

Atlantic Bluefin Tuna (BFT) Considerations for 2010/2011

Purpose of BFT management under the 1999 Highly Migratory Species Fishery Management Plan has not changed:

- Implement rebuilding plan for 2019 and provide fishing opportunities in accordance with Magnuson-Stevens Act and Atlantic Tunas Convention Act

Overriding management question over past several years has changed:

- ...from “How do we constrain landings to quota?” to “How do we fully utilize quota?” to “How do we constrain landings to quota?”

Why the recent change?

- Smaller overall ICCAT quota allocation (2010 U.S. base quota ~ 950 mt)
- Reduction of allowed quota underharvest carryover from current 50% to 10% next year
- Changing size distribution of available BFT over recent years
- Highly successful Angling category performance (2x adjusted recreational subquota)
- Pelagic longline landings 30% over adjusted subquota
- Recent pelagic longline discards greater than landings

Current Situation

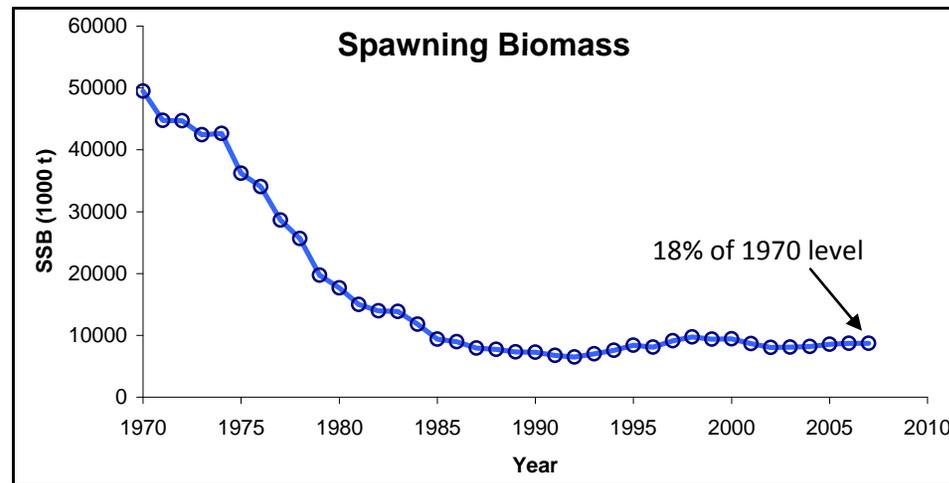
- NMFS' priority management objective with regard to the BFT quota is to ensure that total U.S. landings are within the ICCAT allocated quota.
- In the last few years, NMFS has not deducted overharvest from the Angling and Longline category quotas given: (1) large underharvests in other categories and the total U.S. quota; (2) the large amount of unused Reserve; and (3) the change in amount of underharvest that could be carried forward in 2006 (limited to 50% of U.S. quota) (i.e., could not give directed commercial categories full 2008 underharvests in 2009 as the total of those underharvests would exceed the 50% limit).
- U.S. landings exceeded the base quota in 2009, although were within adjusted quota
- 2010 fishery will require more oversight of individual categories to prevent overharvest of U.S. quota, particularly given anticipated increased availability of commercial sized BFT and therefore fuller use of commercial quotas

Challenges

- Current operational system adequate to manage commercial landings fishery in real time
- Current system not designed to monitor recreational landings in real time for *inseason* management
- Current system not designed to monitor longline discards in real time
- Recreational constituent interest in increasing recreational opportunities
- NGO and industry constituent interest in addressing BFT and the future of the pelagic longline swordfish fishery
- Regional differences among both commercial and recreational interests for access to BFT (i.e., New England, Mid-Atlantic, NC, etc.)

Western Atlantic BFT Spawning Stock Biomass and Rebuilding Progress

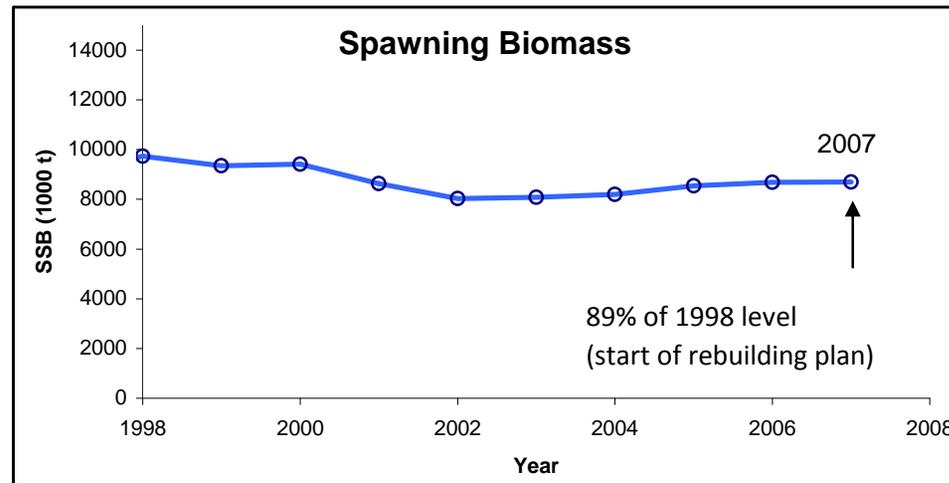
1970-2007



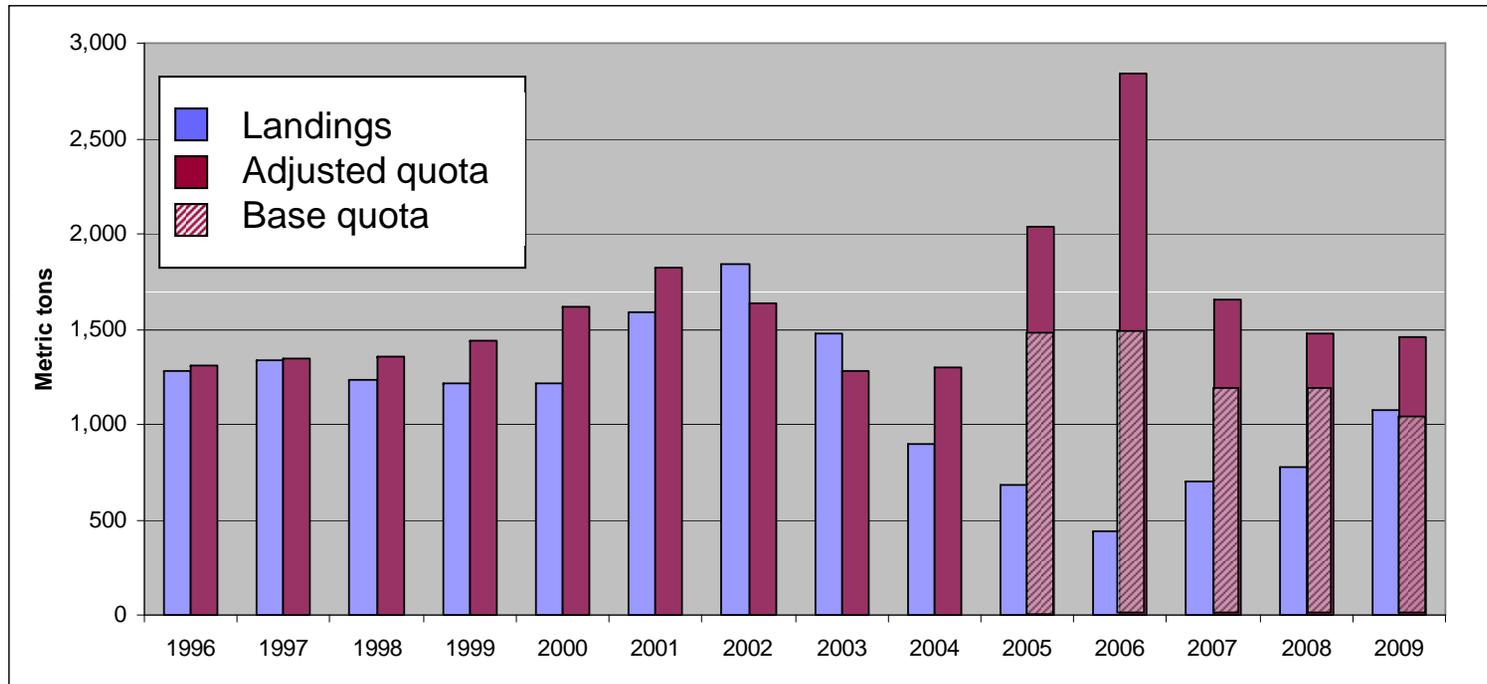
Halfway through rebuilding period (1999-2018), SSB was below 1998 level

1998-2007

(since start of rebuilding period)



U.S. BFT Landings vs. Adjusted Quotas (mt)

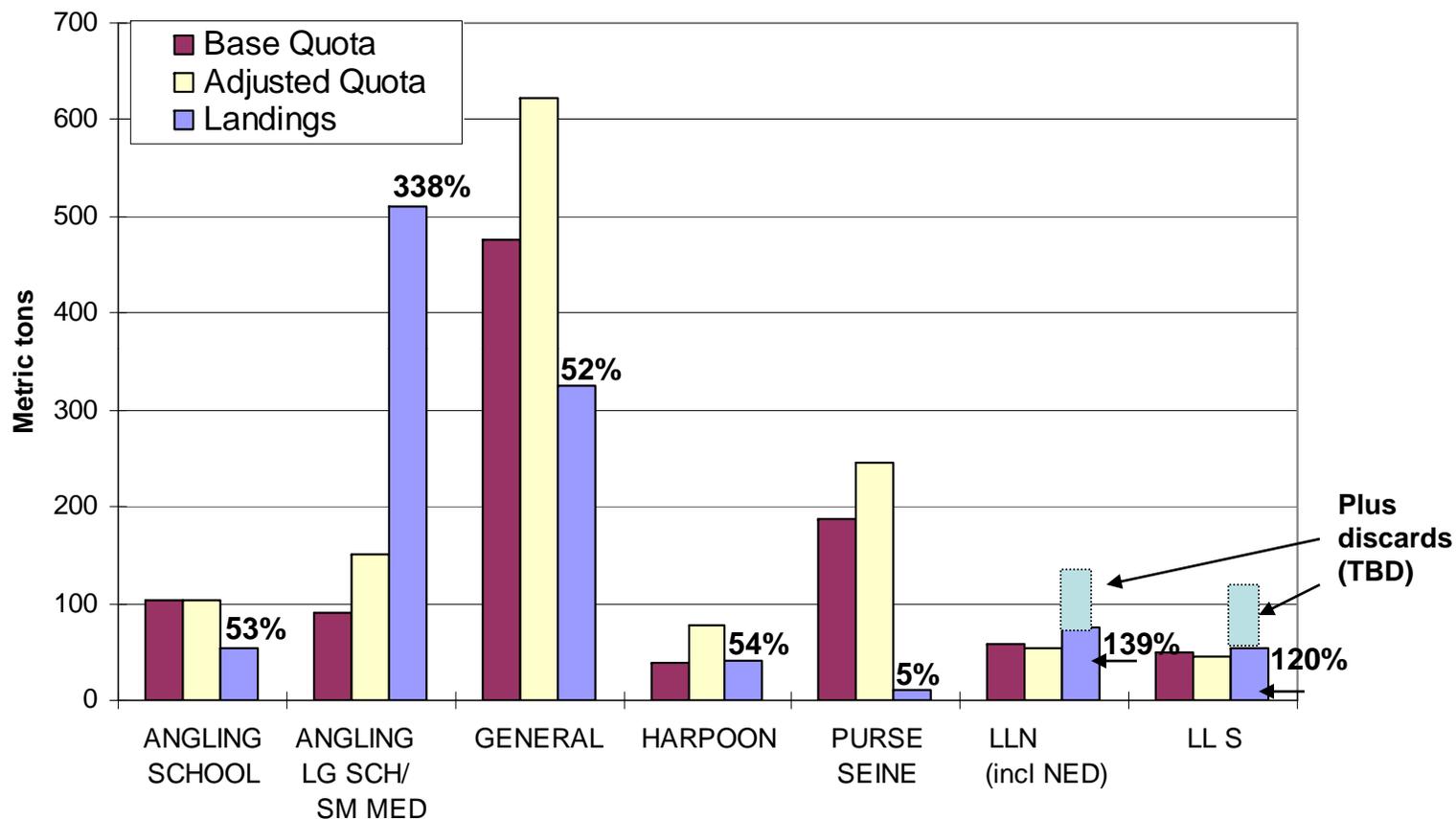


Reductions in landings and large amounts of underharvest beginning in the mid-2000s has precipitated requests for regulatory changes to more fully utilize U.S quota.

In 2009, total landings=1,073.7 mt which corresponded to 73% of adjusted quota (1,462.3 mt) and 104% of base quota (1,034.9 mt)

U.S. base quotas shown for 2005 through 2009 (hatched bars) to illustrate relation of recent landings to base quota.

2009 BFT Base and Adjusted Subquotas and Landings (mt)

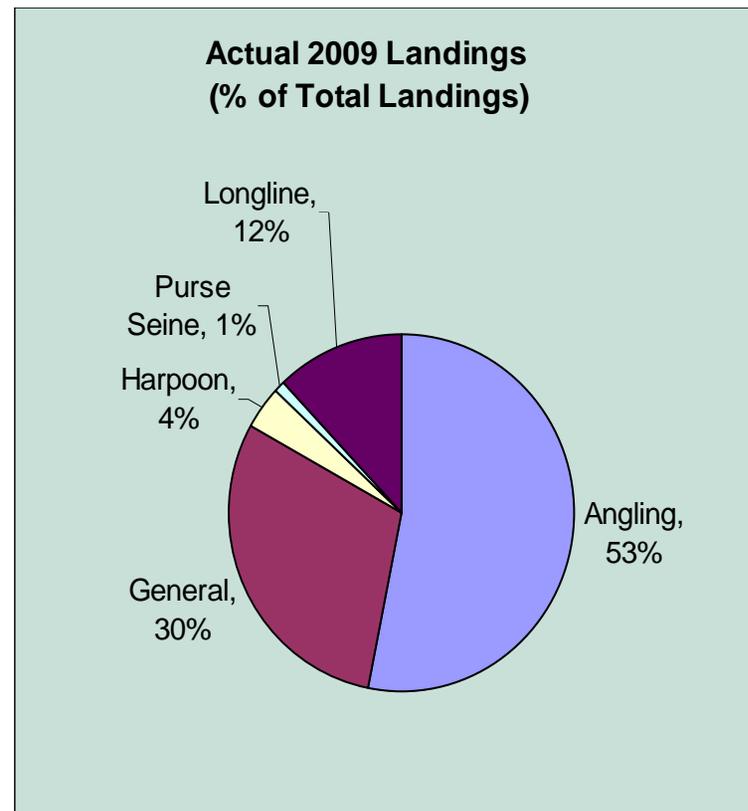
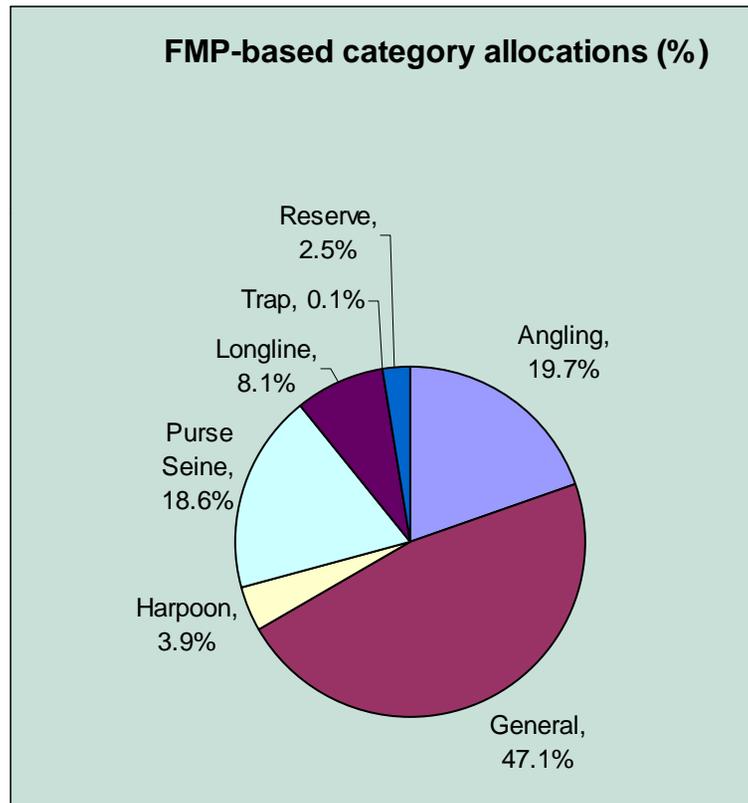


The Angling and Longline categories are exceeding their subquotas while the General, Harpoon, and Purse Seine categories continue to underharvest their subquotas.

Landings as % of adjusted quota shown above blue bars. Angling total=217% of adjusted quota. Longline total=131% of adjusted quota.

2009 Longline dead discard estimates not available yet but must be accounted for. 2008 amount used as proxy.

Comparison of FMP allocations to % of 2009 Landings



Recent landings by category as a percent of total landings (at right) compared to allocations established in the 1999 HMS FMP (at left).

Base and adjusted BFT quotas, landings, and retention limits, 2007-2009

Category	2007 (June 2007-December 2007)					2008 (January-December)					2009 (January-December)				
	Base Quota	Adj. Quota ¹	Lndgs & LL dd ²	% of Adj. Quota	Ret. Limit	Base Quota	Adj. Quota	Lndgs & LL dd	% of Adj. Quota	Ret. Limit	Base Quota	Adj. Quota	Lndgs & LL dd	% of Adj. Quota	Ret. Limit
General	548.8	643.6	122	19	LM/G: 3	548.8	740	235.3	31	LM/G: 3	475.7	623.1	325.4	52	LM/G: 2: Jan 3: June-Dec
Harpoon	45.4	53.3	12	23	LM: 2 G: unlim. 6/1-11/15	45.4	61.2	22.0	36	LM: 2 G: unlim. 6/1-11/15	39.4	76.6	41.4	54	LM: 2 G: unlim. 6/1-11/15
Longline –	119.4	225	35	16	Incidental Only	119.4	81.7	75.0	92	Incidental Only	106.8	99.3	129.6	131	Incidental Only
North & NED	62.8	105	26	25		62.8	47.7	33.0	69		57.7	54.7	75.9	139	
South	56.6	120	9	8		56.6	34	42.0	124		49.1	44.6	53.7	120	
dead discards			90					173					n/a		
Trap	1.2	1.4	0	0	LM/G: 1/y	1.2	1.6	0.3	19	LM/G: 1/y	1.0	1.3	0	0	LM/G: 1/y
Purse Seine	216.7	254.1	28	11		216.7	292.2	0	0		187.8	246	11.4	5	
Angling	229.5	269.2	507	188		229.5	309.5	437.6	141		199	260.6	565.9	217	1:S,LS,or SM (1/1-5/31)
School	119.0	119.0	155	130	1	119.0	119.0	54.6	46	1	103.5	103.5	54.4	53	1: 6/1-2/31
LS/SM	105.2	144	351	244	2	105.2	183.4	381.5	208	2: 1/1-2/9; 1:2/10-12/31	90.9	151.1	510.9	338	1: 6/1-12/31
LM/G	5.3	6.2	1	19	1/year	5.3	7.1	1.5	14	1/year	4.6	6.0	0.6	10	1/year
Reserve	29.1	207.6	0			29.1	207.6	0			25.2	155.4	0		
TOTAL³	1190.1	1654.2	704	43		1190.1	1693.9	770.2	45		1034.9	1462.3	1073.7	73	
<i>TOTAL (incl. DD)</i>	<i>1190.1</i>	<i>1654.2</i>	<i>794</i>	<i>48</i>		<i>1190.1</i>	<i>1693.9</i>	<i>955.2</i>	<i>56</i>		<i>1034.9</i>	<i>1462.3</i>	<i>1246.7</i> <i>if use</i> <i>173</i>	<i>85</i> <i>if use</i> <i>173</i>	

1 Adjusted quota reflects quota published in final rule, as modified via inseason transfers during the fishing year

2 commercial landings data for 2007 and earlier are from 2009 specs EA Table 6; 2008 commercial landings and trophy fish data are from 2/12/09

2008 annual report posted on HMS website; all landings data for 2009 from 4/20/10 annual report posted on HMS website;

3 Totals are subject to rounding error.

KEY: G = Giant > 81", LM = Large Medium 73 – 81", SM = Small Medium 59-73", LS = Large School 47"-59", S=School 27"- 47"

Longline – Incidental Only = 1 BFT / 2,000 lb target catch, 2 BFT / 6,000 lb, and 3 BFT / 30,000 lb.

DD = Dead Discards

NED = Northeast Distant gear restricted area

Base and adjusted BFT quotas, landings, and retention limits, 2004-2006

Category	2004 (June 2004-May 2005) ⁴					2005 (June 2005-May 2006)					2006 (June 2006-May 2007)				
	Base Quota	Adj. Quota	Lndgs & LL dd	% Adj. Quota	Ret. Limit	Base Quota ⁵	Adj. Quota ⁶	Lndgs & LL dd	% of Adj. Quota	Ret. Limit	Base Quota ⁷	Adj. Quota ⁸	Lndgs & LL dd	% of Adj. Quota	Ret. Limit
General	689.8	359	344	96	LM/G: 1 to 2	689.8	707.3	234	33	LM/G: 1 to 2	689.8	1163.3	160	14	LM/G: 3: June-Jan
Harpoon	57.1	41.4	30	72	LM: 2 G: unlim. 6/1-11/15	57.1	90.0	23	26	LM: 2 G: unlim. 6/1-11/15	57.1	124	22	18	LM: 2 G: unlim. 6/1-11/15
Longline	143.6	126.2	92	73	Incidental Only	143.6	174.8	57	33	Incidental Only	143.6	258.2	66	26	Incidental Only
North & NED	72.4	80.0	34	43		72.4	114.9	29	25		72.4	155.9	28	18	
South	71.2	46.2	38	126		71.2	39.9	28	47		71.2	102.3	38	37	
Discards ⁹			72					131					91		
Trap	1.5	2.3	0	0	LM/G: 1/y	1.5	3.8	0	0	LM/G: 1/y	1.5	5.3	0	0	LM/G: 1/y
Purse Seine	272.4	289.4	32	11		272.4	530.0	178	34		272.4	624.1	4	<1	
Angling ⁴	288.6	299.6	355	118	varied ¹⁰	288.6	289.4	199	69	varied ¹¹	288.6	382	190	50	varied ¹²
School			181				117.2	108	92		38.5	49.2	24	49	
LS/SM			168				165.6	90	54		243.5	318.4	164	52	
LM/G			<1		1/year		6.6	1	15	1/year	6.6	12.5	2	16	1/year
Reserve	36.6	298.5	<1	<1		36.6	245.9	<1	<1		36.6	282.3	0	0	
TOTAL¹³	1489.6	1416.4	853	60		1489.6	2041.2	691	34		1489.6	2839.2	442	16	
<i>TOTAL incl. DD</i>	<i>1489.6</i>	<i>1416.4</i>	<i>925</i>	<i>65</i>		<i>1489.6</i>	<i>2041.2</i>	<i>822</i>	<i>40</i>		<i>1489.6</i>	<i>2839.2</i>	<i>533</i>	<i>19</i>	

⁴ 2004 was a complex year. Final quotas were published in December, concurrent with a complex and substantial inseason quota transfer. Notices did not provide subquota detail.

Landings information by Angling subcategory represents information from LPS and trophy fish; total includes NC fish.

⁵ 2005 quota specifications did not break base quota into subquotas

⁶ 2005 Adjusted quotas from 2006 EA (Table 1a), which made adjustments from 2005 final rule.

⁷ The 2006 Angling category school subquota base quota was modified to be in compliance with the ICCAT 8% tolerance limit for school landings over four years.

⁸ 2006 Adjusted quotas from 2007 EA (Table 1), which made adjustments from 2006 final rule

⁹ Annual U.S. dead discard allowance for 2004-2006 was 68 mt; ICCAT discontinued dead discard allowance in the 2006 BFT Recommendation, effective in 2007 onward

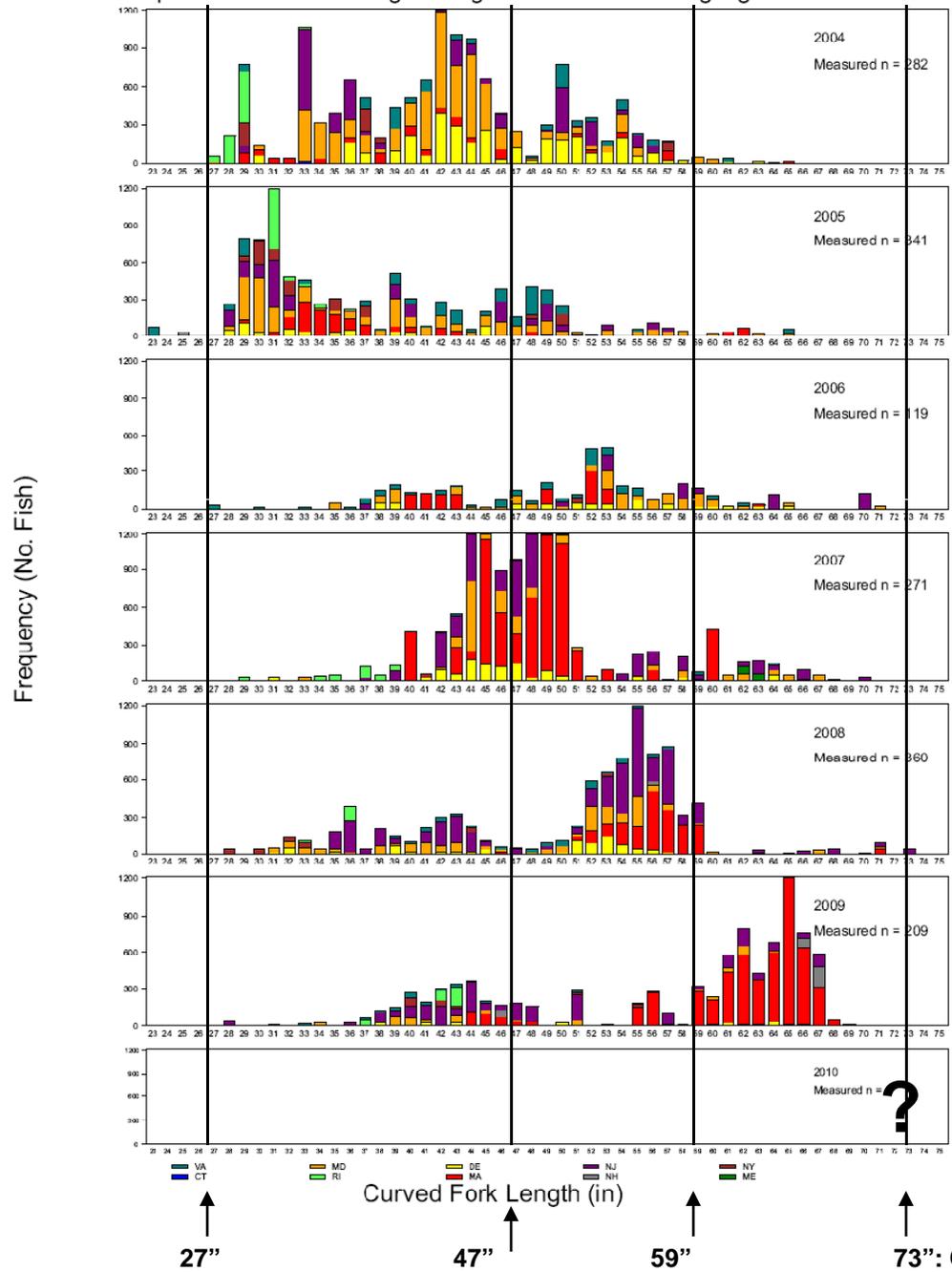
¹⁰ 2004 Angling category daily retention limits: 2004: 1 S, LS, or SM 6/1-6/20; 7/22-8/19; 9/21-11/18; 12/21-5/31 (except CHB inc. to 3 fish 6/21-7/21; 8/20-9/20); 2 S, LS, or SM 6/21-7/21; 8/20-9/20

¹¹ 2005 Angling category daily retention limits: 1 S, LS, or SM 6/1-9/30 (except CHB inc. to 3 fish, only 2 of which could be schools 6/17-7/31; 9/1-9/30); 1 LS/SM 10/1-5/31

¹² 2006 Angling category daily retention limits: 1 school in the south 7/1-7/21; 1 school in the north 8/25-9/14; 1 school in NC 3/24-4/15; 2 LS or SM 6/1-5/31 all areas

¹³ Totals are subject to rounding error.

LPIS: Expanded Catch-at-Length Length Distribution of Angling BFT 2004-2010



The average weight of recreationally landed BFT has increased substantially over the last several years

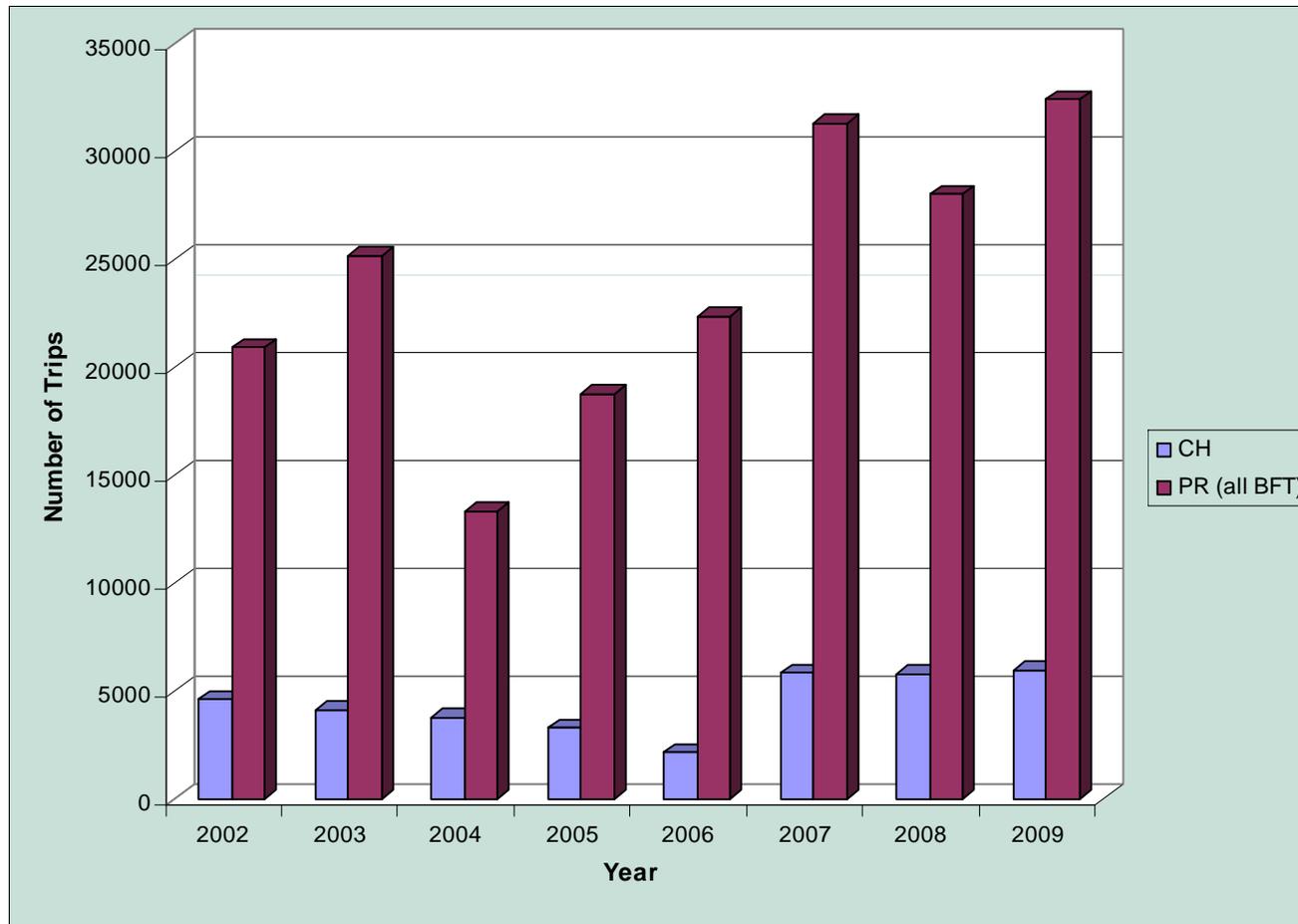
School: 27 to <47"

Lg. School: 47 to <59"

Sm. Medium: 59 to <73"

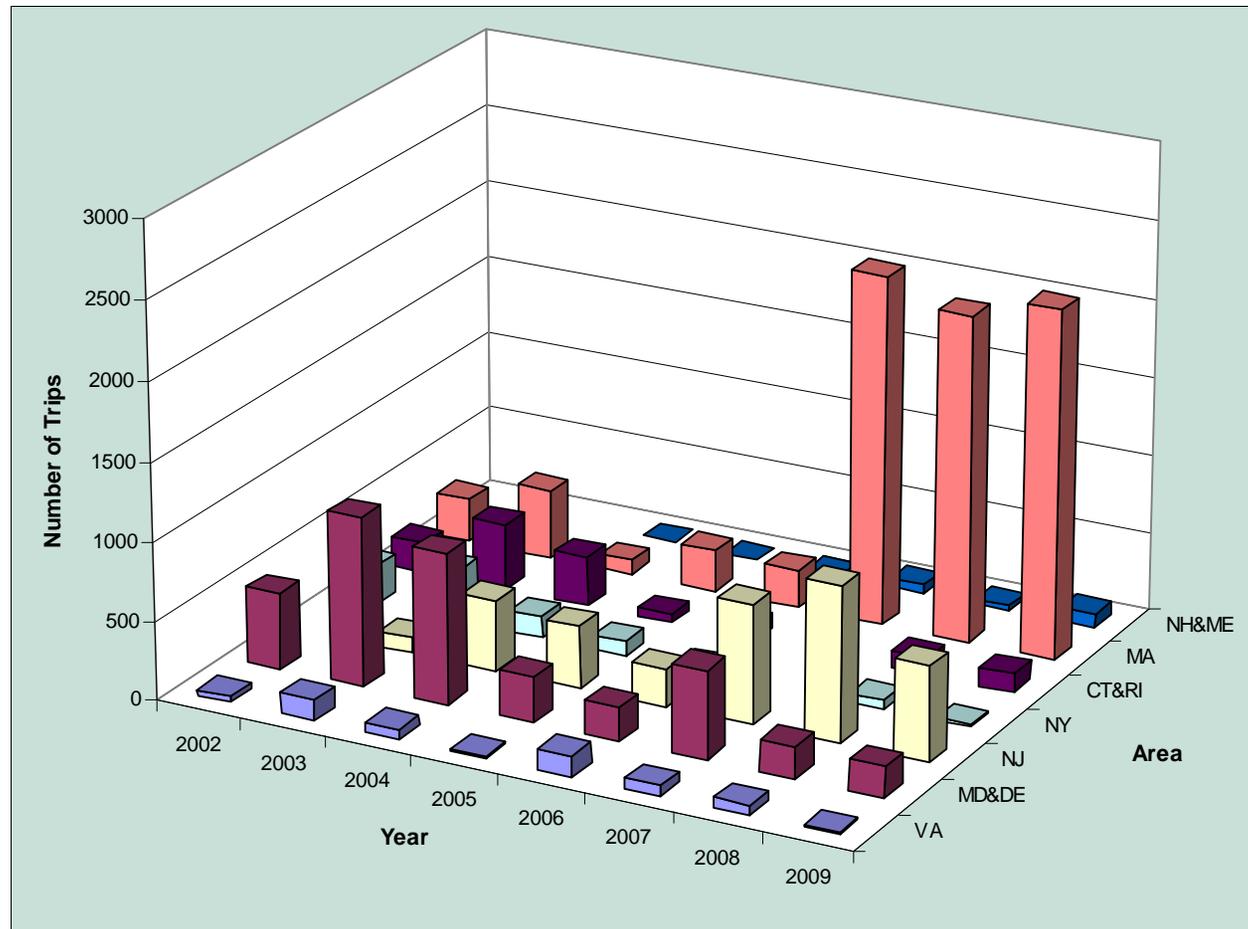
(Lg. School and Sm. Medium BFT traditionally have been managed as one size class)

Annual Recreational BFT Directed Trips Charter vs. Private Vessels



Includes any charter or private trip primarily targeting BFT (source: LPS)

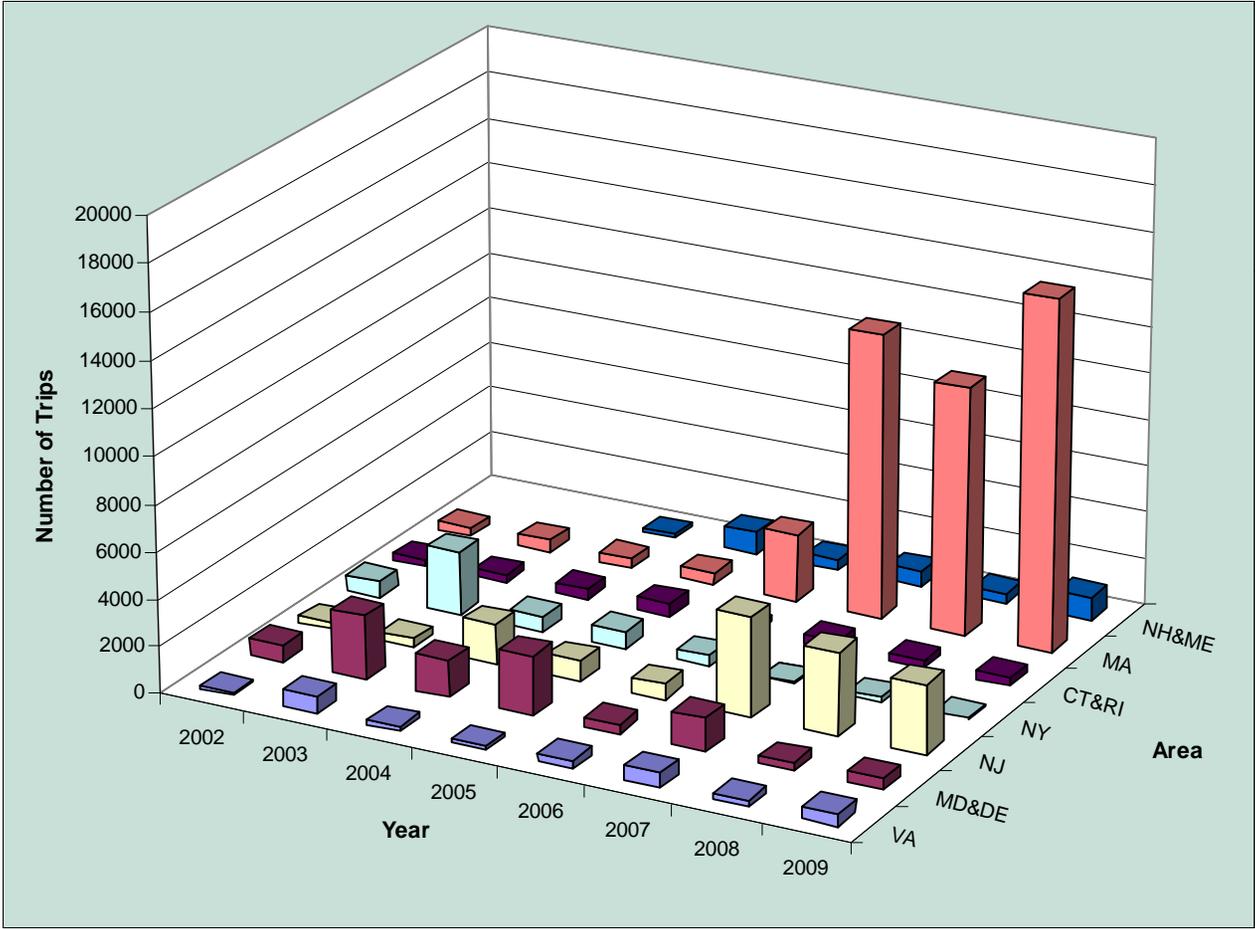
Annual Recreational BFT Directed Charter Trips for BFT <73” by Area, 2002-2009



Note
substantial
increase in
recreational
trips in MA
for BFT<73”
in last 3 yrs

Includes any charter trip primarily targeting school, large school, or small medium BFT (source: LPS)

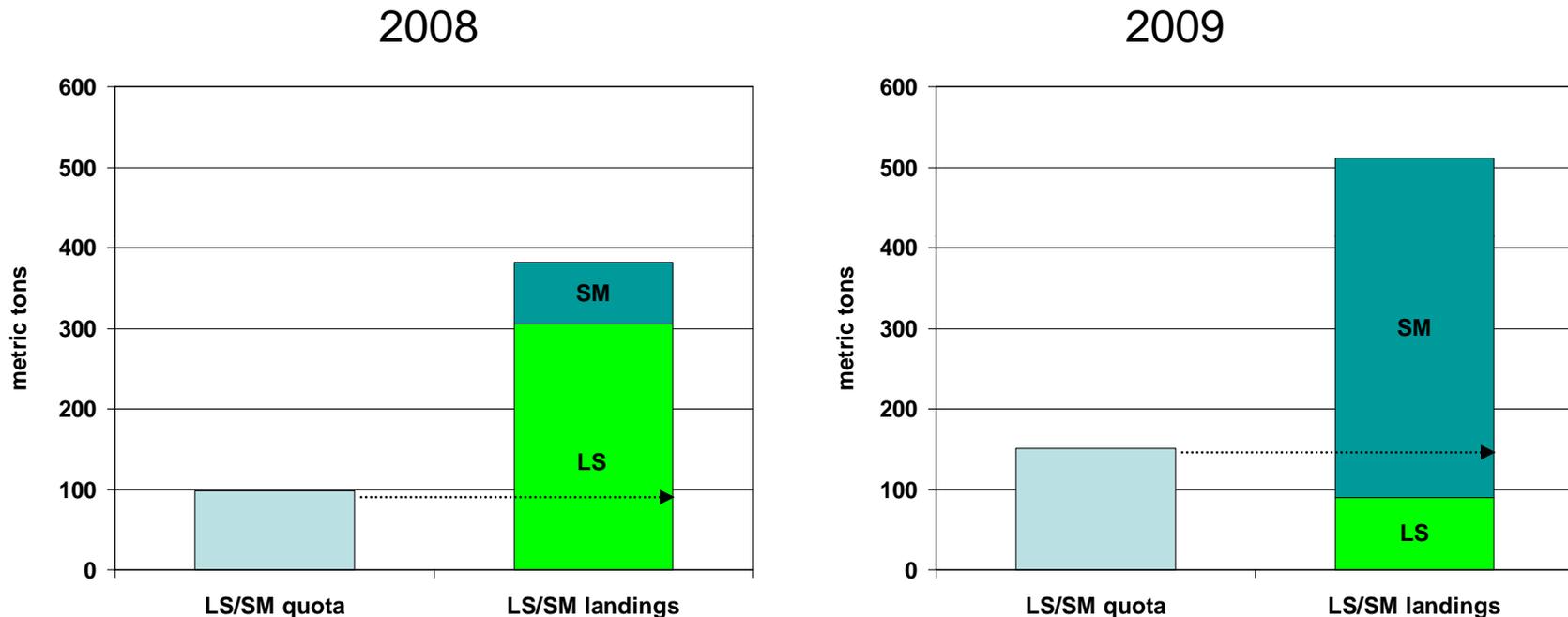
Annual Recreational BFT Directed Private Trips for BFT <73” by Area, 2002-2009



Note
substantial
increase in
recreational
trips in MA
for BFT<73”
in last 3 yrs

Includes any private trip primarily targeting school, large school, or small medium BFT (source: LPS)

2008 and 2009 Recreational Landings of Large School/Small Medium BFT (mt)

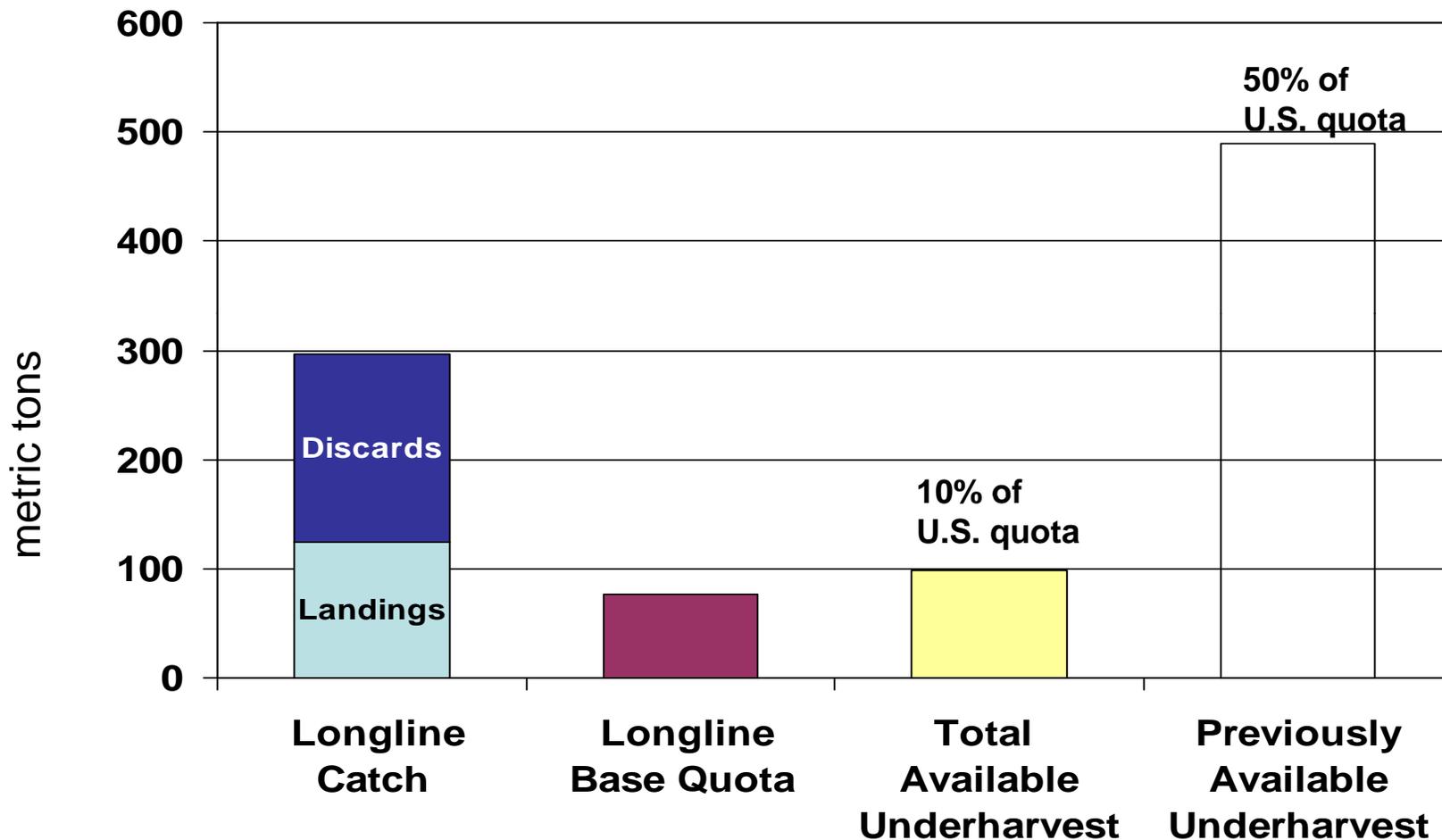


Recreational landings are exceeding available quota, particularly for the large school/small medium size classes and subquotas.

Large school=47 to <59" Small medium=59 to <73"

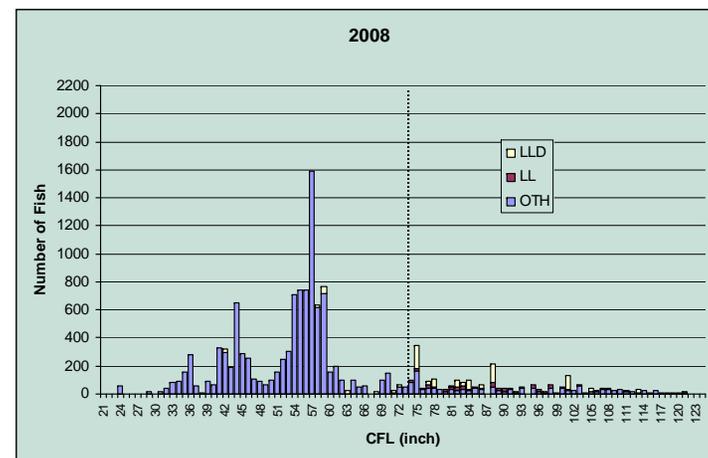
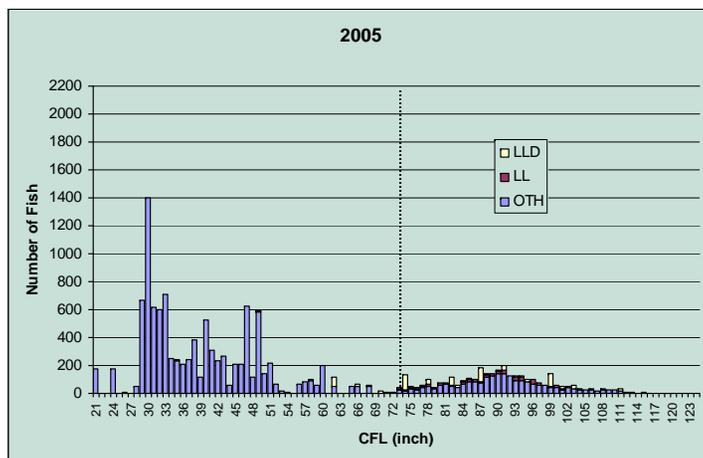
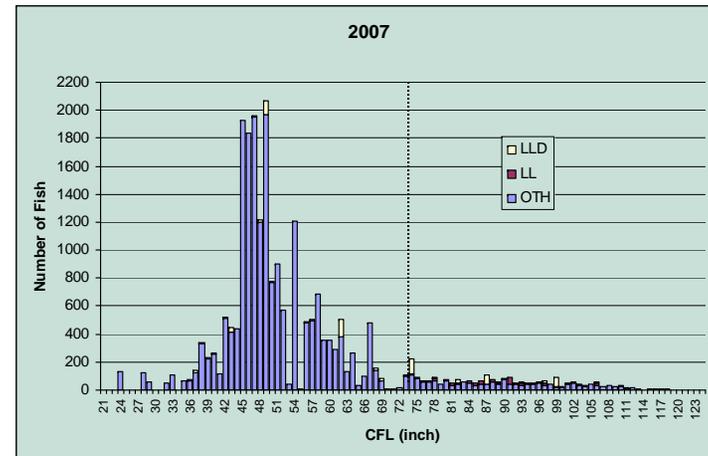
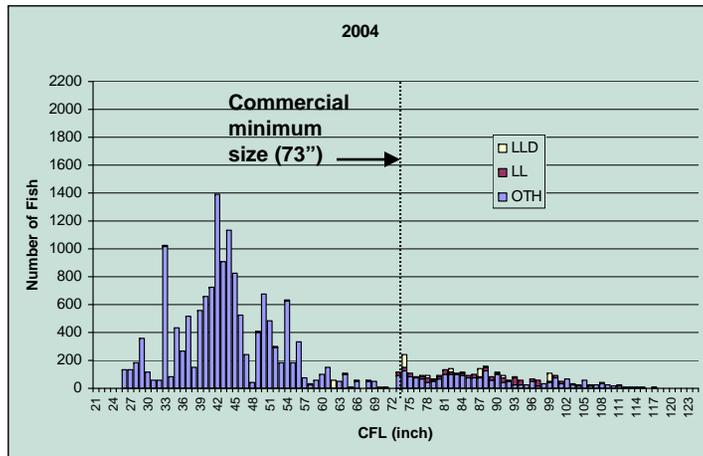
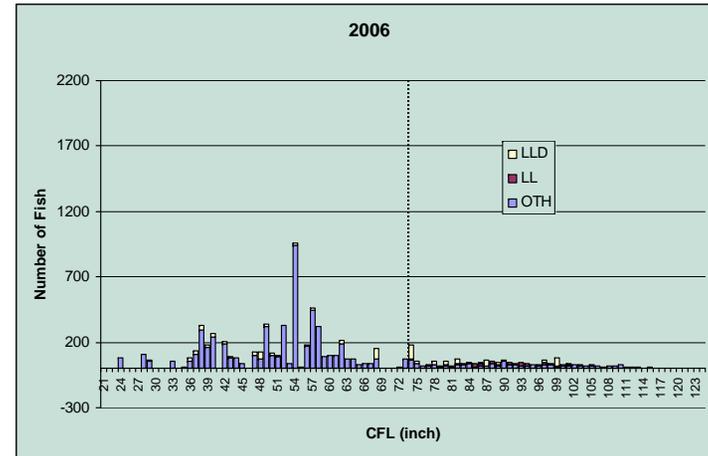
In 2008 and 2009, a similar *number* of fish in the large school/small medium size class were landed (~7,500), but in 2009, small medium landings *in weight* were about 5 times the large school landings.

The Longline category needs more underharvest than likely to be available in 2011

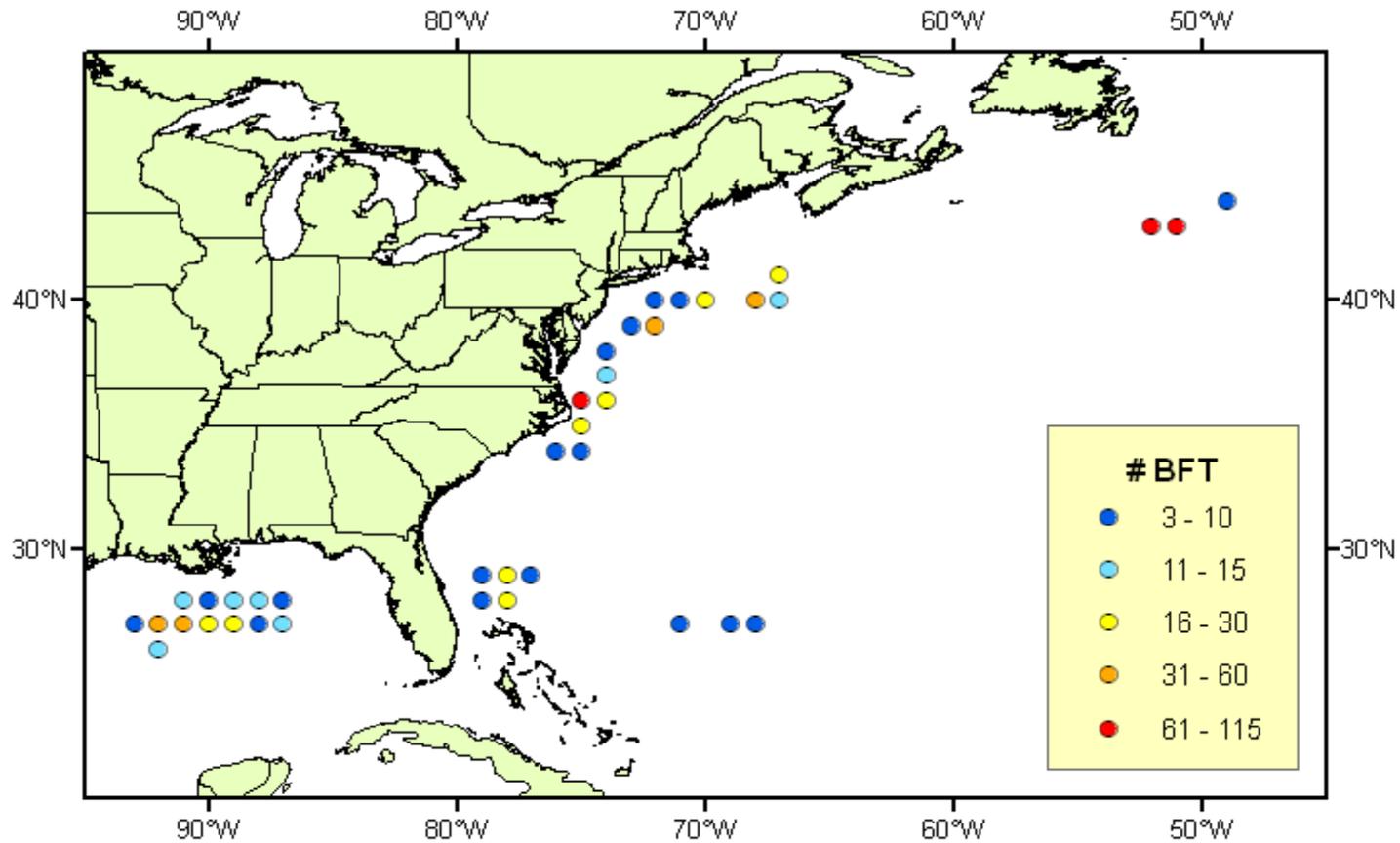


The previous underharvests that allowed NMFS to provide the Longline category sufficient quota to operate during the entire fishing year may no longer exist due to: likely same or decreased 2011 ICCAT BFT quota, reduced amount of underharvest that can be carried forward, and expected increased availability of fish to the commercial categories in the next few years.

Size Frequency Distribution of All U.S. BFT Landings by Gear and Longline Discards, 2004-2008

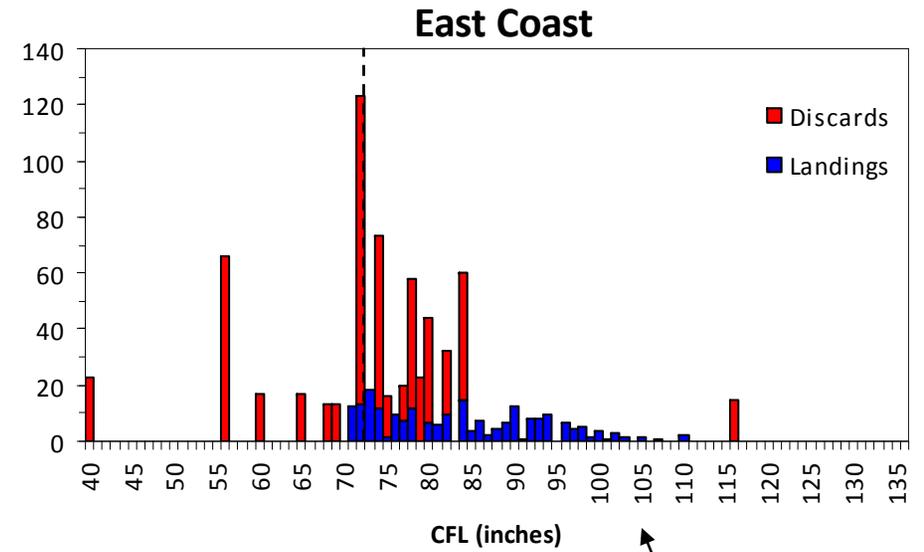
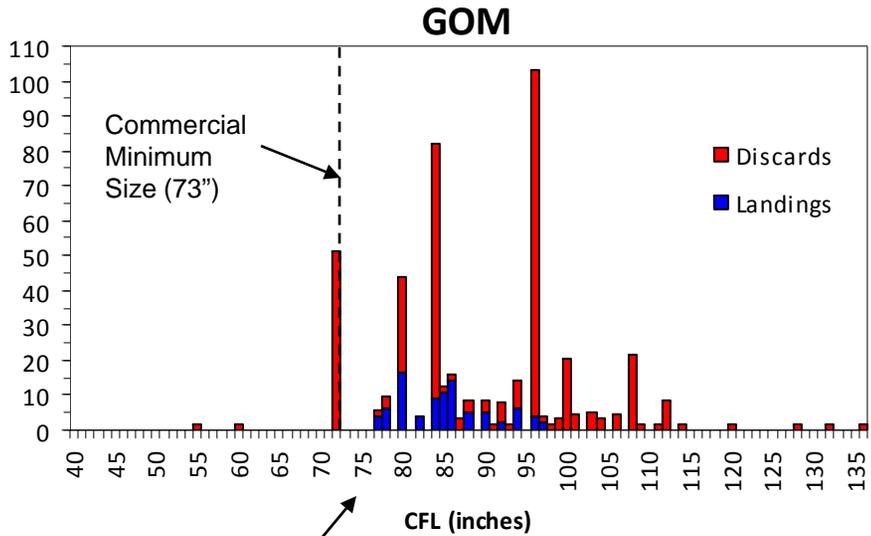


Number of BFT landed and discarded dead in 2009, as reported by logbooks, aggregated and summarized by 1° square



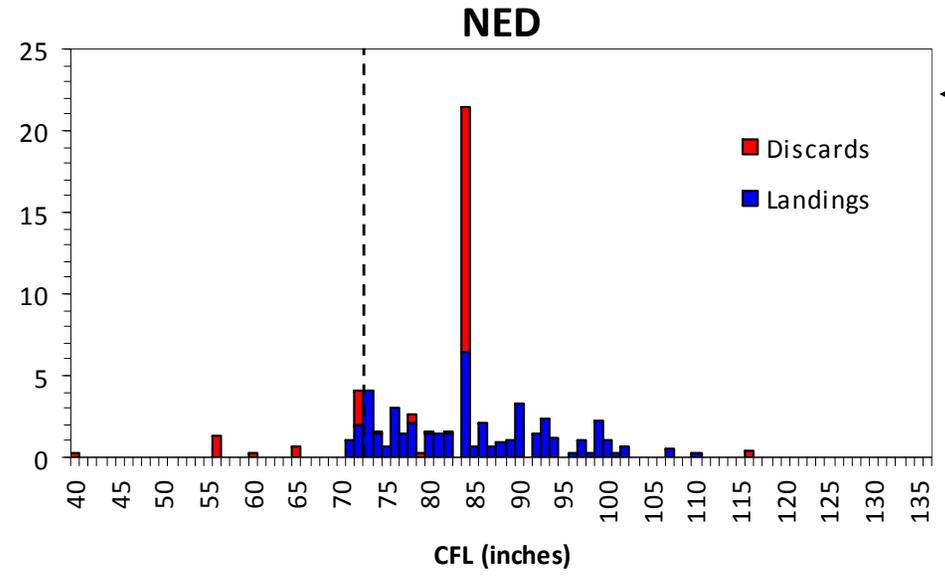
(data has been restricted to comply with confidentiality rules)

Size frequency distribution (number of fish) of BFT landed and discarded dead by the PLL fleet by area (2008)



Most Gulf of Mexico (GOM) discards >73"

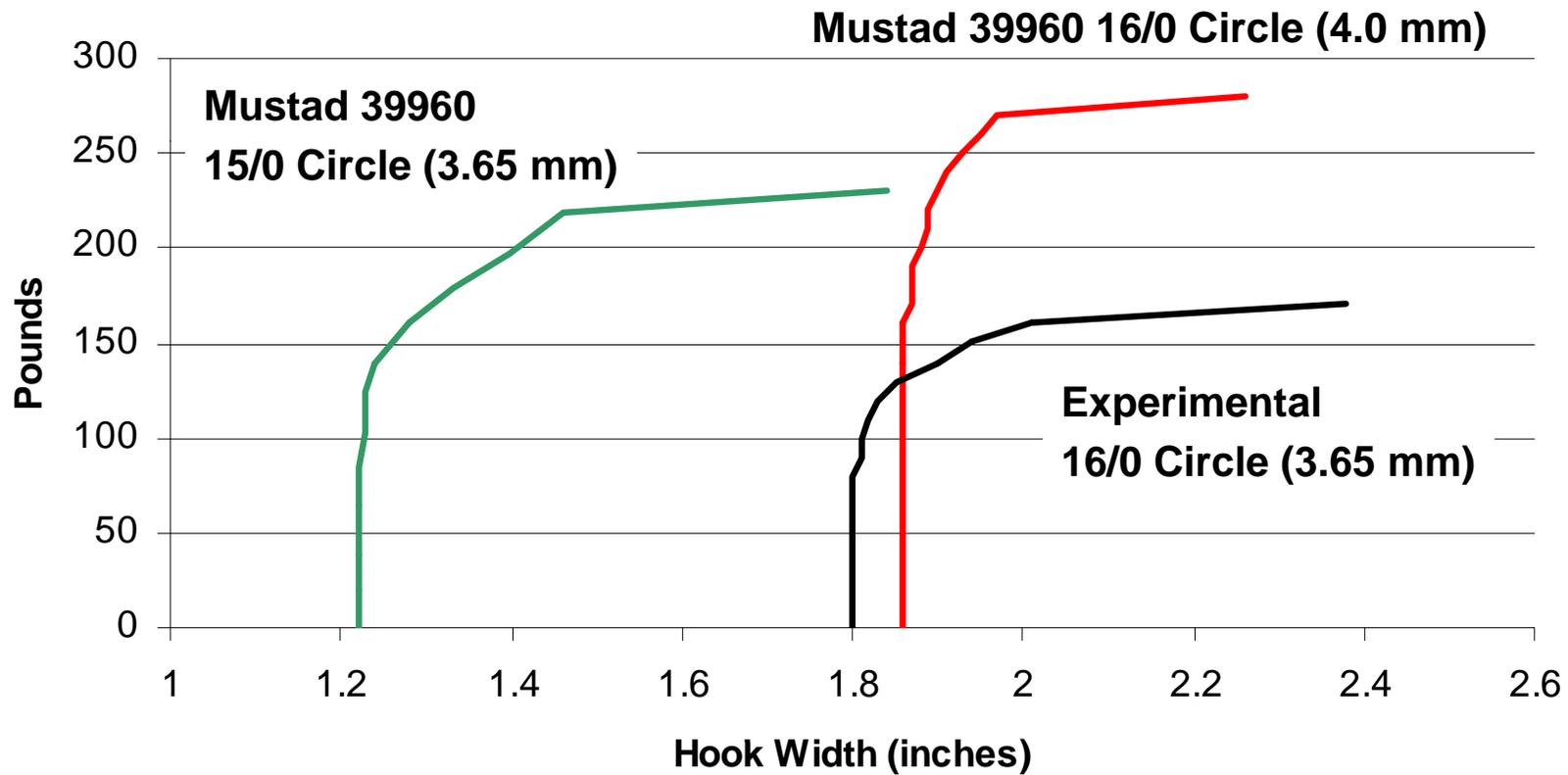
Discards of undersized BFT (<73") occur mostly outside Gulf of Mexico



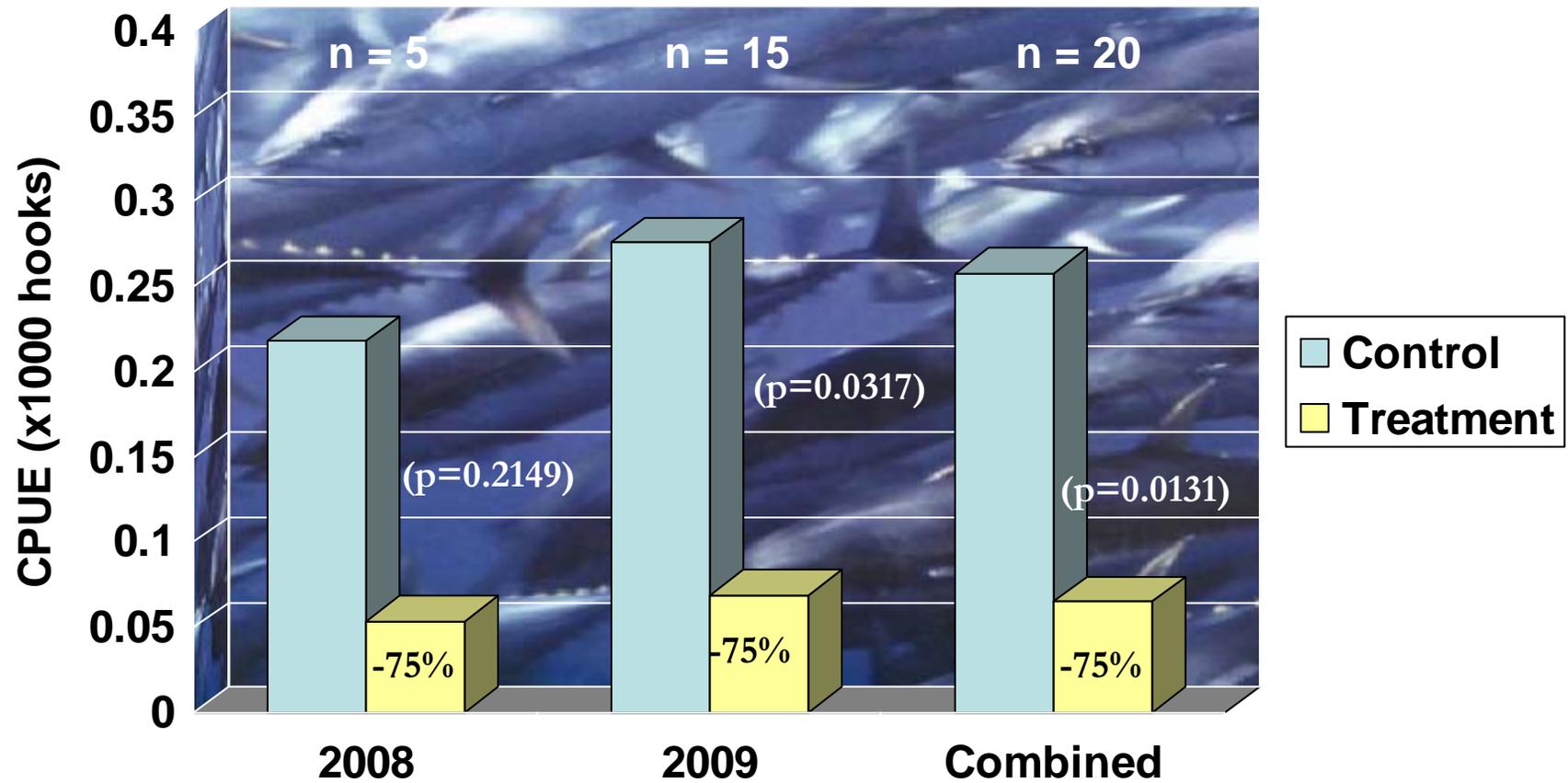
2008-09 Gulf of Mexico PLL Bluefin Tuna Mitigation Research

- 2008 Research
 - 2 Vessels
 - 72 Sets
 - 36,766 hooks
- 2009 Research
 - 5 Vessels
 - 125 Sets
 - 87,106 hooks
- 2008-2009 5 vessels
 - 123,872 hooks

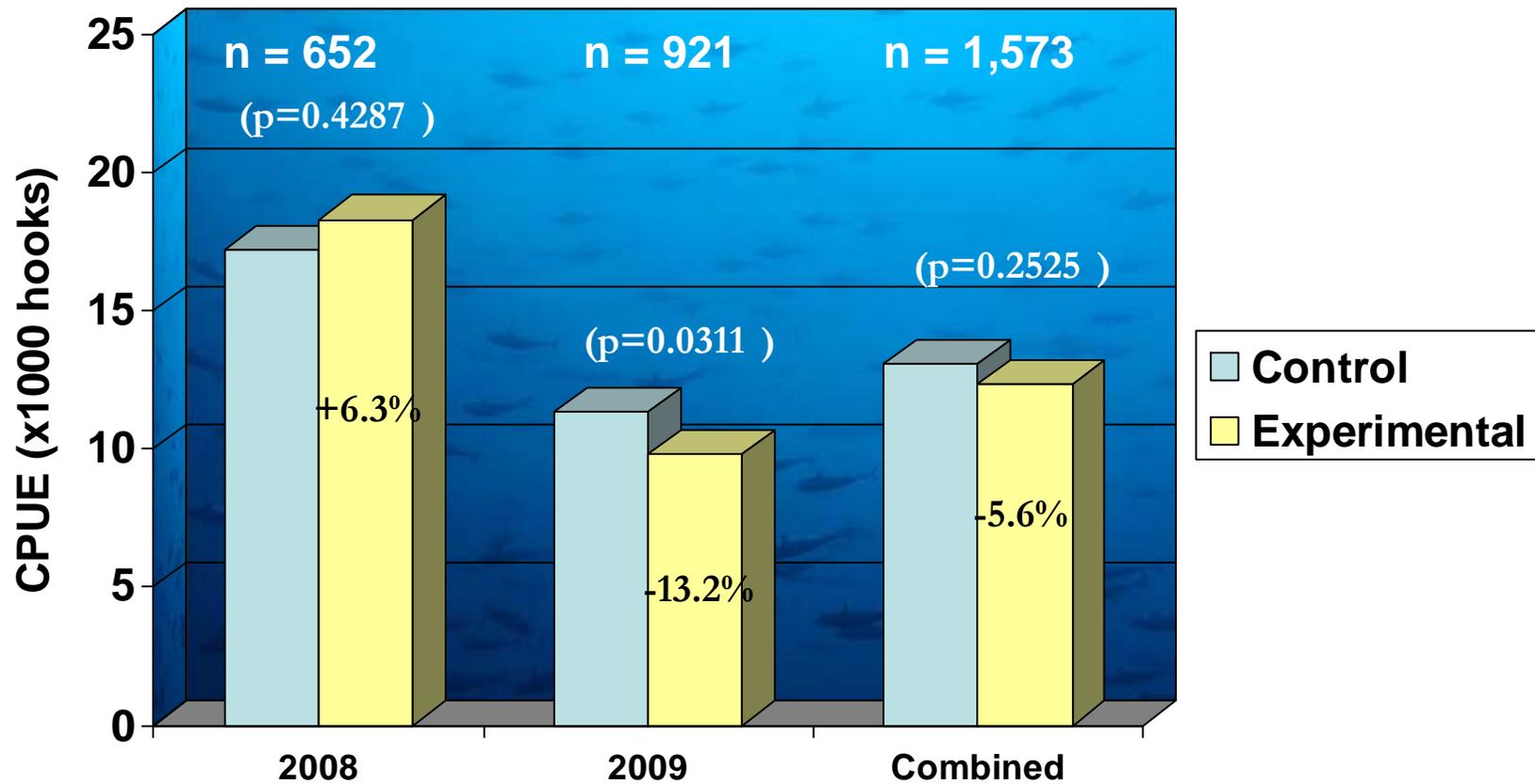
Hook Pull vs. Strain



Bluefin CPUE



Total Yellowfin CPUE



Summary

- New 16/0 hook design bends with less force
- Observed 75% (significant) reduction in Bluefin
- Observed 5.6% (non-significant) reduction in Yellowfin

Future Testing:

- Additional Bluefin data with current design
- Test the new hook design later in the season for yellowfin tuna catch

Questions/Issues



- Immediate management question has changed from:
 How do we fully use the quota?
to:
 How do we manage the BFT fishery within the quota?
- What is our plan for the future of this fishery?
 Role of the FMP?
 Role of the ICCAT Rebuilding Plan?
- Is there mutual understanding of the data?
- Is there shared/common interest in issues?