Attachment C (AS)

HUDSON RIVER BIOLOGICAL MONITORING PROGRAM
SUMMARY OF ATLANTIC STURGEON TAKE BY LIFE STAGE
AND
COLLECTION/HANDLING DATA
NMFS PERMIT1580—HRBMP YEARS 2007-2010

HUDSON RIVER BIOLOGICAL PROGRAM

SUMMARY OF ATLANTIC STURGEON TAKE BY LIFE STAGE AND COLLECTION / HANDLING DATA

Number of Atlantic sturgeon collected annually during 2001-2010 by the Long River Survey, Fall Shoals Survey, Beach Seine Survey, and Striped Bass Survey of the Hudson River Biological Monitoring Program, by life stage. (See notes below)

Sampling program	Year	Count by life stage							
		Eggs	Yolk-sac larvae	Post yolk-sac larvae	Length class 1 (young-of-the-year)	Length class 2 (yearling)	Length class 3 (older <251 mm)	Length class 4 (older >250 mm)	All life stages
Long River Survey (ichthyo-plankton)	2001	0	0	0	0	0	0	1	1
	2002	0	8	0	0	0	0	1	9
	2003	0	0	1	0	0	0	2	3
	2004	0	0	0	0	0	0	5	5
	2005	0	0	0	0	0	0	0	0
	2006	0	0	1	0	0	0	0	1
	2007	0	1	3	0	0	0	1	5
	2008	0	1	1	0	0	0	1	3
	2009	0	0	0	1	0	0	4	5
	2010	0	0	0	0	0	0	3	3
Fall Shoals Survey	2001				1	4	10	8	23
	2002				1	4	16	16	37
	2003				0	1	2	36	39
	2004				0	0	0	22	22
	2005				0	0	0	12	12
	2006				0	0	4	10	14
	2007				0	2	12	21	35
	2008				0	3	1	20	24
	2009				0	0	3	27	30
	2010				0	0	0	19	19
Beach Seine Survey	2001				0	0	0	0	0
	2002				0	0	0	0	0
	2003				0	0	0	0	0
	2004				0	0	0	0	0
	2005				0	0	0	0	0
	2006				0	0	0	0	0
	2007				0	0	0	0	0
	2008				0	0	0	0	0
	2009				0	0	0	0	0
	2010				0	0	0	0	0
Striped Bass Survey	2001				0	0	0	0	0
	2002				0	0	0	0	0
	2003				0	0	0	17	17
	2004				0	0	0	4	4
	2005				0	0	0	0	0
	2006				0	0	0	3	3
	2007				0	0	0	2	2
	2008				0	0	0	3	3
	2009				0	0	0	0	0
	2010				0	0	0	6	6

Sampling program	Year	Count by life stage							
		Eggs	Yolk-sac larvae	Post yolk-sac larvae	Length class 1 (young-of-the-year)	Length class 2 (yearling)	Length class 3 (older <251 mm)	Length class 4 (older >250 mm)	All life stages
All four surveys	2001	0	0	0	1	4	10	9	**24**
	2002	0	8	0	1	4	16	17	**46**
	2003	0	0	1	0	1	2	55	**59**
	2004	0	0	0	0	0	0	31	**31**
	2005	0	0	0	0	0	0	12	**12**
	2006	0	0	1	0	0	4	13	**18**
	2007	0	1	3	0	2	12	24	**42**
	2008	0	1	1	0	3	1	24	**30**
	2009	0	0	0	1	0	3	31	**35**
	2010	0	0	0	0	0	0	28	**28**

NOTES: **All but larvae are released, and no post-release mortality has been observed.** Counts from subsampled LRS samples were extrapolated up to represent the whole sample. Note that about 31% of the LRS samples are archived each year without being analyzed in the laboratory, so any Atlantic sturgeon larvae in those samples are not accounted for.

Table A2-2 Summary of Atlantic Sturgeon Interactions and Handling Data

Year 2007 - Hudson River Biological Monitoring Program

SURVEY TYPE	RIVER RUN NO.	TAXON CODE	RELEASE RECAP. CODE	SAMPLE NUMBER	DATE	RIVER MILE/ SITE (STRATA)	LATITUDE	LONGITUDE	GEAR CODE	FIELD MEASUREMENTS (mm) LENGTH	WEIGHT	EYE (W)	MOUTH (W)	INTERORBITAL WIDTH TEST *	TISSUE SAMPLE	PIT TAG NUMBER	CARLIN-R TAG NO.	COMMENT (CAPTURE LOCATION)
LONGITUDINAL RIVER SURVEY - ICHTHYOPLANKTON AND FALL JUVENILE SURVEYS - ATLANTIC STURGEON INTERACTIONS																		
IP	13	29	1	88-2058	6/5/2007	35-5	41 11.313	73 56.203	64	349	180	24	12	50.0%	NO	NT	NT	Haverstraw Bay
FJ	2	29	1	98-0181	7/18/2007	81-5	41 47.380	73 56.989	18	121	7	10	5	50.0%	NO	NT	NT	Crum Elbow
FJ	2	29	1	98-0608	7/19/2007	54-5	41 25.638	73 58.619	18	375	95	23	12	52.2%	NO	NT	NT	Cold Spring
FJ	3	29	1	98-0662	7/31/2007	77-5	41 44.289	73 56.393	18	135	8	11	3	27.3%	NO	NT	NT	Poughkeepsie
FJ	3	29	1	98-0662	7/31/2007	77-5	41 44.289	73 56.393	18	171	18	13	6	46.2%	NO	NT	NT	Poughkeepsie
FJ	3	29	1	98-0712	8/1/2007	55-5	41 25.865	73 58.473	18	404	240	28	14	50.0%	NO	NT	NT	Cold Spring
FJ	3	29	1	98-0716	8/1/2007	55-5	41 26.163	73 58.595	18	372	180	26	14	53.8%	NO	NT	NT	Cold Spring
FJ	3	29	1	98-0771	8/2/2007	54-5	41 25.041	73 57.979	18	266	110	20	10	50.0%	NO	NT	NT	Cold Spring
FJ	5	29	1	98-1016	8/28/2007	83-5	41 48.760	73 56.843	18	199	28	13	7	53.8%	NO	NT	NT	Hyde Park
FJ	5	29	1	98-1018	8/28/2007	78-5	41 44.602	73 56.427	18	188	27	12	6	50.0%	NO	NT	NT	Crum Elbow
FJ	5	29	1	98-1018	8/28/2007	78-5	41 44.602	73 56.427	18	194	28	13	6	46.2%	NO	NT	NT	Crum Elbow
FJ	5	29	1	98-1021	8/28/2007	71-5	41 39.414	73 56.835	18	202	30	12	6	50.0%	NO	NT	NT	Milton
FJ	6	29	1	98-1140	9/11/2007	80-5	41 46.829	73 57.108	18	192	40	14	7	50.0%	NO	NT	NT	Crum Elbow
FJ	6	29	1	98-1164	9/12/2007	55-5	41 26.482	73 58.953	18	520	560	33	17	51.5%	YES	4233047849	31314	Cold Spring
FJ	7	29	1	98-1267	9/25/2007	72-5	41 39.710	73 56.856	18	338	180	22	12	54.5%	NO	NT	NT	Milton
FJ	7	29	1	98-1267	9/25/2007	72-5	41 39.710	73 56.856	18	215	60	14	7	50.0%	NO	NT	NT	Milton
FJ	8	29	1	98-1589	10/9/2007	74-5	41 41.694	73 56.888	18	247	53	16	9	56.3%	NO	NT	NT	Blue Point
FJ	8	29	1	98-1597	10/9/2007	64-5	41 33.154	73 59.126	18	211	34	14	8	57.1%	NO	NT	NT	Chelsea
FJ	8	29	1	98-1611	10/10/2007	55-5	41 26.084	73 58.529	18	570	760	36	21	58.3%	YES	4233263232	31315	Cold Spring
FJ	8	29	1	98-1613	10/10/2007	55-5	41 25.930	73 58.857	18	581	780	36	20	55.6%	YES	42341A0A02	21305	Cold Spring
FJ	8	29	1	98-1613	10/10/2007	55-5	41 25.930	73 58.857	18	405	280	27	16	59.3%	YES	42326B7E5D	31304	Cold Spring
FJ	8	29	1	98-1613	10/10/2007	55-5	41 25.930	73 58.857	18	397	240	26	14	53.8%	NO	NT	NT	Cold Spring
FJ	9	29	1	98-1789	10/24/2007	71-5	41 39.175	73 56.843	18	226	45	16	8	50.0%	NO	NT	NT	Milton
FJ	9	29	1	98-1784	10/24/2007	81-5	41 47.165	73 57.081	18	402	260	26	14	53.8%	NO	NT	NT	Hyde Park
FJ	9	29	1	98-1784	10/24/2007	81-5	41 47.165	73 57.081	18	251	67	17	9	52.9%	NO	NT	NT	Hyde Park
FJ	9	29	1	98-1784	10/24/2007	81-5	41 47.165	73 57.081	18	251	67	16	9	56.3%	NO	NT	NT	Hyde Park
FJ	9	29	1	98-1784	10/24/2007	81-5	41 47.165	73 57.081	18	259	66	18	9	50.0%	NO	NT	NT	Hyde Park
FJ	9	29	1	98-1784	10/24/2007	81-5	41 47.165	73 57.081	18	254	61	16	8	50.0%	NO	NT	NT	Hyde Park
FJ	9	29	1	98-1797	10/24/2007	82-5	41 48.219	73 57.026	18	261	67	19	9	47.4%	NO	NT	NT	Hyde Park
FJ	10	29	1	98-1871	11/6/2007	89-5	41 53.560	73 57.632	18	262	72	18	10	55.6%	NO	NT	NT	Sturgeon Point
FJ	11	29	1	98-2065	11/28/2007	55-5	41 25.841	73 58.445	18	462	420	31	17	54.8%	YES	4235426C0C	31319	Cold Spring
FJ	11	29	1	98-2066	11/28/2007	55-5	41 25.923	73 58.489	18	447	340	30	14	46.7%	YES	42355C3629	31323	Cold Spring
FJ	11	29	1	98-2072	11/28/2007	58-5	41 28.046	74 00.600	18	283	83	18	10	55.6%	YES	4235431D3F	31322	Cornwall
FJ	11	29	1	98-2090	11/28/2007	71-5	41 39.185	73 56.891	18	251	62	17	9	52.9%	YES	423409454B	31317	Milton
FJ	11	29	1	98-2090	11/28/2007	71-5	41 39.185	73 56.891	18	265	72	18	9	50.0%	YES	4233683E33	31307	Milton
FJ	11	29	1	98-2090	11/28/2007	71-5	41 39.185	73 56.891	18	235	48	15	8	53.3%	NO	NT	NT	Milton
SB MARK/ RECAPTURE PROGRAM - MANHATTAN BATTERY AND LOWER HUDSON RIVER - ATLANTIC STURGEON INTERACTIONS																		
SB TRAWL	14	29	1	53-0521	2/1/2007	9-5	40.48.683	73.58.115	49	526	550	33	15	45.5%	NO	NT	NT	Lower Hudson River
SB TRAWL	3	29	1	53-0105	11/21/2007	9-5	40.48.867	73.57.988	49	587	820	40	19	47.5%	YES	422D7E5518	31336	Lower Hudson River

Bedford, NH; H.R. 2007 BMP weekly management letters

Notes: **Data supplied by Normandeau Associates are preliminary** and subject to QC review until reported as final
Table excludes enumeration of SNS larval forms identified in ichthyoplankton laboratory analysis
Survey Types: IP = Ichthyoplankton; FJ = Fall Juvenile; SB TRAWL = Striped Bass Mark /Recapture Program
Taxon Code 29 = Atlantic Sturgeon (Acipenser oxyrhynchus)
Release Recap. Code 1 = Specimen released in good condition
Release Recap. Code 2 = Specimen observed with existing tag, released in good condition
River Mile (RM) = increasing northward; RM-0 = Battery Park, NYC
Strata Designation: 5 = Channel Strata (>20 ft depth)
Gear Codes: 64 = 1m Epibenthic sled (w plankton net); 18 = 3m beam trawl; 49 = 9m otter trawl
* Interorbital eye/mouth width test: shortnose sturgeon > 62% and Atlantic sturgeon < 62%.
ND = No Data
NT = Specimen not tagged

Table A2-2 Summary of Atlantic Sturgeon Interactions and Handling Data

Year 2008 - Hudson River Biological Monitoring Program

SURVEY TYPE	RIVER RUN NO.	TAXON CODE	RELEASE RECAP. CODE	SAMPLE NUMBER	DATE	RIVER MILE/ SITE (STRATA)	LATITUDE	LONGITUDE	GEAR CODE	FIELD MEASUREMENTS (mm) LENGTH	WEIGHT	EYE (W)	MOUTH (W)	INTERORBITAL WIDTH TEST *	TISSUE SAMPLE	PIT TAG NUMBER	CARLIN-R TAG NO.	COMMENT (CAPTURE LOCATION)
LONGITUDINAL RIVER SURVEY - ICHTHYOPLANKTON AND FALL JUVENILE SURVEYS - ATLANTIC STURGEON INTERACTIONS																		
IP	14	29	1	88-2455	6/18/2008	58-5	41 28.312	73 59.933	64	578	820	39	17	43.6%	YES	423277307B	31321	Cornwall
FS	1	29	1	98-0065	7/9/2008	54-5	41 25.465	73 58.436	18	534	800	38	17	44.7%	YES	423A6D2449	31347	Cold Spring
FS	1	29	1	98-0108	7/10/2008	38-5	41 13.219	73 57.115	18	453	400	28	14	50.0%	YES	423B135136	31349	Haverstraw Bay
FS	2	29	1	98-0166	7/22/2008	77-5	41 43.734	73 56.532	18	133	11	9	6	66.7%	NO	NT	NT	Poughkeepsie
FS	2	29	1	98-0177	7/23/2008	63-5	41 32.261	73 59.335	18	125	10	9	5	55.6%	NO	NT	NT	Newburgh
FS	2	29	1	98-0177	7/23/2008	63-5	41 32.261	73 59.335	18	124	8	8	4	50.0%	NO	NT	NT	Newburgh
FS	3	29	1	98-0607	8/6/2008	59-5	41 28.835	73 59.967	18	430	260	29	15	51.7%	NO	NT	NT	Newburgh
FS	3	29	1	98-0608	8/6/2008	59-5	41 28.817	74 00.421	18	471	540	32	16	50.0%	NO	NT	NT	Newburgh
FS	3	29	1	98-0615	8/6/2008	55-5	41 26.335	73 58.799	18	671	1960	45	23	51.1%	YES	4235503446	31352	Cold Spring
FS	4	29	1	98-0519	8/20/2008	58-5	41 27.845	74 00.120	18	519	600	33	17	51.5%	YES	422E07363A	31362	Newburgh
FS	4	29	1	98-0900	8/21/2008	40-5	41 14.905	73 58.479	18	487	520	33	16	48.5%	YES	42355A5016	31354	Verplanck
FS	5	29	1	98-0956	9/4/2008	60-5	41 29.669	73 59.865	18	472	520	32	15	46.9%	YES	4232166F55	31360	Newburgh
FS	5	29	1	98-1104	9/5/2008	30-5	41 07.121	73 52.578	18	535	820	34	16	47.1%	YES	4232OD4A27	31366	Tappan Zee Bay
FS	6	29	1	98-1174	9/16/2008	71-3	41 39.196	73 56.874	18	247	56	17	8	47.1%	NO	NT	NT	Van Keuren
FS	7	29	1	98-1506	10/1/2008	57-5	41 27.610	74 00.218	18	483	450	31	16	51.6%	YES	42352A000B	31356	Cornwall
FS	7	29	1	98-1512	10/1/2008	55-5	41 25.947	73 58.869	18	524	550	34	19	55.9%	YES	423368560F	31367	Cold Spring
FS	8	29	1	98-1629	10/14/2008	58-5	41 28.293	74 00.103	18	485	450	30	16	53.3%	YES	42327C2B70	31365	Newburgh
FS	8	29	1	98-1693	10/16/2008	37-5	41 12.378	73 56.968	18	679	1550	43	20	46.5%	YES	42355A2B43	31369	Haverstraw Bay
FS	10	29	1	98-1908	11/12/2008	58-5	41 28.060	74 00.520	18	530	600	33	17	51.5%	YES	4203013118	31355	Cornwall
FS	10	29	1	98-1914	11/12/2008	55-5	41 26.284	73 58.693	18	299	132	18	9	50.0%	NO	NT	NT	Cold Spring
FS	10	29	1	98-1916	11/12/2008	55-5	41 26.164	73 58.610	18	548	620	34	17	50.0%	YES	4233087812	31370	Cold Spring
FS	10	29	1	98-1945	11/13/2008	36-5	41 12.113	73 56.325	18	718	1500	48	23	47.9%	YES	4232643C38	31372	Haverstraw Bay
FS	10	29	1	98-1955	11/13/2008	31-5	41 08.196	73 53.489	18	581	740	35	17	48.6%	YES	4235514B1D	31374	Tappan Zee Bay
FS	10	29	1	98-1955	11/13/2008	31-5	41 08.196	73 53.489	18	499	460	43	16	37.2%	YES	42353B1534	31373	Tappan Zee Bay
FS	11	29	1	98-2020	12/1/2008	23-4	41 01.022	73 53.696	18	511	365	34	17	50.0%	YES	423A641554	31397	Dobbs Ferry
SB MARK/ RECAPTURE PROGRAM - MANHATTAN BATTERY AND LOWER HUDSON RIVER - ATLANTIC STURGEON INTERACTIONS																		
SB TRAWL	15	29	1	53-495	2/15/2008	1-5	40 43.091	74 01.618	49	883	3260	69	32	46.4%	YES	4232641821	NT	lower Hudson River
SB TRAWL	21	29	1	53-0695	3/25/2008	9-5	40 48.493	73 58.279	49	301	100	20	10	50.0%	NO	NT	NT	lower Hudson River
SB-TRAWL	2	29	1	53-0068	11/14/2008	1-5	40 42.645	74 01.825	49	647	1260	42	24	57.1%	YES	423371231D	31335	Lower Hudson River (off Jersey City)

Data Source = Normandeau Associates, Inc., Bedford, NH; H.R. 2008 BMP weekly management letters

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* Interorbital eye/mouth width test: shortnose sturgeon > 62% and Atlantic sturgeon < 62%.
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NT = Specimen not tagged

Table A2-2 Summary of Atlantic Sturgeon Interactions and Handling Data

Year 2009 - Hudson River Biological Monitoring Program

SURVEY TYPE	RIVER RUN NO.	TAXON CODE	RELEASE RECAP. CODE	SAMPLE NUMBER	DATE	RIVER MILE/ SITE (STRATA)	LATITUDE	LONGITUDE	GEAR CODE	FIELD MEASUREMENTS (mm) LENGTH	WEIGHT	EYE (W)	MOUTH (W)	INTERORBITAL WIDTH TEST *	TISSUE SAMPLE	PIT TAG NUMBER	CARLIN-R TAG NO.	COMMENT (CAPTURE LOCATION)
LONGITUDINAL RIVER SURVEY - ICHTHYOPLANKTON AND FALL JUVENILE SURVEYS - ATLANTIC STURGEON INTERACTIONS																		
IP	3	29	1	88-0251	3/31/2009	36-5	41 12.025	73 56.173	64	541	800	36	18	50.0%	NO	NT	NT	Haverstraw Bay
IP	6	29	1	88-0879	4/21/2009	49-5	41 21.757	73 57.666	64	295	105	18	9	50.0%	NO	NT	NT	Garrison
IP	15	29	1	88-2661	6/25/2009	48-5	41 20.496	73 58.088	64	416	300	26	14	53.8%	NO	NT	NT	Garrison
FJ	1	29	1	98-0106	7/9/2009	51-5	41 22.763	73 57.146	18	675	1404	41	20	48.8%	NO	NT	NT	Garrison
FJ	1	29	1	98-0107	7/9/2009	51-5	41 23.041	73 57.058	18	615	1040	39	21	53.8%	YES	42326C7F01	31383	Garrison
FJ	2	29	1	98-0198	7/22/2009	55-5	41 25.803	73 58.596	18	605	960	38	19	50.0%	YES	42321D1B6F	31393	Cold Spring
FJ	3	29	1	98-0610	8/6/2009	60-5	41 29.577	73 59.751	18	537	720	34	17	50.0%	YES	4233696571	31394	Newburgh
FJ	4	29	1	98-0693	8/18/2009	77-5	41 43.704	73 56.569	18	740	1800	48	28	58.3%	YES	42352C3524	31385	Poughkeepsie
FJ	4	29	1	98-0811	8/19/2009	65-5	41 33.601	73 58.068	18	672	1500	49	26	53.1%	YES	42337B4E28	31391	Newburgh
IP	20	29	1	98-3257	8/27/2009	54-5	41 25.067	73 58.067	18	562	800	34	17	50.0%	NO	NT	NT	Cold Spring
FJ	6	29	1	98-1140	9/15/2009	68-5	41 36.034	73 57.006	18	545	560	36	16	44.4%	YES	42330C6026	31392	Marlboro
FJ	7	29	1	98-1387	9/30/2009	48-5	41 20.615	73 57.858	18	444	320	30	14	46.7%	YES	NT	NT	Garrison
FJ	8	29	1	98-1482	10/13/2009	77-5	41 43.971	73 56.495	18	530	680	12	6	50.0%	YES	42325C4D33	31386	Poughkeepsie
FJ	8	29	1	98-1483	10/13/2009	77-5	41 43.862	73 56.507	18	540	500	15	6	40.0%	YES	423B653404	31387	Poughkeepsie
FJ	9	29	1	98-1733	10/27/2009	35-5	41 10.389	73 55.204	18	860	2440	58	30	51.7%	YES	42377C1A16	31389	Croton
FJ	9	29	1	98-1764	10/27/2009	51-5	41 22.812	73 57.219	18	593	840	39	18	46.2%	YES	42330E3165	31388	Garrison
FJ	9	29	1	98-1769	10/28/2009	55-5	41 26.350	73 58.881	18	582	700	35	18	51.4%	YES	4234483419	NT	Cold Spring
FJ	9	29	1	98-1775	10/28/2009	58-5	41 28.152	74 00.299	18	560	860	42	20	47.6%	YES	4234093830	NT	Cornwall
FJ	10	29	1	98-1940	11/11/2009	58-5	41 28.417	73 59.751	18	285	60	20	9	45.0%	NO	NT	NT	Cornwall
FJ	10	29	1	98-1947	11/12/2009	55-5	41 26.390	73 58.864	18	315	80	22	11	50.0%	NO	NT	NT	Cold Spring
FJ	10	29	1	98-1947	11/12/2009	55-5	41 26.390	73 58.864	18	270	74	18	10	55.6%	NO	NT	NT	Cold Spring
FJ	10	29	1	98-1947	11/12/2009	55-5	41 26.390	73 58.864	18	312	80	20	11	55.0%	NO	NT	NT	Cold Spring
FJ	10	29	1	98-1947	11/12/2009	55-5	41 26.390	73 58.864	18	253	60	17	9	52.9%	NO	NT	NT	Cold Spring
FJ	10	29	1	98-1947	11/12/2009	55-5	41 26.390	73 58.864	18	234	50	17	9	52.9%	NO	NT	NT	Cold Spring
FJ	10	29	1	98-1947	11/12/2009	55-5	41 26.390	73 58.864	18	247	60	19	9	47.4%	NO	NT	NT	Cold Spring
FJ	10	29	1	98-1950	11/12/2009	55-5	41 25.895	73 58.601	18	335	145	23	12	52.2%	NO	NT	NT	Cold Spring
FJ	10	29	1	98-1950	11/12/2009	55-5	41 25.895	73 58.601	18	262	60	19	10	52.6%	NO	NT	NT	Cold Spring
FJ	10	29	1	98-1959	11/12/2009	48-5	41 20.582	73 57.884	18	572	700	36	18	50.0%	YES	4233694572	NT	Con Hook
FJ	10	29	1	98-1962	11/12/2009	44-5	41 17.892	73 57.861	18	757	1640	50	20	40.0%	YES	4232757C39	NT	Jones Point
FJ	10	29	1	98-1972	11/12/2009	39-5	41 14.394	73 57.693	18	604	920	37	21	56.8%	YES	423A506309	NT	Grassey Point
FJ	10	29	1	98-1972	11/12/2009	39-5	41 14.394	73 57.693	18	550	640	41	20	48.8%	YES	422E0B7956	NT	Grassey Point
FJ	11	29	1	98-2041	12/1/2009	38-5	41 13.115	73 56.980	18	535	6000	33	17	51.5%	NO	4232674A61	NT	Grassey Point
FJ	11	29	1	98-2044	12/1/2009	39-5	41 13.678	73 57.177	18	600	8080	38	18	47.4%	YES	423A5C3355	NT	
SB MARK/ RECAPTURE PROGRAM - MANHATTAN BATTERY AND LOWER HUDSON RIVER - ATLANTIC STURGEON INTERACTIONS																		
SB TRAWL Program																		No Atl.Sturgeon Specimens Captured During 2009 (SB Trawl Program)

Data Source = Normandeau Associates, Inc., Bedford, NH; H.R. 2009 BMP weekly management letters

Notes: **Data supplied by Normandeau Associates are preliminary** and subject to QC review until reported as final
Table excludes enumeration of SNS larval forms identified in ichthyoplankton laboratory analysis
Survey Types: IP = Ichthyoplankton; FJ = Fall Juvenile; SB TRAWL = Striped Bass Mark /Recapture Program
Taxon Code 29 = Atlantic Sturgeon (Acipenser oxyrhynchus)
Release Recap. Code 1 = Specimen released in good condition
Release Recap. Code 2 = Specimen observed with existing tag, released in good condition
River Mile (RM) = increasing northward; RM-0 = Battery Park, NYC
Strata Designation: 5 = Channel Strata (>20 ft depth)
Gear Codes: 64 = 1m Epibenthic sled (w plankton net); 18 = 3m beam trawl; 49 = 9m otter trawl
* Interorbital eye/mouth width test: shortnose sturgeon > 62% and Atlantic sturgeon < 62%.
ND = No Data
NT = Specimen not tagged

Table A2-2 Summary of Atlantic Sturgeon Interactions and Handling Data

Year 2010 - Hudson River Biological Monitoring Program

SURVEY TYPE	RIVER RUN NO.	TAXON CODE	RELEASE RECAP. CODE	SAMPLE NUMBER	DATE	RIVER MILE/ SITE (STRATA)	LATITUDE	LONGITUDE	GEAR CODE	FIELD MEASUREMENTS (mm) LENGTH	WEIGHT	EYE (W)	MOUTH (W)	INTERORBITAL WIDTH TEST *	TISSUE SAMPLE	PIT TAG NUMBER	CARLIN-R TAG NO.	COMMENT (CAPTURE LOCATION)
LONGITUDINAL RIVER SURVEY - ICHTHYOPLANKTON AND FALL JUVENILE SURVEYS - ATLANTIC STURGEON INTERACTIONS																		
IP	9	29	1	88-1474	5/12/2010	51-5	41 22.795	73 57.229	64	629	960	38	19	50.0%	YES	4232780447	32572	Garrison
FJ	1	29	1	98-0038	7/7/2010	78-5	41 44.572	73 56.500	18	375	220	24	12	50.0%	NO			Crum Elbow
FJ	1	29	1	98-0055	7/8/2010	59-5	41 28.743	73 59.802	18	441	340	31	16	51.6%	NO			Newburgh
FJ	2	29	1	98-0159	7/21/2010	89-5	41 54.051	73 57.660	18	410	300	26	13	50.0%	NO			Surgeon Point
FJ	2	29	1	98-0165	7/21/2010	82-5	41 48.673	73 56.914	18	400	280	28	14	50.0%	NO			Hyde Park
FJ	2	29	1	98-0194	7/22/2010	55-5	41 25.811	73 58.469	18	400	280	25	15	60.0%	NO			Cold Spring
FJ	2	29	1	98-0194	7/22/2010	55-5	41 25.811	73 58.469	18	820	2400	54	26	48.1%	YES	4238101535	32575	Cold Spring
FJ	3	29	1	98-0611	8/5/2010	68-5	41 35.870	73 57.488	18	645	1240	45	22	48.9%	NO	42336F1B76		Marlboro
FJ	3	29	1	98-0686	8/6/2010	42-5	41 16 224	73 57.669	18	615	1100	41	22	53.7%	NO	42332F5A4D		Indian Point
FJ	5	29	1	98-0878	9/2/2010	50-5	41 22.030	73 57.560	18	470	440	29	16	55.2%	YES	42350E0856	32580	Garrison
IP	21	29	1	88-3354	9/9/2010	55-5	41 26.406	73 58.906	64	603	1120	38	19	50.0%	YES	4235345939	32583	Cold Spring
FJ	6	29	1	98-1305	9/15/2010	51-5	41 22.895	73 57.199	18	435	360	27	15	55.6%	YES	42331F3733	32587	Garrison
FJ	6	29	1	98-1356	9/16/2010	36-5	41 11.890	73 56.423	18	610	1000	38	22	57.9%	YES	4233734F5C	32589	Haverstraw Bay
FJ	7	29	1	98-1422	9/29/2010	55-5	41 25.818	73 58.763	18	512	500	33	18	54.5%	YES	422E21271E	32593	Cold Spring
FJ	7	29	1	98-1422	9/29/2010	55-5	41 25.818	73 58.763	18	655	1120	41	23	56.1%	YES	42322J422D	32596	Cold Spring
FJ	7	29	1	98-1425	9/29/2010	54-5	41 25.198	73 57.946	18	470	400	34	16	47.1%	YES	4235636A21	32595	Cold Spring
FJ	8	29	1	98-1538	10/12/2010	61-5	41 30.695	73 59.766	18	485	440	29	17	58.6%	YES	42355D4F5C		Newburgh
FJ	8	29	1	98-1565	10/13/2010	40-5	41 14.799	73 57.968	18	840	2500	54	25	46.3%	YES	42330D673F		Verplanck
FJ	9	29	1	98-1733	10/26/2010	36-5	41 12.067	73 56.250	18	663	1280	46	25	54.3%	YES	4235200E53		Haverstraw Bay
FJ	9	29	1	98-1756	10/27/2010	50-5	41 22.088	73 57.532	18	505	500	36	17	47.2%	YES	4233112C20		Garrison
FJ	9	29	1	98-1762	10/27/2010	55-5	41 26.227	73 58.724	18	660	1220	46	21	45.7%	YES	422E241658		Cold Spring
SB MARK/ RECAPTURE PROGRAM - MANHATTAN BATTERY AND LOWER HUDSON RIVER - ATLANTIC STURGEON INTERACTIONS																		
SBT	21	29	1	53-0628	3/24/2010	8-5	40 48.539	73 58.776	49	785	2200	50	26	52.0%	YES	42327B3B71	32556	Lower Hudson River
SBT	22	29	1	53-0676	4/1/2010	38-5	41 13.194	73 56.693	49	633	1120	43	23	53.5%	NO	42335F3B0E	32557	Haverstraw Bay
SBT	22	29	1	53-0676	4/1/2010	38-5	41 13.194	73 56.693	49	584	900	41	22	53.7%	YES	42326E1E3F	32558	Haverstraw Bay
SBT	22	29	1	53-0678	4/1/2010	35-6	41 11.458	73 55.349	49	601	960	41	23	56.1%	NO	4233713E1C	32560	Haverstraw Bay
SB trawl	7	29	1	53-0191	12/14/2010	7-5	40 47.962	73 59.136	49	557	560	35	17	48.6%	YES	423A4A0A4A	32562	Lower Hudson River
SB trawl	7	29	1	53-0212	12/17/2010	7-5	40 48.014	73 59.114	49	605	1100	40	21	52.5%	YES	4233664E0B	32563	Lower Hudson River

Data Source = Normandeau Associates, Inc., Bedford, NH; H.R. 2010 BMP weekly management letters

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Table excludes enumeration of SNS larval forms identified in ichthyoplankton laboratory analysis
Survey Types: IP = Ichthyoplankton; FJ = Fall Juvenile; SB TRAWL = Striped Bass Mark /Recapture Program
Taxon Code 29 = Atlantic Sturgeon (Acipenser oxyrhynchus)
Release Recap. Code 1 = Specimen released in good condition
Release Recap. Code 2 = Specimen observed with existing tag, released in good condition
River Mile (RM) = increasing northward; RM-0 = Battery Park, NYC
Strata Designation: 5 = Channel Strata (>20 ft depth)
Gear Codes: 64 = 1m Epibenthic sled (w plankton net); 18 = 3m beam trawl; 49 = 9m otter trawl
* Interorbital eye/mouth width test: shortnose sturgeon > 62% and Atlantic sturgeon < 62%.
ND = No Data
NT = Specimen not tagged

Table A2-2 Summary of Atlantic Sturgeon Interactions and Handling Data

Year 2011- Hudson River Biological Monitoring Program

SURVEY TYPE	RIVER RUN NO.	TAXON CODE	RELEASE RECAP. CODE	SAMPLE NUMBER	DATE	RIVER MILE/ SITE (STRATA)	LATITUDE	LONGITUDE	GEAR CODE	FIELD MEASUREMENTS (mm) LENGTH	WEIGHT	EYE (W)	MOUTH (W)	INTERORBITAL WIDTH TEST *	TISSUE SAMPLE	PIT TAG NUMBER	CARLIN-R TAG NO.	COMMENT (CAPTURE LOCATION)
LONGITUDINAL RIVER SURVEY - ICHTHYOPLANKTON AND FALL JUVENILE SURVEYS - ATLANTIC STURGEON INTERACTIONS																		
FJ	1	29	1	98-0068	7/8/2011	36-5	41 11.744	73 56.429	18	715	1700	47	24	51.1%	NO	423A7D366F	32569	Haverstraw Bay
FJ	1	29	1	98-0279	7/7/2011	58-5	41 28.496	74 00.323	18	94	4	8	4	50.0%	NO			Newburgh Bay
FJ	1	29	1	98-0291	7/7/2011	55-5	41 26.361	73 58.771	18	510	800	37	18	48.6%	YES	4233603622	NO	Cold Spring
FJ	1	29	1	98-0302	7/8/2011	51-5	41 22.828	73 57.213	18	570	820	37	18	48.6%	YES	422E0F7425	NO	Garrison
FJ	1	29	1	98-0304	7/8/2011	50-5	41 22.122	73 57.567	18	570	980	41	20	48.8%	YES	417950245E	NO	Garrison
FJ	2	29	1	98-0446	7/21/2011	42-5	41 16.800	73 57.413	18	559	580	36	18	50.0%	YES	423A544F5A	NO	Peekskill Bay
FJ	3	29	1	98-0543	8/4/2011	39-5	41 13.840	73 57.239	18	611	940	39	16	41.0%	NO	422E1A2033	NO	Stony Point Bay
FJ	3	29	1	98-0653	8/3/2011	55-5	41 25.757	73 58.483	18	680	1500	46	23	50.0%	YES	423A495B1D	NO	Cold Spring
FJ	4	29	1	98-0851	8/17/2011	60-5	41 29.732	73 59.601	18	620	1300	47	23	48.9%	YES	423B61452F	NO	Newburgh Bay
FJ	4	29	1	98-0870	8/17/2011	55-5	41 26.469	73 58.928	18	605	1000	38	19	50.0%	YES	4233071628	NO	Cold Spring
FJ	6	29	1	98-1083	9/14/2011	35-5	41 10.892	73 55.578	18	740	1880	46	26	56.5%	YES	423310152C	NO	Haverstraw Bay
FJ	6	29	1	98-1083	9/14/2011	35-5	41 10.892	73 55.578	18	246	40	14	6	42.9%	NO		NO	Haverstraw Bay
FJ	6	29	1	98-1202	9/14/2011	39-5	41 13.728	73 57.384	18	262	60	16	8	50.0%	NO		NO	Stony Point Bay
FJ	6	29	1	98-1205	9/15/2011	39-5	41 14.410	73 57.629	18	255	50	17	9	52.9%	NO		NO	Stony Point Bay
FJ	6	29	1	98-1205	9/15/2011	39-5	41 14.410	73 57.629	18	278	70	20	10	50.0%	NO		NO	Stony Point Bay
FJ	6	29	1	98-1309	9/15/2011	41-5	41 15.584	73 58.316	18	620	1150	44	21	47.7%	YES	42330A3D35	NO	Verplanck
FJ	7	29	1	98-1410	9/28/2011	53-5	41 24.739	73 57.924	18	653	1350	42	21	50.0%	YES	4233082B02	NO	Cold Spring
FJ	9	29	1	98-1699	10/25/2011	40-5	41 14.528	73 57.718	18	573	700	39	19	48.7%	YES	4233094958	NO	Verplanck
FJ	9	29	1	98-1702	10/25/2011	41-5	41 15.366	73 58.379	18	580	800	41	19	46.3%	YES	422EOB392F	NO	Verplanck
FJ	10	29	1	98-1926	11/10/2011	38-5	41 12.997	73 56.786	18	620	1100	42	21	50.0%	YES	423A604820	NO	Haverstraw Bay
FJ	11	29	1	98-2001	11/29/2011	41-5	41 15.682	73 58.242	18	320	180	19	8	42.1%	NO		NO	Verplanck
SB MARK/ RECAPTURE PROGRAM - MANHATTAN BATTERY AND LOWER HUDSON RIVER - ATLANTIC STURGEON INTERACTIONS																		
SBT	2	29	1	53-0041	11/7/2011	4-5	40 39.645	74 01.462	49	765	2140	52	23	44.2%	NO	NO	NO	NY Harbor
SBT	3	29	1	53-0104	11/17/2011	4-5	40 38.594	74 01.462	49	587	1140	39	18	46.2%	YES	422E196351	NO	NY Harbor
SBT	3	29	1	53-0104	11/17/2011	4-5	40 38.594	74 01.462	49	675	1400	41	20	48.8%	YES	423377422F	NO	NY Harbor
SBT	4	29	1	53-0129	11/22/2011	4-5	40 39.642	74 01.417	49	759	1960	49	27	55.1%	YES	4235557613	NO	NY Harbor
SBT	4	29	1	53-0137	11/23/2011	4-5	40 39.236	74 01.856	49	740	1660	52	24	46.2%	YES	4232757900	NO	NY Harbor
SBT	5	29	1	53-0144	11/28/2011	3-5	40 39.765	74 01.319	49	745	1980	47	20	42.0%	YES	423A723D16	NO	NY Harbor
SBT	8	29	1	53-0272	12/20/2011	4-5	40 39.765	74 01.989	49	789	2860	54	28	51.9%	YES	4233751830	NO	NY Harbor
SBT	9	29	1	53-0323	12/29/2011	3-5	40 39.418	74 01.650	49	691	1820	46	23	50.0%	YES	423B01030E	NO	NY Harbor
SBT	9	29	1	53-0324	12/29/2011	3-5	40 39.428	74 01.680	49	703	1560	56	25	44.6%	YES	42321F4A2C	NO	NY Harbor

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