

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
HUDSON RIVER ESTUARY PROGRAM**

NEW PALTZ, NEW YORK

**2002-2003 HUDSON RIVER ESTUARY BLACK BASS  
TOURNAMENT MONITORING STUDY**

REVISED

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## 1.0 INTRODUCTION

The Hudson River estuary is one of New York's outstanding natural resources providing crucial nursery and spawning grounds for a wide variety of fish species including freshwater, estuarine migrants and diadromous species. Two important Hudson River species which support an important recreational fishery including local and regional fishing tournaments are the largemouth bass (*Micropterus salmoides*) and smallmouth bass (*M. dolomieu*), collectively referred to as black bass. The freshwater, tidal portion of the Hudson River has been a popular location for local, regional and national level bass tournaments since the Bass Anglers Sportsmans Society (B.A.S.S.) held a very successful National Invitational Tournament in Catskill, New York in 1984.

A voluntary tournament reporting program to monitor results of Hudson River black bass fishing tournaments was initiated by the New York State Department of Environmental Conservation (NYSDEC) in 1986 (Festa 1987). This program solicits black bass tournament data (e.g., angler weigh-in, no. of anglers, species composition etc.) from black bass tournaments held on the tidal freshwater portion of the Hudson River. Periodic on-site monitoring since 1986 and a series of special studies during 1989-1991 (Green et al. 1993) and 1999-2001 (NYSDEC 2004) has allowed NYSDEC to obtain additional information not easily obtained through voluntary reporting (e.g. scale samples, tag and fin clip information and individual fish weights) and to compare weigh-in data collected on-site to that provided by volunteers. On-site monitoring of the 1984 B.A.S.S. National Invitational and the 1985 Redman, New Jersey B.A.S.S. and New York B.A.S.S. tournament events provided tournament weigh-in data prior to 1986 (Linhart 1998). Information provided through these special studies and voluntary reporting has been used to monitor trends in the Hudson River black bass fishery and evaluate fishery management objectives. This continuous data set (1984-2001) has been used to calculate several black bass tournament-related fishery statistics and will continue to be used to assess NYSDEC black bass fishery objectives in the future.

Black bass fishery management objectives for the Hudson River Estuary were established in the 1996 Hudson River Estuary Management Plan (NYSDEC 1996). Management objectives included:

"Maintain a black bass fishery (smallmouth and largemouth bass) which will provide for largemouth bass average size Relative Stock Density (RSD)<sub>15</sub> of 40 or greater for spring electrofishing, RSD<sub>15</sub> of 45 or greater in tournament entries

or maintain an average weight of 1.9 lbs per bass in tournament catches and abundance which will support electrofishing catch rates of greater than 20 largemouths over 12 inches per hour in at least 75 percent of samples during March-April wintering area surveys and/or maintain tournament catch rates over 1.4 black bass/trip based upon a sample of 500 trips spread over several tournaments between Catskill and Kingston."

The index RSD is the proportion of fish of any designated size group in a stock. Index values range from 0 to 100. Therefore a  $RSD_{15}$  of 40 would indicate a stock where 40 percent of the fish collected exceeded 15 inches in length.

The objective of the 2002-2003 Black Bass Tournament Monitoring Study was to continue the voluntary tournament reporting program initiated in 1984 and provide periodic on-site monitoring to obtain individual fish length, weight and age (scale samples) data not easily obtained through voluntary reporting. The Hudson River Estuary Action Plan goal for the black bass fishery is to "Restore the black bass fishery by 2010 to the nationally-renowned levels of the mid-1980's." The continuation of the black bass tournament data set will assist in determining progress towards this goal.

## 2.0 METHODS

The 2002-2003 Black Bass Tournament Monitoring Study obtained black bass tournament weigh-in and size information through 1) voluntary tournament reporting and 2) periodic on-site tournament monitoring. Details of these two programs are described below.

### 2.1 *Voluntary Tournament Reporting*

Tournament fishing weigh-in and size information for the 2002 and 2003 black bass tournament fishing seasons were obtained through voluntary reporting by tournament sponsors. The 2001 Hudson River black bass tournament sponsor list was updated and revised through an online review of local bass fishing clubs and other possible tournament sponsors in New York, New Jersey, Connecticut and Pennsylvania and through contacts with state and local B.A.S.S. chapters. Potential tournament sponsors identified during the review were contacted via letter and questionnaire during November 2003 requesting tournament entry data for the 2002 and 2003 black bass tournament fishing seasons (Appendices A1 and A2). Tournament results were also downloaded from tournament-sponsor websites when available. Follow-up telephone calls to potential Hudson River tournament sponsors in New York for which weigh-in data were not obtained were conducted during January 2004.

Weigh-in statistics were calculated by tournament and annually (sum and annual average) for information reported for the 2002 and 2003 seasons. Number of angler trips was considered equal to the number of individual contestants for each tournament (i.e., partner or team tournaments considered each individual angler as one trip). The average number of bass per angler trip was calculated for each tournament by dividing the number of bass entered by the number of anglers for that tournament. The annual average number of bass per angler trip was calculated by dividing the total number of bass reported at all tournaments by the total number of anglers at all tournaments. The tournament average and annual average number of largemouth bass and smallmouth bass per angler trip were calculated similarly.

The tournament average weight per bass was calculated by dividing the total weight of all bass entered at a tournament by the total number of bass entered at that tournament. The annual average weight per bass was calculated by dividing the sum of all tournament total-weights by the total number of bass reported at all tournaments.

### 2.2 *On-site Tournament Monitoring*

On-site tournament monitoring was conducted at two (2) Hudson River black bass tournaments on 26 October 2003 and 02 November 2003 in Catskill, New York to obtain black bass species composition information, length frequency data, fish weight and scale samples. Other basic contestant and tournament entry data were also collected.

Black bass were collected from cooperative tournament organizers following weigh-in. Condition (alive or dead) and length (mm TL) were recorded for all fish examined. The presence of fin clips and tag numbers was also recorded for all fish examined. Weight (to the nearest 0.01 lb.) was recorded and scale samples were taken from a subsample of five bass of each species per centimeter group. Scale samples were provided to NYSDEC for future age analysis.

Tournament weigh-in statistics were calculated for on-site tournament monitoring similar to that described above for voluntary tournament reporting. Differences between the number of fish entered at a tournament and number of fish weighed and measured are noted in the summary tables.

## **3.0 RESULTS**

### *3.1 Voluntary Tournament Reporting*

Black bass tournament data from the 2003 fishing season were obtained for seventeen (17) tournaments from eleven (11) bass fishing clubs via tournament monitoring (see Section 3.2 On-site Tournament Monitoring), internet download from tournament-sponsor websites or mailed questionnaire responses (Table 3-1). Data from 28 June 2003 through 2 November 2003 were reported from two (2) tournaments in June, two (2) tournaments in July, four (4) tournaments in August, three (3) tournaments in September, five (5) tournaments in October and one (1) tournament in November (including on-site tournament monitoring). Tournament location was not provided for three (3) tournaments. One tournament was located at Athens Ramp in Athens, New York, six (6) at Dutchman's Landing in Catskill, New York, five (5) at Charles Ryder Park in Kingston, New York and two (2) in Saugerties, New York.

Tournament monitoring, returned questionnaires and internet downloads accounted for 1,100 black bass caught by 617 anglers (Table 3-1). The total weight of 1,034 black bass measured was approximately 1,750 lbs. Largemouth bass and smallmouth bass were not distinguished from the total number of black bass entered for five (5) tournaments. Weight of the largest largemouth bass was not reported for seven (7) tournaments, and the weight of the largest smallmouth bass was not reported for ten (10) tournaments.

During 2003, the overall average number of black bass caught per tournament angler (i.e., per trip) was 1.8 and ranged from 0.8 fish per trip on 2 November 2003 to 3.0 fish per trip on 28 June 2003 (Table 3-2). Largemouth bass weigh-in data were obtained from 12 of the 17 tournaments. The total number of largemouth bass weighed-in at 12 tournaments, including fish collected during on-site tournament monitoring, was 324, or 47.9% of all bass weighed-in during 2003 tournaments (Table 3-3). The overall average number of largemouth bass weighed-in at Hudson River tournaments was 0.78 per trip. The total number of smallmouth bass at the 12 tournaments, including fish collected during on-site tournament monitoring, was 353, or 52.1% of all bass weighed-in during 2003 tournaments. The overall average number of smallmouth bass weighed-in at Hudson River tournaments was 0.85 per trip.

For the seven (7) tournaments in 2003 where fish condition was provided, four (4) dead fish were reported, representing about 2% of all bass weighed-in.

Tournament fishing boundaries (i.e., river boundaries), hours fished per day, tournament catch limits (i.e., weigh-in limits), number of limit catches and tagged fish information were obtained from three tournaments (28 June 2003, 10 August 2003 and 6 September 2003) (Table 3-4). Tournament fishing boundaries were all inclusive for these tournaments (i.e., tournament fishing was not artificially limited by a predetermined river boundary) and all tournaments were eight (8) hours in duration. Tournament catch limits were four, two and three bass per angler for tournaments held on 28 June 2003, 10 August 2003, 6 September 2003, respectively. Tournament sponsors indicated that all applicable New York State (NYS) fishing regulations were followed during each of the three tournaments. No additional tournament-specific rules were reported, except for the above mentioned tournament catch limits which were lower than NYS daily legal creel limits. No tagged bass were caught during any of the three tournaments.

Black bass tournament data from the 2002 fishing season were obtained from three (3) tournaments held on 8 August 2002, 6 October 2002 and 12 October 2002 through downloading archived tournament weigh-in information from two tournament sponsor websites (Table 3-5). The total number of angler trips was 113 and a total of 146 bass were weighed-in, averaging 1.3 bass per trip. The total weight of black bass entered at the three tournaments was 248.05 lbs., averaging 1.7 lbs. per bass. The total number of angler trips sampled in 2002 was well below the NYSDEC sample size objective of 500 trips for determining tournament-catch statistics (NYSDEC 1996).

Separate largemouth bass and smallmouth bass weigh-in data were provided for two of the three tournaments during 2002 (Table 3-5). During tournaments held on 6 and 12 October 2002, 42 largemouth bass and 14 small mouth bass were weighed-in by tournament anglers, accounting for 75% and 25% of all black bass entered in both tournaments, respectively. The largest largemouth bass was 4.23 lbs. and was caught on 6 October 2002. The largest smallmouth bass was 4.06 lbs. and was caught on 12 October 2002.

### 3.2 *On-site Tournament Monitoring*

On-site tournament monitoring was conducted at two Hudson River black bass tournaments; one on 26 October 2003 and one on 02 November 2003, both in Catskill, New York. During the 26 October 2003 tournament, the total number of black bass examined following tournament weigh-in was 144 (Table 3-6). Fish species and length could not be confirmed for 16 of the 107 fish examined and weighed during the 26 October tournament. Scale samples for these fish were mis-logged and fish species and length could not be validated. The total weight of all black bass

measured (including those fish for which species was not confirmed) was 208.87 lbs. (n=107) and the average weight per black bass was 1.95 lbs.

The total weight of black bass examined (where species identification was verified) was 177.49 lbs. The total weight of largemouth bass examined was 77.94 lbs (includes only the 39 confirmed species identifications) and the total weight of smallmouth bass collected was 99.55 lbs (includes only the 53 confirmed identifications). The largest largemouth bass weighed 4.12 lbs.; the average largemouth bass weight was 2.0 lbs (n=39). The largest smallmouth bass weighed 3.9 lbs. and the average weight per smallmouth bass was 1.9 (n=53). The overall (largemouth and smallmouth) weight per bass was 1.9 lbs (n=92).

A total of 119 black bass were caught during the 2 November 2003 tournament; 105 black bass were weighed (Table 3-6). The total weight of all black bass measured was 191.07 lbs. (n=105). Of the 105 fish weighed, there were 65 largemouth bass with a total weight of 120.78 lbs., averaging 1.2 lbs. per fish. The 40 smallmouth bass weighed during the tournament totaled 70.29 lbs., averaging 1.8 lbs. per fish.

Information on black bass examined with jaw tags (recaptured fish tagged during the 1999-2001 Hudson River Estuary Black Bass Study) and dorsal fin clips (suspected recaptured fish tagged during the 1999-2001 Hudson River Estuary Black Bass Study) are summarized in Table 3-7. Three black bass with jaw tags were collected during the 26 October 2003 tournament. Tag and release information is provided in Table 3-7.

Length data for black bass examined during on-site tournament monitoring are summarized in (Table 3-8). Length data for the 16 fish for which species identification was not confirmed during the 26 October 2003 tournament were not included in the length summary statistics. The average length of largemouth bass examined during the 26 October 2003 tournament was 389 mm (15.31 inches) and ranged from 300 mm (11.8 inches) to 497 mm (19.6 inches) (n=51). Smallmouth bass average length was 394 mm (15.5 inches) and ranged from 308 mm (12.1 inches) to 514 mm (20.2 inches) (n=77).

During the 2 November 2003 tournament, the average length of largemouth bass examined was 367 mm (14.5 inches) (n=78) and ranged from 285 mm (11.2 inches) to 510 mm (20.1 inches); the average length of smallmouth bass was 384.5 mm (15.1 inches) (n=41) and ranged from 309 mm (12.2 inches) to 475 mm (18.7 inches).

A total of 104 largemouth bass were identified and measured for length and weight during the two on-site tournament monitoring events. The total weight of largemouth bass was 198.7 lbs. Ninety-three smallmouth bass were identified and measured for length and weight, totaling 169.8 lbs. Black bass length and weight data from on-site tournament monitoring are provided in Appendix B1. Largemouth bass weight at length estimates and length-weight regression statistics based on 2003 on-site tournament monitoring are provided in Appendices B2 and B3.

## 4.0 DISCUSSION

The number of black bass per trip is an indicator of angler success in Hudson River bass tournaments. The NYSDEC fisheries management objective for this statistic is to remain at or above 1.4 bass per trip. The average number of bass per trip for 2003 tournaments (1.8 bass per trip) was above the NYSDEC fisheries management objective and was equal to the average number of bass per trip in 1992 and 1996 (Table 3-3); the fourth highest recorded during the past sixteen years of tournament monitoring (Figure 4-1).

The mean number of black bass per trip in 2002 (1.3 bass per trip) was below the fishery management objective and equal to the number of bass per trip in 1990; the only other year since tournament monitoring began in which this NYSDEC fishery management objective was not met. Angler success in 2002 was based on the tournament weigh-in data provided by only three tournaments accounting for 113 angler trips, well below the average number of trips sampled during previous years and below the NYSDEC sample size objective of 500 trips for determining tournament-catch statistics (NYSDEC 1996). Two of the tournaments were sponsored by the same local B.A.S.S. affiliated fishing club, each with less than 25 trips per tournament. Angler success in fishing tournaments may vary widely depending on season, angler experience and weather; therefore, the average number of bass per trip may not be indicative of angler success for the 2002 tournament fishing season.

Largemouth bass percent contribution to the overall number of fish entered at tournaments dropped during the 2003 tournament season to 47.9% (Table 3-3), the second lowest percentage of largemouth bass at Hudson River tournaments in the past sixteen years. Prior to 1995, largemouth bass percent contribution was greater than 68% during each year, and largemouth bass consistently comprised 70-80% of the number of fish entered at tournaments. This trend changed significantly in 1995 when percent contribution of largemouth at Hudson River tournaments fell to 42.8%. Between 1996 and 2002 the percent composition of largemouth bass varied considerably, ranging from a low of 65.8% in 2001 to a high of 88% in 1997, the highest percent contribution of largemouth bass since the voluntary tournament reporting program began.

The average number of largemouth bass entered per trip at Hudson River tournaments has varied from year to year, but has generally ranged between 1.0 and 1.5 bass per trip, with some exceptions. The recent variation in percent contribution of largemouth bass at tournament weigh-in may be best reflected in the change in the average number of smallmouth bass per trip since 1995. Prior to 1995, the average number of smallmouth bass entered in tournaments was consistently

below 0.5 bass per trip each year, ranging between 0.27 and 0.46 bass per trip. However, in 1995 the number of smallmouth bass per angler trip rose to 0.94 bass per trip, exceeding the number of largemouth bass entered per angler trip for the first time since inception of the voluntary tournament reporting program. Following 1995, the number of smallmouth bass per trip at Hudson River tournaments has fluctuated substantially, but has generally increased as compared to previous years, with only two years less than 0.45 bass per trip (1997 and 2002 with lows of 0.20 and 0.30 bass per trip, respectively). Changes in smallmouth bass weigh-in rates have been reflected in species composition at Hudson River tournaments. It is unclear why smallmouth bass weigh-in rates have fluctuated since 1995, as compared to previous years. This change may be due to a variety of factors, including changes in black bass population size, black bass distribution and/or angler effort (i.e., a change in anglers targeting largemouth bass or smallmouth bass more frequently).

The average weight per bass during 2003 (1.69 lbs.) is less than the average weight per bass during any other year (Table 3-3), and below the NYSDEC fishery management objective of 1.9 lbs per bass (Figure 4-1). Prior to 1993, weight per bass exceeded the NYSDEC fishery management objective; averaging 2.1 lbs per bass for the seven year period. Since 1993, this objective has been exceeded only once (1.99 lbs in 1994) and was not achieved during 1997, 2002 and 2003. Weight per bass data were not collected from 1999 through 2001, and 2002 data may be underrepresented because of the small number of trips sampled. Largemouth bass are typically larger than smallmouth bass. The relatively low average weight per bass during 2003 may be due to the higher number of smallmouth bass entered in tournaments (Table 3-3).

The Hudson River black bass fishery management objectives include: 1) greater than 45% of largemouth bass to be greater than 381 mm (15 inches) total length ( $RSD_{15}$  of 45), 2) maintain an average weight per bass greater than 1.9 lbs. (when length data is not available), and 3) maintain a tournament entry rate of 1.4 black bass per trip. During 2003, the overall average total length of largemouth bass examined during on-site tournament monitoring events was 378.18 mm (14.89 inches). Forty-five percent of the largemouth bass were equal to or greater than 381 mm (15 inches) (Figure 4-2). This meets the NYSDEC fishery management objective for an  $RSD_{15}$  of 45 or better. The overall average weight per black bass for 2003 Hudson River tournaments was 1.69 lbs ( $n=1,034$ ) and did not meet the fishery management objective of 1.9 lbs per bass. The average number of black bass entered per trip during 2003 was 1.8, exceeding the fishery management objective of 1.4 black bass per trip.

## **5.0 RECOMMENDATIONS**

The primary intent of the voluntary tournament reporting program for Hudson River black bass tournaments is to provide tournament weigh-in and angler success information for a large number of tournament angler trips with a minimum amount of effort or expenditure. This continuous data set (1984-2001) has been used to compare black bass tournament-related fishery statistics to NYSDEC black bass fishery objectives established in the Hudson River Estuary Management Plan. Periodic on-site monitoring of one or two large tournaments has been conducted to obtain species, individual fish length, weight and age (scale samples) data not easily obtained through voluntary reporting.

Results of the 2002-2003 tournament monitoring study confirmed that the voluntary tournament reporting program successfully captures tournament weigh-in and angler success information for Hudson River black bass tournaments with a minimum of effort, while providing valuable information needed to assess fishery management objectives. Because of this, it is recommended that the voluntary tournament reporting program and periodic on-site monitoring of one or two large tournaments be continued in the future. Several recommendations are provided below to help improve questionnaire and tournament reporting rate.

Contacting tournament sponsors prior to or soon after Hudson River black bass tournaments is critical in obtaining a meaningful sample size and measure of angler success through the voluntary reporting program. This was evident by the poor response rate and difficulty in retrieving angler participation and bass weigh-in data for 2002. Efforts to retrieve 2002 tournament data through voluntary reporting did not begin until November 2003. During prior years, the voluntary reporting program contacted local, regional and state tournament sponsors through mailed questionnaires at the beginning of the bass fishing season, during late-spring or early summer, and again at the end of the season to encourage questionnaire return (Linhart 1998). Tournament sponsors receiving information on the voluntary reporting program in spring may be more likely to respond to additional questionnaires for tournament information received in the fall. We recommend early communication with tournament sponsors and that a similar schedule to that of previous surveys is maintained for future voluntary reporting efforts.

Maintaining on-going education of the black fishery management objectives on the Hudson River with the tournament sponsors would continue to increase awareness among anglers and may prompt increased participation in the voluntary reporting program. Many of the tournament

sponsors and anglers contacted through 2002-2003 voluntary reporting program had ready access to email and the internet, some sponsors coordinate tournament schedules and post tournament results via internet sites, suggesting tournament sponsors and anglers may be more inclined to complete the questionnaire or provide tournament weigh-in information online, increasing questionnaire responses. Anglers could be given the option to either mail in the questionnaire or submit the questionnaire online at their convenience.

## **6.0 ACKNOWLEDGEMENTS**

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## **7.0 REFERENCES**

- Festa, P. J. 1987. 1986 Summary Hudson River Black Bass Tournament Reports. New York State Department of Environmental Conservation, Albany, New York. 9 p.
- Green, D. N., S. E. Landsberger, S.P. Mack, D. Bunnell and J. L. Forney. 1993. Abundance and winter distribution of Hudson River black bass. Prepared for: Hudson River Foundation.
- Linhart, R. F. 1998. 1996 Summary Hudson River black bass tournament reports. New York State Department of Environmental Conservation, Stamford, N.Y.
- New York State Department of Environmental Conservation (NYSDEC). 1996. Final Hudson River Estuary Management Plan. Hudson River Estuary Management Program.
- New York State Department of Environmental Conservation (NYSDEC). 2004. Hudson River estuary black bass study. Final Report. Prepared by: Lawler, Matusky & Skelly Engineers LLP.

**Table 3-1.** Location, date, angler and weigh-in data for 2003 and 2002 Hudson River black bass tournaments.

<b>Organization</b>	<b>Tournament Date</b>	<b>Location</b>	<b>Number of Anglers</b>	<b>Number of Bass</b>	<b>Total Weight (lbs.)</b>	<b>Average Weight (lbs.)</b>
<b>2003</b>						
Orange County Bassmasters	6/28/2003	Kingston	22	45	77.15	1.7
Essex County Bassmasters	6/28/2003	Saugerties	13	39	67.07	1.7
Rip Van Winkle Bassmasters	7/19/2003	Not Specified	12	26	34.63	1.3
ABA of Eastern PA and NJ	7/20/2003	Catskill	76	144	210.74	1.5
Northeast Bass Association of Connecticut	8/10/2003	Catskill	80	152	247.25	1.6
Adirondack Bass Club	8/10/2003	Catskill	16	24	41.60	1.7
Trailer Hook Bass Anglers	8/23/2003 <sup>1</sup>	Athens	22	57	86.61 <sup>1</sup>	1.5
Rip Van Winkle Bassmasters	8/30/2003	Not Specified	10	28	38.25	1.4
Essex County Bassmasters	9/6/2003	Saugerties	9	26	46.11	1.8
Hudson Valley Bassmasters	9/14/2003	Kingston	29	53	80.44	1.5
Black Rock Bassbusters	9/27/2003	Kingston	24	68	105.60	1.6
Bergen Bassmasters	10/4/2003	Not Specified	30	79	139.44	1.8
Hudson Valley Bassmasters	10/15/2003	Kingston	15	33	61.45	1.9
Orange County Bassmasters	10/25/2003	Catskill	13	31	69.06	2.2
Black Rock Bassbusters	10/25/2003	Kingston	18	32	56.51	1.8
Rip Van Winkle Bassmasters <sup>2</sup>	10/26/2003	Catskill	84	144	184.38 <sup>3</sup>	2.0 <sup>3</sup>
Orange County Bassmasters <sup>2</sup>	11/2/2003	Catskill	144	119	203.25 <sup>4</sup>	1.9 <sup>4</sup>
	<b>Total 2003</b>		<b>617</b>	<b>1100</b>	<b>1749.54</b>	
<b>2002</b>						
ABA of Eastern PA and NJ	8/18/2002	Not Specified	66	90	143.58	1.6
Black Rock Bassbusters	10/6/2002	Kingston	24	33	59.68	1.8
Black Rock Bassbusters	10/12/2002	Kingston	23	23	44.79	1.9
	<b>Total 2002</b>		<b>113</b>	<b>146</b>	<b>248.05</b>	

Note: LMB = Largemouth bass; SMB = Smallmouth bass

<sup>1</sup> Two day tournament with 11 anglers each day. Total weight was given as an aggregate for teams and adjusted for single anglers.

<sup>2</sup> 2003 On-site tournament monitoring event. Weight data were not provided by tournament sponsors. Information obtained from 11/2 tournament sponsor website was 60 trips with 158 black bass weighed-in totaling 301.93 lbs; these data do not equal the total number of bass examined during on-site tournament monitoring.

<sup>3</sup> 37 fish (12 LMB; 24 SMB; 1 unidentified species) were not weighed. Total weight does not include 16 black bass unidentified by species (n=92).

<sup>4</sup> 14 fish (13 LMB; 1 SMB) were not weighed (n=105).

**Table 3-2.** Entry rates and weight data in 2003 Hudson River black bass tournaments.

Tournament Date	Location	Number of Trips	Number of Bass	Weight-in Limit	Number of Bass per Trip	Number of LMB	Number of LMB per Trip	Largest LMB (lbs.)	Number of SMB	Number of SMB per Trip	Largest SMB (lbs.)	Lunker Weight (lbs.)
6/28/2003	Kingston	22	45	--	2.0	18	0.8	3.63	27	1.2	2.71	--
6/28/2003	Saugerties	13	39	4	3.0	10	0.8	3.90	29	2.2	2.11	--
7/19/2003	Not Specified	12	26	--	2.2	--	--	--	--	--	--	3.02
7/20/2003	Catskill	76	144	--	1.9	--	--	--	--	--	--	4.78
8/10/2003	Catskill	80	152	--	1.9	--	--	--	--	--	--	3.7
8/10/2003	Catskill	16	24	2	1.5	16	1.0	2.94	8	0.5	2.23	--
8/23/2003 <sup>1</sup>	Athens	22	57	--	2.6	--	--	--	--	--	--	3.99
8/30/2003	Not Specified	10	28	--	2.8	--	--	--	--	--	--	3.01
9/6/2003	Saugerties	9	26	3	2.9	12	1.3	4.70	14	1.6	3.10	--
9/14/2003	Kingston	29	53	--	1.8	21	0.7	--	35	1.2	--	--
9/27/2003	Kingston	24	68	--	2.8	23	1.0	3.99	45	1.9	--	--
10/4/2003	Not Specified	30	79	--	2.6	58	1.9	5.63	21	0.7	--	--
10/15/2003	Kingston	15	33	--	2.2	24	1.6	--	9	0.6	--	--
10/25/2003	Catskill	13	31	--	2.4	8	0.6	4.05	20	1.5	3.5	--
10/25/2003	Kingston	18	32	--	1.8	5	0.3	4.02	27	1.5	--	--
10/26/2003	Catskill	84	144 <sup>2</sup>	--	1.7	51	0.6	4.75	77	0.9	3.56	--
11/2/2003	Catskill <sup>2</sup>	144	119 <sup>3</sup>	--	0.8	78	0.5	5.38	41	0.3	3.88	--
<b>Sum</b>		<b>617</b>	<b>1100</b>			<b>324</b>			<b>353</b>			

Note: LMB = Largemouth bass; SMB = Smallmouth bass

<sup>1</sup> Two day tournament with 11 anglers each day.

<sup>2</sup> The total number of bass includes the 16 fish unidentified to species collected during the tournament monitoring event on 26 October 2003.

<sup>3</sup> Numbers of largemouth bass and smallmouth bass provided by tournament sponsors do not equal the total number of bass examined during on-site tournament monitoring. Information obtained from tournament sponsor website was 60 trips with 158 black bass weighed-in totaling 301.93 lbs.

**Table 3-3.** Comparison of 1986-2003 Hudson River black bass tournament weigh-in statistics.

<b>Year</b>	<b>Number Trips Sampled</b>	<b>% Limit Catches<sup>1</sup></b>	<b>Largest Bass (lbs.)</b>	<b>Average Number Bass per Trip</b>	<b>Average Number LMB per Trip</b>	<b>Average Number SMB per Trip</b>	<b>Range of Bass per Trip</b>	<b>Average Percent LMB (%)</b>	<b>Average Weight per Bass (lbs.)</b>
1986	1,946	16	6.8	2.1	1.84	0.27	1.25-3.17	87.4	2.06
1987	1,443	6.7	6.8	1.4	1.00	0.43	0.50-3.22	69.9	2.19
1988	1,129	15.1	5.1	1.6	1.26	0.32	0.38-3.01	79.7	2.16
1989	1,607	11.9	6.7	1.9	1.45	0.42	0.74-4.13	77.6	2.14
1990	1,725	4.2	6.3	1.3	0.88	0.40	0.74-2.38	68.8	2.00
1991	1,132	6.9	6.5	1.4	1.06	0.33	0.94-2.55	76.1	2.06
1992	679	17.5	6.0	1.8	1.44	0.39	0.42-4.17	78.5	2.29
1993	1,298	8.9	6.3	1.5	1.14	0.38	0.38-3.23	74.8	1.79
1994	769	8.3	6.8	1.7	1.23	0.46	0.38-3.45	72.8	1.99
1995	1,589	10.2	6.4	1.6	0.70	0.94	0.74-4.00	42.8	1.86
1996	1,103	8.4	6.1	1.8	1.08	0.72	1.11-4.00	60.2	1.85
1997	904	14.4	6.5	1.6	1.48	0.20	1.02-3.00	88.0	1.79
1998	909	7.6	6.1	1.7	1.15	0.48	1.22-2.60	70.8	1.89
1999	681	--	--	1.5	1.02	0.49	0.82-2.73	67.4	--
2000	1,228	--	--	2.0	1.39	0.65	0.74-3.68	68.1	--
2001	1,418	--	--	1.5	1.00	0.52	1.05-2.32	65.8	--
2002 <sup>2</sup>	113	--	--	1.3	0.89	0.30	1.00-1.37	75.0	1.70
2003 <sup>3</sup>	617	23.6	5.6	1.8	0.78	0.85	0.80-3.00	47.9	1.69

Note: LMB = Largemouth bass; SMB = Smallmouth bass

<sup>1</sup> Percent limit catch during 2003 includes tournaments where limits were lower than the legal harvest limit. Previous tournament summaries may have excluded these lower than the legal harvest limit tournaments from this calculation.

<sup>2</sup> Number of trips sampled is below the NYSDEC sample size objective of 500 trips for determining tournament-catch statistics (NYSDEC 1996).

<sup>3</sup> Average number of largemouth bass and smallmouth bass per trip, and average percent largemouth bass were calculated using tournament catch data from those tournaments with species-specific catch data only.

**Table 3-4.** River boundaries, tournament duration and weigh-in limits from three 2003 Hudson River black bass tournaments.

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<b>Organization Name</b>	<b>Location</b>	<b>Tournament Date</b>	<b>River Boundaries</b>	<b>Duration (Hours)</b>	<b>Weigh-in Limit</b>	<b>Specific Tournament Rules</b>
Essex County Bassmasters	Saugerties	6/28/2003	No Limits	8	4	NYS Regulations
Adirondack Bass Club	Catskill	8/10/2003	No Limits	8	2	NYS Regulations
Essex County Bassmasters	Saugerties	9/06/2003	No Limits	8	3	NYS Regulations

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**Table 3-5.** Entry rates and weight data in 2002 Hudson River black bass tournaments.

<b>Tournament Date</b>	<b>Location</b>	<b>Number of Trips</b>	<b>Number of Bass</b>	<b>Weigh-in Limit</b>	<b>Number of Bass per Trip</b>	<b>Number of LMB</b>	<b>Number of LMB per Trip</b>	<b>Largest LMB (lbs.)</b>	<b>Number of SMB</b>	<b>Number of SMB per Trip</b>	<b>Largest SMB (lbs.)</b>	<b>Lunker Weight (lbs.)</b>
10/6/2002	Kingston	24	33	--	1.38	25	1.04	4.23	8	0.33	--	--
10/12/2002	Kingston	23	23	--	1.00	17	0.74	--	6	0.26	4.06	--
8/18/2002	Not Specified	66	90	--	1.36	--	--	--	--	--	--	4.48
	<b>Sum</b>	<b>113</b>	<b>146</b>									

Note: LMB = Largemouth bass; SMB = Smallmouth bass

**Table 3-6.** On-site black bass tournament monitoring sample information (numbers of fish examined and weighed) during 2003.

<b>Tournament Date</b>	<b>Organization</b>	<b>Number of Trips</b>	<b>Number of Bass Examined</b>	<b>Number of Bass Not Identified<sup>1</sup></b>	<b>Number of LMB</b>	<b>Number of SMB</b>	<b>Number of LMB Weighed</b>	<b>Average Weight (lbs.) of LMB</b>	<b>Number of SMB Weighed</b>	<b>Average Weight (lbs.) of SMB</b>
10/26/2003	Rip Van Winkle	84	144	16	51	77	39	2.1	53	1.9
11/2/2003	Orange County Bassmasters	144	119	0	78	41	65	2.0	40	1.9

Note: LMB = Largemouth bass; SMB = Smallmouth bass

<sup>1</sup>Fish species and length could not be confirmed for several fish collected during the 26 October tournament. Scale samples for these fish were mis-logged and fish species and length could not be validated.

**Table 3-7.** Recapture and suspected recapture information collected during on-site tournament monitoring during 2003.

Tournament Date	Species	Length (mm)	Weight (lbs.)	Release / Recapture <sup>1</sup>	Recap Tag #	Clip Code <sup>2</sup>	Release Date	Release Location	Release Length (mm)	Comment
10/26/2003	LMB	414	2.31	3	--	2				no scales
10/26/2003	LMB	446	3.06	3	--	1				--
10/26/2003	LMB	413	2.50	2	8337	--	3/19/2001	Wappinger Creek <sup>3</sup>	358	--
10/26/2003	LMB	455	4.06	3	--	3				--
10/26/2003	LMB	450	2.75	3	--	3				--
10/26/2003	LMB	481	3.56	2	6103	--	7/09/2000	Newburgh <sup>4</sup>	344	--
10/26/2003	LMB	405	2.25	2	6117	4	7/16/2000	Catskill <sup>4</sup>	495	--
10/26/2003	SMB	382	1.81	3	--	1				--
11/2/2003	LMB	404	2.25	3	--	3				--
11/2/2003	LMB	435	3.13	3	--	4				--

Note: LMB = Largemouth bass; SMB = Smallmouth bass

<sup>1</sup>Tag Codes used during 1999-2001 Hudson River Estuary Black Bass Study: 2= Recapture; 3= Suspected recapture

<sup>2</sup>Dorsal Spine Clip

<sup>3</sup>Fish tagged during electrofishing survey

<sup>4</sup>Fish tagged during tournament monitoring

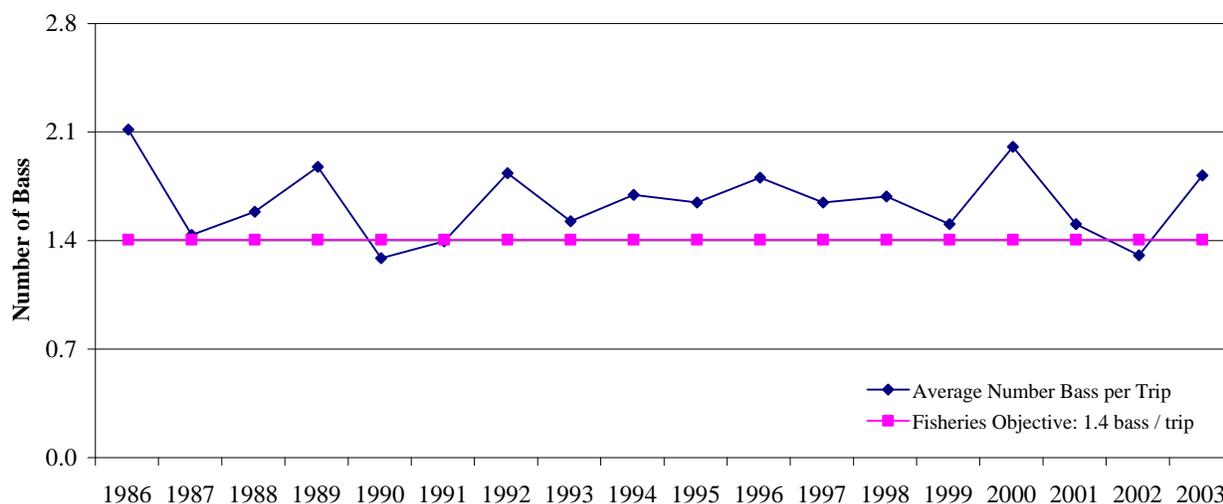
**Table 3-8.** Average length (mm) of black bass measured during on-site tournament monitoring in 2003.

<b>Tournament Date</b>	<b>Average Length (mm) of LMB</b>	<b>Range of LMB Length (mm)</b>	<b>Average Length (mm) of SMB</b>	<b>Range of SMB Length (mm)</b>
10/26/2003 <sup>1</sup>	389	300 – 497	394	308– 514
11/02/2003	367	285 – 510	385	309– 475

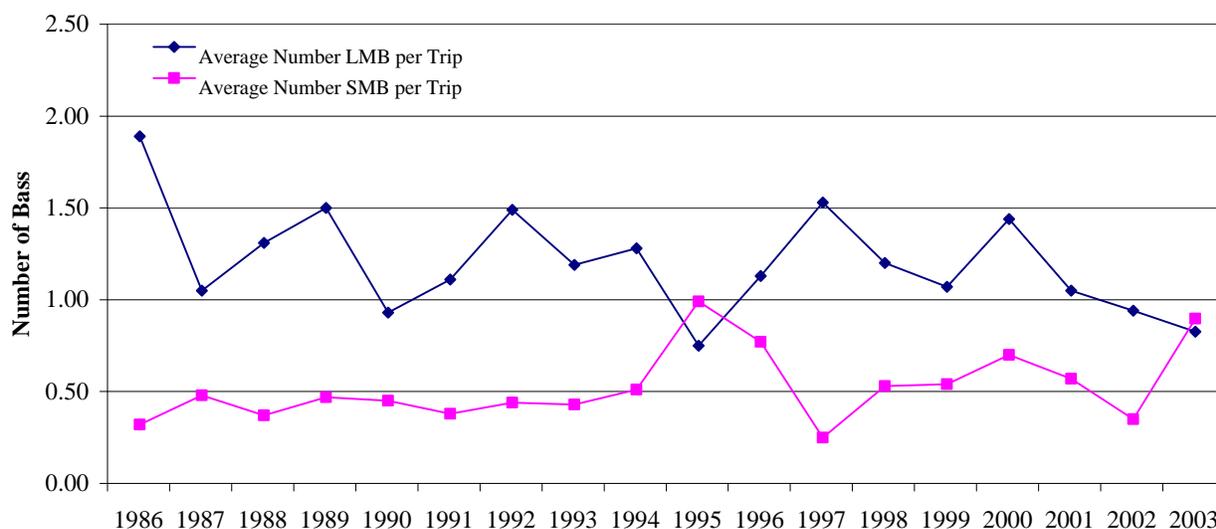
Note: LMB = Largemouth bass; SMB = Smallmouth bass

<sup>1</sup> Excludes the 16 bass species for which identification was not confirmed (n=128)

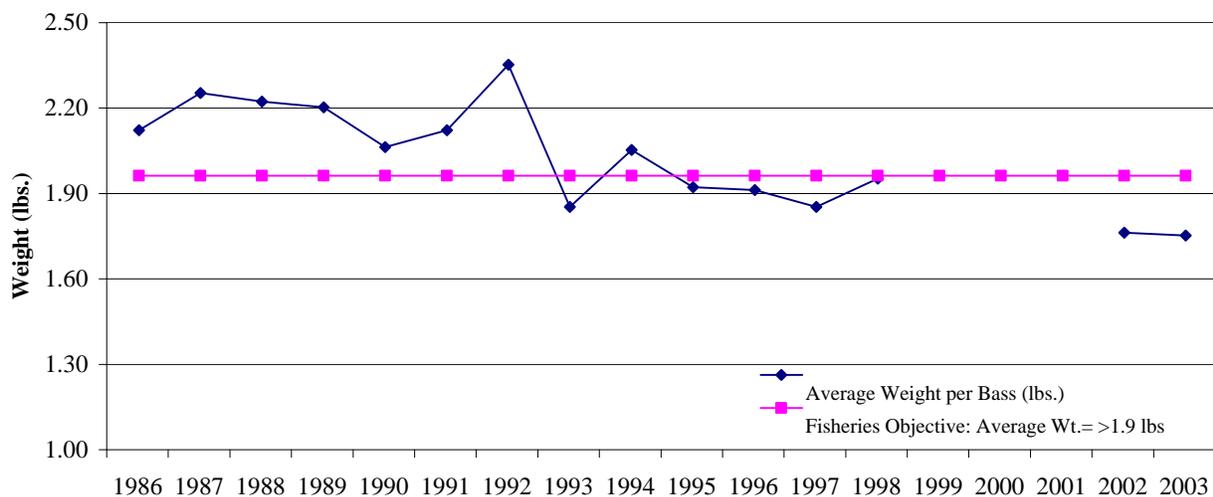
a.)



b.)

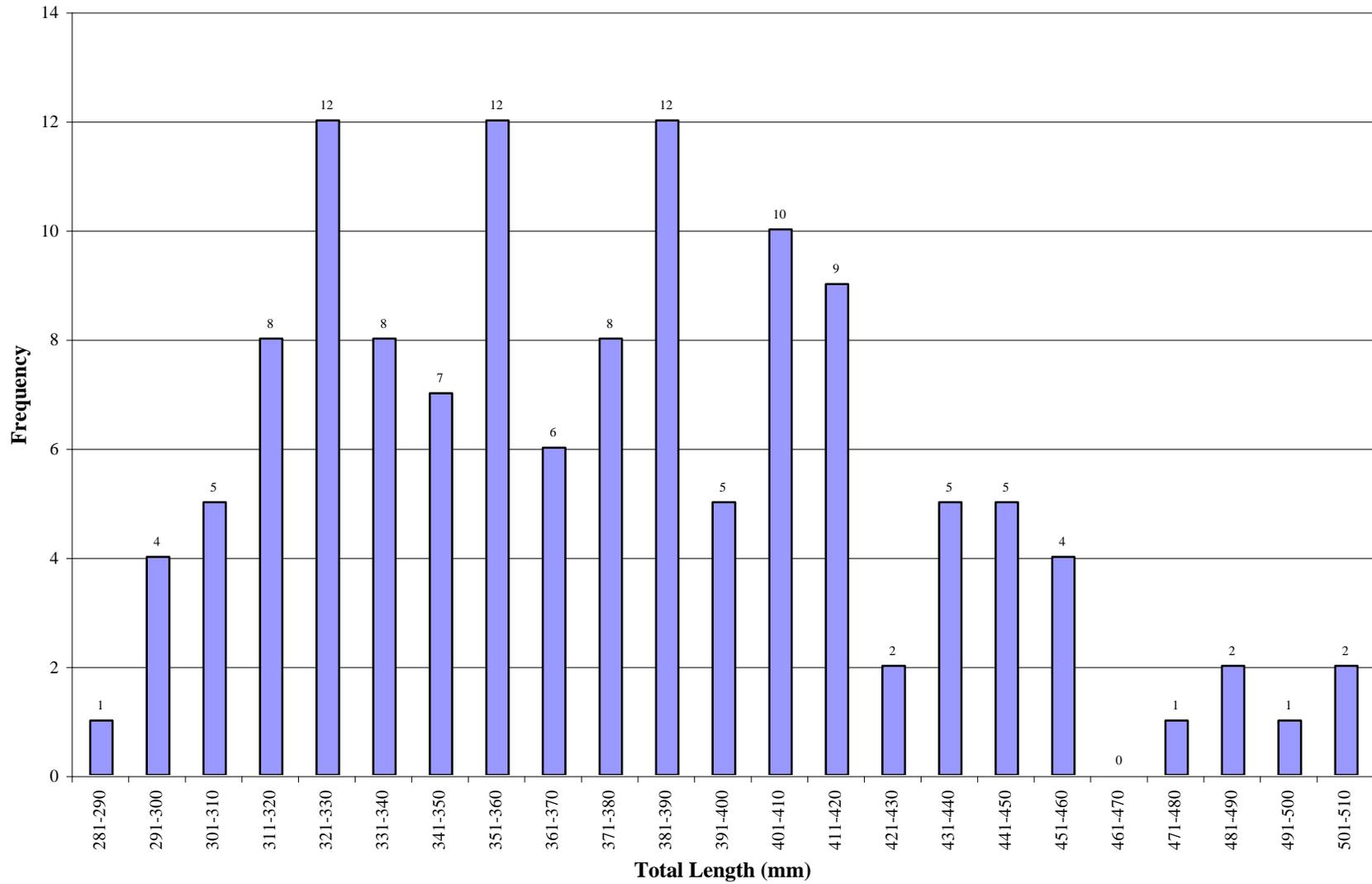


c.)



**Figure 4-1.** Number of largemouth bass (LMB) and smallmouth bass (SMB) per trip (a), number of black bass per trip, and average weight per black bass (c) during Hudson River black bass tournaments from 1986 through 2003.

Note: Number of trips sampled in 2002 was below the NYSDEC sample size objective of 500 trips for determining tournament-catch statistics (NYSDEC 1996)



**Figure 4-2.** Length frequency of largemouth bass measured during 26 October and 2 November 2003 on-site tournament monitoring.

**APPENDIX A**

**TOURNAMENT SPONSOR  
INFORMATION REQUEST LETTER  
AND QUESTIONNAIRE**

**APPENDIX A-1**

**HUDSON RIVER ESTUARY BLACK BASS TOURNAMENT  
SPONSOR INFORMATION REQUEST LETTER**

21 November 2003  
File No. 1052-001

««AddressBlock»»

Re: New York State Department of Environmental Conservation (NYSDEC)  
Hudson River Estuary Black Bass Study

««GreetingLine»»

Lawler, Matusky & Skelly Engineers LLP (LMS) and NYSDEC are presently conducting a study of largemouth and smallmouth bass (i.e., black bass) in the Hudson River Estuary as part of the NYSDEC's management of this fishery. Information provided on the attached Hudson River Black Bass Tournament Questionnaire will be extremely valuable in assessing progress towards NYSDEC's management objective.

Please take a minute to complete the enclosed questionnaire for the 2003 black bass season. If you have information from the 2002 season, please also provide this on a separate questionnaire. If your club sponsors more than one Hudson River Estuary tournament (tournaments located downstream of the Troy Dam), then please make a copy of the questionnaire or contact me for additional copies. Your cooperation is greatly appreciated.

Sincerely,

Rebecca Scott  
Project Biologist

Enclosure

**APPENDIX A-2**

**HUDSON RIVER ESTUARY BLACK BASS TOURNAMENT  
SPONSOR QUESTIONNAIRE**

## 2003 Hudson River Estuary Black Bass Tournament Questionnaire

**Form completed by:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

1. Organization Name : \_\_\_\_\_

2. Weigh-in Location: \_\_\_\_\_

3. Upriver/Downriver boundaries for this tournament: \_\_\_\_\_

4. Date of tournament: \_\_\_\_\_ 5. Hours fished per day: \_\_\_\_\_

6. Number of contestants: \_\_\_\_\_ 7. Number limit catches: \_\_\_\_\_

8. Number of black bass weighed in: \_\_\_\_\_

Largemouth weighed: \_\_\_\_\_

Smallmouth weighed: \_\_\_\_\_

9. Number of black bass released alive: \_\_\_\_\_

10. Pounds of black bass weighed in: \_\_\_\_\_

11. Weight of largest largemouth: \_\_\_\_\_

12. Weight of largest smallmouth: \_\_\_\_\_

13. Numbers from tagged bass, if any: \_\_\_\_\_

14. Number of other Hudson River black bass tournaments you held this year: \_\_\_\_\_

15. Please state specific tournament rules (for example, statewide regulations, 3- fish limit, 14- inch size limit, etc): \_\_\_\_\_

**Please return completed questionnaires to:**

**Rebecca Scott**

**Lawler, Matusky & Skelly Engineers LLP**

**1 Blue Hill Plaza, Floor 12**

**Pearl River, NY 10965**

**APPENDIX B**  
**LENGTH-WEIGHT DATA**

**APPENDIX B-1**

**LENGTH AND WEIGHT OF BLACK BASS MEASURED DURING  
2003 ON-SITE TOURNAMENT MONITORING**

**Appendix B-1.** Length (mm) and weight (lbs.) of black bass measured during the 26 October and 2 November 2003 on-site tournament monitoring events. (Page 1 of 6)

<b>Tournament Date</b>	<b>Fish ID</b>	<b>Species<sup>1</sup></b>	<b>Length (mm)</b>	<b>Weight (lbs.)</b>
10/26/2003	1	LMB	385	1.75
10/26/2003	2	LMB	414	2.31
10/26/2003	3	SMB	360	1.69
10/26/2003	4	SMB	358	1.56
10/26/2003	5	LMB	446	3.06
10/26/2003	6	LMB	413	2.50
10/26/2003	7	LMB	455	4.06
10/26/2003	8	SMB	382	1.81
10/26/2003	9	SMB	385	1.69
10/26/2003	10	SMB	446	3.13
10/26/2003	11	SMB	360	1.31
10/26/2003	12	LMB	403	2.50
10/26/2003	13	LMB	374	1.06
10/26/2003	14	SMB	406	1.81
10/26/2003	15	SMB	389	1.75
10/26/2003	16	SMB	409	2.19
10/26/2003	17	LMB	392	1.94
10/26/2003	18	SMB	514	3.06
10/26/2003	19	LMB	438	3.00
10/26/2003	20	SMB	455	2.81
10/26/2003	21	LMB	442	2.81
10/26/2003	22	SMB	337	0.75
10/26/2003	23	LMB	450	2.75
10/26/2003	24	LMB	497	4.75
10/26/2003	25	SMB	404	1.69
10/26/2003	26	LMB	310	1.06
10/26/2003	27	SMB	428	2.44
10/26/2003	28	SMB	352	1.38
10/26/2003	29	LMB	410	
10/26/2003	30	LMB	481	3.56
10/26/2003	31	SMB	476	
10/26/2003	32	SMB	359	
10/26/2003	33	SMB	480	
10/26/2003	34	LMB	453	
10/26/2003	35	SMB	409	
10/26/2003	36	SMB	360	
10/26/2003	37	LMB	381	
10/26/2003	38	SMB	350	
10/26/2003	39	LMB	414	
10/26/2003	40	SMB	365	
10/26/2003	41	LMB	351	
10/26/2003	42	SMB	424	
10/26/2003	43	SMB	345	
10/26/2003	44	LMB	375	
10/26/2003	45	LMB	405	
10/26/2003	46	SMB	337	
10/26/2003	47	SMB	344	
10/26/2003	48	LMB	360	
10/26/2003	49	SMB	362	
10/26/2003	50	SMB	410	

<sup>1</sup>LMB = Largemouth bass; SMB = Smallmouth bass

<sup>2</sup> Fish species and length could not be confirmed.

**Appendix B-1.** Length (mm) and weight (lbs.) of black bass measured during the 26 October and 2 November 2003 on-site tournament monitoring events. (Page 2 of 6)

<b>Tournament Date</b>	<b>Fish ID</b>	<b>Species<sup>1</sup></b>	<b>Length (mm)</b>	<b>Weight (lbs.)</b>
10/26/2003	51	SMB	335	
10/26/2003	52	LMB	440	
10/26/2003	53	LMB	350	
10/26/2003	54	LMB	300	
10/26/2003	55	LMB	446	3.31
10/26/2003	56	SMB	310	1.00
10/26/2003	57	LMB	338	1.31
10/26/2003	58	SMB	354	1.44
10/26/2003	59	LMB	460	3.88
10/26/2003	60	LMB	435	3.25
10/26/2003	61	SMB	429	2.38
10/26/2003	62	SMB	308	0.94
10/26/2003	63	LMB	355	1.06
10/26/2003	64	LMB	389	1.81
10/26/2003	65	LMB	378	1.88
10/26/2003	66	SMB	364	
10/26/2003	67	SMB	380	1.38
10/26/2003	68	LMB	315	1.00
10/26/2003	69	SMB	310	0.94
10/26/2003	70	SMB	415	2.13
10/26/2003	71	SMB	389	1.69
10/26/2003	72	SMB	445	2.56
10/26/2003	73	SMB	385	1.50
10/26/2003	74	SMB	367	1.75
10/26/2003	75	— <sup>2</sup>	438	2.50
10/26/2003	76	LMB <sup>2</sup>	405	
10/26/2003	77	SMB <sup>2</sup>	432	2.50
10/26/2003	78	SMB <sup>2</sup>	425	2.00
10/26/2003	79	SMB <sup>2</sup>	379	1.69
10/26/2003	80	LMB <sup>2</sup>	395	2.13
10/26/2003	81	LMB <sup>2</sup>	448	3.06
10/26/2003	82	SMB <sup>2</sup>	458	2.56
10/26/2003	83	SMB <sup>2</sup>	313	0.94
10/26/2003	84	SMB <sup>2</sup>	452	2.75
10/26/2003	85	SMB <sup>2</sup>	370	1.38
10/26/2003	86	SMB <sup>2</sup>	440	2.06
10/26/2003	87	LMB <sup>2</sup>	384	2.00
10/26/2003	88	LMB <sup>2</sup>	358	1.50
10/26/2003	89	LMB <sup>2</sup>	421	2.44
10/26/2003	90	SMB <sup>2</sup>	404	2.00
10/26/2003	91	LMB	440	
10/26/2003	92	LMB	328	1.19
10/26/2003	93	SMB	422	2.31
10/26/2003	94	SMB	468	3.31
10/26/2003	95	SMB	379	1.38
10/26/2003	96	LMB	405	2.25
10/26/2003	97	SMB	385	
10/26/2003	98	SMB	384	
10/26/2003	99	LMB	300	0.75
10/26/2003	100	LMB	353	1.44

<sup>1</sup>LMB = Largemouth bass; SMB = Smallmouth bass

<sup>2</sup> Fish species and length could not be confirmed.

**Appendix B-1.** Length (mm) and weight (lbs.) of black bass measured during the 26 October and 2 November 2003 on-site tournament monitoring events. (Page 3 of 6)

<b>Tournament Date</b>	<b>Fish ID</b>	<b>Species<sup>1</sup></b>	<b>Length (mm)</b>	<b>Weight (lbs.)</b>
10/26/2003	101	SMB	482	3.50
10/26/2003	102	LMB	369	1.50
10/26/2003	103	SMB	395	1.75
10/26/2003	104	LMB	368	2.06
10/26/2003	105	SMB	356	1.50
10/26/2003	106	SMB	414	2.00
10/26/2003	107	LMB	300	1.06
10/26/2003	108	SMB	450	3.13
10/26/2003	109	SMB	411	2.13
10/26/2003	110	LMB	374	1.06
10/26/2003	111	LMB	337	1.69
10/26/2003	112	SMB	455	3.13
10/26/2003	113	SMB	412	2.19
10/26/2003	114	SMB	372	1.44
10/26/2003	115	SMB	422	
10/26/2003	116	LMB	400	2.44
10/26/2003	117	LMB	369	1.06
10/26/2003	118	LMB	342	1.31
10/26/2003	119	LMB	405	2.56
10/26/2003	120	LMB	340	1.44
10/26/2003	121	SMB	425	
10/26/2003	122	SMB	494	3.56
10/26/2003	123	LMB	357	1.75
10/26/2003	124	SMB	350	1.44
10/26/2003	125	SMB	410	1.81
10/26/2003	126	SMB	458	3.19
10/26/2003	127	SMB	455	
10/26/2003	128	LMB	480	3.06
10/26/2003	129	SMB	383	
10/26/2003	130	SMB	343	1.19
10/26/2003	131	SMB	368	1.31
10/26/2003	132	SMB	415	2.31
10/26/2003	133	LMB	314	0.88
10/26/2003	134	SMB	367	1.50
10/26/2003	135	SMB	395	1.06
10/26/2003	136	SMB	341	1.13
10/26/2003	137	SMB	367	1.38
10/26/2003	138	SMB	413	
10/26/2003	139	SMB	471	3.56
10/26/2003	140	SMB	399	1.69
10/26/2003	141	SMB	379	1.56
10/26/2003	142	SMB	391	1.06
10/26/2003	143	SMB	325	
10/26/2003	144	SMB	392	
11/2/2003	1	LMB	325	1.44
11/2/2003	2	LMB	325	1.56
11/2/2003	3	LMB	426	2.44
11/2/2003	4	LMB	342	1.06
11/2/2003	5	LMB	505	5.38
11/2/2003	6	SMB	402	2.69

<sup>1</sup>LMB = Largemouth bass; SMB = Smallmouth bass

<sup>2</sup> Fish species and length could not be confirmed.

**Appendix B-1.** Length (mm) and weight (lbs.) of black bass measured during the 26 October and 2 November 2003 on-site tournament monitoring events. (Page 4 of 6)

<b>Tournament Date</b>	<b>Fish ID</b>	<b>Species<sup>1</sup></b>	<b>Length (mm)</b>	<b>Weight (lbs.)</b>
11/2/2003	7	LMB	319	2.50
11/2/2003	8	LMB	391	1.88
11/2/2003	9	LMB	346	1.31
11/2/2003	10	LMB	381	1.94
11/2/2003	11	LMB	404	2.13
11/2/2003	12	LMB	415	2.75
11/2/2003	13	SMB	436	3.38
11/2/2003	14	LMB	385	1.94
11/2/2003	15	SMB	440	3.38
11/2/2003	16	LMB	285	0.88
11/2/2003	17	SMB	344	1.19
11/2/2003	18	LMB	419	2.75
11/2/2003	19	LMB	452	3.75
11/2/2003	20	SMB	396	1.06
11/2/2003	21	LMB	355	1.81
11/2/2003	22	LMB	404	2.31
11/2/2003	23	LMB	357	1.56
11/2/2003	24	SMB	361	1.25
11/2/2003	25	LMB	490	4.06
11/2/2003	26	LMB	406	2.56
11/2/2003	27	LMB	510	5.06
11/2/2003	28	LMB	373	1.94
11/2/2003	29	LMB	329	1.44
11/2/2003	30	LMB	400	2.25
11/2/2003	31	LMB	389	2.00
11/2/2003	32	LMB	414	3.25
11/2/2003	33	SMB	374	1.69
11/2/2003	34	SMB	388	1.88
11/2/2003	35	LMB	312	1.19
11/2/2003	36	LMB	330	1.38
11/2/2003	37	SMB	380	1.69
11/2/2003	38	LMB	367	1.94
11/2/2003	39	SMB	410	2.00
11/2/2003	40	SMB	380	1.94
11/2/2003	41	SMB	409	2.13
11/2/2003	42	LMB	435	3.13
11/2/2003	43	SMB	475	3.88
11/2/2003	44	SMB	396	1.81
11/2/2003	45	LMB	311	1.38
11/2/2003	46	SMB	455	3.19
11/2/2003	47	LMB	385	1.81
11/2/2003	48	SMB	472	3.44
11/2/2003	49	SMB	461	3.56
11/2/2003	50	LMB	410	2.38
11/2/2003	51	SMB	392	2.06
11/2/2003	52	SMB	377	1.06
11/2/2003	53	LMB	420	2.06
11/2/2003	54	SMB	366	1.50
11/2/2003	55	LMB	330	1.31
11/2/2003	56	LMB	349	1.56

<sup>1</sup>LMB = Largemouth bass; SMB = Smallmouth bass

<sup>2</sup> Fish species and length could not be confirmed.

**Appendix B-1.** Length (mm) and weight (lbs.) of black bass measured during the 26 October and 2 November 2003 on-site tournament monitoring events. (Page 5 of 6)

<b>Tournament Date</b>	<b>Fish ID</b>	<b>Species<sup>1</sup></b>	<b>Length (mm)</b>	<b>Weight (lbs.)</b>
11/2/2003	57	SMB	434	2.69
11/2/2003	58	LMB	414	2.81
11/2/2003	59	SMB	395	1.88
11/2/2003	60	LMB	345	1.25
11/2/2003	61	LMB	383	2.38
11/2/2003	62	SMB	398	2.00
11/2/2003	63	LMB	404	2.25
11/2/2003	64	SMB	345	1.31
11/2/2003	65	LMB	370	1.88
11/2/2003	66	LMB	423	2.69
11/2/2003	67	LMB	420	2.69
11/2/2003	68	LMB	327	1.44
11/2/2003	69	LMB	370	1.56
11/2/2003	70	LMB	340	1.56
11/2/2003	71	LMB	381	
11/2/2003	72	LMB	352	1.44
11/2/2003	73	SMB	330	1.25
11/2/2003	74	LMB	355	1.75
11/2/2003	75	SMB	360	1.31
11/2/2003	76	LMB	300	0.94
11/2/2003	77	LMB	388	
11/2/2003	78	LMB	309	0.69
11/2/2003	79	LMB	337	1.50
11/2/2003	80	LMB	305	1.13
11/2/2003	81	LMB	351	1.06
11/2/2003	82	LMB	359	
11/2/2003	83	LMB	325	1.13
11/2/2003	84	LMB	376	1.94
11/2/2003	85	LMB	315	1.25
11/2/2003	86	SMB	375	1.75
11/2/2003	87	LMB	325	
11/2/2003	88	LMB	333	1.25
11/2/2003	89	LMB	346	1.38
11/2/2003	90	LMB	393	2.13
11/2/2003	91	LMB	308	1.06
11/2/2003	92	SMB	362	1.56
11/2/2003	93	LMB	315	1.25
11/2/2003	94	SMB	377	1.94
11/2/2003	95	LMB	306	1.13
11/2/2003	96	LMB	357	
11/2/2003	97	SMB	386	1.75
11/2/2003	98	LMB	339	1.31
11/2/2003	99	LMB	327	
11/2/2003	100	SMB	364	2.50
11/2/2003	101	SMB	404	1.94
11/2/2003	102	SMB	342	1.13
11/2/2003	103	LMB	386	
11/2/2003	104	LMB	319	
11/2/2003	105	LMB	324	
11/2/2003	106	SMB	370	1.44

<sup>1</sup>LMB = Largemouth bass; SMB = Smallmouth bass

<sup>2</sup> Fish species and length could not be confirmed.

**Appendix B-1.** Length (mm) and weight (lbs.) of black bass measured during the 26 October and 2 November 2003 on-site tournament monitoring events. (Page 6 of 6)

<b>Tournament Date</b>	<b>Fish ID</b>	<b>Species<sup>1</sup></b>	<b>Length (mm)</b>	<b>Weight (lbs.)</b>
11/2/2003	107	LMB	384	
11/2/2003	108	SMB	373	
11/2/2003	109	SMB	322	1.25
11/2/2003	110	LMB	373	
11/2/2003	111	SMB	329	1.00
11/2/2003	112	SMB	327	1.13
11/2/2003	113	LMB	377	1.88
11/2/2003	114	SMB	355	1.44
11/2/2003	115	LMB	330	
11/2/2003	116	SMB	309	0.06
11/2/2003	117	SMB	395	1.69
11/2/2003	118	LMB	331	
11/2/2003	119	LMB	441	2.75

<sup>1</sup>LMB = Largemouth bass; SMB = Smallmouth bass

<sup>2</sup> Fish species and length could not be confirmed.

**APPENDIX B-2**

**LARGEMOUTH BASS LENGTH-WEIGHT ESTIMATES BASED ON  
2003 ON-SITE TOURNAMENT MONITORING**

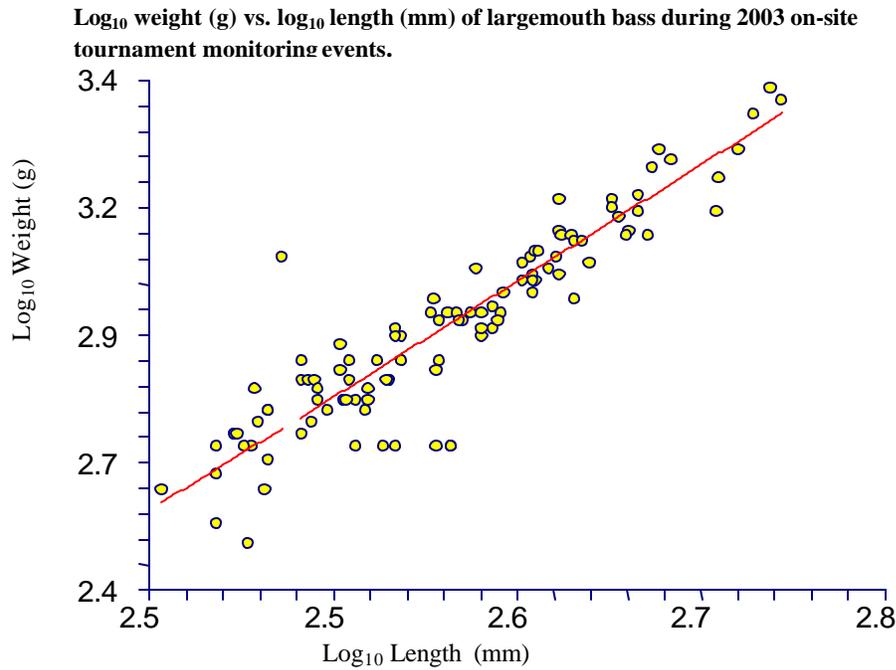
**Appendix B-2.** Weight (lbs.) at length (in.) of largemouth bass (LMB) based on 26 October 2003 and 2 November 2003 on-site tournament monitoring. (See Appendix B-3 for length-weight regression)

<b>Length (inches)</b>	<b>Weight (lbs.)</b>	<b>Length (inches)</b>	<b>Weight (lbs.)</b>	<b>Length (inches)</b>	<b>Weight (lbs.)</b>	<b>Length (inches)</b>	<b>Weight (lbs.)</b>
6	0.13	12.125	1.03	18.25	3.45	24.375	8.10
6.125	0.14	12.25	1.06	18.375	3.52	24.5	8.22
6.25	0.15	12.375	1.10	18.5	3.59	24.625	8.34
6.375	0.16	12.5	1.13	18.625	3.66	24.75	8.47
6.5	0.16	12.625	1.16	18.75	3.74	24.875	8.60
6.625	0.17	12.75	1.20	18.875	3.81	25	8.72
6.75	0.18	12.875	1.23	19	3.88		
6.875	0.19	13	1.27	19.125	3.96		
7	0.20	13.125	1.31	19.25	4.04		
7.125	0.22	13.25	1.34	19.375	4.11		
7.25	0.23	13.375	1.38	19.5	4.19		
7.375	0.24	13.5	1.42	19.625	4.27		
7.5	0.25	13.625	1.46	19.75	4.35		
7.625	0.26	13.75	1.50	19.875	4.44		
7.75	0.28	13.875	1.54	20	4.52		
7.875	0.29	14	1.58	20.125	4.60		
8	0.30	14.125	1.62	20.25	4.69		
8.125	0.32	14.25	1.66	20.375	4.77		
8.25	0.33	14.375	1.71	20.5	4.86		
8.375	0.35	14.5	1.75	20.625	4.95		
8.5	0.36	14.625	1.80	20.75	5.04		
8.625	0.38	14.75	1.84	20.875	5.13		
8.75	0.39	14.875	1.89	21	5.22		
8.875	0.41	15	1.93	21.125	5.31		
9	0.43	15.125	1.98	21.25	5.40		
9.125	0.45	15.25	2.03	21.375	5.50		
9.25	0.47	15.375	2.08	21.5	5.59		
9.375	0.48	15.5	2.13	21.625	5.69		
9.5	0.50	15.625	2.18	21.75	5.79		
9.625	0.52	15.75	2.23	21.875	5.88		
9.75	0.54	15.875	2.29	22	5.98		
9.875	0.56	16	2.34	22.125	6.09		
10	0.59	16.125	2.39	22.25	6.19		
10.125	0.61	16.25	2.45	22.375	6.29		
10.25	0.63	16.375	2.51	22.5	6.39		
10.375	0.65	16.5	2.56	22.625	6.50		
10.5	0.68	16.625	2.62	22.75	6.61		
10.625	0.70	16.75	2.68	22.875	6.71		
10.75	0.72	16.875	2.74	23	6.82		
10.875	0.75	17	2.80	23.125	6.93		
11	0.78	17.125	2.86	23.25	7.04		
11.125	0.80	17.25	2.92	23.375	7.16		
11.25	0.83	17.375	2.98	23.5	7.27		
11.375	0.86	17.5	3.05	23.625	7.38		
11.5	0.88	17.625	3.11	23.75	7.50		
11.625	0.91	17.75	3.18	23.875	7.62		
11.75	0.94	17.875	3.24	24	7.73		
11.875	0.97	18	3.31	24.125	7.85		
12	1.00	18.125	3.38	24.25	7.97		

**APPENDIX B-3**

**LARGEMOUTH BASS LENGTH-WEIGHT REGRESSION AND  
STATISTICS BASED ON 2003 ON-SITE TOURNAMENT  
MONITORING**

**Appendix B-3.** Regression statistics for largemouth bass collected during the 2003 on-site tournament monitoring events.



**Run Summary Section**

Parameter	Value	Parameter	Value
Dependent Variable	Log <sub>10</sub> Weight (g)	Rows Processed	104
Independent Variable	Log <sub>10</sub> Length (mm)	Rows Used in Estimation	104
Frequency Variable	None	Rows with X Missing	0
Weight Variable	None	Rows with Freq Missing	0
Intercept	-4.6663	Rows Prediction Only	0
Slope	2.9484	Sum of Frequencies	104
R-Squared	0.8356	Sum of Weights	104.0000
Correlation	0.9141	Coefficient of Variation	0.0266
Mean Square Error	6.020089E-03	Square Root of MSE	7.758923E-02