3.5 Economic Status of HMS Fisheries

The review of each rule, and of HMS fisheries as a whole, is facilitated when there is a baseline against which the rule or fishery may be evaluated. In this analysis, as in past SAFE reports, NMFS used 1996 as a baseline. NMFS believes that this baseline is appropriate because the Regulatory Flexibility Act (RFA) and Magnuson-Stevens Act were both amended in 1996, NMFS began to collect economic information voluntarily for vessels using the pelagic logbook in 1996, and regarding HMS specifically, no rules were implemented in 1996 that were classified as significant under RFA. Additionally, while the Atlantic Tunas, Swordfish, and Shark FMP and the Billfish Amendment 1 were finalized in 1999, scoping for these two major documents and its final rule began in 1997. It is possible that anticipation of these documents and any potential changes in their implementing regulations could have begun to impact the decisions made by HMS fishermen and any associated businesses.

In addition to using the 1996 baseline, this FEIS also provides six years of data, when possible, in order to facilitate the analysis of trends. It also should be noted that all dollar figures are reported in nominal dollars (*i.e.,* current dollars). If analysis of real dollar (*i.e.,* constant dollar) trends controlled for inflation is desired, price indexes for 1996 to 2004 are provided in. To determine the real price in base year dollars, divide the base year price index by the current year price index, and then multiply this result by the price that is being adjusted for inflation. From 1996 to 2004, the Consumer Price Index (CPI-U) indicates that prices have risen by 20.4 percent, the Gross Domestic Product (GDP) Implicit Price Deflator indicates that prices have risen 16.3 percent, and the Producer Price Index (PPI) for unprocessed finfish indicates a 20.8 percent rise in prices. From 2002 to 2003, the CPI, GDP Deflator, and the PPI for unprocessed finfish indicate prices rose by 2.3 percent, 2.0 percent, and declined by 2.8 percent respectively. From 2003 to 2004, the CPI, GDP Deflator, and the PPI for unprocessed finfish indicate prices rose by 2.7 percent, 2.6 percent, and 14.5 percent respectively.

Table 3.74 **Inflation Price Indexes.** The CPI-U is the standard Consumer Price Index for all urban consumers (1982-1984=100) produced by U.S. Department of Labor Bureau of Labor Statistics. The source of the Producer Price Index (PPI) for unprocessed finfish (1982=100) is also the Bureau of Labor Statistics. The Gross Domestic Product Implicit Price Deflator (200=100) is produced by the U.S. Department of Commerce Bureau of Economic Analysis and obtained from the Federal Reserve Bank of St. Louis (**http://www.stlouisfed.org/**).

Year	CPI-U	GDP Deflator	PPI Unprocessed Finfish
1996	156.9	93.8	185.5
1997	160.5	95.4	165.7
1998	163	96.5	170.7
1999	166.6	97.9	191.7
2000	172.2	100.0	182.4
2001	177.1	102.4	176.1
2002	179.9	104.2	201.5
2003	184	106.3	195.8
2004	188.9	109.1	224.1

3.5.1 Commercial Fisheries[4]

In 2003, the total commercial landings at ports in the 50 states by U.S. fishermen were 9.5 billion pounds valued at $3.3 billion. In 2004, the total commercial landings at ports in the 50 states by U.S. fishermen were 9.6 billion pounds and were valued at $3.7 billion. The overall value of landings between 2003 and 2004 had increased by nine percent. The total value of commercial HMS landings in 2004 was $43.9 million (Table 3.77). The 2004 ex-vessel price index indicated that 12 of the 17 finfish species tracked had increasing ex-vessel prices and five species had decreasing ex-vessel prices since 2003. The total edible finfish ex-vessel price index for 2004 was up eight percent from 2003.

The estimated value of the 2004 domestic production of all fishery products was $6.6 billion. This is $909 million less than the estimated value in 2003. The total import value of fishery products was $22.9 billion in 2004. This is an increase of $1.7 billion from 2003. The total import value in 1996 was $13.1 billion. The total export value of fishery products was $13.6 billion in 2004. This is an increase of $1.6 billion from 2003. The total export value in 1996 was $8.7 billion.

Consumers spent an estimated $61.9 billion for fishery products in 2004 including $42.8 billion at food service establishments, $18.9 billion in retail sales for home consumption, and $213.3 million for industrial fish products. The commercial marine fishing industry contributed $31.6 billion to the U.S. Gross National Product in 2004. In 1996, consumers spent an estimated $41.2 billion including $27.8 billion at food service establishments, $13.2 billion for home consumption, and $283.9 billion for industrial fish products. The commercial marine fishing industry contributed $21.0 billion to the U.S. Gross National Product in 1996.

[4] All the information and data presented in this section were obtained from NMFS 1997a and NMFS 2005b.

3.5.1.1 Ex-Vessel Prices

The average ex-vessel prices per pound dressed weight (dw) for 1996 and 1999 to 2004 by area, Atlantic HMS, and major gear types are summarized in Table 3.75. The average ex-vessel prices per lb dw for 1996 and 1999 to 2004 by species and area are summarized in Table 3.76. For both of these tables, prices are reported in nominal dollars. The ex-vessel price depends on a number of factors including the quality of the fish (*e.g.,* freshness, fat content, method of storage), the weight of the fish, the supply of fish, and consumer demand.

Table 3.75 **Average ex-vessel prices per lb dw for Atlantic HMS by gear and area.** Source: Dealer weighout slips from the Southeast Fisheries Science Center and Northeast Fisheries Science Center, and bluefin tuna dealer reports from the Northeast Regional Office. HND=Handline, harpoon, spears, trot lines, and trolls, PLL=Pelagic longline, BLL=Bottom longline, Net=Gillnets and pound nets, TWL=Trawls, SEN=Seines, TRP=Pots and traps, DRG=Dredge, and UNK=Unknown. Gulf of Mexico includes: TX, LA, MS, AL, and the west coast of FL. S. Atlantic includes: east coast of FL. GA, SC, and NC dealers reporting to Southeast Fisheries Science Center. Mid-Atlantic includes: NC dealers reporting to Northeast Fisheries Science Center, VA, MD, DE, NJ, NY, and CT. N. Atlantic includes: RI, MA, NH, and ME. For bluefin tuna, all NC landings are included in the Mid-Atlantic.

Gulf of Mexico								
Species	**Gear**	**1996**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Bigeye tuna	HND	$0.68	$2.13	$1.83	$1.82	$1.44	$1.25	$3.45
	PLL	-	$4.04	$2.82	$2.64	$5.09	$3.41	$4.58
	BLL	-	$4.41	$2.31	$0.50	$4.24	$3.53	$5.67
Bluefin tuna	HND	-	-	$1.86	$1.25	$2.69	-	-
	PLL	$5.83	$6.32	-	-	$6.40	$6.32	$4.64
	BLL	-	-	-	-	$4.50	-	-
Yellowfin tuna	HND	-	$2.38	$2.48	$2.55	$2.83	$2.34	$2.56
	PLL	-	$3.18	$3.40	$3.25	$3.68	$3.64	$4.01
	BLL	-	$3.06	$3.68	$3.31	$3.23	$3.73	$4.01
Other tunas	HND	$0.28	$0.90	$0.76	$0.79	$0.91	$0.87	$1.04
	PLL	-	$0.78	$0.72	$0.70	$0.79	$0.66	$0.58
	BLL	-	$0.67	$0.85	$0.74	$0.75	$0.55	$0.65
	NET	$0.38	$0.33	$0.58	$0.33	$0.83	$0.29	$0.41
	TWL	-	$0.70	$0.61	$0.78	$0.40	$0.30	-
	SEN	-	$0.52	-	$0.61	$0.19	-	$0.21
	TRP	-	-	-	-	$0.30	$0.30	-
Swordfish	HND	-	$3.21	$3.91	$2.84	$3.19	$3.68	$3.38
	PLL	-	$3.39	$3.33	$3.41	$2.94	$2.91	$3.32
	BLL	-	$3.29	$3.10	$3.25	$2.88	$2.67	$2.89
Large coastal sharks	HND	$0.23	$0.64	$0.59	$0.51	$0.44	$0.45	$0.45
	PLL	-	$0.79	$0.48	$0.45	$0.36	$0.38	$0.53
	BLL	$0.60	$0.55	$0.43	$0.44	$0.36	$0.38	$0.34
	NET	$0.38	$0.41	$0.48	$0.50	$0.39	$0.43	$0.39
	TWL	$0.15	$0.49	$0.15	$0.25	$0.25	$0.25	$0.25
Pelagic sharks	HND	-	$1.35	$1.38	$1.48	$0.93	$1.04	$1.21
	PLL	-	$1.27	$1.27	$1.32	$1.06	$1.11	$1.08
	BLL	-	$1.43	$1.31	$1.42	$1.19	$1.15	$1.03

Small coastal sharks	HND	-	$0.59	$0.93	$0.37	$0.38	$0.32	$0.59
	PLL	-	$0.50	$0.47	$0.74	$0.32	$0.33	$0.37
	BLL	-	$0.52	$0.41	$0.61	$0.53	$0.50	$0.45
	NET	-	$0.67	-	$0.45	$0.46	$0.36	$0.50
	TRP	-	-	-	$0.74	-	-	-
Shark fins	HND	-	$8.51	$21.57	$15.90	$21.28	$13.97	$12.49
	PLL	-	$14.02	$15.65	$21.08	-	$15.21	$17.81
	BLL	-	$14.34	$15.89	$21.50	$22.72	$20.17	$21.95
	NET	-	$7.78	$15.50	$11.02	-	$6.05	$5.86
	TWL	-	-	$9.17	-	-	-	-
South Atlantic								
Species	**Gear**	**1996**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Bigeye tuna	HND	$1.30	$2.02	$1.02	$2.14	$2.29	$1.89	$2.97
	PLL	$1.33	$2.87	$2.27	$2.78	$2.33	$2.26	$2.85
	BLL	$1.30	$3.00	$1.87	$2.63	$2.74	$2.66	-
	NET	$1.30	-	-	-	-	-	-
Bluefin tuna	HND	-	-	$7.99	$3.52	$3.35	-	$5.94
	PLL	$4.62	$4.71	$5.36	$4.82	$4.95	$4.11	$4.91
	BLL	-	-	-	$3.61	$5.15	-	-
Yellowfin tuna	HND	$1.55	$1.41	$1.56	$1.41	$1.54	$1.54	$1.24
	PLL	$1.63	$2.17	$2.23	$2.14	$1.89	$2.09	$2.00
	BLL	$1.41	$2.45	$2.29	$2.45	$2.29	$2.60	$0.90
	NET	$1.07	$0.87	-	$1.21	$1.12	-	-
	TWL	-	-	-	-	$0.44	-	-
Other tunas	HND	$0.75	$0.67	$0.59	$0.61	$0.47	$0.58	$0.52
	PLL	$0.79	$1.47	$1.31	$1.33	$1.09	$1.26	$1.28
	BLL	$0.87	$1.41	$1.49	$1.86	$1.67	$1.13	$0.48
	NET	$0.35	$0.19	$0.20	$0.23	$0.21	$0.21	$0.20
	TWL	$0.31	$0.56	$0.25	$0.47	$0.26	-	$0.20
	SEN	-	$0.11	-	-	-	-	-
	TRP	-	-	-	$0.18	-	-	-
Swordfish	HND	$2.48	$3.04	$3.92	$4.24	$3.93	$3.91	$4.44
	PLL	$2.88	$3.27	$3.12	$3.27	$2.84	$2.98	$3.18
	BLL	$2.46	$3.39	$3.42	$3.14	$2.76	$3.19	-
	NET	-	-	-	-	$2.50	-	-
Large coastal sharks	HND	$0.72	$0.66	$0.59	$0.96	$1.01	$0.49	$0.43
	PLL	$1.54	$1.32	$1.21	$1.69	$2.63	$0.35	$0.54
	BLL	$0.73	$1.13	$0.78	$0.89	$1.10	$0.39	$0.44
	NET	$1.30	$1.70	$0.91	$1.49	$1.59	$0.30	$0.35
	TWL	$0.86	$0.67	$0.49	$0.51	$0.81	$0.41	$0.71
	TRP	-	-	-	-	$0.23	-	-
Pelagic sharks	HND	$0.82	$0.95	$0.78	$0.71	$0.68	$0.84	$0.97
	PLL	$0.68	$1.04	$0.95	$0.95	$0.93	$0.93	$0.84
	BLL	$0.59	$0.89	$0.90	$0.78	$0.75	$0.87	$0.81
	NET	$0.33	$0.28	$0.35	$0.36	$0.34	$0.34	$0.29
	TWL	-	$0.21	$0.20	$0.26	$0.26	-	-

Small coastal sharks	HND	$0.25	$0.39	$0.40	$0.46	$0.53	$0.49	$0.44
	PLL	-	$0.57	$0.57	$0.63	$0.41	$0.24	-
	BLL	-	$0.57	$0.56	$0.53	$0.54	$3.19	$0.61
	NET	$0.25	$0.52	$0.48	$0.54	$0.54	$0.53	$0.65
	TWL	-	$0.52	$0.23	$0.23	-	-	-
Shark fins	HND	$14.00	$5.65	$11.92	$19.75	$15.53	$17.17	$20.31
	PLL	-	$11.18	$10.34	$11.44	$6.81	$12.72	$9.91
	BLL	$14.00	$15.76	$17.57	$22.21	$22.26	$17.83	$19.48
	NET	-	$5.19	$6.95	$10.60	$10.41	$12.85	$8.76
	TWL	$9.11	$6.61	-	$12.17	$14.00	$10.77	$5.90
Mid-Atlantic								
Species	**Gear**	**1996**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Bigeye tuna	HND	$5.74	$3.62	$4.45	$4.32	$3.97	$3.79	$4.93
	PLL	$3.51	$3.19	$4.30	$3.81	$4.12	$3.92	$4.48
	BLL	$2.61	$4.33	$3.45	$4.37	$2.84	$3.91	$4.34
	NET	$3.87	$4.63	$5.55	$4.50	-	-	-
	TWL	$4.68	$3.16	$5.68	-	-	-	-
	DRG	-	-	-	-	$1.50	-	-
	UNK	-	-	-	-	$5.00	-	$5.36
Bluefin tuna	HND	$14.70	$3.51	$6.60	$4.93	$4.06	$7.54	$10.25
	PLL	$6.12	$7.34	$5.73	$6.83	$5.72	$6.25	$6.03
	NET	$15.71	-	-	$2.23	-	-	-
	BLL	-	-	-	$7.00	$7.00	-	-
Yellowfin tuna	HND	$2.49	$1.60	$2.14	$2.11	$2.00	$1.93	$1.76
	PLL	$2.51	$2.15	$2.32	$2.30	$2.14	$2.00	$1.91
	BLL	$3.28	$1.51	$1.86	$2.11	$1.81	$1.89	$2.20
	NET	$1.07	$1.07	$1.77	$1.49	$1.81	$1.50	$2.08
	TWL	$2.40	$1.59	$1.56	$1.53	-	$1.48	-
	TRP	-	-	-	-	$1.97	$1.57	$1.59
	DRG	-	-	-	-	$1.94	-	-
	UNK	-	-	-	-	$2.75	-	$2.62
Other tunas	HND	$1.34	$0.89	$0.94	$0.89	$0.69	$0.66	$0.65
	PLL	$1.84	$1.59	$1.03	$0.88	$0.86	$0.93	$1.09
	BLL	-	$0.83	$1.17	$0.78	$0.83	$1.08	$0.97
	NET	$0.45	$0.54	$0.44	$0.49	$0.75	$0.48	$0.35
	TWL	$0.45	$0.66	$0.70	$0.47	$0.42	$0.62	$0.52
	TRP	-	-	-	-	$0.57	$0.47	$0.58
	DRG	-	-	-	-	$1.00	-	-
	UNK	-	-	-	-	$1.03	$1.69	$0.65
Swordfish	HND	$3.61	$3.13	$3.25	$3.70	-	-	-
	PLL	$4.31	$3.53	$3.59	$3.47	$3.18	$2.97	$2.86
	BLL	$4.88	$3.77	$2.91	$3.45	$4.00	-	$3.43
	NET	$4.63	$3.81	-	$4.19	$3.51	-	-
	TWL	$4.56	$3.29	$3.94	$2.86	$3.34	$3.21	$3.55
Large coastal sharks	HND	$0.74	$0.96	$0.50	$0.88	$2.09	$2.19	$1.06
	PLL	$0.58	$0.79	$0.45	$2.62	$2.78	$2.32	$3.37

sharks	BLL	$0.54	$0.56	$0.41	$0.55	$1.11	$2.08	$2.32
	NET	$0.45	$0.46	$0.53	$0.89	$1.02	$1.02	$1.52
	TWL	$0.47	$0.49	$0.72	$0.55	$0.52	$0.50	$0.80
	TRP	-	-	-	-	$2.50	-	-
	SEN	-	-	-	-	$1.26	-	-
	UNK	-	-	-	-	$0.50	-	$0.68
Pelagic sharks	HND	$1.47	$1.71	$1.41	$1.26	$1.41	$1.57	$1.26
	PLL	$1.25	$1.39	$1.45	$1.56	$1.31	$1.32	$1.22
	BLL	$1.47	$1.04	$1.24	$0.97	$1.12	$1.17	$1.41
	NET	$0.99	$0.99	$1.02	$1.02	$0.97	$1.08	$1.32
	TWL	$1.00	$1.10	$0.90	$0.69	$1.03	$0.88	$0.55
	TRP	-	-	-	$0.40	-	$1.43	-
	DRG	-	-	-	$0.49	$2.00	-	-
	UNK	-	-	-	-	-	$0.57	$1.78
Small coastal sharks	HND	-	$0.46	$0.38	$0.51	$0.45	$0.36	$0.50
	PLL	$0.25	-	$0.20	$0.44	$0.50	$0.39	-
	BLL	-	-	-	$0.95	-	-	-
	NET	-	$0.45	$0.40	-	$0.42	$0.39	$0.44
	TWL	-	$0.53	-	-	$1.26	-	-
Shark fins	HND	$2.74	$3.60	$6.17	-	-	-	-
	PLL	$7.79	$3.35	$8.57	-	-	-	-
	BLL	$8.00	-	-	-	-	-	-
	NET	$4.77	$3.96	$3.38	-	-	-	-

North Atlantic

Species	Gear	1996	1999	2000	2001	2002	2003	2004
Bigeye tuna	HND	$3.69	$3.41	$4.22	$6.00	-	-	$4.89
	PLL	$3.36	$3.26	$4.39	$3.42	$4.08	$3.50	$3.79
	BLL	$2.15	-	-	-	-	-	$4.30
	NET	$3.31	-	$0.42	-	-	-	-
	TWL	$8.00	$3.29	$3.87	$3.54	$3.76	-	-
Bluefin tuna	HND	$10.73	$8.44	$10.02	$8.21	$7.94	$6.33	$7.79
	PLL	$5.56	$7.06	$5.65	$5.24	$5.96	$4.21	$5.38
	NET	-	-	-	$4.26	-	-	-
	SEN	$11.05	$7.83	$7.80	$7.43	$6.61	$4.92	$5.92
	TWL	-	-	-	$3.80	-	-	-
Yellowfin tuna	HND	$2.50	$1.16	$2.66	$2.87	$3.25	$1.90	$2.90
	PLL	$2.14	$2.44	$2.77	$3.01	$2.76	$2.57	$2.89
	BLL	$2.03	$0.51	$2.32	$3.77	-	-	$2.51
	NET	$2.43	$0.50	-	-	$4.75	-	-
	TWL	$2.67	$2.21	$2.31	$2.10	$2.19	$1.65	$3.25
	TRP	-	-	-	-	$4.50	$3.10	-
Other tunas	HND	$1.90	$1.41	$1.59	$2.39	$2.03	$1.56	$1.78
	PLL	$0.98	$0.60	$1.13	$0.70	$1.15	$1.00	$1.17

	BLL	$1.50	-	$0.50	$3.00	-	-	$0.66
	NET	$0.73	$0.20	$0.50	$0.36	$0.70	$1.14	$0.44
	TWL	$1.08	$0.37	$0.22	$0.80	$0.69	$0.37	$0.89
	TRP	-	-	-	-	$0.34	$0.44	-
	DRG	-	-	-	-	$3.00	-	-
Swordfish	HND	$5.20	-	$8.00	$5.69	$5.32	-	$4.79
	PLL	$4.01	$3.30	$3.67	$3.58	$3.30	$3.36	$3.85
	BLL	$3.07	-	$2.00	-	-	-	$3.75
	NET	$5.62	-	-	-	$4.25	-	-
	TWL	$3.08	$3.77	$4.05	$4.75	$3.05	$3.18	$4.89
	TRP	-	-	-	-	$3.74	-	-
Large coastal sharks	HND	-	$0.74	-	$0.50	$0.45	$0.74	-
	PLL	$1.03	-	$1.00	$1.21	$0.29	$0.28	$1.03
	BLL	$0.99	$1.03	$0.65	$1.43	$1.00	-	-
	NET	$0.83	$0.64	$1.06	$0.99	$0.89	$0.89	$0.68
	TWL	$0.80	$1.00	$1.08	$0.93	$0.86	$0.66	$0.56
	TRP	-	-	-	-	$0.28	$0.22	-
Pelagic sharks	HND	$1.60	-	-	$1.38	$1.71	-	-
	PLL	$1.26	$3.30	$1.38	$1.37	$1.31	$1.30	$1.34
	BLL	$1.85	$0.89	$1.50	-	$0.65	-	$1.07
	NET	$1.12	$0.70	$0.82	$0.98	$0.60	$1.30	$1.99
	TWL	$0.96	$0.77	$0.97	$1.19	$0.81	$0.63	$0.78
	TRP	-	-	-	-	$0.69	$0.68	-
Small coastal sharks	HND	-	-	-	-	-	-	-
	NET	-	-	-	$1.51	-	-	-
	TWL	-	-	-	-	$0.58	-	-
Shark fins	PLL	$4.25	-	$5.54	-	-	-	-
	BLL	$3.00	$0.33	$25.19	-	-	-	-
	NET	$1.96	$2.79	$2.41	-	-	-	-
	TWL	$2.32	$0.49	$3.00	-	-	-	-

Table 3.76 Average ex-vessel prices per lb for Atlantic HMS by area.

Species	Area	1996	1999	2000	2001	2002	2003	2004
Bigeye tuna	Gulf of Mexico	$0.68	$3.38	$2.26	$1.94	$4.33	$3.29	$4.54
	S. Atlantic	$1.32	$2.77	$1.98	$2.57	$2.45	$2.24	$2.86
	Mid-Atlantic	$3.99	$3.52	$4.39	$4.26	$3.82	$3.77	$4.56
	N. Atlantic	$3.59	$3.30	$4.12	$4.32	$4.03	$3.45	$4.42
Bluefin tuna	Gulf of Mexico	$5.83	$6.32	$1.86	$1.25	$5.56	$6.32	$4.64
	S. Atlantic	$4.62	$4.70	$6.83	$4.00	$3.77	$4.11	$4.91
	Mid-Atlantic	$9.48	$5.90	$5.98	$5.25	$4.70	$7.38	$9.62
	N. Atlantic	$10.78	$8.26	$8.94	$5.79	$7.31	$5.71	$7.42
Yellowfin tuna	Gulf of Mexico	-	$2.94	$3.22	$2.98	$3.23	$3.31	$3.75
	S. Atlantic	$1.56	$1.77	$1.88	$1.70	$1.73	$1.76	$1.53
	Mid-Atlantic	$2.43	$1.61	$2.12	$1.91	$2.02	$1.91	$1.98
	N. Atlantic	$2.35	$1.52	$2.65	$2.93	$2.90	$2.38	$2.65
Other tunas	Gulf of Mexico	$0.29	$0.86	$0.74	$0.76	$0.84	$0.75	$0.89
	S. Atlantic	$0.62	$0.61	$0.58	$0.58	$0.49	$0.59	$0.49
	Mid-Atlantic	$1.10	$0.80	$0.76	$0.70	$0.73	$0.70	$0.63
	N. Atlantic	$1.31	$0.51	$0.93	$1.46	$1.17	$0.95	$0.94
Swordfish	Gulf of Mexico	-	$3.35	$3.25	$3.31	$2.91	$2.95	$3.31
	S. Atlantic	$2.79	$3.27	$3.24	$3.43	$3.14	$3.26	$3.52
	Mid-Atlantic	$4.43	$3.47	$3.67	$3.53	$3.25	$2.97	$3.37
	N. Atlantic	$4.09	$3.45	$3.87	$4.67	$3.47	$3.33	$4.06
Large coastal sharks	Gulf of Mexico	$0.21	$0.56	$0.43	$0.44	$0.36	$0.38	$0.37
	S. Atlantic	$1.02	$1.10	$0.78	$1.12	$1.27	$0.39	$0.44
	Mid-Atlantic	$0.55	$0.59	$0.53	$1.09	$1.56	$1.62	$1.93
	N. Atlantic	$0.88	$0.77	$1.01	$1.02	$0.77	$0.72	$0.70
Pelagic sharks	Gulf of Mexico	-	$1.36	$1.31	$1.42	$1.11	$1.13	$1.08
	S. Atlantic	$0.62	$0.83	$0.76	$0.68	$0.67	$0.71	$0.65
	Mid-Atlantic	$1.21	$1.23	$1.20	$1.09	$1.17	$1.21	$1.29
	N. Atlantic	$1.31	$0.81	$1.10	$1.23	$1.00	$1.12	$1.46
Small coastal sharks	Gulf of Mexico	-	$0.55	$0.52	$0.58	$0.48	$0.40	$0.45
	S. Atlantic	$0.25	$0.50	$0.48	$0.52	$0.53	$0.51	$0.61
	Mid-Atlantic	$0.25	$0.47	$0.38	$0.55	$0.48	$0.38	$0.44
	N. Atlantic	-	-	-	$1.51	$0.58	-	-
Shark fins	Gulf of Mexico	-	$14.01	$15.99	$20.90	$22.64	$18.12	$17.93
	S. Atlantic	$10.74	$11.10	$14.16	$18.43	$17.10	$15.85	$14.57
	Mid-Atlantic	$4.60	$3.41	$4.90	-	-	-	-
	N. Atlantic	$2.69	$1.19	$6.83	-	-	-	-

Table 3.75 and Table 3.76 indicate that the average ex-vessel prices for bigeye tuna have generally increased since 1996. Prices from 2003 to 2004 have increased in all four regions. The gears used also influenced the average price of bigeye tuna.

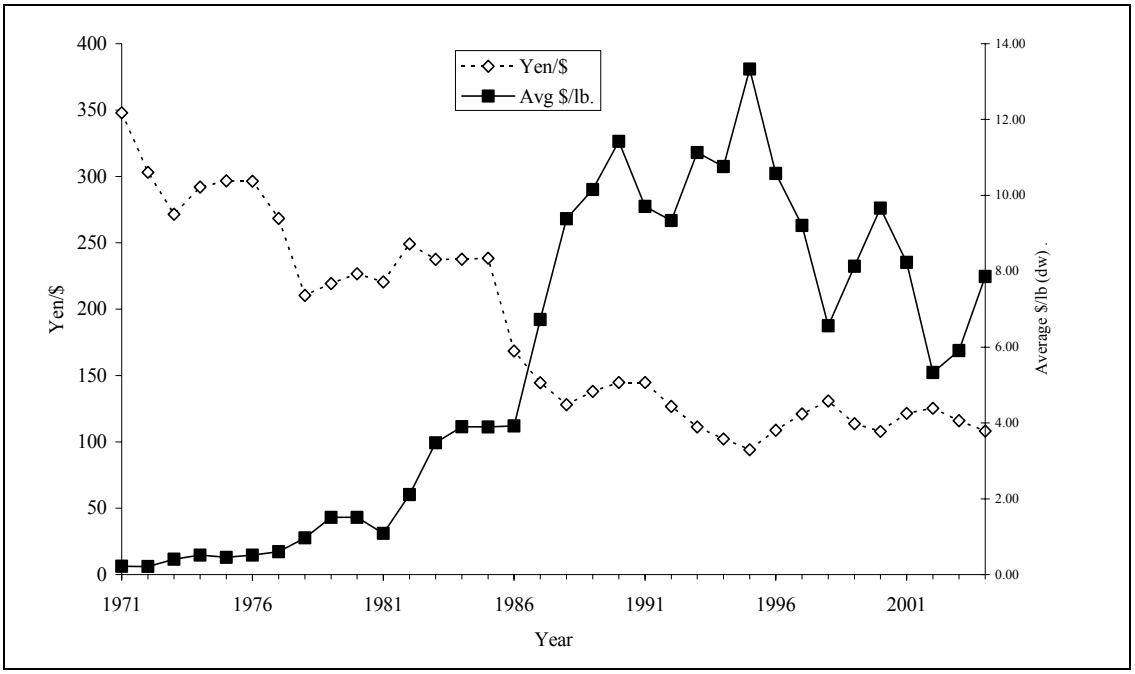

Figure 3.33 Average Annual Yen/$ Exchange Rate and Average U.S. BFT Ex-vessel $/lb (dw) for all gears: 1971-2003. Source: Federal Reserve Bank (www.stls.frb.org) and Northeast Regional Office.

Average ex-vessel prices for bluefin tuna have generally declined since 1996. Since 2002, however, prices increased in all regions except the North Atlantic (Table 3.76). The gear used also made a difference in the ex-vessel price (Table 3.75). In the North Atlantic and Mid-Atlantic, bluefin tuna caught with handgear had higher average prices than those caught with longline. This trend has been fairly consistent over the years between 1996 and 2004. The ex-vessel prices for bluefin tuna can be influenced by many factors, including market supply and the Japanese Yen/U.S. Dollar (¥/$) exchange rate. Figure 3.33 shows the average ¥/$ exchange rate, plotted with average ex-vessel bluefin tuna prices, from 1971 to 2003.

The average ex-vessel prices for yellowfin tuna have increased in 2004 in the Gulf of Mexico, Mid-Atlantic and North Atlantic while increasing slightly in the South Atlantic (Table 3.76). Yellowfin tuna caught with longline gear had higher average ex-vessel prices than fish caught with other gear types in 2004 (Table 3.75). The average ex-vessel price for other tunas decreased in all regions except the Gulf of Mexico in 2004 (Table 3.76). The average price of other tunas is lowest in the South Atlantic compared to other regions. The type of gear used did not appear to consistently influence the average ex-vessel prices of other tuna. Average ex-vessel prices for swordfish increased in 2004 in all regions (Table 3.76). Swordfish caught using handline gear had higher average ex-vessel prices than other gear types, except in the Mid-Atlantic where it was trawls (Table 3.75).

The average ex-vessel price for LCS slightly decreased in the Gulf of Mexico in 2004 and North Atlantic. However, prices for LCS increased in the Mid-Atlantic and South Atlantic (Table 3.76). The average ex-vessel prices for pelagic sharks increased in the Mid-Atlantic and North Atlantic regions in 2004 (Table 3.76), while prices decreased in Gulf of Mexico and South Atlantic. The 2004 prices for pelagic sharks are not significantly different than 1996 prices and are actually lower than 1996 when adjusting for inflation. The average ex-vessel prices for small coastal sharks (SCS) rebounded in all regions in 2004 (Table 3.76). Gear type did not consistently affect ex-vessel price of small coastal sharks in 2004 (Table 3.75).

3.5.1.2 Revenues

Table 3.77 summarizes the average annual revenues of the Atlantic HMS fishery based on average ex-vessel prices and the weight reported landed as per the U.S. National Report (NMFS 2005), the Shark Evaluation Reports, information given to ICCAT (Cortes, 2005), as well as price and weight reported to the NMFS Northeast Regional Office by Atlantic bluefin tuna dealers. These values indicate that the estimated total annual revenue of Atlantic HMS fisheries has decreased 34 percent from approximately $66.4 million in 1996 to approximately $43.9 million in 2004. From 2003 to 2004, the tuna fishery's total revenue decreased significantly. A majority of that decrease can be attributed to reduced commercial landings of bluefin tuna and yellowfin tuna. From 2003 to 2004, the annual revenues from shark decreased by over 21 percent. In contrast, the annual revenues from swordfish from 2003 to 2004 increased by five percent after having been in decline for several years.

Table 3.77 Estimates of the total ex-vessel annual revenues of Atlantic HMS fisheries. Sources: NMFS, 1997; NMFS 2004a; Cortes, 2003; and bluefin tuna dealer reports from the Northeast Regional Office.

Species		1996	1999	2000	2001	2002	2003	2004
Bigeye tuna	Ex-vessel $/lb dw	$2.40	$3.24	$3.18	$3.27	$3.66	$3.19	$4.10
	Weight lb dw	1,212,706	1,664,385	1,012,352	2,391,350	1,267,645	846,191	551,503
	Fishery Revenue	$2,910,494	$5,395,971	$3,222,636	$7,827,218	$4,637,372	$2,697,233	$2,258,404
Bluefin tuna	Ex-vessel $/lb dw	$10.58	$8.14	$9.66	$8.23	$5.33	$5.91	$7.86
	Weight lb dw	1,652,989	1,926,442	2,137,580	2,176,016	4,133,625	2,519,345	885,720
	Fishery Revenue	$17,488,624	$15,677,959	$20,648,413	$17,904,240	$22,042,839	$14,889,328	$6,961,760
Yellowfin tuna	Ex-vessel $/lb dw	$2.11	$1.96	$2.46	$2.38	$2.48	$2.34	$2.48
	Weight lb dw	6,679,938	6,351,717	12,435,708	14,777,800	12,885,887	13,556,340	4,832,483
	Fishery Revenue	$14,094,669	$12,433,149	$30,577,372	$35,193,181	$31,919,170	$31,721,836	$11,972,477
Other tunas*	Ex-vessel $/lb dw	$0.83	$0.69	$0.75	$0.87	$0.81	$0.75	$0.74
	Weight lb dw	368,433	495,241	795,243	867,960	1,298,509	900,522	287,127
	Fishery Revenue	$305,799	$343,771	$593,595	$754,322	$1,057,273	$673,140	$211,756
Total tuna	**Fishery Revenue**	**$34,799,586**	**$33,850,849**	**$55,042,015**	**$61,678,960**	**$59,656,653**	**$49,981,537**	**$21,404,397**
Swordfish**	Ex-vessel $/lb dw	$3.77	$3.38	$3.51	$3.74	$3.20	$3.13	$3.57
	Weight lb dw	7,170,619	5,942,839	4,832,384	5,662,350	5,985,489	4,668,466	4,317,369
	Fishery Revenue	$27,033,234	$20,104,498	$16,974,346	$21,153,927	$19,150,819	$14,600,627	$15,391,422
Large coastal sharks	Ex-vessel $/lb dw	$0.67	$0.76	$0.68	$0.91	$0.99	$0.78	$0.86
	Weight lb dw	5,262,314	3,919,570	3,762,000	3,562,546	4,097,363	4,421,249	3,206,377
	Fishery Revenue	$3,525,750	$2,950,102	$2,560,307	$3,256,955	$4,040,977	$3,437,521	$2,757,484
Pelagic sharks	Ex-vessel $/lb dw	$1.05	$1.06	$1.09	$1.11	$0.99	$1.04	$1.12
	Weight lb dw	695,531	400,821	215,005	362,925	303,666	616,967	450,833
	Fishery Revenue	$730,308	$424,273	$233,650	$401,430	$299,487	$643,188	$504,933
Small coastal sharks	Ex-vessel $/lb dw	$0.25	$0.51	$0.46	$0.79	$0.52	$0.43	$0.50
	Weight lb dw	460,667	672,245	672245*	719,484	579,441	549,799	677,305
	Fishery Revenue	$115,167	$340,890	$309,926	$568,441	$299,023	$236,414	$338,653
Shark fins (weight = 5% of all sharks landed)	Ex-vessel $/lb dw	$6.01	$7.43	$10.47	$19.67	$19.87	$17.09	$16.25
	Weight lb dw	320,926	249,632	232,462	232,248	249,024	279,401	216,726
	Fishery Revenue	$218,561	$1,854,313	$2,434,344	$4,568,937	$4,949,056	$4,774,959	$3,521,793
Total sharks	**Fishery Revenue**	**$4,589,786**	**$5,569,578**	**$5,538,227**	**$8,795,763**	**$9,588,545**	**$9,092,082**	**$7,112,863**
Total HMS	Fishery Revenue	$66,422,606	$59,524,926	$77,554,588	$91,628,650	$88,396,016	$73,674,245	$43,918,682

Note: Average ex-vessel prices may have some weighting errors, except for bluefin tuna which is based on a fleet-wide average. Other tunas includes skipjack and albacore. ** Swordfish estimates do not include dead discards.

3.5.1.3 Wholesale Market

Currently, NMFS does not collect wholesale price information from dealers. However, the wholesale price of some fish species is available off the web (http://www.st.nmfs.gov/st1/market_news/index.html). The wholesale prices presented in Table 3.78 are from the annual reports of the Fulton Fish Market. As with ex-vessel prices, wholesale prices depend on a number of factors including the quality of the fish, the weight of the fish, the supply of fish, and consumer demand.

As reported by the Fulton Fish Market, Table 3.78 indicates that the average wholesale price of HMS sold in Atlantic and Gulf of Mexico states generally decreased from 1996 to 2003, except for blacktip shark. Prices have appeared to have rebounded in 2004, breaking from the declining trend. During that same period, the wholesale price of swordfish weighing over 100 pounds decreased 19 percent, swordfish weighing between 50 and 99 pounds decreased 25 percent, and swordfish cuts decreased 15 percent. The wholesale price of blacktip shark increased 27 percent from 1996 to 2003, with most of the increase occurring in 2003. The wholesale price of mako shark decreased 14 percent from 1996 to 2003, however 2003 wholesale prices were up from 2002. The wholesale price of thresher shark has decreased 22 percent from 1996 to 2003. Wholesale yellowfin tuna prices have remained relatively stable from 1996 to 2003. The yellowfin tuna wholesale price of #2 quality fish had decreased eight percent while the price of #2 cuts has increased seven percent from 1996 to 2003. Bigeye tuna wholesale prices from 1999 to 2003 have increased significantly for both high grade cuts and fish.

Table 3.78 The overall average wholesale price per lb of fresh HMS sold in Atlantic and Gulf of Mexico states as reported by the Fulton Fish Market. Source: NMFS, 2004.

Species	Description	1996 Price/lb	1999 Price/lb	2000 Price/lb	2001 Price/lb	2002 Price/lb	2003 Price/lb	2004 Price/lb
Blacktip	-	$1.05	$1.04	$1.04	$1.05	$1.00	$1.33	$1.08
Mako	-	$2.77	$2.74	$3.18	$3.00	$2.00	$2.37	$2.24
Thresher	-	$1.00	$0.91	$0.82	$1.25	$1.25	$0.78	$1.24
Swordfish	100# and up	$6.28	$5.26	$5.26	$5.42	$5.19	$5.08	$5.66
	50-99#	$6.02	$4.54	$4.72	$4.81	$4.59	$4.50	$5.15
	26-49#	$5.50	$3.36	$3.58	$4.05	$3.50	-	$3.25
	Cuts	$7.74	$6.55	$6.54	$6.73	$6.84	$6.55	$7.13
Yellowfin tuna	#1: BTF	$7.00	$5.97	$5.69	$5.50	$7.42	-	$6.00
	#1: Cuts	$9.38	$8.23	$8.00	$8.23	$10.67	-	$8.50
	#2: BTF	$5.00	$4.24	$4.36	$3.97	$4.92	$4.60	$4.62
	#2: Cuts	$6.52	$6.22	$6.20	$6.00	$7.29	$6.98	$7.32
	#3: BTF	-	$3.00	-	-	-	$2.50	-
	#3: Cuts	-	$4.50	-	-	-	-	$3.00
Bigeye tuna	#1: BTF	-	$4.00	-	-	-	$6.50	$7.75
	#1: Cuts	-	$5.50	-	-	-	$8.50	$11.00
	#2: BTF	-	$4.26	-	-	-	-	-
	#2: Cuts	-	$6.00	-	-	-	-	-

Note: #'s indicate quality (1 is highest, 3 is lowest); BTF is by the fish.

3.5.2 Recreational Fisheries

Although NMFS believes that recreational fisheries have a large influence on the economies of coastal communities, NMFS has only recently been able to gather additional information on the costs and expenditures of anglers or the businesses that rely on them.

An economic survey done by the U.S. Fish and Wildlife Service[2] in 2001 found that for the entire United States 9.1 million saltwater anglers (including anglers in state waters) went on approximately 72 million fishing trips and spent approximately $8.4 billion (USFWS, 2001). Expenditures included lodging, transportation to and from the coastal community, vessel fees, equipment rental, bait, auxiliary purchases (*e.g.*, binoculars, cameras, film, foul weather clothing, *etc.*), and fishing licenses (USFWS, 2001). Saltwater anglers spent $4.5 billion on trip-related costs and $3.9 billion on equipment (USFWS, 2001). Approximately 76 percent of the saltwater anglers surveyed fished in their home state (USFWS, 2001). The next USFWS survey is expected in 2006.

Specific information regarding angler expenditures for trips targeting HMS species was extracted from the recreational fishing expenditure survey add-on (1998 in the Northeast, 1999 – 2000 in the Southeast) to the National Marine Fisheries Service's Marine Recreational Fisheries Statistics Survey (MRFSS). These angler expenditure data were analyzed on a per person per trip-day level and reported in 2003 dollars. The expenditure data include the costs of tackle, food, lodging, bait, ice, boat fuel, processing, transportation, party/charter fees, access/boat launching, and equipment rental. The overall average expenditure on HMS related trips is estimated to be $122 per person per day. Specifically, expenditures are estimated to be $686 per person per day on billfish directed trips (based on a low sample size), $85 on pelagic shark directed trips, $95 on large coastal shark directed trips, $81 on small coastal sharks, and $106 on tuna trips.

The American Sportfishing Association (ASA) also has a report listing the 2001 economic impact of sportfishing on specific states. This report states that all sportfishing (in both Federal and state waters) has an overall economic importance of $116 billion dollars (ASA, 2001). Florida, Texas, North Carolina, New York, and Alabama are among the top ten states in terms of overall economic impact for both saltwater and freshwater fishing (ASA, 2001). Florida is also one of the top states in terms of economic impact of saltwater fishing with $2.9 billion in angler expenditures, $5.4 billion in overall economic impact, $1.5 billion in salaries and wages related to fishing, and 59,418 fishing related jobs (ASA, 2001). California followed Florida with $0.8 billion in angler expenditures, $1.7 billion in overall economic impact, $0.4 billion in salaries and wages, and 15,652 jobs (ASA, 2001). Texas and New Jersey were the next highest states in terms of economic impact (ASA, 2001).

At the end of 2004, NMFS began collecting market information regarding advertised charterboat rates. This preliminary analysis of the data collected includes 99 observations of advertised rates on the internet for full day charters. Full day charters vary from six to 14 hours long with a typical trip being 10 hours. Most vessels can accommodate six passengers, but this

[2] This survey interviewed over 77,000 households during phase 1 and approximately 25,070 sports persons during phase 2. The response rate during phase two of the survey was 75 percent.

also varies from two to 12 passengers. Table 3.79 summarizes the average charterboat rate for full day trips on vessels with HMS Charter/Headboat permits. The average price for a full day boat charter was $1,053 in 2004. Sutton *et al.,* (1999) surveyed charterboats throughout Alabama, Mississippi, Louisiana, and Texas in 1998 and found the average charterboat base fee to be $762 for a full day trip. Holland *et al.* (1999) conducted a similar study on charterboats in Florida, Georgia, South Carolina, and North Carolina and found the average fee for full day trips to be $554, $562, $661, and $701, respectively. Comparing these two studies conducted in the late 1990s to the average advertised daily HMS charterboat rate in 2004, it is apparent that there has been a significant gain in charterboat rates.

Table 3.79 **Average Atlantic HMS charterboat rates for day trips.** Source: NMFS searches for advertised daily charter rates of HMS Charter/Headboat permit holders. (Observations=99)

State	2004 Average Daily Charter Rate
AL	$1,783
CT	$1,500
DE	$1,060
FL	$894
LA	$1,050
MA	$777
MD	$1,167
ME	$900
NC	$1,130
NJ	$1,298
NY	$1,113
RI	$917
SC	$1,300
TX	$767
VA	$825
Overall Average	**$1,053**

In 2003, Ditton and Stoll published a paper that surveyed the literature regarding what is currently known about the social and economic aspects of recreational billfish fisheries. It was estimated that 230,000 anglers in the United States spent 2,136,899 days fishing for billfish in 1991. This is approximately 3.6 percent of all saltwater anglers over age 16. The states with the highest number of billfish anglers are Florida, California, North Carolina, Hawaii, and Texas in descending order. Billfish anglers studied in the U.S. Atlantic, Puerto Rico, and Costa Rica fished between 39 and 43 days per year.

Billfish recreational anglers tend to spend a great deal of money on trips. Ditton and Stoll (2003) report that a 1990 study of U.S. total trip costs for a typical billfish angler estimated a mean expenditure of $2,105 per trip for the Atlantic and $1,052 per trip for Puerto Rico. The

aggregate economic impact of billfish fishing trips in the U.S. Atlantic is conservatively estimated to be $22.7 million annually.

In addition to the economic impact of recreational billfish angling, Ditton and Stoll (2003) report that using a contingent valuation method they estimated consumer's surplus or net economic benefit to maintain current billfish populations in the U.S. Atlantic to be $497 per billfish angler per year in the U.S. Atlantic and $480 in Puerto Rico. They also estimate that the number of annual billfish anglers in the U.S. Atlantic to be 7,915 and 1,627 in Puerto Rico. The aggregate willingness-to-pay for maintaining current billfish populations is $3.93 million in the U.S. Atlantic and 0.78 million in Puerto Rico. The aggregate direct impact of billfish expenditures is estimated to be $15.13 million for the U.S. Atlantic and $32.40 million for Puerto Rico. Thus, the total aggregate economic value of billfish angler fishing is $19.06 million per year for the U.S. Atlantic and $33.18 million per year for Puerto Rico.

Generally, HMS tournaments last from three to seven days, but lengths can range from one day to an entire fishing season. Similarly, average entry fees can range from approximately $0 to $5,000 per boat (average approximately $500/boat – $1,000/boat), depending largely upon the magnitude of the prize money that is being awarded. The entry fee would pay for a maximum of two to six anglers per team during the course of the tournament. Additional anglers can, in some tournaments, join the team at a reduced rate of between $50 and $450. The team entry fee did not appear to be directly proportional to the number of anglers per team, but rather with the amount of money available for prizes and, possibly, the species being targeted. Prizes may include citations, T-shirts, trophies, fishing tackle, automobiles, boats, or other similar items, but most often consists of cash awards. In general, it appears that billfish and tuna tournaments charge higher entry fees and award more prize money than shark and swordfish tournaments, although all species have a wide range.

Cash awards distributed in HMS tournaments can be quite substantial. Several of the largest tournaments, some of which are described below, are part of the World Billfish Series Tournament Trail whereby regional winners are invited to compete in the World Billfish Series Grand Championship for a new automobile and a bronze sculpture. Other tournament series include the International Game Fish Association (IGFA) Rolex Tournament of Champions, and the South Carolina Governor's Cup. White marlin is a top billfish species from Cape Hatteras, North Carolina to the eastern tip of Georges Bank from June through October each year. The White Marlin Open in Ocean City, Maryland, which is billed as the "world's richest fishing tournament," established a new world record payout for catching a fish when it awarded $1.32 million in 2004 to the vessel catching the largest white marlin. The 21st Annual Pirates Cove Billfish Tournament in North Carolina awarded over $1 million in prizes in 2004, with the top boat garnering over $400,000 for winning in six categories. Total prize money awarded in the Big Rock Tournament in North Carolina has exceeded $1 million since 1998.

Blue marlin, sailfish, and tunas are also often targeted in fishing tournaments, including those discussed above. In 2004, blue marlin was the HMS most frequently identified as a prize category in registered HMS tournaments. Forty-five teams participated in the 2004 Emerald Coast Blue Marlin Classic at Sandestin, Florida, with over $482,000 in cash prizes and the top boat receiving over $58,000. The 34th Annual Pensacola (Florida) International Billfish

Tournament indicated that it would award over $325,000 in cash and prizes in 2004. The World Sailfish Championship in Key West, Florida has a $100,000 guaranteed first prize for 2005. In South Carolina, the Megadock Billfishing Tournament offers a $1,000,000 prize for any boat exceeding the current blue marlin state record. The 2004 Florida Billfish Masters Tournament in Miami, Florida awarded over $123,000 in prize money, with the top boat receiving over $74,000. Sixty-two boats competed in the 2003 Babylon Tuna Club Invitational in Babylon, New York for over $75,000 in cash prizes, and the Mid-Atlantic Tuna Tournament sponsored by the South Jersey Marina in Cape May, New Jersey anticipates awarding over $25,000 in prizes in 2005.

Several tournaments target sharks. Many shark tournaments occur in New England, New York, and New Jersey, although other regions hold shark tournaments as well. In 2004, the 24th Annual South Jersey Shark Tournament hosted over 200 boats and awarded over $220,000 in prize money, with an entry fee of $450 per boat. The "Mako Fever" tournament, sponsored by the Jersey Coast Shark Anglers, in 2004 awarded over $55,000 in prizes, with the first place vessel receiving $25,000. In 2004, the 18th Annual Monster Shark Tournament in Martha's Vineyard, Massachusetts was broadcast on ESPN, and featured a new fishing boat valued at over $130,000 awarded to the winner.

Swordfish tournaments have gained increased popularity in recent years, especially on the east coast of Florida, as the swordfish population has recovered. Events include the Islamorada Swordfish Tournament that began in 2004, and the Miami Swordfish Tournament that began in 2003. Both of these tournaments anticipated awarding over $30,000 in total cash and prizes, assuming that 50 boats would participate.

In addition to official prize money, many fishing tournaments may also conduct a "calcutta" whereby anglers pay from $200 to $5,000 to win more money than the advertised tournament prizes for a particular fish. Tournament participants do not have to enter calcuttas. Tournaments with calcuttas generally offer different levels depending upon the amount of money an angler is willing to put down. Calcutta prize money is distributed based on the percentage of the total amount entered into that Calcutta. Therefore, first place winner of a low level Calcutta (entry fee ~$200) could win less than a last place winner in a high level calcutta (entry fee ~$1000). On the tournament websites, it was not always clear if the total amount of prizes distributed by the tournament included prize money from the calcuttas or the estimated price of any equipment. As such, the range of prizes discussed above could be a combination of fish prize money, Calcutta prize money, and equipment/trophies.

Fishing tournaments can sometimes generate a substantial amount of money for surrounding communities and local businesses. Besides the entry fee to the tournament and possibly the calcutta, anglers may also pay for marina space and gas (if they have their own vessel), vessel rental (if they do not have their own vessel), meals and awards dinners (if not covered by the entry fee), hotel, fishing equipment, travel costs to and from the tournament, camera equipment, and other miscellaneous expenses. Fisher and Ditton (1992) found that the average angler who attended a billfish tournament spent $2,147 per trip (2.59 days), and that billfish tournament anglers spent an estimated $180 million (tournament and non-tournament trips) in 1989. Ditton and Clark (1994) estimated annual expenditures for Puerto Rican billfish fishing trips (tournaments and non-tournaments) at $21.5 million. More recently, Ditton, *et al.*,

(2000) estimated that the total expenditure (direct economic impact) associated with the 1999 Pirates Cove Billfish Tournament, not including registration fees, was approximately $2,072,518. The total expenditure (direct economic impact) associated with the 2000 Virginia Beach Red, White, and Blue Tournament was estimated at approximately $450,359 (Thailing, *et al*., 2001). These estimated direct expenditures do not include economic effects that may ripple through the local economy leading to a total impact exceeding that of the original purchases by anglers (*i.e*., the multiplier effect). Less direct, but equally important, fishing tournaments may serve to generally promote the local tourist industry in coastal communities. In a survey of participants in the 1999 Pirates Cove Billfish Tournament, Ditton, *et al*., (2000) found that almost 80 percent of tournament anglers were from outside of the tournament's county. For this reason, tourism bureaus, chambers of commerce, resorts, and state and local governments often sponsor fishing tournaments.

3.6 Community and Social Update

According to National Standard 8 (NS 8), conservation and management measures should, consistent with conservation requirements, attempt to both provide for the continued participation of a community and, to the extent practicable, minimize the economic effects on the community. The information presented here addresses new data concerning the social and economic well-being of participants in the fishery and considers the impact of significant regulatory measures enacted in the past year.

3.6.1 Overview of Current Information and Rationale

The Magnuson-Stevens Act requires, among other things, that all FMPs include a fishery impact statement intended to assess, specify, and describe the likely effects of the measures on fishermen and fishing communities (§303(a)).

The National Environmental Policy Act (NEPA) also requires federal agencies to consider the interactions of natural and human environments by using a "systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences...in planning and decision-making" (§102(2)(A)). Moreover, agencies need to address the aesthetic, historic, cultural, economic, social, or health effects which may be direct, indirect, or cumulative. Consideration of social impacts is a growing concern as fisheries experience increased participation and/or declines in stocks. The consequences of management actions need to be examined to better ascertain and, if necessary, mitigate impacts of regulations on affected constituents.

Social impacts are generally the consequences to human populations that follow from some type of public or private action. Those consequences may include alterations to the ways in which people live, work or play, relate to one another, and organize to meet their needs. In addition, cultural impacts which may involve changes in values and beliefs that affect people's way of identifying themselves within their occupation, communities, and society in general are included under this interpretation. Social impact analyses help determine the consequences of policy action in advance by comparing the status quo with the projected impacts. Although public hearings and scoping meetings provide input from those concerned with a particular action, they do not constitute a full overview of the fishery.