Science, Service, Stewardship

2008 Atlantic Bluefin Tuna Stock Assessment Results

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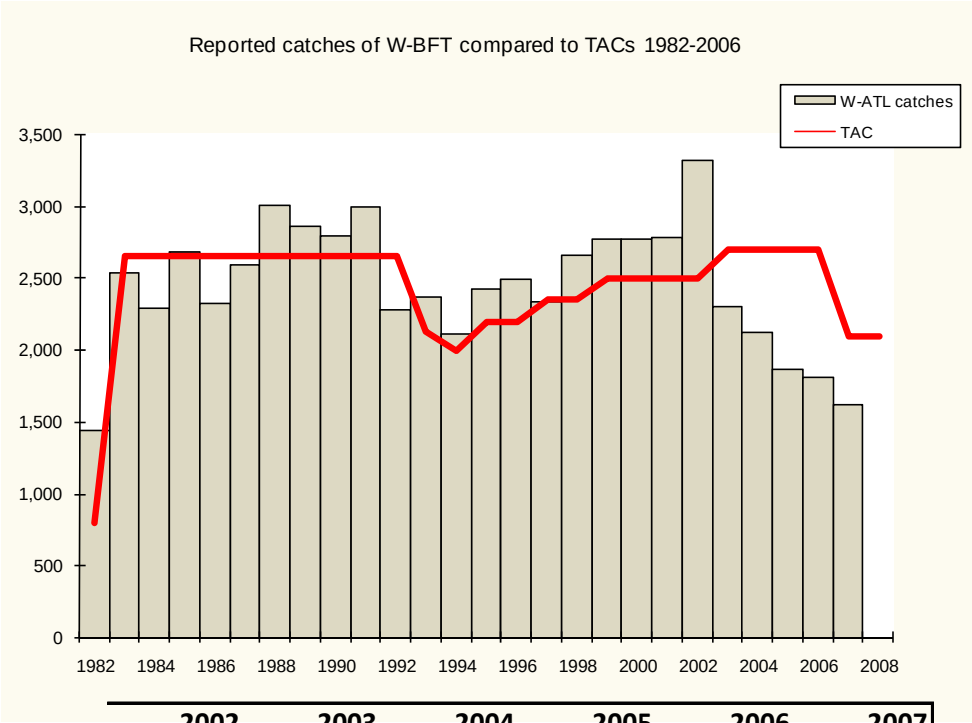
WESTERN ATLANTIC BLUEFIN

Catches declined drastically since 2003, primarily due to decline in large fish catches by the USA



	2002	2003	2004	2005	2006	2007
Canada	641	571	552	600	735	491
Cuba	74	11	19	27	19	
FR. SPM	3	1	10	5		
Japan	575	57	470	378	376	277
Korea Rep.				1	52	
Mexico	12	22	9	10	14	7
U.S.A.	2014	1644	1066	848	615	849

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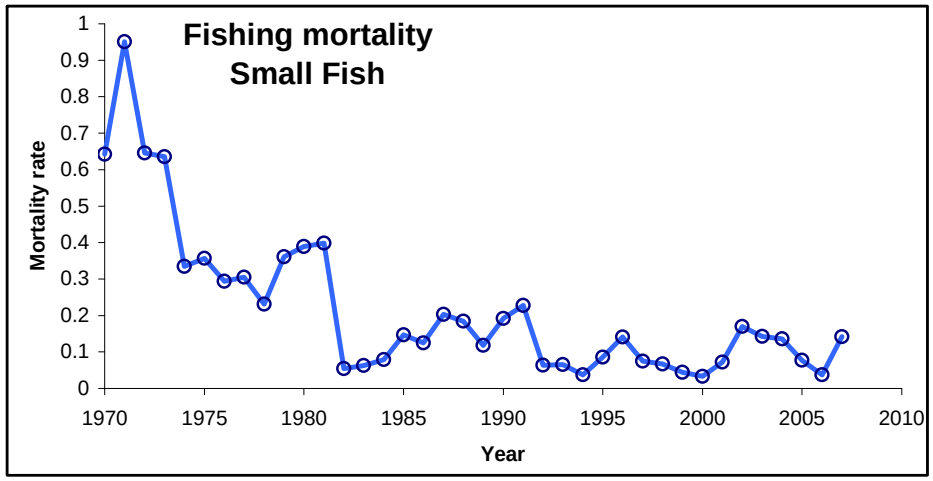
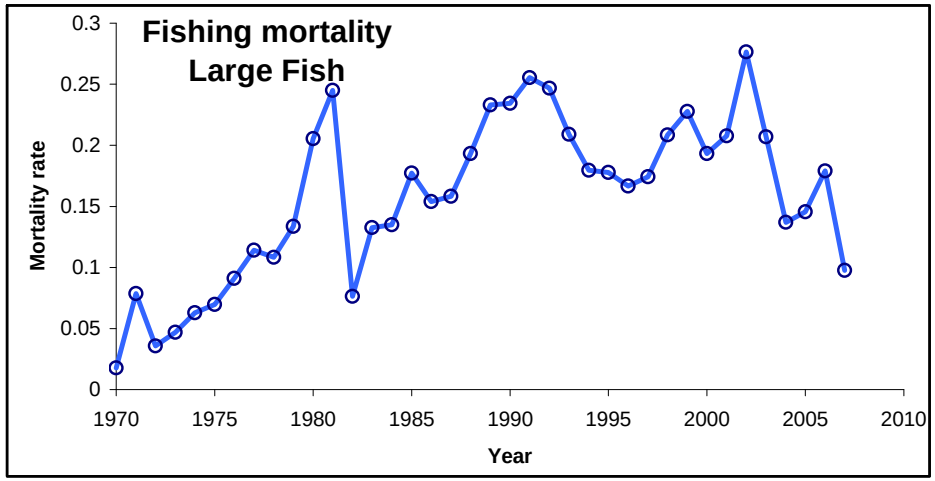
WESTERN ATLANTIC BLUEFIN





Estimates of large-fish mortality show large drop since 2002

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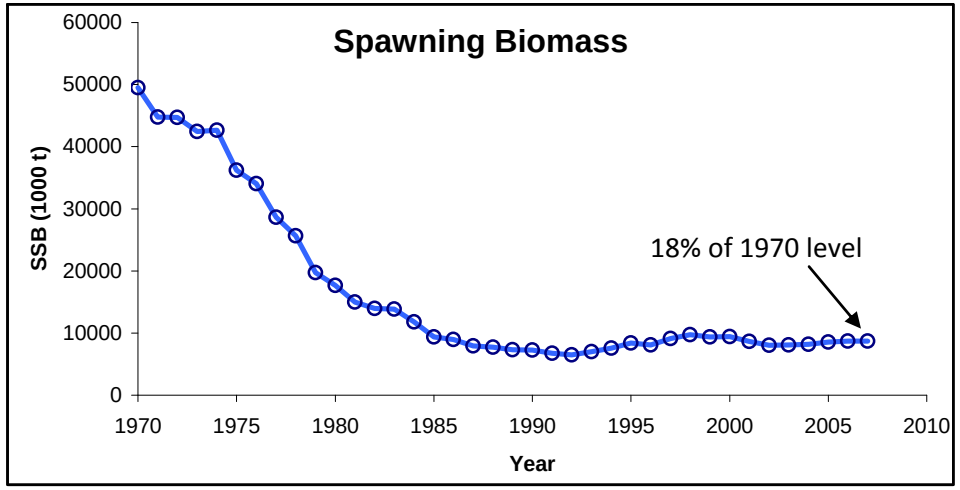
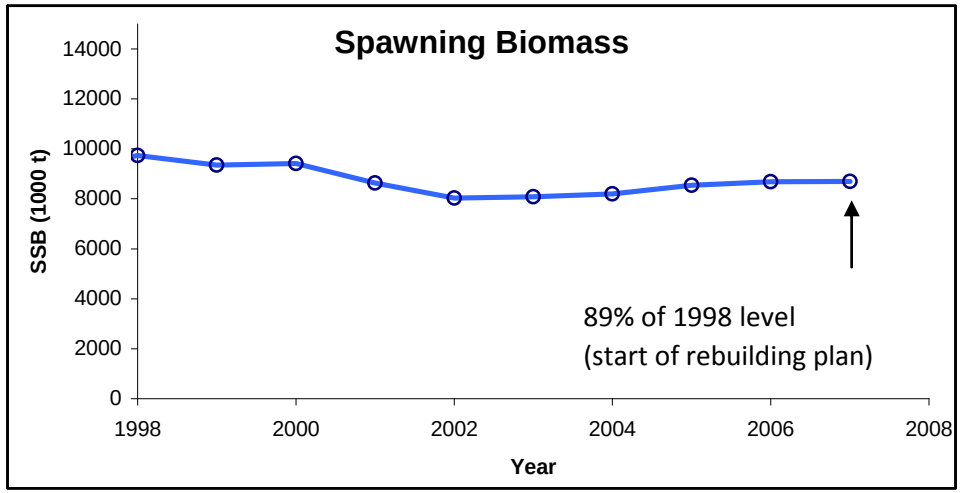
WESTERN ATLANTIC BLUEFIN

Estimates of spawning stock biomass show slow progress towards rebuilding





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WESTERN ATLANTIC BLUEFIN

Assuming Low Potential Recruitment	
Maximum Sustainable Yield (MSY)	2,852 t
Relative Spawning Stock Biomass:	
B_{2007}/B_{1975}	0.25
B_{2007}/B_{MSY}	0.57
Relative Fishing Mortality:	
$F_{current}/F_{MSY}$	1.27

Assuming High Potential Recruitment	
Maximum Sustainable Yield (MSY)	6,201t
Relative Spawning Stock Biomass:	
B_{2007}/B_{1975}	0.25
B_{2007}/B_{MSY}	0.14
Relative Fishing Mortality:	
$F_{current}/F_{MSY}$	2.18

(More pessimistic)

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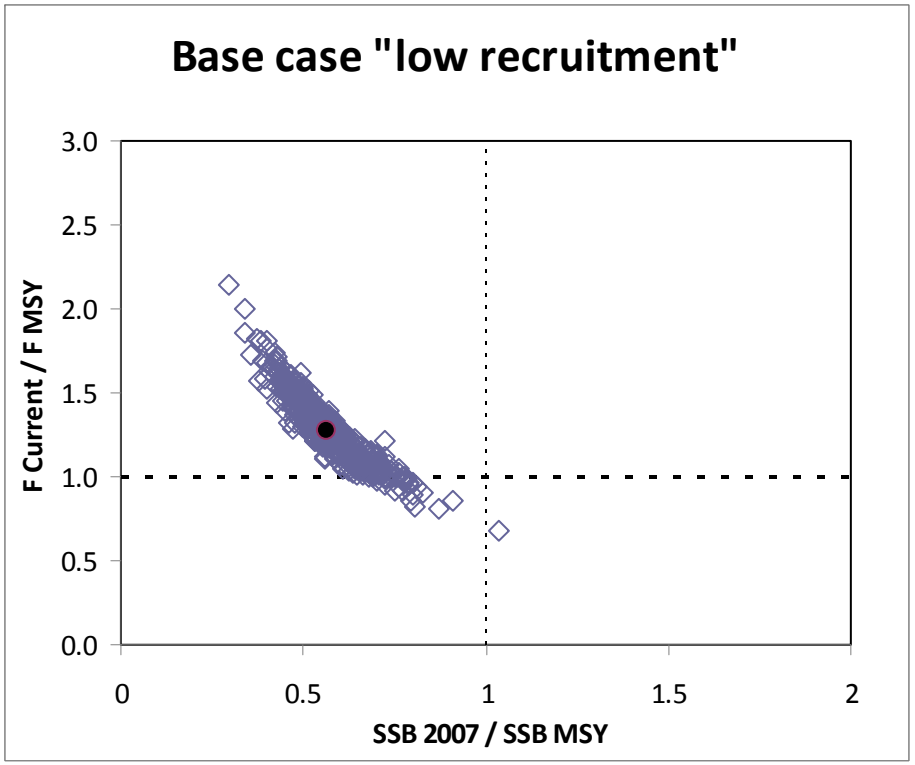
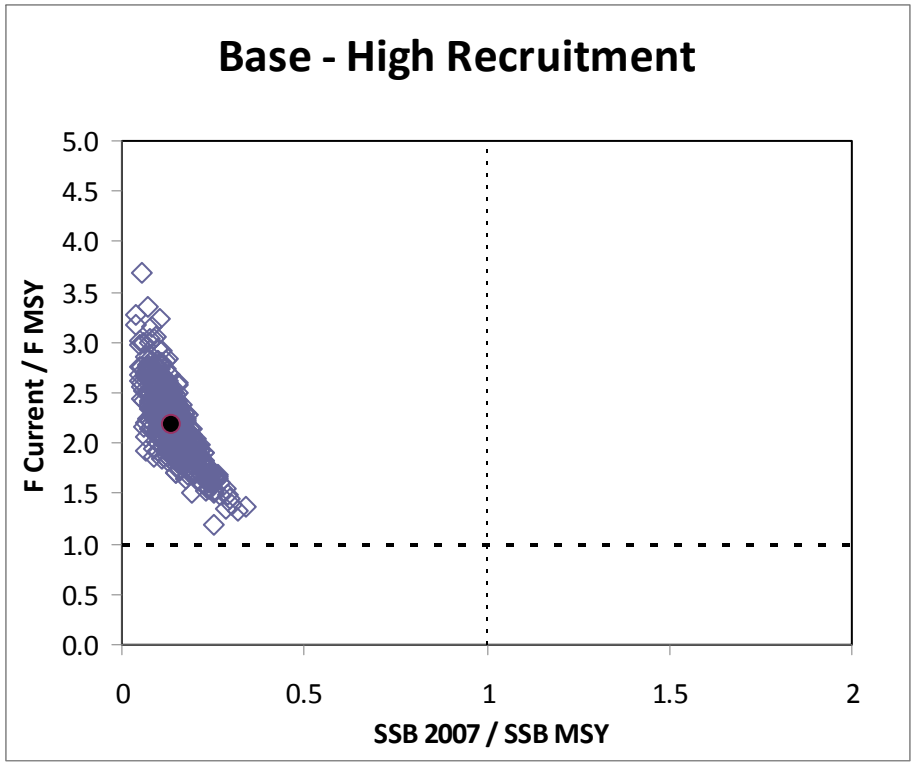
WESTERN ATLANTIC BLUEFIN





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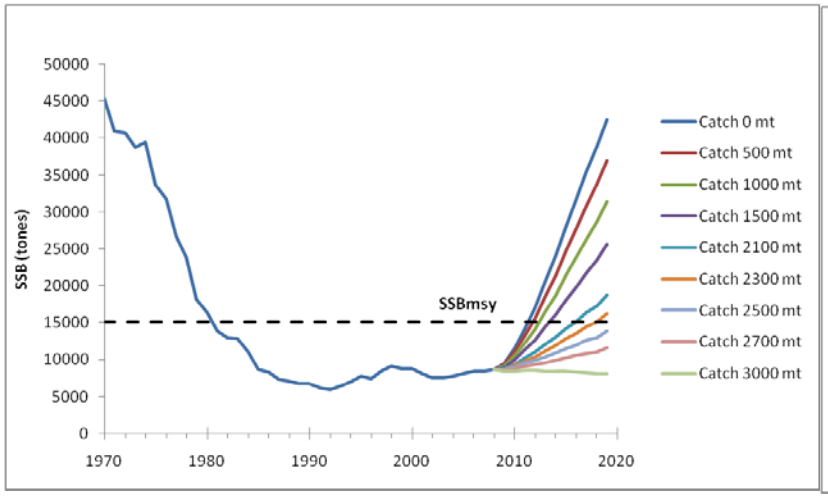
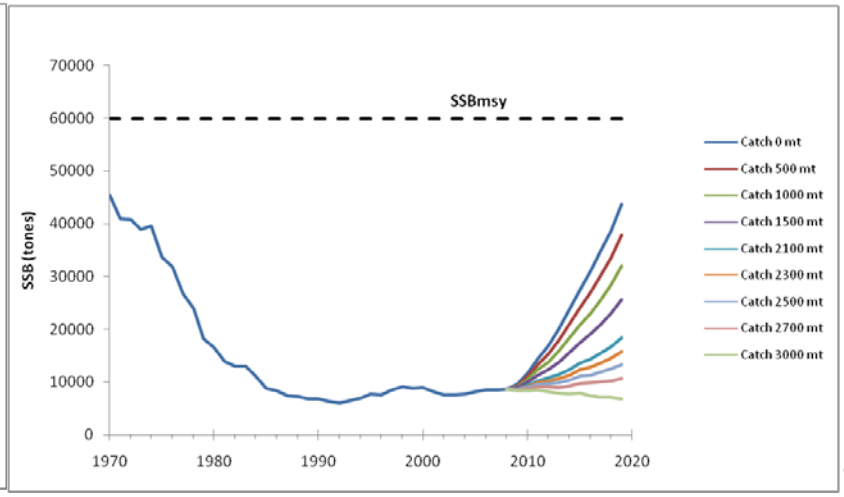
WESTERN ATLANTIC BLUEFIN

Outlook depends on:

- Productive potential (low vs high recruitment)
- Targets (objectives)
- Probability of achieving objectives (risk)





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WESTERN ATLANTIC BLUEFIN

1,900 t (current TAC) rebuilds stock to B_{MSY} with 50% prob. by 2015 and by 2018 with 75% probability

Projected Catch Level (mt)	Base Case	
	Low	High
0	2012	No
500	2012	No
1000	2013	No
1500	2014	No
1600	2014	No
1700	2015	No
1800	2015	No
1900	2015	No
2000	2016	No
2100	2017	No
2200	2017	No
2300	2018	No
2400	2019	No
2500	No	No
2600	No	No
2700	No	No
3000	No	No
5000	No	No

Projected Catch Level (mt)	Base Case	
	Low	High
0	2013	No
500	2013	No
1000	2014	No
1500	2015	No
1600	2016	No
1700	2016	No
1800	2017	No
1900	2018	No
2000	2019	No
2100	No	No
2200	No	No
2300	No	No
2400	No	No
2500	No	No
2600	No	No
2700	No	No
3000	No	No
5000	No	No

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WESTERN ATLANTIC BLUEFIN

1,800 t or less needed to end overfishing (F/Fmsy) under a conservative scenario

Projected Catch Level (mt)	Base Case	
	Low	High
0	2009	2009
500	2009	2009
1000	2009	2009
1500	2009	2009
1600	2009	2010
1700	2009	2011
1800	2009	2012
1900	2009	2013
2000	2010	2014
2100	2011	2015
2200	2012	2016
2300	2014	2017
2400	2015	2018
2500	2017	No
2600	No	No
2700	No	No
3000	No	No
5000	No	No

Projected Catch Level (mt)	Base Case	
	Low	High
0	2009	2009
500	2009	2009
1000	2009	2010
1500	2009	2015
1600	2009	2016
1700	2009	2018
1800	2011	2019
1900	2012	No
2000	2013	No
2100	2014	No
2200	2016	No
2300	2019	No
2400	No	No
2500	No	No
2600	No	No
2700	No	No
3000	No	No
5000	No	No

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WESTERN ATLANTIC BLUEFIN

The conclusions of the assessment do not capture the full degree of uncertainty in the assessments and projections. Main factors contributing to uncertainty are:

1) Mixing rates
2) Recruitment (high vs. low)
3) Growth

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WESTERN ATLANTIC BLUEFIN

Management advice from the SCRS:

- Stock not rebuilding as rapidly as originally projected under current plan
- Past projections overly optimistic
- Strongly advice against an increase in TAC
- Recommend more conservative decisions with 75% probability of rebuilding to Bmsy by 2019
    - 2,000 t (base case assessment with “low recruitment”)
    - 1,500 t (assessment without Can. GSL catch rates)

Science, Service, Stewardship

Atlantic Bluefin Tuna
Recent Statistics and Implications for the Future

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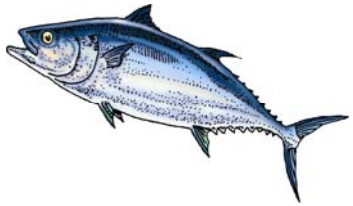
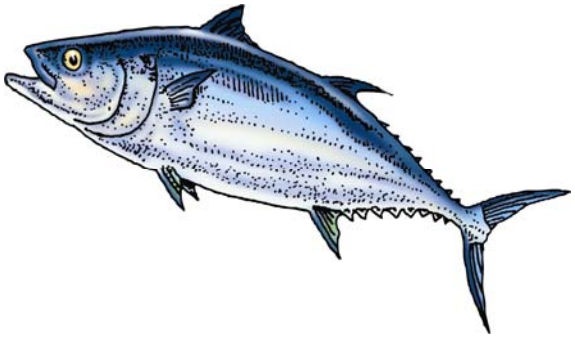
Implications of ICCAT for the U.S. Domestic Fishery

- Implications of new quota and other recommendations



- Recent fishery statistics

- Focus on the “middle”.



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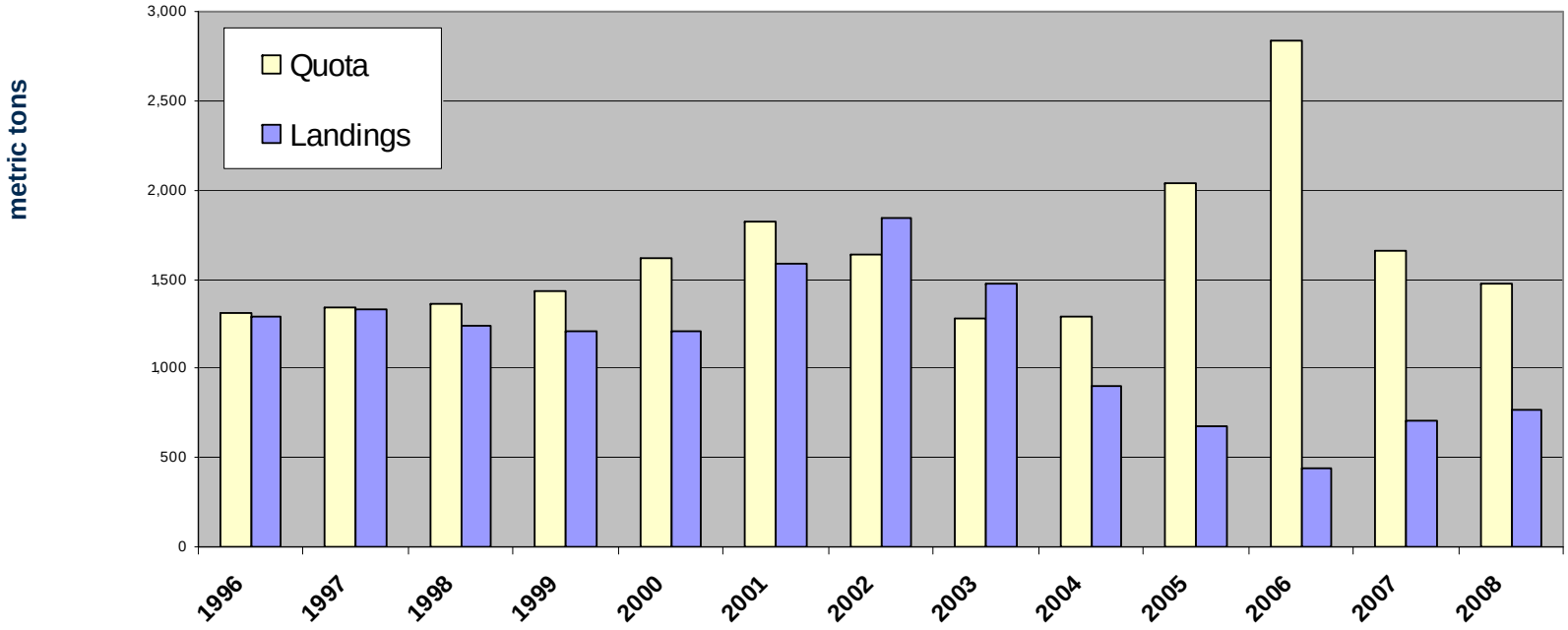
BFT Adjusted Quota and Landings (mt)



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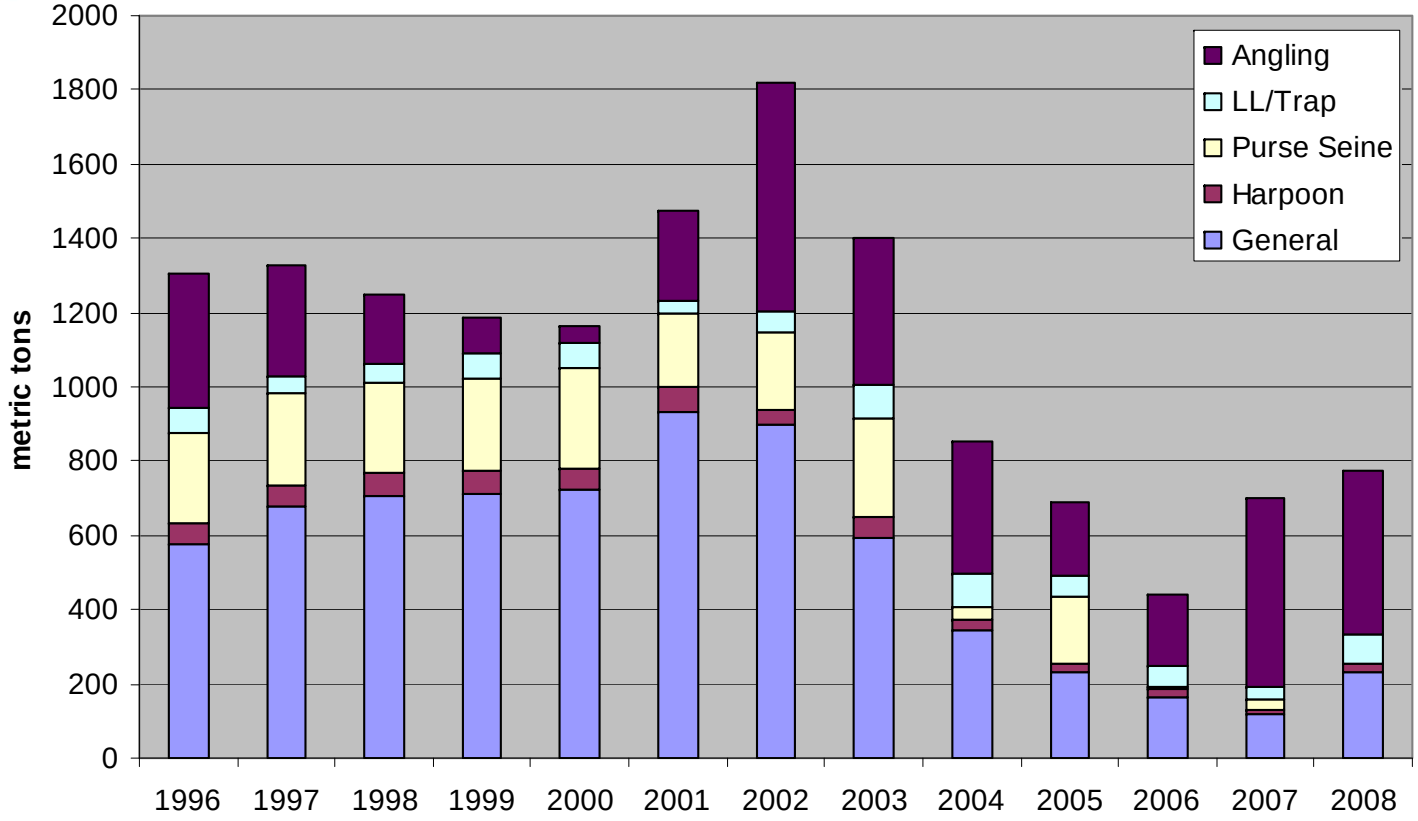
Landings by Category



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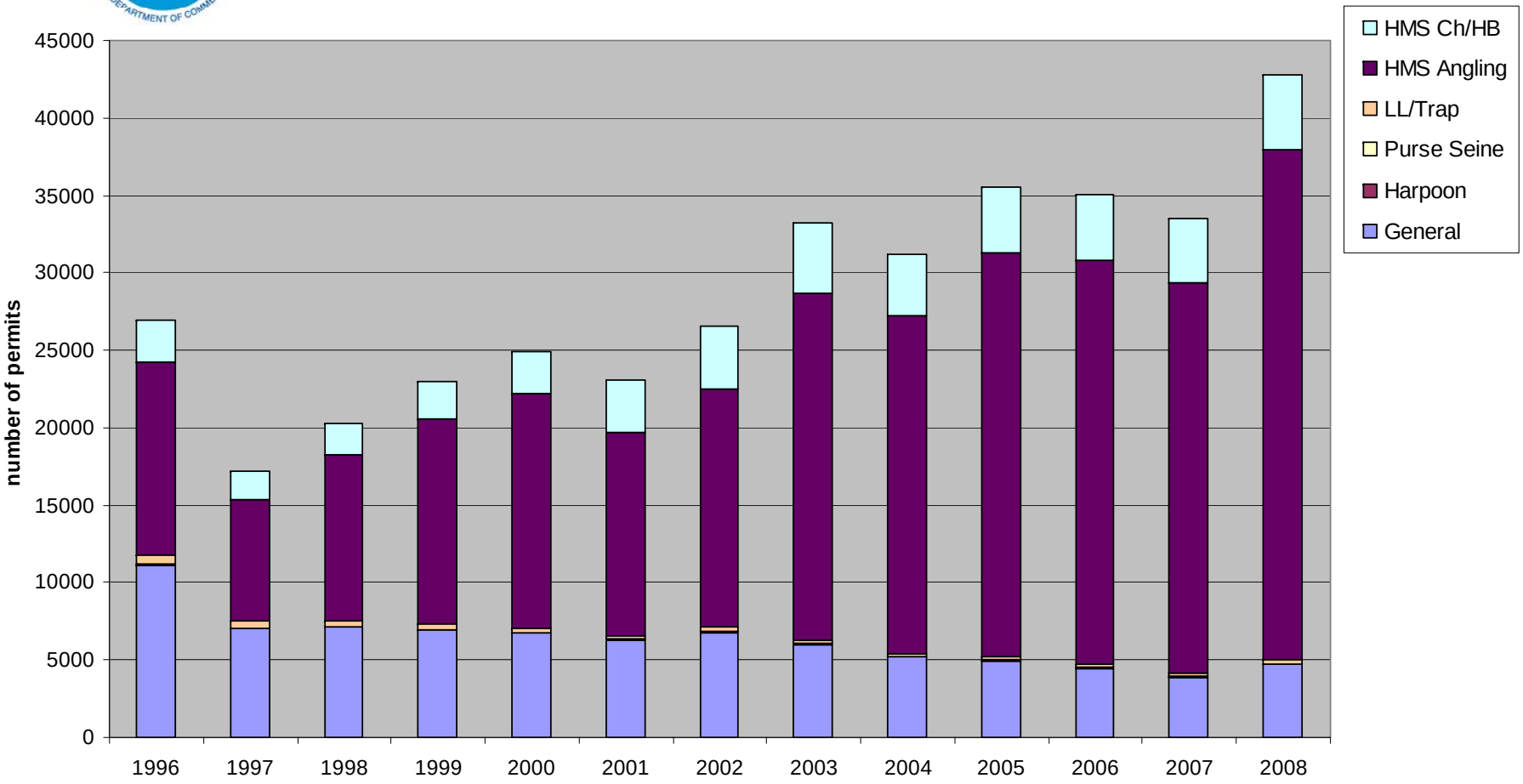
Fishery Participation – Permits by Category



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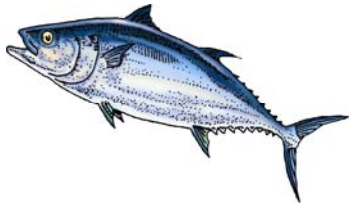
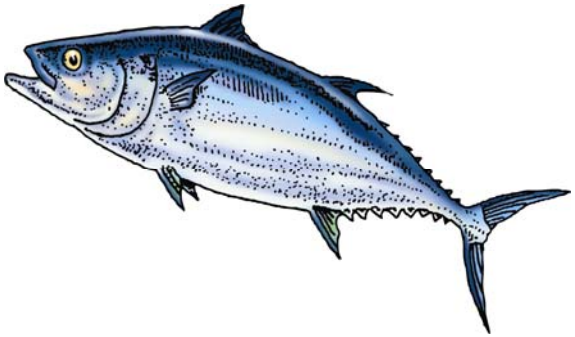
BFT Size Catch Distribution, 2007-2008



- Prior to 2007, recreational effort and landings largely focused on school BFT (27-<47 inches).

- 2007 and 2008: shift in focus to the large school/small medium size class (47-<73 inches), particularly to large school BFT (47-<59 inches).



- Implications for 2009 and beyond.

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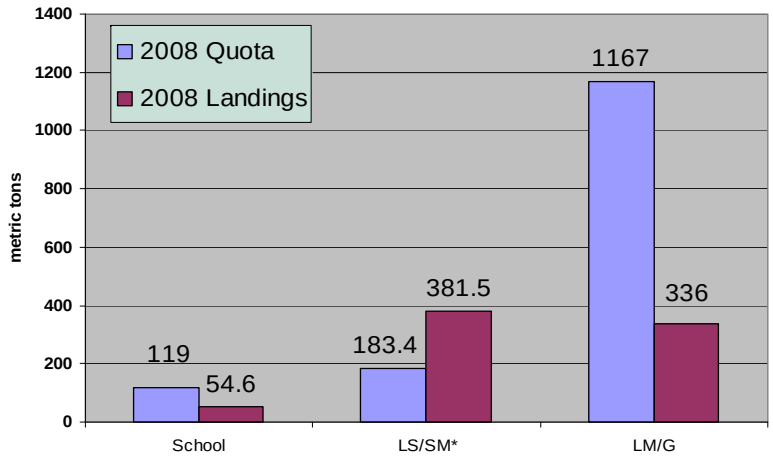
2008 Recreational and Commercial Quota and Landings
(in mt)



*[Total mt landed=381.5: 305 mt (80%) LS and 76 mt SM (20%)]

Size Class	2008 Avg Wt
School	40 lb (18 kg)*
Large School	101 lb (46 kg)*
Small Medium	159 lb (72 kg)*
Large Medium/Giant	478 lb (217 kg)

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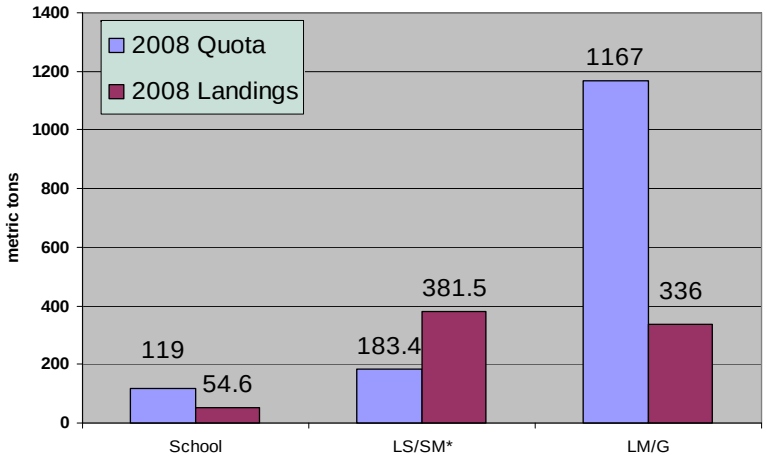
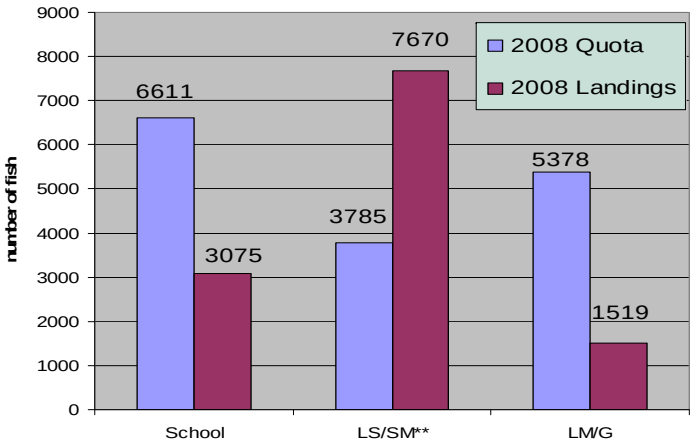
2008 Recreational and Commercial Quota and Landings
(in mt and number of fish)



*[Total mt landed=381.5: 305 mt (80%) LS and 76 mt SM (20%)]



**[Total number landed=7,670: 6,606 LS (86%) and 1,064 SM (14%)]

Size Class	2008 Avg Wt
School	40 lb (18 kg)*
Large School	101 lb (46 kg)*
Small Medium	159 lb (72 kg)*
Large Medium/Giant	478 lb (217 kg)

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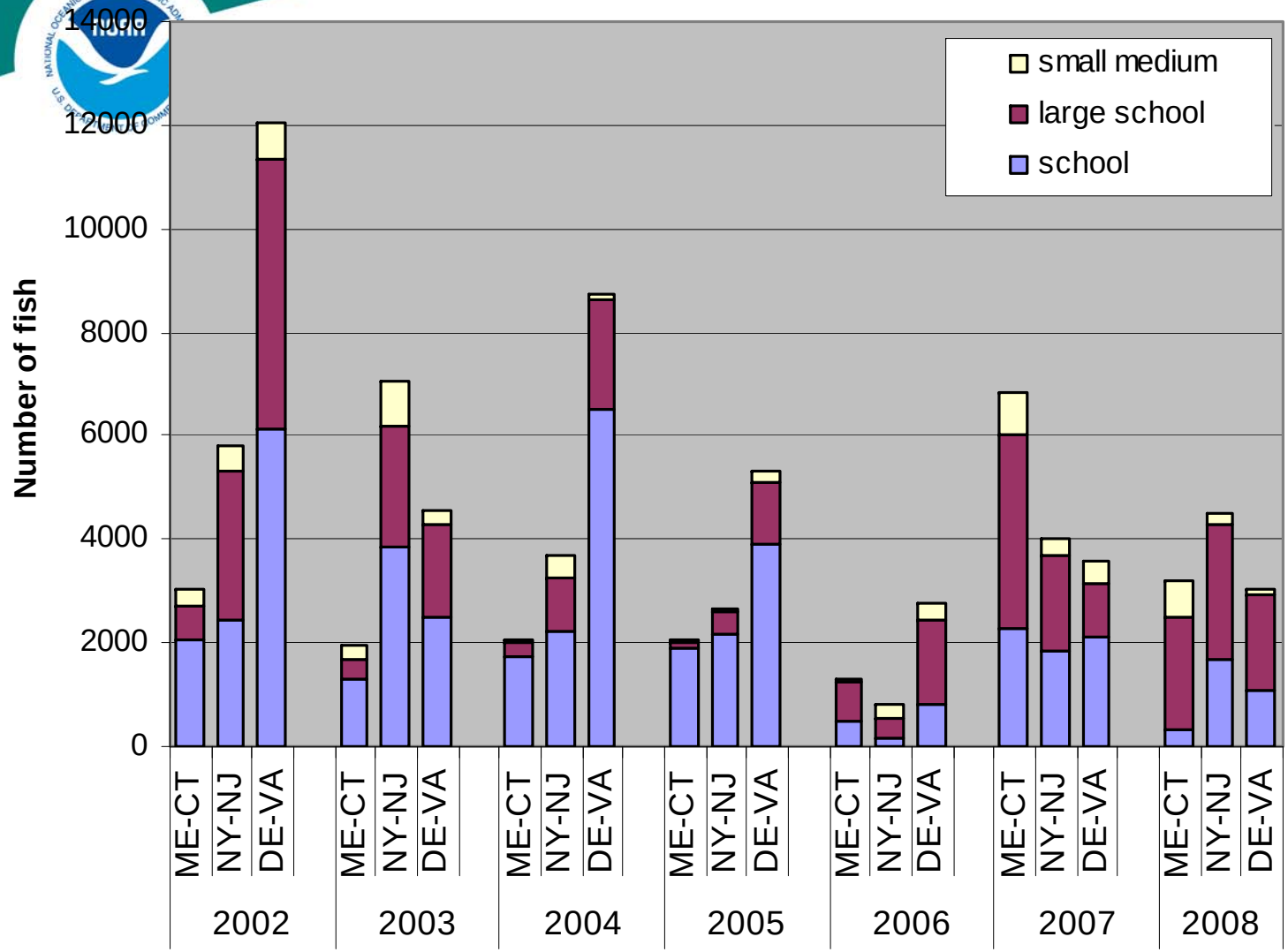

Data source: LPS (for ME-VA only)

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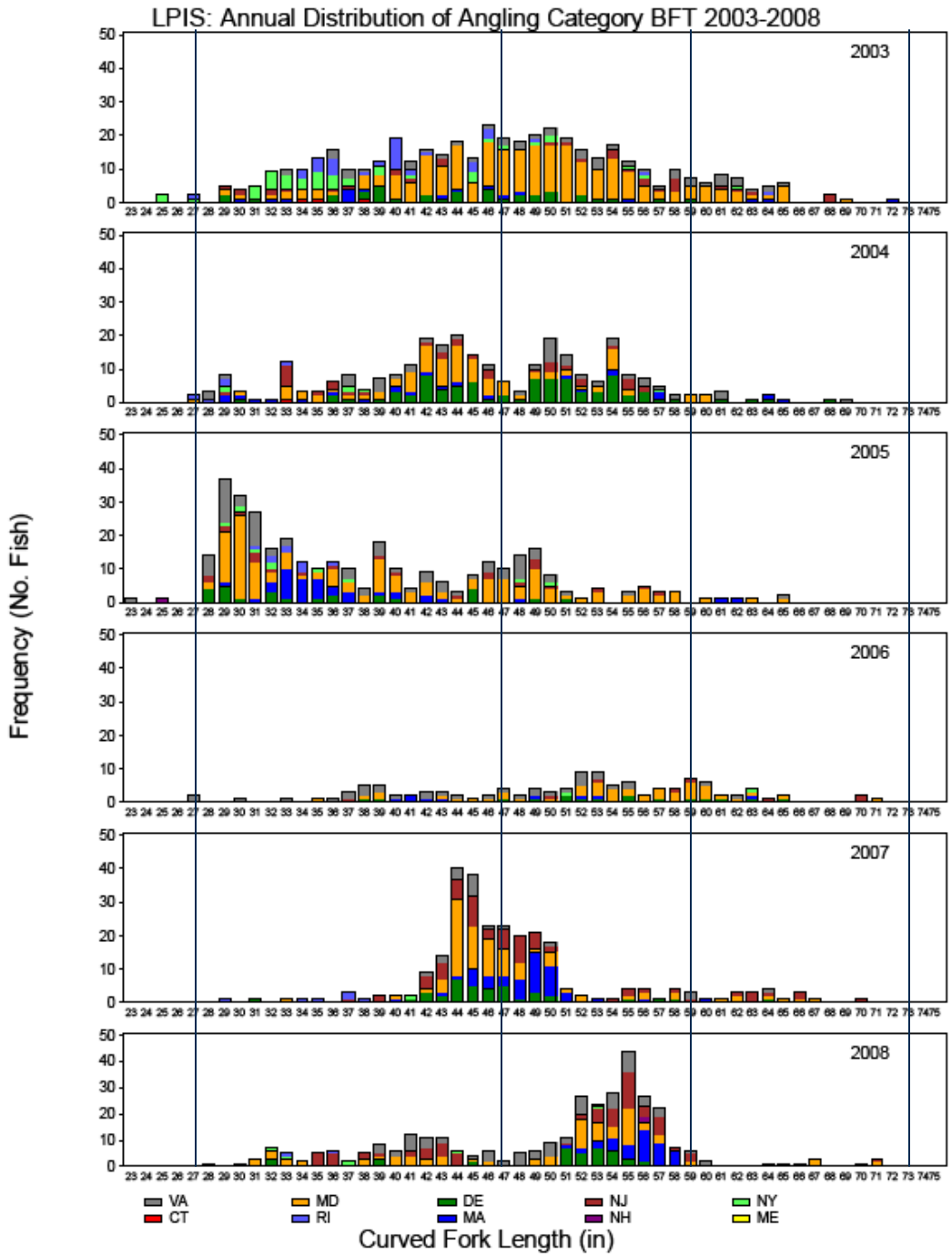

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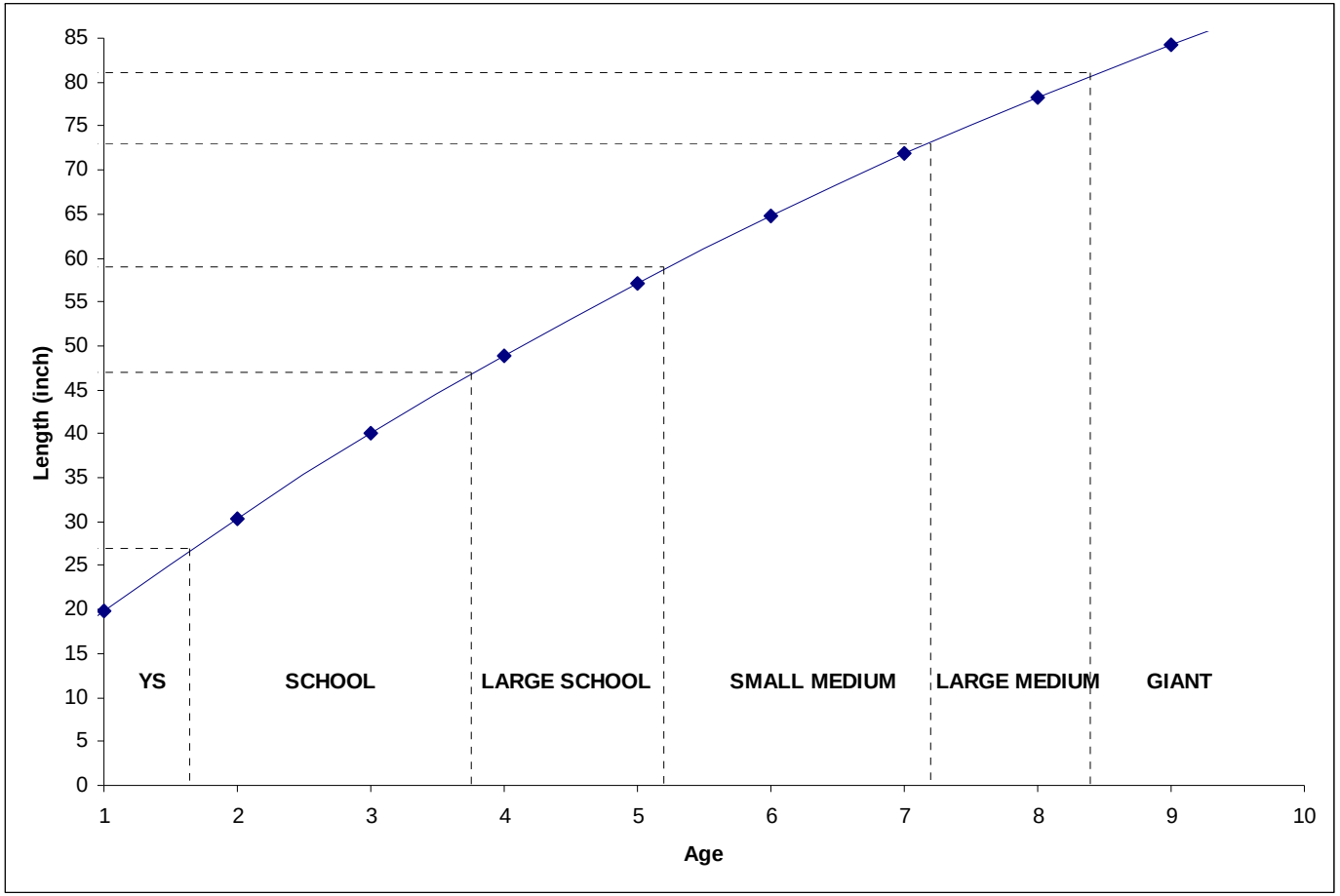
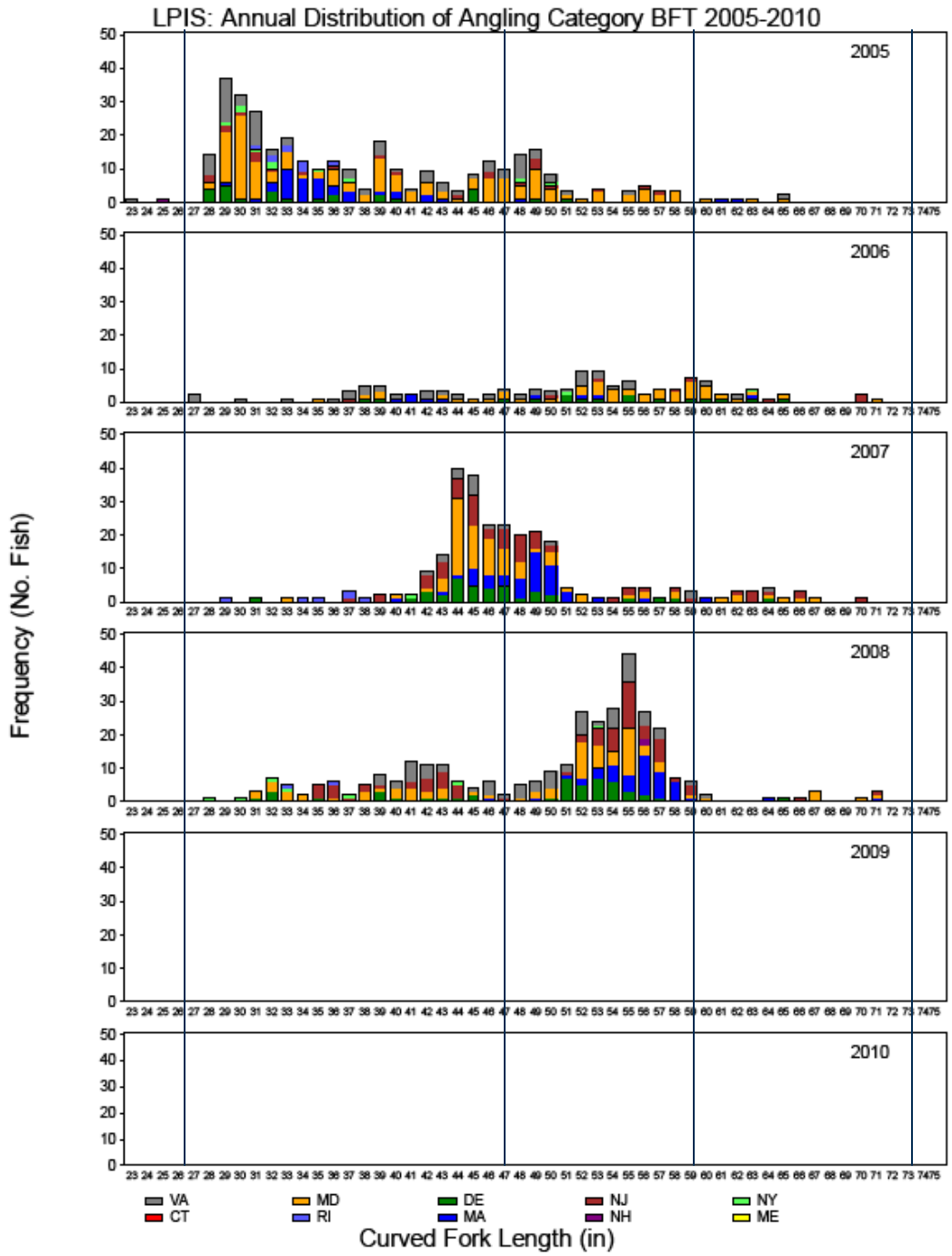
BFT Size at Age




LPIS: Annual Distribution of Angling Category BFT 2005-2010
2005
2006
2007
2008
2009
2010
Frequency (No. Fish)
Curved Fork Length (in)
VA
CT
MD
RI
DE
MA
NJ
NH
NY
ME

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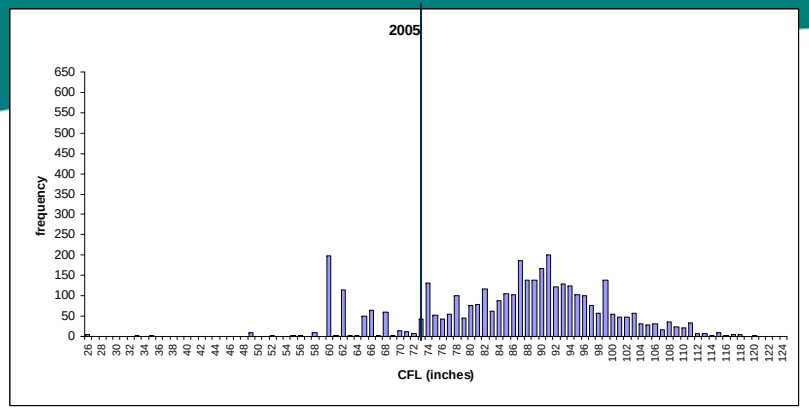
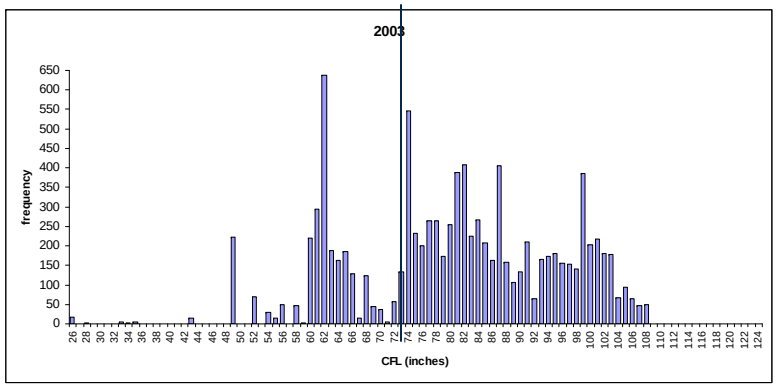
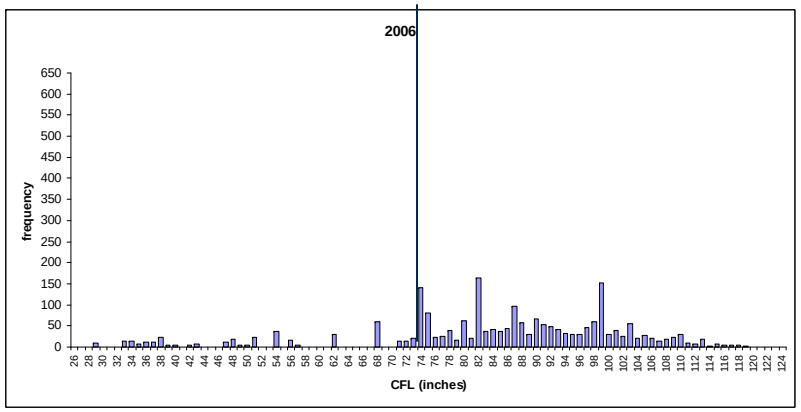
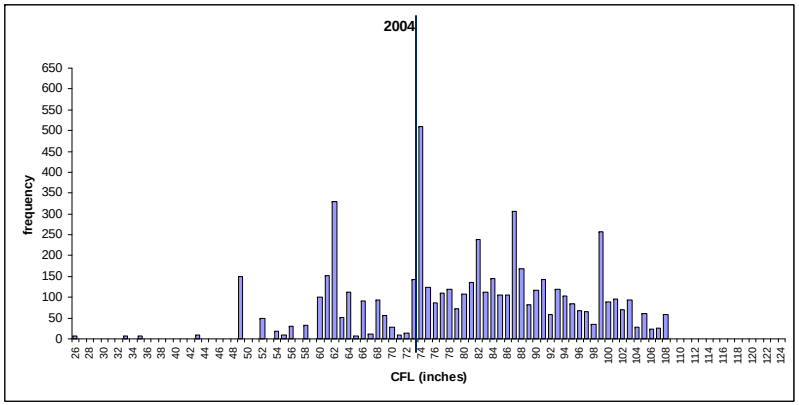
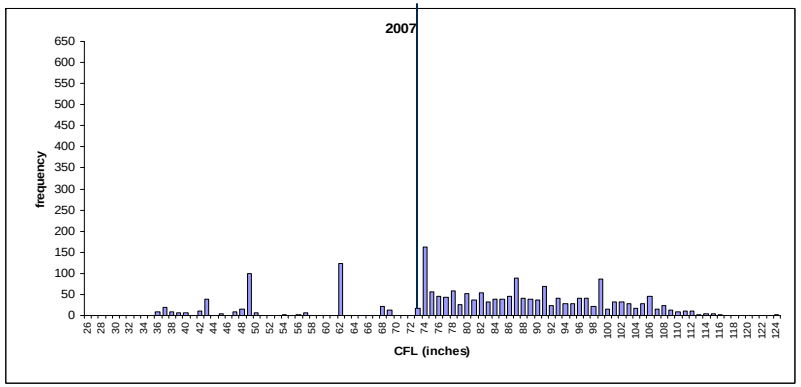
U.S. Commercial Data Including Discards Submitted to ICCAT 2004-2008











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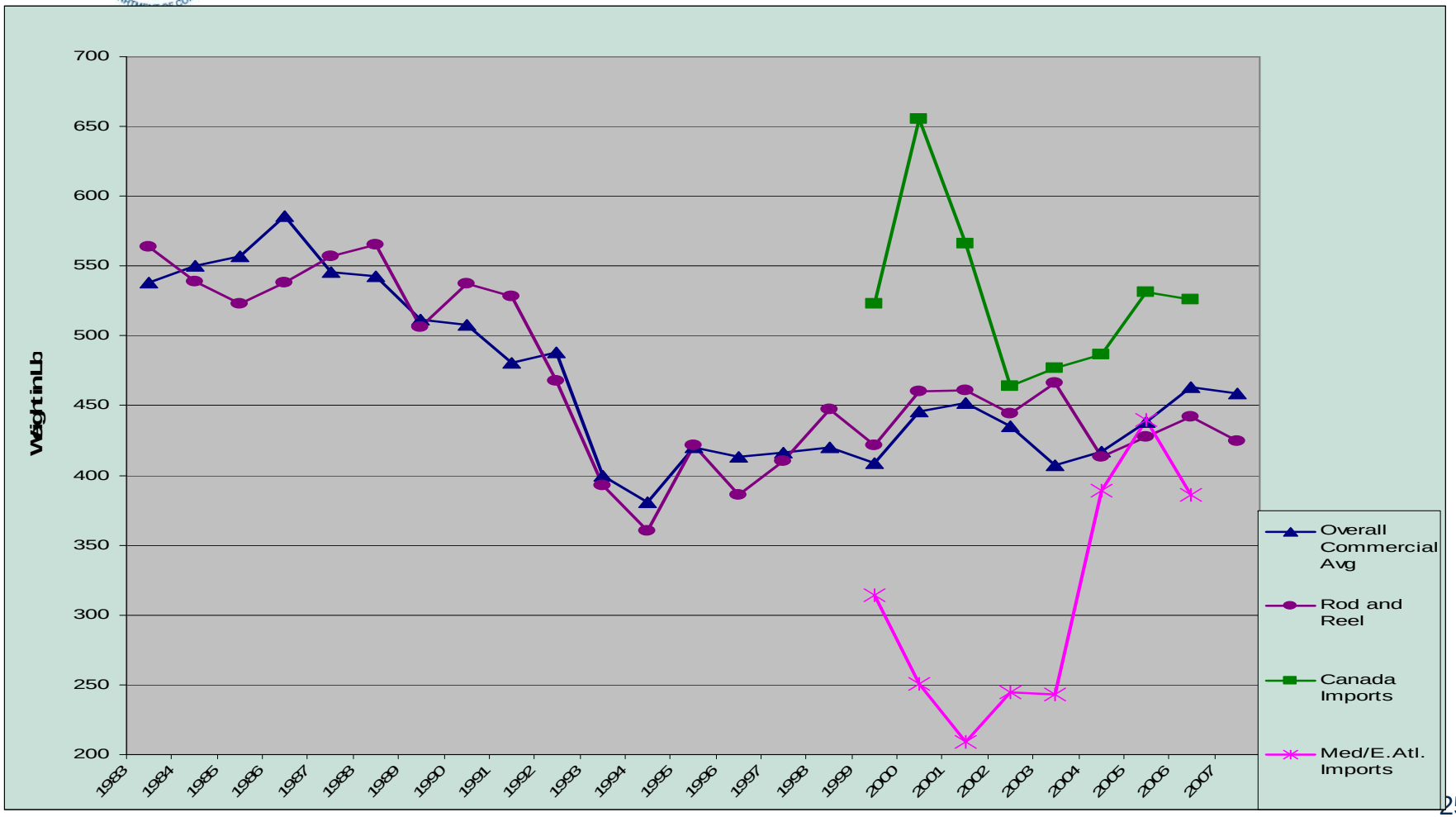
Average Round Weights of Domestic Landings vs. Imports, 1983-2007
Rod and Reel



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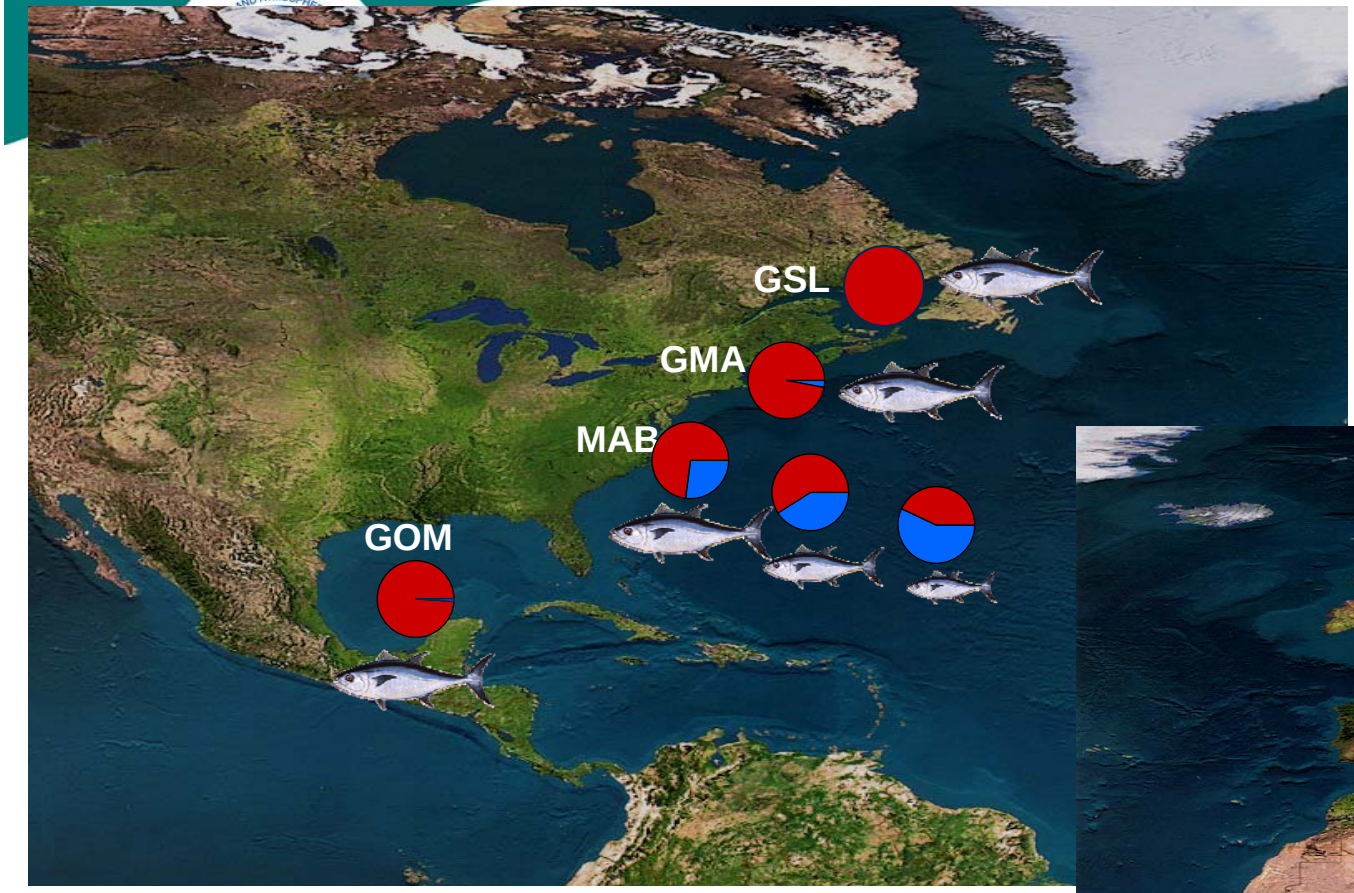
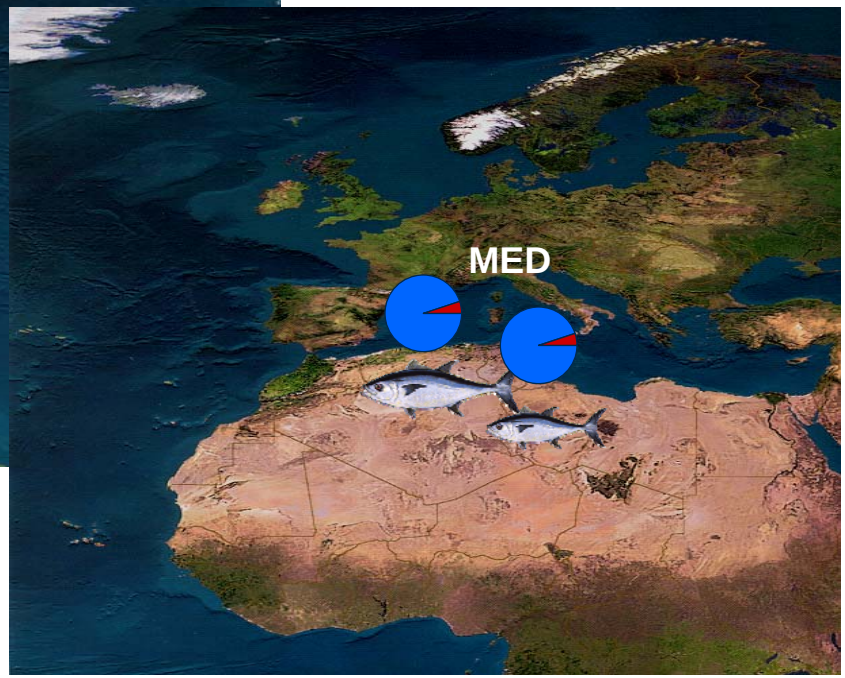
Summary of contribution rates





Rooker et al., 2008: Science 322:742-744. Oct. 31. 2008