota
 - Less likely to exceed target F ???
 - 3,000 lbs (status quo states)
 - Not likely to result in development of widespread directed fishery
 - Consistent with state regulations
 - No meaningful biological cost

Monitoring Committee recommendations

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Recommendations

Monitoring Committee

Joint Spiny Dogfish Committee

- Commercial Quota: 6.0 million lbs
- Commercial Quota: 8.0 million lbs
- Multi-year Specs 2008-2010
- Multi-year Specs No - 2008 only
- Trip Limits No consensus recommendation
- Trip Limits 3,000 lbs or consistent with ASMFC

Council Management recommendations

- Review updates to spiny dogfish stock status
 - Spring trawl survey
 - Landings and discards
 - F estimate
- Review Monitoring Committee, Joint Committee's management measure recommendations
- Discussion
- Recommend management measures for 2008 (and beyond)

Monitoring Committee Recommendations

- Commercial Quota:
 - 6.0 million lbs
 - $F \sim 0.11 = F_{\text{target}}$

Council Recommendations

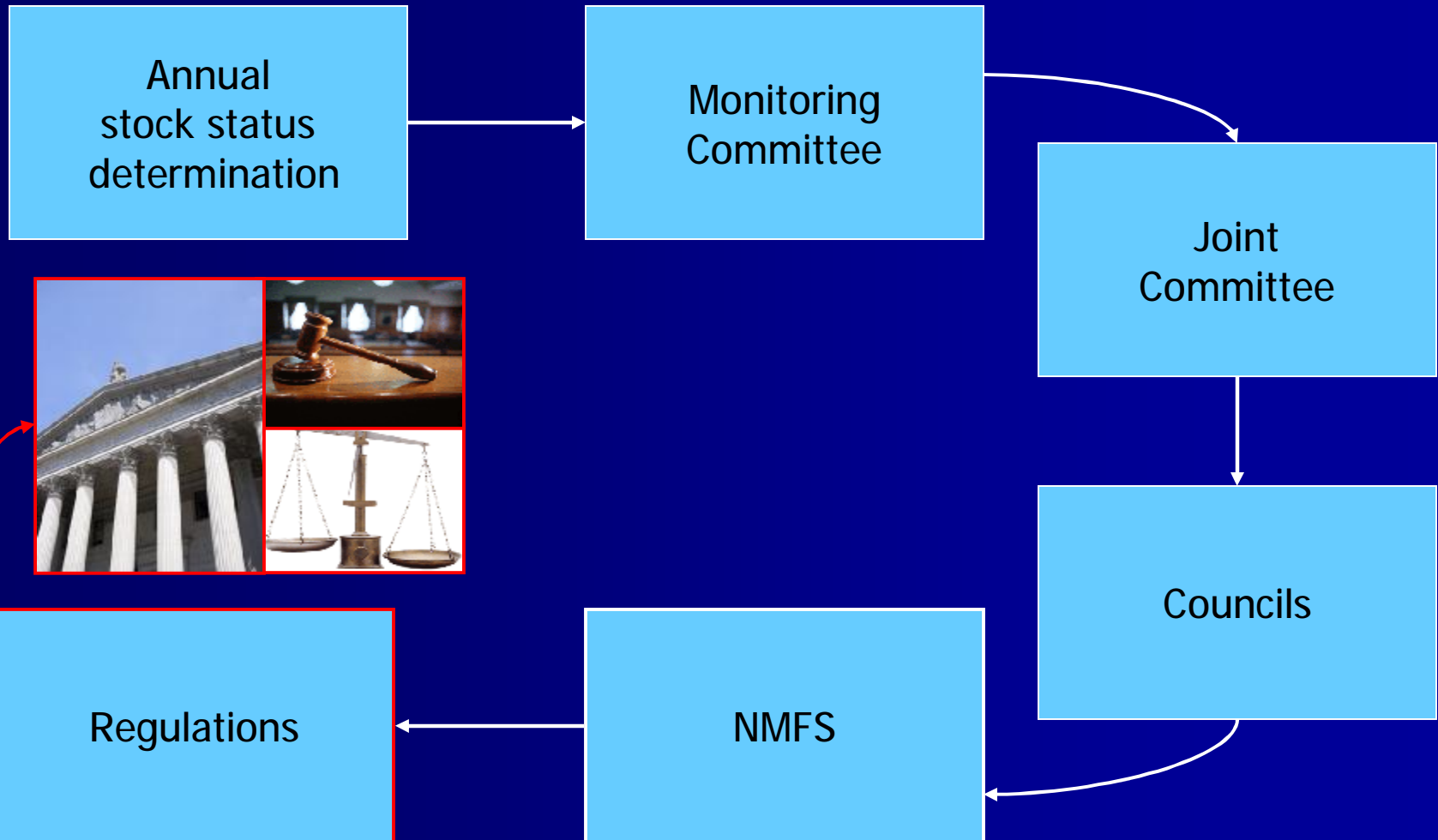
- Commercial Quota:
 - 8.0 million lbs
 - $F \sim 0.13 > F_{\text{target}}$

Council Recommendations

- Commercial Quota:
 - 8.0 million lbs
 - $F \sim 0.13 > F_{\text{target}}$

Huh?

Huh?



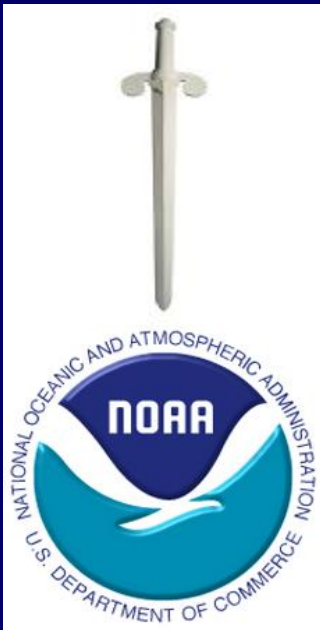
National Standards (Why?)

...management measures shall

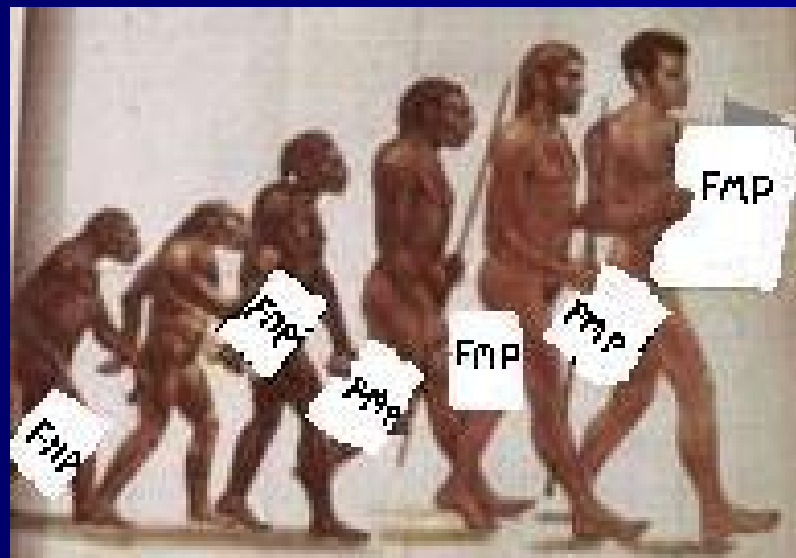
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MSA § 304 (paraphrased)

Rebuild fishery in as short a time as possible



WHEN?



Stock Status

Recovered?	??
Overfishing:	NO

Rationale:

B_{target} = undefined

Stock Status

Recovered?

Pending next
peer-review
assessment

Over

NO



My new year'sh revo ...resholution ish
I'm gunna quit drinking an' shmoking!