THE HUDSON RIVER EEL PROJECT 2008-2022

C**ommunity** Science American Eel Surveys

Overview

The New York State Department of Environmental Conservation (NYSDEC) Hudson River Estuary Program and National Estuarine Research Reserve support a community science eel monitoring program to track the number of young of year (YOY) eels in tributaries of the Hudson River. Along with DEC staff, trained volunteers check specialized nets daily for eels. Volunteers include college interns, middle and high school students, teachers, watershed group members, and local residents. The project provides crucial baseline data on young eel populations in the Hudson River, and gets students and community members engaged with their local streams. This report summarizes data collected by students and volunteers at several sites along the Hudson River estuary.

CONTACT INFORMATION

Chris Bowser and Sarah Mount

Hudson River National Estuarine Research Reserve and Hudson River Estuary Program
New York State Department of Environmental Conservation
Norrie Point Environmental Center
256 Norrie Point Way
Staatsburg, NY 12580

chris.bowser@dec.ny.gov
sarah.mount@dec.ny.gov

Summary of Eel Data Overtime

Year	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day
2008	144	2,388	16.6	181	1.3	2,569	17.8
2009	273	9,089	33.3	431	1.6	9,520	34.9
2010	432	10,975	25.4	1,407	3.3	12,382	28.7
2011	444	7,628	17.2	1,457	3.3	9,085	20.5
2012	645	85,297	132.2	1,331	2.1	86,628	134.3
2013	626	103,193	164.8	1,652	2.6	104,845	167.5
2014	529	49,758	94.1	873	1.7	50,631	95.7
2015	521	49,559	95.1	1,309	2.5	50,868	97.6
2016	674	141,948	210.6	2,385	3.5	144,333	214.1
2017	743	88,537	119.2	3,173	4.3	91,710	123.4
2018	782	146,250	187.0	1,271	1.6	147,521	188.6
2019	709	241,138	340.1	5,752	8.1	246,890	348.2
2020	358	405,019	1,131.3	2,903	8.1	407,922	1,139.5
2021	600	76,251	127.1	4,502	7.5	80,753	134.6
2022	671	311,573	464.3	2,306	3.4	313,879	467.8
Total	**8,151**	**1,728,618**		**30,933**		**1,759,551**	
Average			**212.1**		**3.8**		**215.9**

Table 1. Total and average eels caught per day combined for all sampling sites in each year of sampling. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

Table of Contents

Methods

Sampling protocols follow those outlined by the Atlantic States Marine Fisheries Commission (ASMFC)[1] and on previous Hudson River research following ASMFC protocols[2].

Sampling Sites

Sampled streams are all tributaries to the Hudson River estuary in New York except CURB, Blind Brook, the Bronx River, and Richmond Creek. Net placement is close to the mouth of the stream, and as close to the head of tide as possible, depending on the stream's profile and accessibility.

RM	Site	Town/City	County	Years of Sampling
153	Poestenkill	Troy	Rensselaer	2018-2019, 2021-2022
132	Hannacroix Creek	Coeymans	Greene	2010-2022
98	Saw Kill	Annandale-on-Hudson	Dutchess	2003-2022
85	Enderkill	Staatsburg	Dutchess	2016-2022
84	Black Creek	Esopus	Ulster	2010-2022
82	Crum Elbow Creek	Hyde Park	Dutchess	2009-2015
76	Fall Kill	Poughkeepsie	Dutchess	2008-2022
67	Hunters Brook	Wappingers Falls	Dutchess	2016-2019, 2021-2022
61	Quassaick Creek	Newburgh	Orange	2012-2019, 2022
53	Indian Brook	Cold Spring	Putnam	2009-2019
38	Furnace Brook	Cortlandt	Westchester	2008-2022
37	Minisceongo Creek	West Haverstraw	Rockland	2009-2022
14	Center for the Urban River at Beczak (CURB)	Yonkers	Westchester	2015-2022
Long Island Sound	Blind Brook	Rye	Westchester	2017-2019, 2021
East River	Bronx River	Bronx	Bronx	2012-2013
NY Harbor	Richmond Creek	Staten Island	Richmond	2012-2022

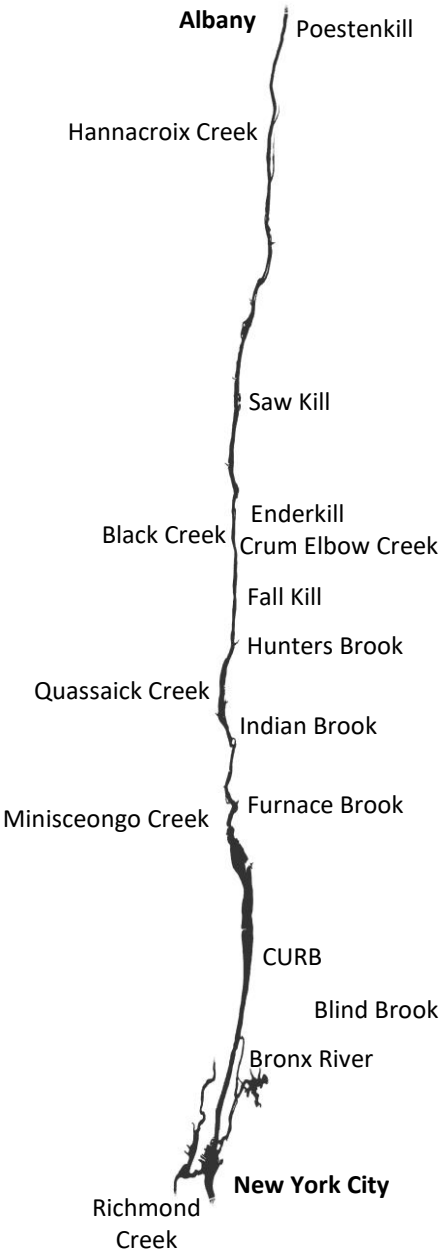

Table 2. Sample streams with their location (New York State county and town/city), the number of sampling years, and Hudson River Mile (RM) measured from the southern tip of Manhattan (RM 0). Exceptions include: CURB, with a net located in a constructed wetland; the Bronx River, a tributary of the East River; Richmond Creek, part of New York Harbor; and Blind Brook, a tributary of the Long Island Sound. The Saw Kill site has been active each spring since before this community-science project[2].

[1] Atlantic States Marine Fisheries Commission. 2000. Standard procedures for American eel young of the year survey. http://www.asmfc.org/
[2] Schmidt, R.E., R. Petersson, T.R. Lake. 2006. Hudson River tributaries in the lives of fishes with emphasis on the American eel. American Fisheries Society Symposium, 51:317-330.

Sampling Gear

Fyke nets are checked daily over approximately a six- to eight-week period from February to May (sampling period varies slightly due to annual variability and water temperature). Nets are secured in the streambed using rebar or metal posts, and chimney blocks secure the trap end of the net against the current. The mouth of the net faces the mainstem Hudson River in order to catch eels as they swim upstream into the tributaries. The wings of the fyke net are measured to be 13.5 ft apart and the mouth of the net is 4 ft; these measurements are standard across sites. Fyke nets all have a chain line on the bottom and a float line on top. The height of the wings of the net is 4-5 ft. Between the mouth of the net and the funnel trap there is a ¼ inch-size exclusion mesh, preventing larger animals from entering the trap. The rest of the fyke net is made with 1 mm mesh, which is small enough that glass eels cannot swim through, but still allows water to flow. Volunteers scrub the net as needed to ensure adequate water flow. Nets are removed from the stream during high flow conditions to ensure volunteer safety.

Net locations may vary slightly from year to year to accommodate streambed changes. In previous years net placement was moved to test eels' preference over fast- or slow-moving water. Currently most nets are placed with one wing extending up a bank and the other extending into the channel. The mouth of the net is placed in a reach with low resistance flow.

Sampling Protocol

The nets are checked every day with exceptions including inclement weather. All eels caught in the fyke net are counted and released upstream. A subset of 20 eels is weighed (the exact number weighed may depend on how many eels are caught). The number of eels weighed and the total weight is recorded, and an average individual weight is calculated. Dry weights are taken by patting the eels dry with an absorbent cloth before weighing. At all of the sites possible, eels caught are released above the first barrier to upstream migration.

Eels caught are recorded in two groups: "glass eels" and "elvers". We use these terms to describe the difference between young of the year (YOY) eels (glass eels) and eels that have been residents of the Hudson River system for at least a year (elvers). Community scientists are trained by DEC staff in distinguishing between the two life stages, and we include a guide at each site with color photos and tips for identifying the different stages of juvenile eels. The fyke net's exclusion mesh prevents eels larger than about 5 inches from entering the trap.

Water temperature, air temperature, weather and tide period are collected at each site every day. Some sites collect additional water quality data.

Since 2015, the Center for the Urban River at Beczak (CURB), has been involved with the eel monitoring program. CURB is a unique site among other sites in the Hudson Valley, the fyke net is situated in a constructed wetland, not a tidal tributary. The sampling gear and technique are similar with a few differences. Sampling days occur Tuesday through Friday and not on weekend days. In 2016, the fyke net at Beczak did not have wings to accommodate the narrow channel. CURB gathers additional water quality data; to view these, visit: http://www.centerfortheurbanriver.org/research/eels.html.

Sampling analysis

We use the number of eels (YOY glass eels, older elvers, and both) and the number of days sampled to calculate the average number of eels caught per day. Samplings days start when the first glass eel is found in the net and ends when the last glass eel is caught. Days do not count as effort if the net was removed. In the annual summary tables, start and end dates are defined as the dates of initial fyke net install and final net removal, respectively.

Volunteer recruitment and training

Presentations are done at schools, colleges, watershed group meetings, and other groups such as scout troops and afterschool clubs to recruit volunteers. Some presentations are done for large assemblies of students (100-200 people at a time), and some are done for smaller groups. These presentations generally include an overview of the project, information on the recent decline of eel populations, our sampling protocols, and data from past years. In addition to these general presentations, we provide *in situ* training by DEC and partner organization staff after the fyke nets are deployed to ensure proper data collection and maintenance of sampling gear. Volunteers never sample alone; there must be at least two people present to sample. At the end of the season, volunteers are asked to fill out evaluations and describe their experiences while participating in the eel project.

Left to right: Students with glass eels and elvers about to be released, students reset the fyke net, a fyke net.

2008 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
98	Saw Kill	36	29	0.8	27	0.8	56	1.6	18-Mar	11-May
76	Fall Kill	56	1228	21.9	154	2.8	1382	24.8	1-Apr	31-May
38	Furnace Brook	31	1131	36.5	*	*	1131	36.5	19-Apr	31-May
Total		**123**	**2,388**		**181**		**2,569**			
Average				**19.4**		**1.5**		**20.9**		

Table 3. Results for all community science sampling sites in 2008, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.
*Furnace Brook did not count elvers.

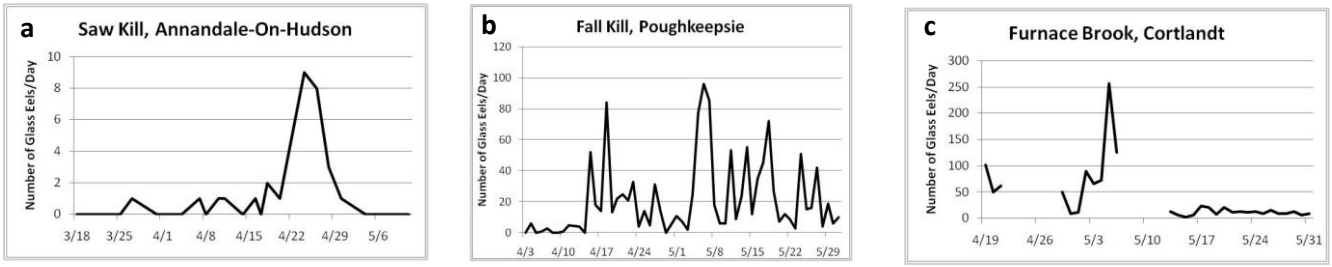

Figure 1. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2008, a) Saw Kill in Annandale-on-Hudson, b) Fall Kill in Poughkeepsie, and c) Furnace Brook in Cortlandt. **Note:** Each graph has a different scale.

2009 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
98	Saw Kill	24	239	10.0	45	1.9	284	11.8	10-Apr	5-May
82	Crum Elbow Creek	56	370	6.6	82	1.5	453	8.1	28-Mar	28-May
76	Fall Kill	63	4506	71.5	124	2.0	4630	73.5	30-Mar	1-Jun
53	Indian Brook	61	74	1.2	120	2.0	194	3.2	25-Mar	24-May
38	Furnace Brook	63	3446	54.7	46	0.7	3492	55.4	24-Mar	26-May
37	Minisceongo Creek	5	454	90.8	13	2.6	467	93.4	24-Apr	29-Apr
Total		**273**	**9,089**		**431**		**9,520**			
Average				**33.3**		**1.6**		**34.9**		

Table 4. Results for all community science sampling sites in 2009, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

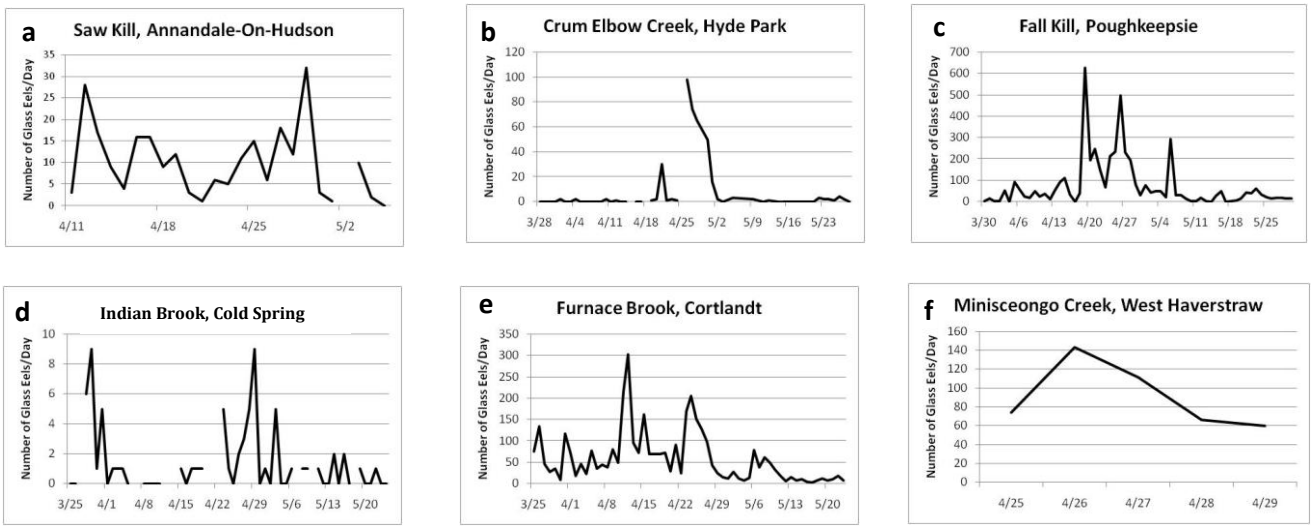

Figure 2. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2009, a) Saw Kill in Annandale-On-Hudson, b) Crum Elbow Creek in Hyde Park, c) Fall Kill in Poughkeepsie, d) Indian Brook in Cold Spring, e) Furnace Brook in Cortlandt, and f) Minisceongo Creek in West Haverstraw. **Note:** Each graph has a different scale.

2010 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
132	Hannacroix Creek	36	358	9.9	279	7.8	637	17.7	13-Apr	18-May
98	Saw Kill	35	120	3.4	27	0.8	147	4.2	13-Apr	17-May
84	Black Creek	89	3934	44.2	248	2.8	4182	47.0	1-Apr	1-Jun
82	Crum Elbow Creek	74	1199	16.2	486	6.6	1685	22.8	6-Apr	25-May
76	Fall Kill	57	2032	35.7	265	4.7	2297	40.3	6-Apr	1-Jun
53	Indian Brook	42	22	0.5	53	1.3	75	1.8	8-Apr	19-May
38	Furnace Brook	50	2863	57.3	18	0.4	2881	57.6	24-Mar	20-May
37	Minisceongo Creek	46	447	9.2	31	0.6	478	9.8	25-Mar	23-May
Total		**432**	**10,975**		**1,407**		**12,382**			
Average				**25.4**		**3.3**		**28.7**		

Table 5. Results for all community science sampling sites in 2010, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

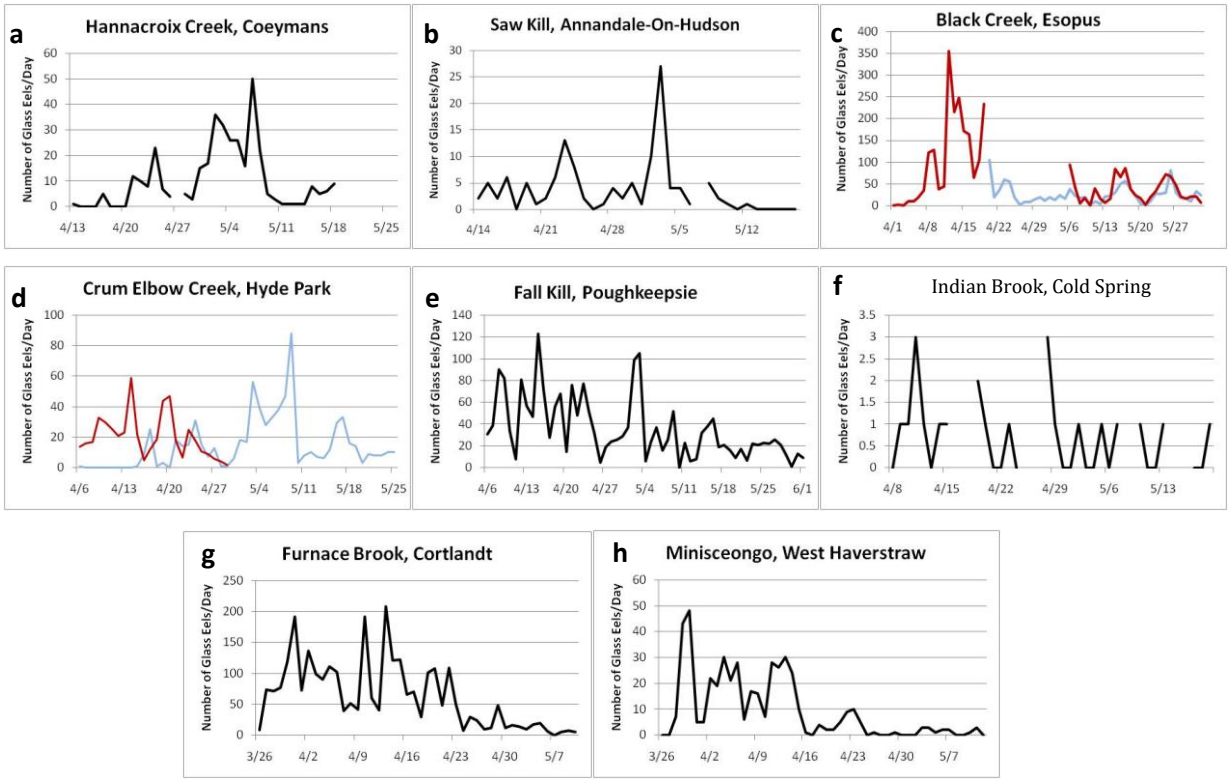

Figure 3. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2010, a) Hannacroix Creek in Coeymans, b) Saw Kill in Annandale-On-Hudson, c) Black Creek in Esopus, d) Crum Elbow Creek in Hyde Park, e) Fall Kill in Poughkeepsie, f) Indian Brook in Cold Spring, g) Furnace Brook in Cortlandt, and h) Minisceongo Creek in West Haverstraw. Red lines represent sampling along river banks, blue lines are nets in main stream channels. **Note:** Each graph has a different scale.

2011 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
132	Hannacroix Creek	25	648	25.9	255	10.2	903	36.1	2-May	3-Jun
98	Saw Kill	71	116	1.6	9	0.1	125	1.8	26-Mar	5-Jun
84	Black Creek	68	1002	14.7	163	2.4	1165	17.1	26-Mar	2-Jun
82	Crum Elbow Creek	77	2079	27.0	673	8.7	2752	35.7	28-Mar	17-Jun
76	Fall Kill	66	625	9.5	218	3.3	843	12.8	23-Mar	3-Jun
53	Indian Brook	23	38	4.2	39	4.3	77	8.6	31-Mar	22-Apr
38	Furnace Brook	53	2508	47.3	10	0.2	2518	47.5	24-Mar	1-Jun
37	Minisceongo Creek	61	612	10.0	90	1.5	702	11.5	26-Mar	1-Jun
Total		**444**	**7,628**		**1,457**		**9,085**			
Average				**17.2**		**3.3**		**20.5**		

Table 6. Results for all community science sampling sites in 2011, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

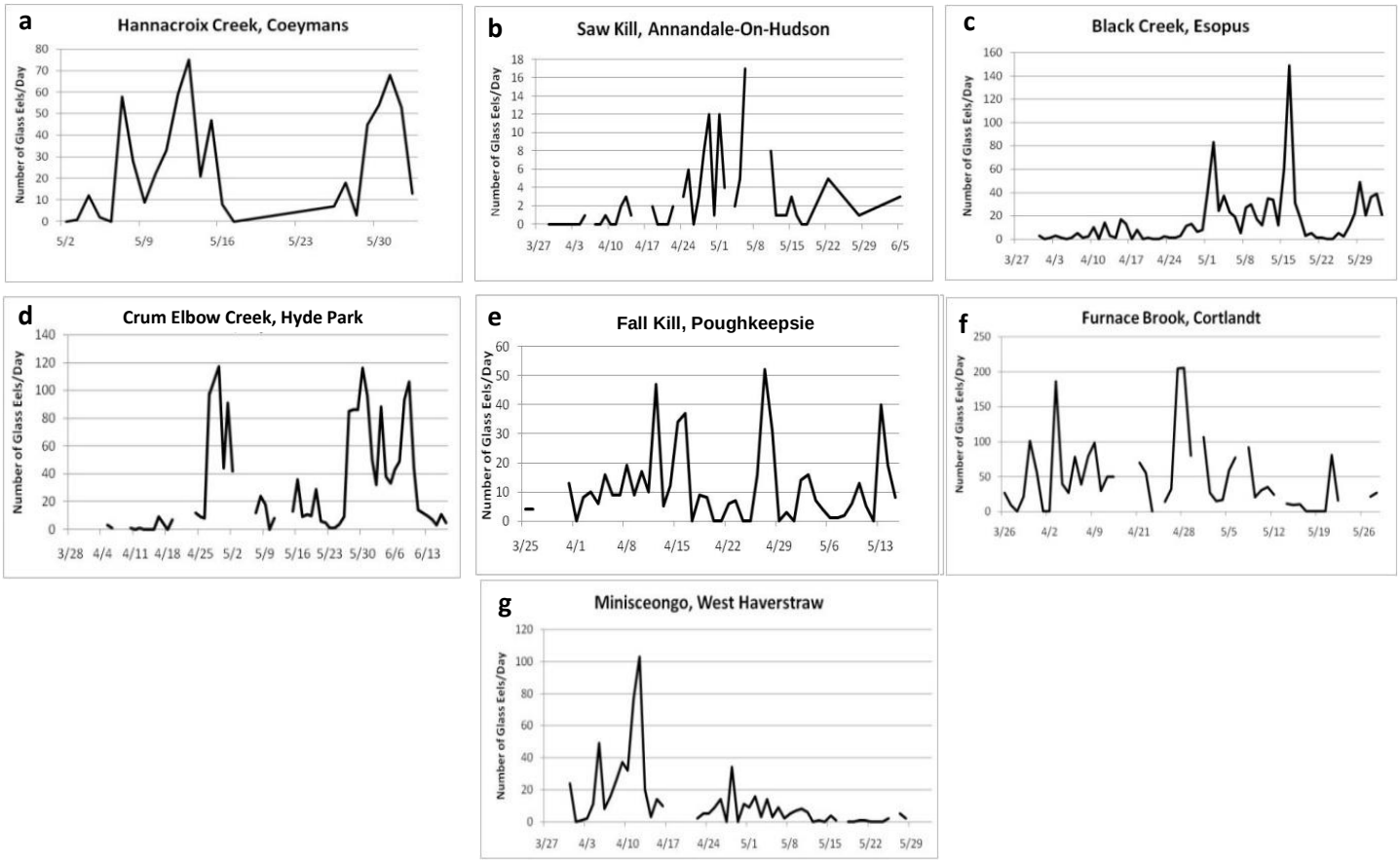

Figure 4. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2011, a) Hannacroix Creek in Coeymans, b) Saw Kill in Annandale-On-Hudson, c) Black Creek in Esopus, d) Crum Elbow Creek in Hyde Park, e) Fall Kill in Poughkeepsie, f) Furnace Brook in Cortlandt, and g) Minisceongo in West Haverstraw. **Note:** Each graph has a different scale.

2012 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
132	Hannacroix Creek	50	2945	58.9	37	0.7	2982	59.6	24-Mar	14-May
98	Saw Kill	44	139	3.2	15	0.3	154	3.5	18-Mar	30-Apr
84	Black Creek	61	12408	203.4	101	1.7	12509	205.1	13-Mar	14-May
82	Crum Elbow Creek	76	22460	295.5	732	9.6	23192	305.2	13-Mar	30-May
76	Fall Kill	65	6831	105.1	198	3.0	7029	108.1	7-Mar	11-May
61	Quassaick Creek	53	23446	442.4	123	2.3	23569	444.7	20-Mar	11-May
53	Indian Brook	67	73	1.1	67	1.0	140	2.1	9-Mar	14-May
38	Furnace Brook	76	3796	49.9	23	0.3	3819	50.3	2-Mar	19-May
37	Minisceongo Creek	60	939	15.7	22	0.4	961	16.0	5-Mar	4-May
NY Harbor	Richmond Creek	56	12037	214.9	7	0.1	12044	215.1	6-Mar	30-Apr
ER	Bronx River	37	223	2.7	6	0.1	229	2.8	31-Mar	11-May
Total		**645**	**85,297**		**1,331**		**86,628**			
Average				**132.2**		**2.1**		**134.3**		

Table 7. Results for all community science sampling sites in 2012, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

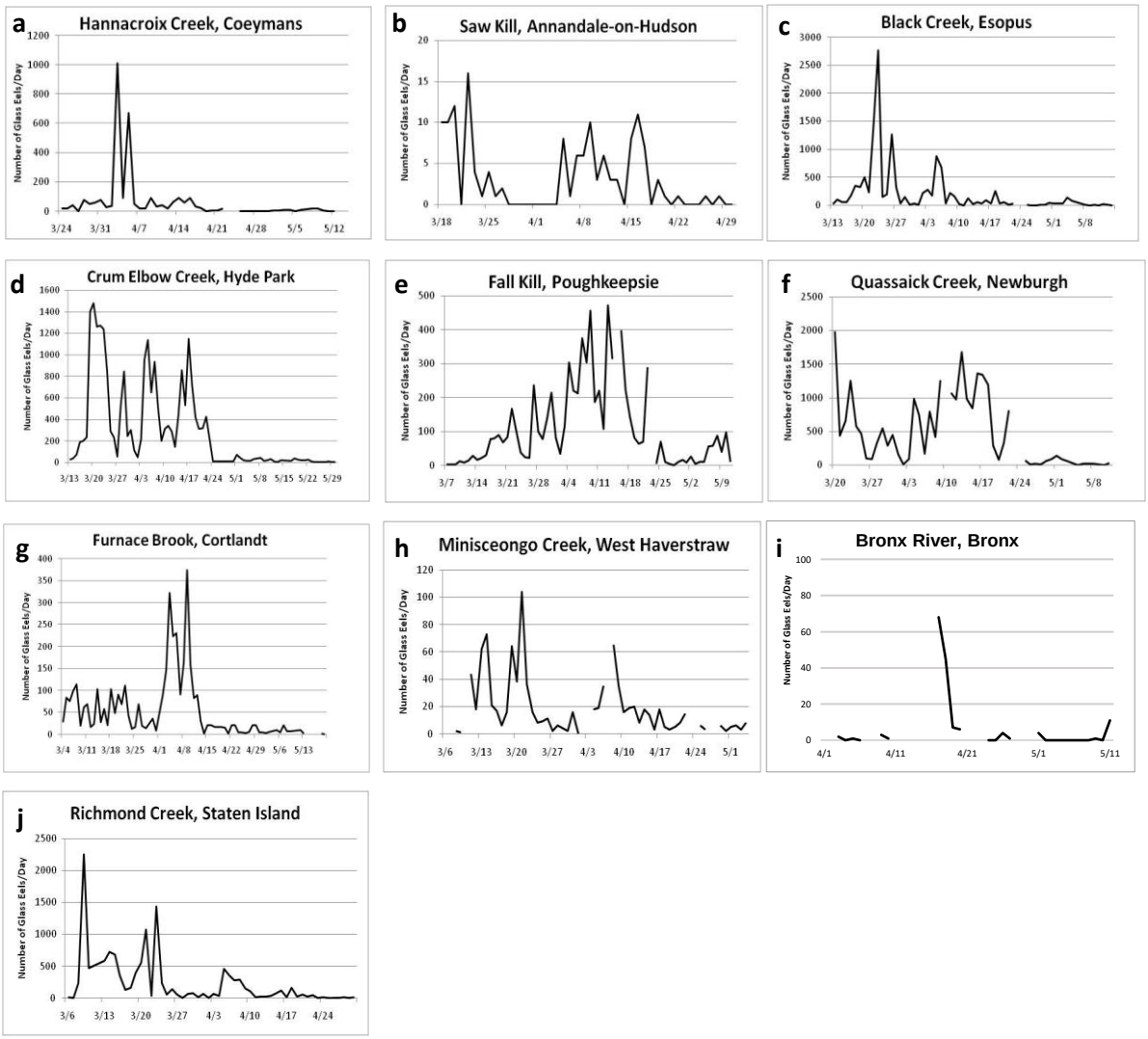

Figure 5. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2012, a) Hannacroix Creek in Coeymans, b) Saw Kill in Annandale-On-Hudson, c) Black Creek in Esopus, d) Crum Elbow Creek in Hyde Park, e) Fall Kill in Poughkeepsie, f) Quassaick Creek in Newburgh, g) Furnace Brook in Cortlandt, h) Minisceongo Creek in West Haverstraw, i) Bronx River in the Bronx, and j) Richmond Creek in Staten Island. **Note:** Each graph has a different scale.

2013 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
132	Hannacroix Creek	47	42912	913.0	379	8.1	43291	921.1	5-Apr	21-May
98	Saw Kill	49	1819	37.1	80	1.6	1899	38.8	3-Apr	21-May
84	Black Creek	59	19254	326.3	105	1.8	19359	328.1	23-Mar	20-May
82	Crum Elbow Creek	62	11565	186.5	729	11.8	12294	198.3	6-Apr	24-May
76	Fall Kill	59	7081	120.0	178	3.0	7259	123.0	27-Mar	24-May
61	Quassaick Creek	29	11619	400.7	46	1.6	11665	402.2	9-Apr	7-May
53	Indian Brook	51	100	2.0	61	1.2	161	3.2	25-Mar	14-May
38	Furnace Brook	87	2595	29.8	15	0.2	2610	30.0	11-Mar	15-May
37	Minisceongo Creek	62	1448	23.4	31	0.5	1479	23.9	11-Mar	15-May
ER	Bronx River	64	371	5.8	12	0.2	383	6.0	14-Mar	16-May
NY Harbor	Richmond Creek	57	4429	77.7	16	0.3	4445	78.0	5-Mar	30-Apr
Total		**626**	**103,193**		**1,652**		**104,845**			
Average				**164.8**		**2.6**		**167.5**		

Table 8. Results for all community science sampling sites in 2013, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

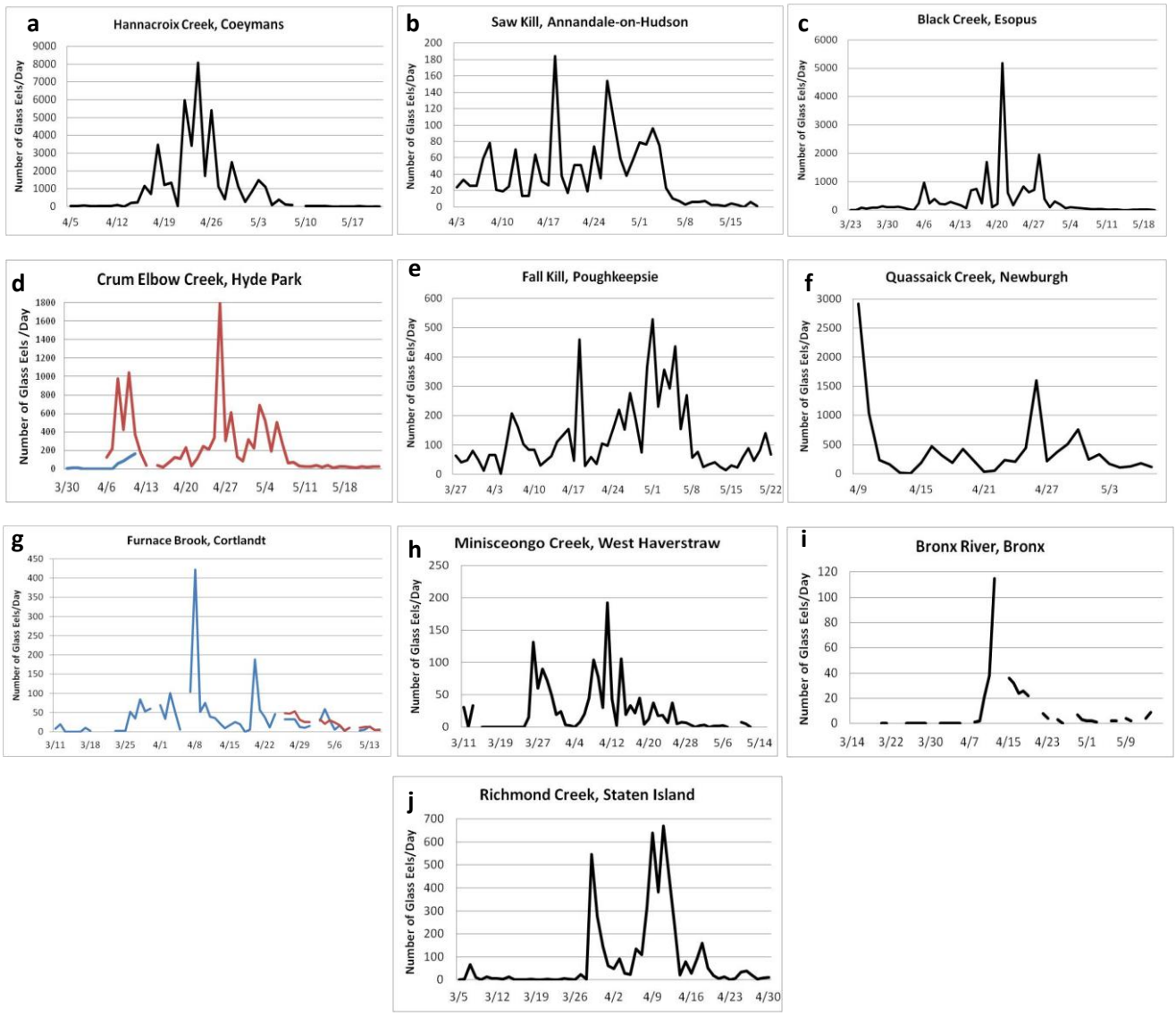

Figure 6. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2013, a) Hannacroix Creek in Coeymans, b) Saw Kill in Annandale-on-Hudson, c) Black Creek in Esopus, d) Crum Elbow Creek in Hyde Park, e) Fall Kill in Poughkeepsie, f) Quassaick Creek in Newburgh g) Furnace Brook in Cortlandt, h) Minisceongo Creek in West Haverstraw, i) Bronx River in the Bronx, and j) Richmond Creek in Staten Island. At Furnace Brook, the blue line represents a net placed in the main channel and the red line is a side channel net. At Crum Elbow, the blue line represents a western bank net and the red line represents an eastern bank net. **Note:** Each graph has a different scale.

2014 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Eels Day	Start Date	End Date
132	Hannacroix Creek	44	5499	130.9	189	4.5	5688	135.4	14-Apr	3-Jun
98	Saw Kill	43	494	11.5	55	1.3	549	12.8	9-Apr	23-May
84	Black Creek	44	3981	90.5	50	1.1	4031	91.6	28-Mar	27-May
82	Crum Elbow Creek	36	3428	95.2	105	2.9	3533	98.1	8-Apr	23-May
76	Fall Kill	56	18063	322.6	315	5.6	18378	328.2	27-Mar	30-May
61	Quassaick Creek	21	8020	381.9	33	1.6	8053	383.5	22-Apr	12-May
53	Indian Brook	32	42	4.7	28	3.1	70	7.8	28-Mar	16-May
38	Furnace Brook	38	2701	71.1	8	0.2	2709	71.3	25-Mar	2-Jun
37	Minisceongo Creek	60	1542	25.7	63	1.1	1605	26.8	24-Mar	1-Jun
NY Harbor	Richmond Creek	44	5990	136.1	27	0.6	6017	136.8	6-Mar	16-May
Total		**387**	**49,760**		**873**		**50,633**			
Average				**128.6**		**1.7**		**130.8**		

Table 9. Results for all community science sampling sites in 2014, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

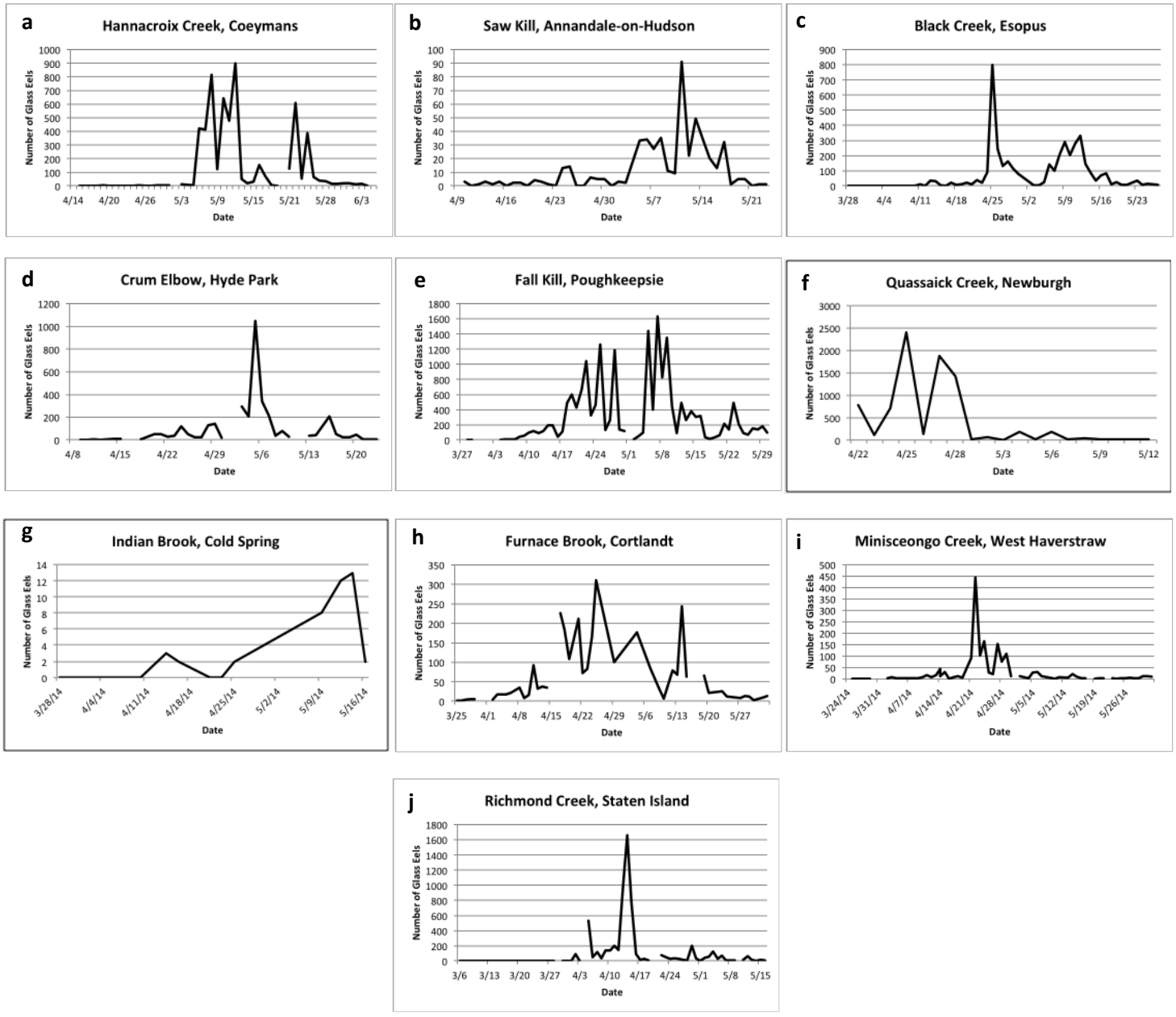

Figure 7. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2014, a) Hannacroix Creek in Coeymans, b) Saw Kill in Annandale-on-Hudson, c) Black Creek in Esopus, d) Crum Elbow Creek in Hyde Park, e) Fall Kill in Poughkeepsie, f) Quassaick Creek in Newburgh, g) Indian Brook in Cold Spring, h) Furnace Brook in Cortlandt, i) Minisceongo Creek in West Haverstraw, and j) Richmond Creek, Staten Island. **Note:** Each graph has a different scale.

2015 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
132	Hannacroix Creek	35	180	5.1	194	5.5	374	10.7	24-Apr	29-May
98	Saw Kill	40	437	10.9	88	2.2	525	13.1	12-Apr	22-May
84	Black Creek	58	4061	70.0	248	4.3	4309	74.3	3-Apr	1-Jun
82	Crum Elbow Creek	8	119	14.9	25	3.1	144	18.0	11-Apr	18-May
76	Fall Kill	61	11250	184.4	326	5.3	11576	189.8	3-Apr	3-Jun
61	Quassaick Creek	36	21298	591.6	92	2.6	21390	594.2	15-Apr	20-May
53	Indian Brook	59	24	0.4	68	1.2	92	1.6	1-Apr	29-May
38	Furnace Brook	58	2542	43.8	48	0.8	2590	44.7	30-Mar	27-May
37	Minisceongo Creek	58	3832	66.1	197	3.4	4029	69.5	31-Mar	27-May
14	CURB	30	1021	34.0	11	0.4	1032	34.4	2-Apr	22-May
NY Harbor	Richmond Creek	78	4795	61.5	12	0.2	4807	61.6	10-Mar	29-May
Total		**521**	**49,559**		**1,309**		**50,868**			
Average				**95.1**		**2.5**		**97.6**		

Table 10. Results for all community science sampling sites in 2015, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

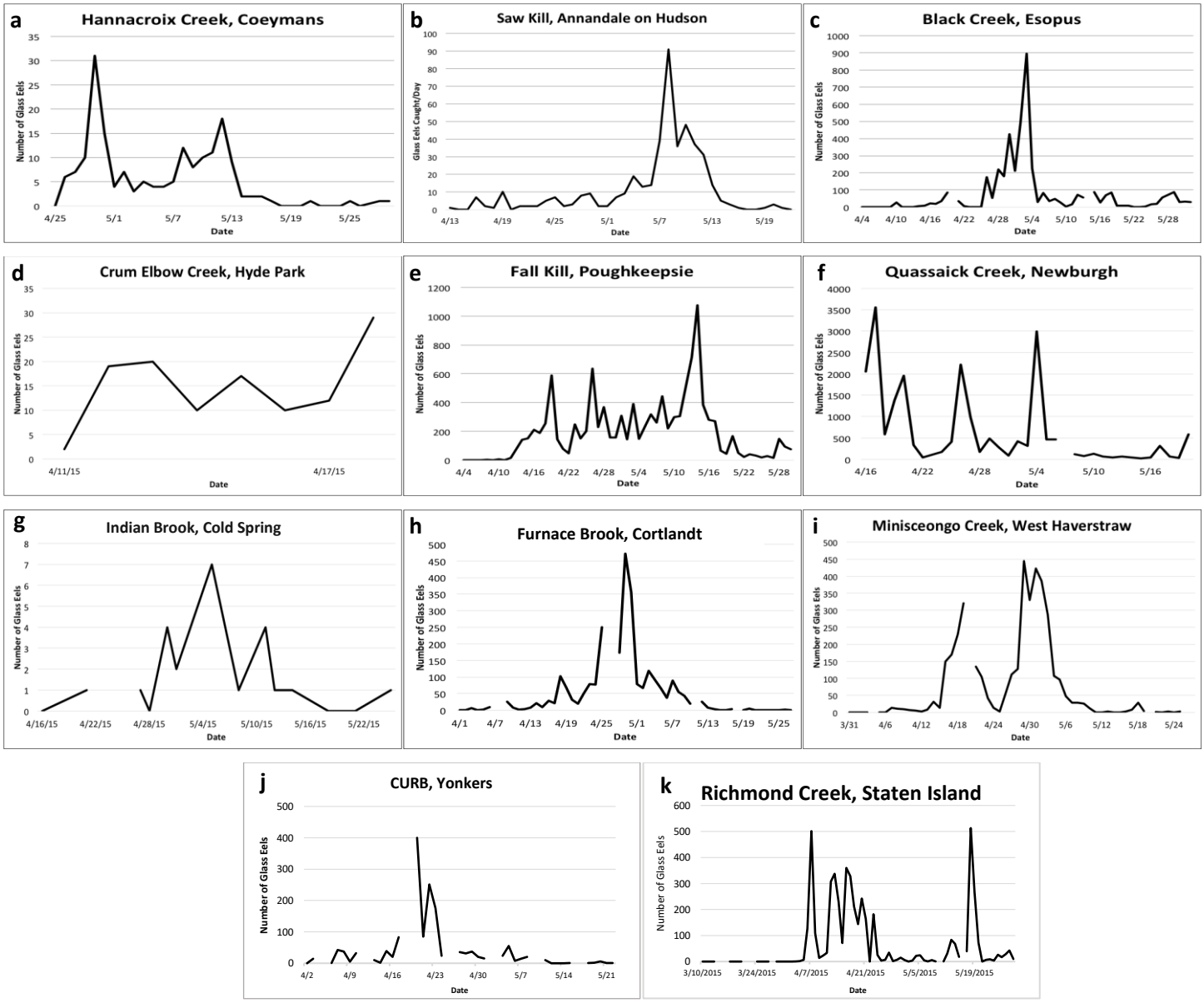

Figure 8. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2015, a) Hannacroix Creek in Coeymans, b) Saw Kill in Annandale-on-Hudson, c) Black Creek in Esopus, d) Crum Elbow Creek in Hyde Park, e) Fall Kill in Poughkeepsie, f) Quassaick Creek in Newburgh, g) Indian Brook in Cold Spring, h) Furnace Brook in Cortlandt, i) Minisceongo Creek in West Haverstraw, j) CURB in Yonkers, and k) Richmond Creek in Staten Island. **Note:** Each graph has a different scale.

2016 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
132	Hannacroix Creek	58	588	10.1	119	2.1	707	12.2	21-Mar	17-May
98	Saw Kill	62	3034	48.9	134	2.2	3168	51.1	22-Mar	23-May
85	Enderkill	71	2019	28.4	165	2.3	2184	30.8	16-Mar	25-May
84	Black Creek	65	31447	483.8	580	8.9	32027	492.7	17-Mar	20-May
76	Fall Kill	67	28663	427.8	930	13.9	29593	441.7	15-Mar	20-May
67	Hunters Brook	5	348	69.6	12	2.4	360	72.0	10-Apr	15-Apr
61	Quassaick Creek	60	63909	1065.2	309	5.2	64218	1070.3	11-Mar	9-May
53	Indian Brook	45	202	4.5	53	1.2	255	5.7	21-Mar	4-May
38	Furnace Brook	60	3908	65.1	14	0.2	3922	65.4	1-Mar	29-Apr
37	Minisceongo Creek	60	1512	25.2	63	1.1	1575	26.3	11-Mar	9-May
14	CURB	46	178	3.9	2	0.04	180	3.9	1-Mar	19-May
NY Harbor	Richmond Creek	75	6140	81.9	4	0.1	6144	81.9	27-Feb	13-May
Total		**674**	**141,948**		**2,385**		**144,333**			
Average				**210.6**		**3.5**		**214.1**		

Table 11. Results for all community science sampling sites in 2016, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

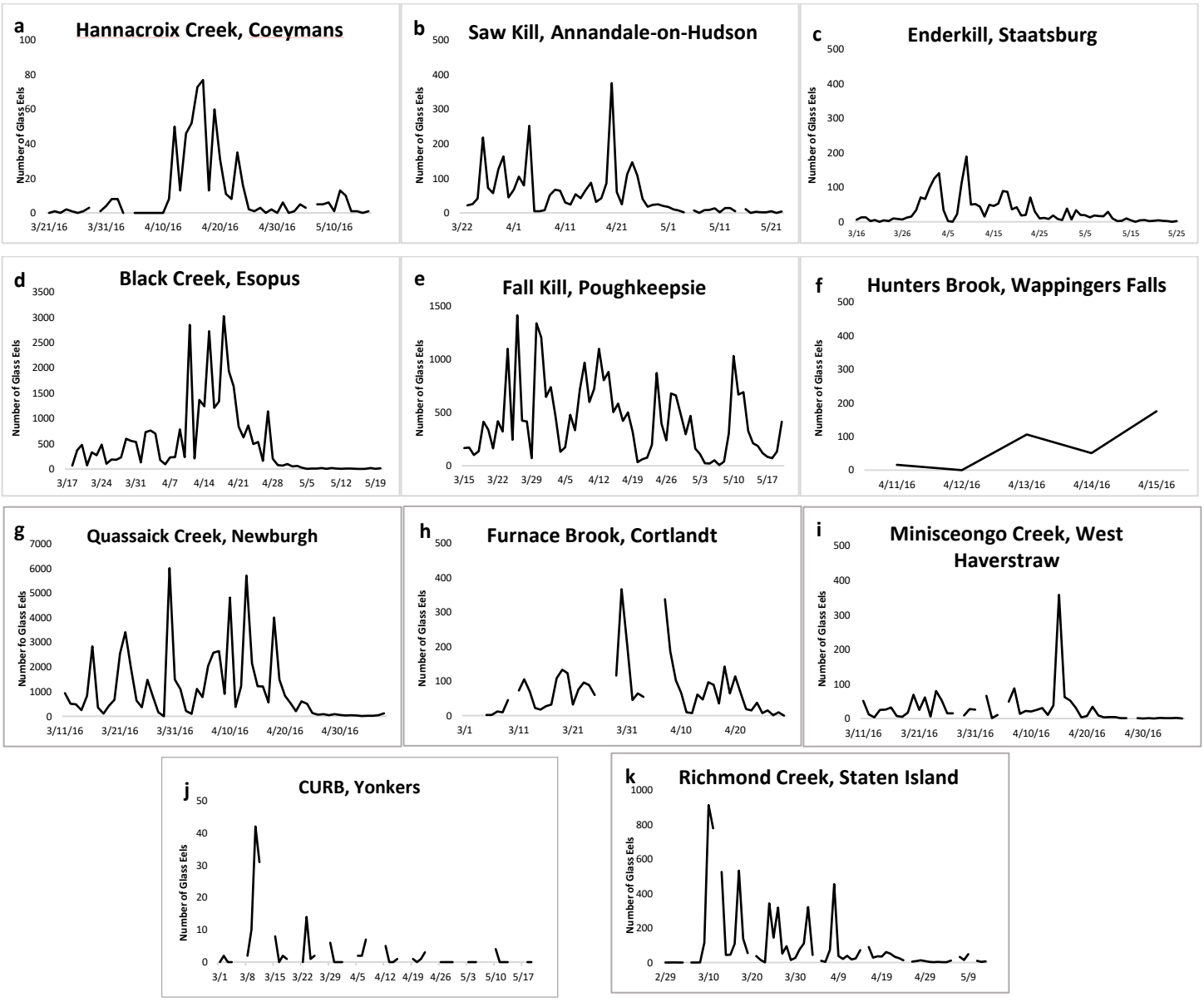

Figure 9. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2016. a) Hannacroix Creek in Coeymans, b) Saw Kill in Annandale-on-Hudson c) Enderkill in Staatsburg, d) Black Creek in Esopus, e) Fall Kill in Poughkeepsie, f) Hunters Brook in Wappingers Falls, g) Quassaick Creek in Newburgh, h) Furnace Brook in Cortlandt, i) Minisceongo Creek in West Haverstraw, j) CURB in Yonkers, and k) Richmond Creek in Staten Island. **Note:** Each graph has a different scale.

2017 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
132	Hannacroix Creek	59	16090	272.7	1606	27.2	17696	299.9	28-Mar	30-May
98	Saw Kill	55	1271	23.1	55	1.0	1326	24.1	27-Mar	26-May
85	Enderkill	67	1916	28.6	255	3.8	2171	32.4	7-Mar	25-May
84	Black Creek	63	31204	495.3	685	10.9	31889	506.2	9-Mar	25-May
76	Fall Kill	78	5719	73.3	79	1.0	5798	74.3	1-Mar	31-May
67	Hunters Brook	44	3727	84.7	356	8.1	4083	92.8	14-Apr	27-May
61	Quassaick Creek	35	15804	451.5	9	0.3	15813	451.8	6-Mar	16-May
53	Indian Brook	65	53	0.8	48	0.7	101	1.6	8-Mar	11-May
38	Furnace Brook	71	3896	54.9	23	0.3	3919	55.2	25-Feb	19-May
37	Minisceongo Creek	48	3689	76.9	56	1.2	3745	78.0	3-Mar	4-May
14	CURB	49	632	12.9	0	0	632	12.9	28-Feb	19-May
Long Is. Sound	Blind Brook	50	3660	73.2	1	0	3661	73.2	8-Mar	23-May
NY Harbor	Richmond Creek	59	876	14.8	0	0	876	14.8	24-Feb	12-May
Total		**743**	**88,537**		**3,173**		**91,710**			
Average				**119.2**		**4.3**		**123.4**		

Table 12. Results for all community science sampling sites in 2017, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

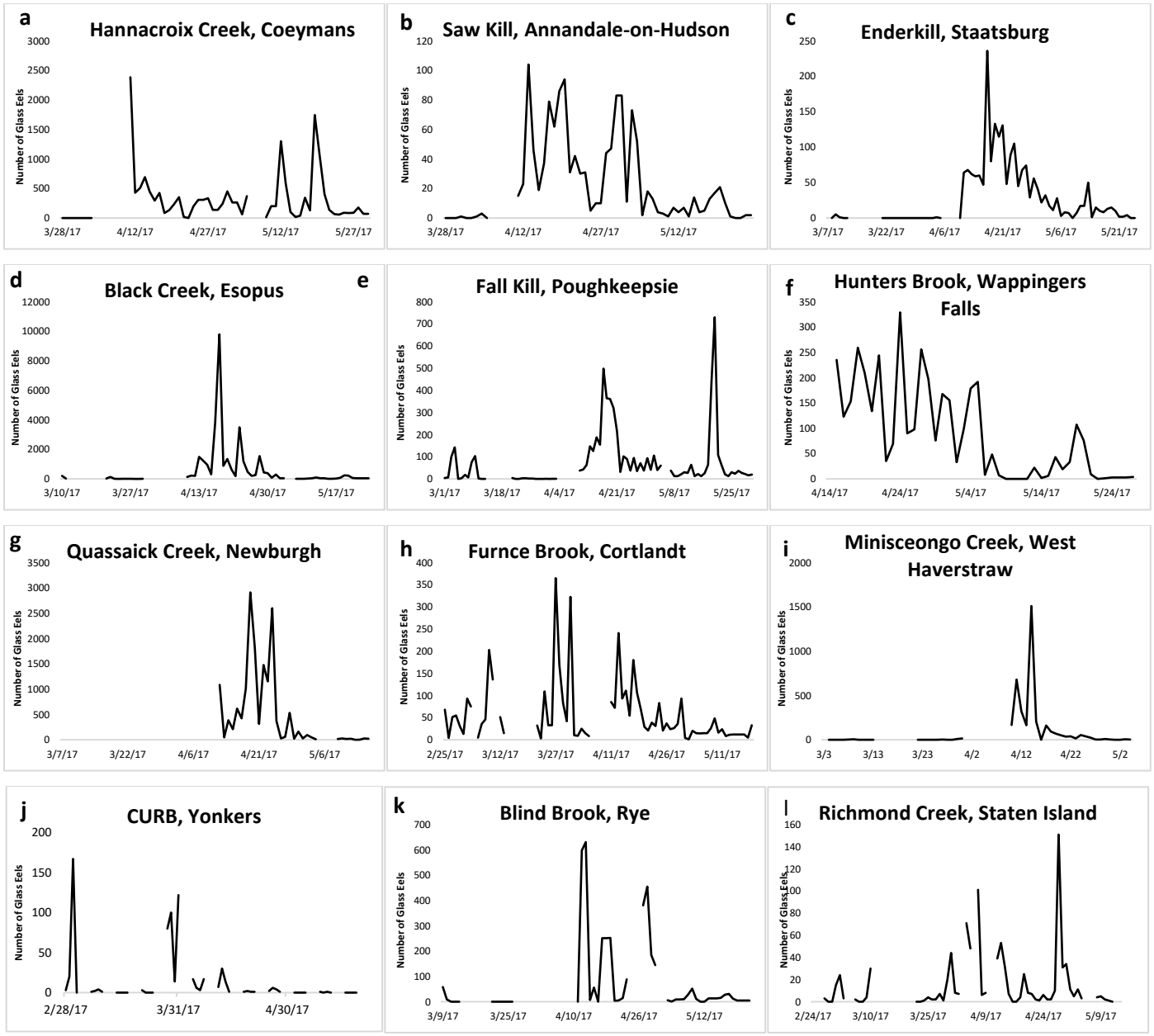

Figure 10. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2017. a) Hannacroix Creek in Coeymans, b) Saw Kill in Annandale-on-Hudson, c) Enderkill in Staatsburg, d) Black Creek in Esopus, e) Fall Kill in Poughkeepsie, f) Hunters Brook in Wappingers Falls, g) Quassaick Creek in Newburgh, h) Furnace Brook in Cortlandt, i) Minisceongo Creek in West Haverstraw, j) CURB in Yonkers, k) Blind Brook in Rye, and l) Richmond Creek in Staten Island. **Note:** Each graph has a different scale.

2018 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
153	Poestenkill	8	1	0.1	9	1.1	10	1.3	18-Apr	26-Apr
132	Hannacroix Creek	58	29632	510.9	71	1.2	29703	512.1	5-Apr	1-Jun
98	Saw Kill	57	1454	25.5	61	1.1	1515	26.6	22-Mar	18-May
85	Enderkill	56	492	8.8	93	1.7	585	10.4	24-Mar	18-May
84	Black Creek	65	17503	269.3	218	3.4	17721	272.6	16-Mar	22-May
76	Fall Kill	65	7027	108.1	29	0.4	7056	108.6	13-Mar	18-May
67	Hunters Brook	51	5421	106.3	429	8.4	5850	114.7	2-Apr	25-May
61	Quassaick Creek	55	29418	534.9	16	0.3	29434	535.2	15-Mar	11-May
53	Indian Brook	48	85	1.8	44	0.9	129	2.7	14-Mar	17-May
38	Furnace Brook	73	4316	59.1	15	0.2	4331	59.3	24-Feb	19-May
37	Minisceongo Creek	58	46729	805.7	276	4.8	47005	810.4	5-Mar	17-May
14	CURB	50	1264	25.3	0	0	1264	25.3	27-Feb	25-May
Long Is. Sound	Blind Brook	62	2036	32.8	1	0.01	2037	32.9	16-Mar	17-May
NY Harbor	Richmond Creek	76	872	11.5	9	0.1	881	11.6	23-Feb	16-May
Total		**782**	**146,250**		**1,271**		**147,521**			
Average				**187.0**		**1.6**		**188.6**		

Table 13. Results for all community science sampling sites in 2018, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

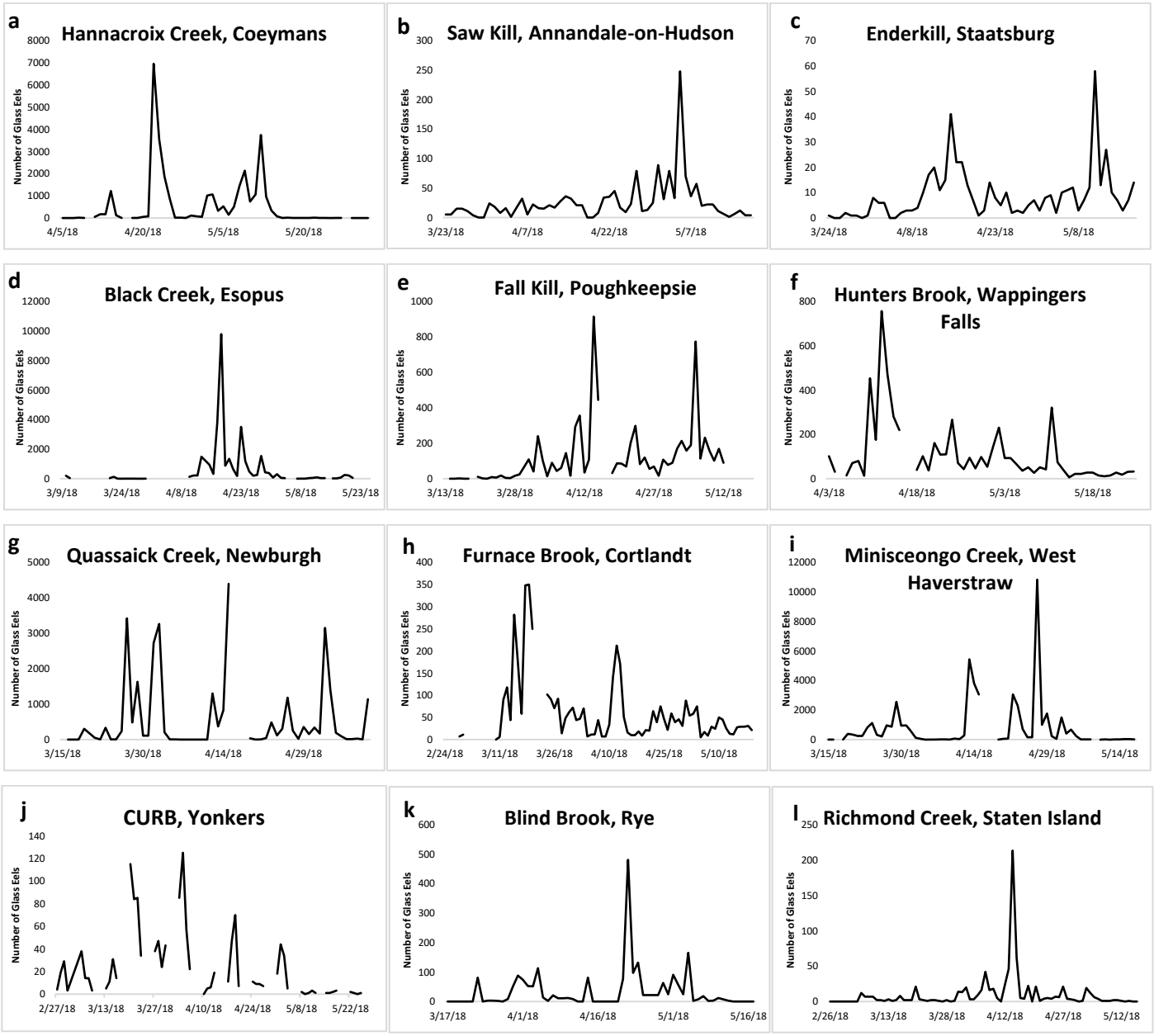

Figure 11. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2018. a) Hannacroix Creek in Coeymans, b) Saw Kill in Annandale-on-Hudson c) Enderkill in Staatsburg. d) Black Creek in Esopus, e) Fall Kill in Poughkeepsie, f) Hunters Brook in Wappingers Falls, g) Quassaick Creek in Newburgh, h) Furnace Brook in Cortlandt, i) Minisceongo Creek in West Haverstraw, j) CURB in Yonkers, k) Blind Brook in Rye, and l) Richmond Creek in Staten Island. **Note:** Each graph has a different scale.

2019 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
153	Poestenkill	18	17	0.9	150	8.3	167	9.3	30-Apr	24-May
132	Hannacroix Creek	56	150259	2683.2	2621	46.8	152880	2730.0	4-Apr	3-Jun
98	Saw Kill	53	638	12.0	38	0.7	676	12.8	26-Mar	23-May
85	Enderkill	52	1957	37.6	213	4.1	2170	41.7	21-Mar	24-May
84	Black Creek	76	33631	442.5	629	8.3	34260	450.8	15-Mar	4-Jun
76	Fall Kill	71	19539	275.2	534	7.5	20073	282.7	11-Mar	28-May
67	Hunters Brook	54	9135	169.2	1352	25.0	10487	194.2	27-Mar	23-May
61	Quassaick Creek	59	13490	228.6	21	0.4	13511	229.0	14-Mar	16-May
53	Indian Brook	22	7	0.3	16	0.7	23	1.0	15-Mar	17-May
38	Furnace Brook	57	94	1.6	0	0	94	1.6	1-Mar	15-May
37	Minisceongo Creek	54	8328	154.2	174	3.2	8502	157.4	7-Mar	13-May
14	CURB	51	2782	54.6	0	0	2782	54.6	26-Feb	28-May
Long Is. Sound	Blind Brook	30	290	9.7	0	0	290	9.7	9-Mar	23-Apr
NY Harbor	Richmond Creek	56	971	17.3	4	0.1	975	17.4	27-Feb	13-May
Total		**709**	**241,138**		**5,752**		**246,890**			
Average				**340.1**		**8.1**		**348.2**		

Table 14. Results for all community science sampling sites in 2019, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

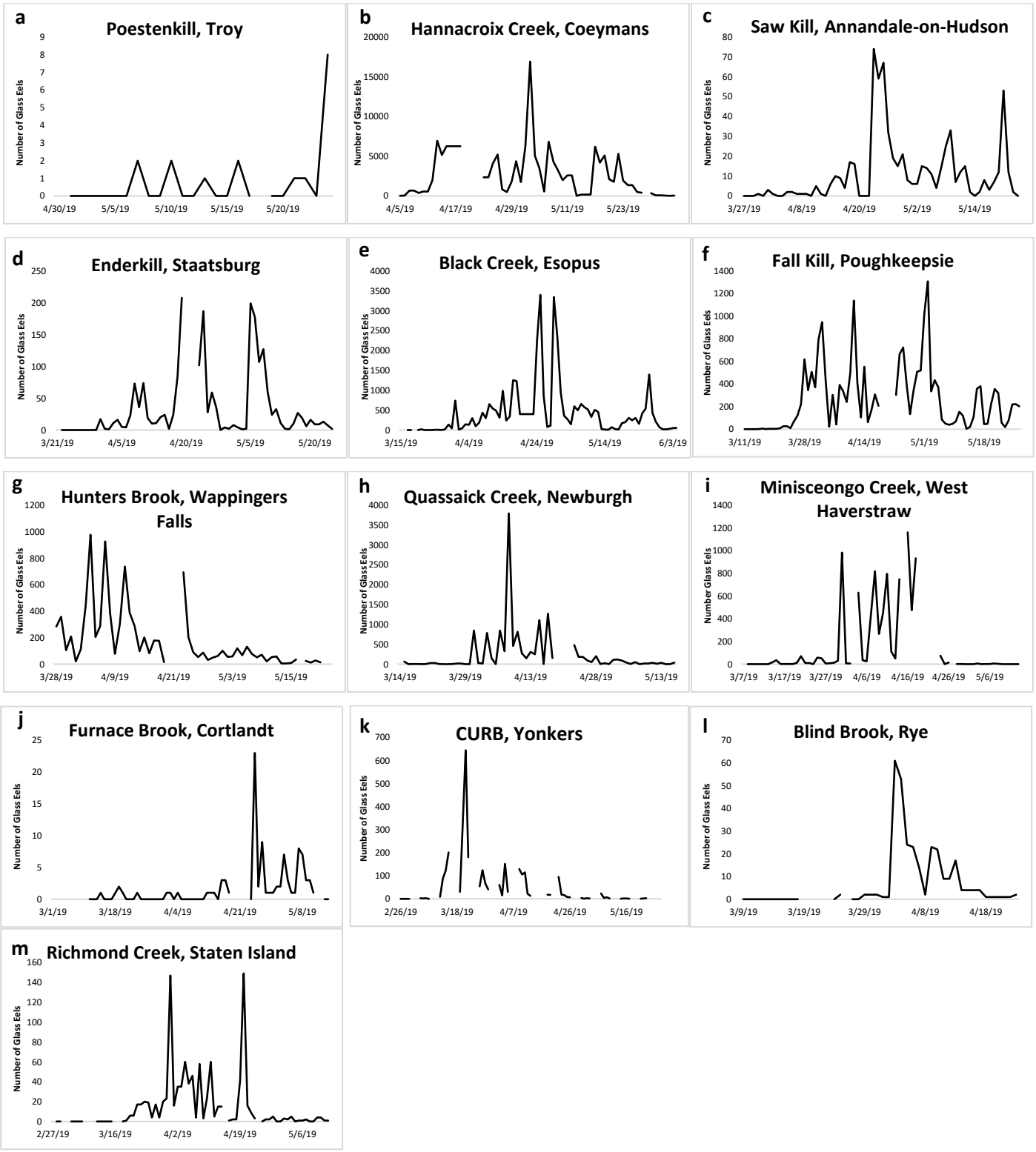

Figure 12. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2019. a) Poestenkill in Troy, b) Hannacroix Creek in Coeymans, c) Saw Kill in Annandale-on-Hudson, d) Enderkill in Staatsburg, e) Black Creek in Esopus, f) Fall Kill in Poughkeepsie, g) Hunters Brook in Wappingers Falls, h) Quassaick Creek in Newburgh, i) Minisceongo Creek in West Haverstraw, j) Furnace Brook in Cortlandt, k) CURB in Yonkers, l) Blind Brook in Rye, and m) Richmond Creek in Staten Island. **Note:** Each graph has a different scale.

2020 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
132	Hannacroix Creek	39	145424	3728.8	1158	29.7	146582	3758.5	9-Apr	22-May
98	Saw Kill	55	1978	36.0	38	0.7	2016	36.7	26-Mar	23-May
85	Enderkill	8	1	0.1	0	0	1	0.1	5-Mar	13-Mar
84	Black Creek	76	200312	2635.7	1163	15.3	201475	2651.0	10-Mar	29-May
76	Fall Kill	87	53124	610.6	509	5.9	53633	616.5	28-Feb	27-May
38	Furnace Brook	34	2103	61.8	35	1.0	2138	62.9	20-Feb	24-Mar
37	Minisceongo Creek	13	115	8.9	0	0	115	8.9	2-Mar	16-Mar
14	CURB	17	1485	87.4	0	0	1485	87.4	25-Feb	24-Mar
NY Harbor	Richmond Creek	29	477	16.5	0	0	477	16.5	21-Feb	22-Mar
Total		**358**	**405,019**		**2,903**		**407,922**			
Average				**1,131.3**		**8.1**		**1,139.5**		

Table 15. Results for all community science sampling sites in 2020, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

The sampling effort in 2020 was reduced due to the global COVID-19 pandemic. Some regular sites were not sampled at all, while others had to have nets removed early in the season. The four sites with a full sampling season (at least six weeks) were Hannacroix Creek, Saw Kill, Black Creek, and Fall Kill. These sites were monitored by small teams of staff (either DEC or partner organizations) with robust safety protocols in place.

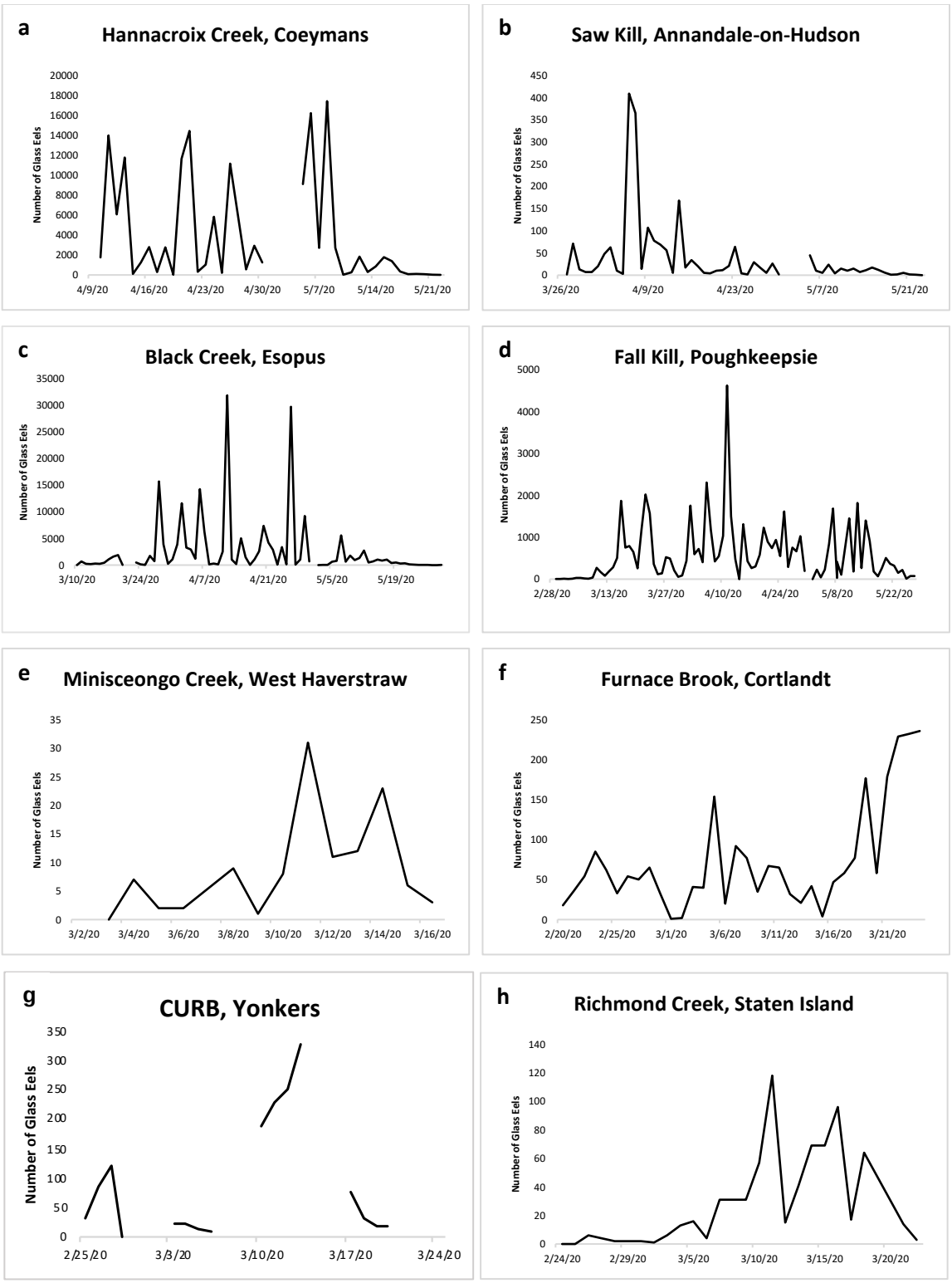

Figure 13. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2020. a) Hannacroix Creek in Coeymans, b) Saw Kill in Annandale-on-Hudson c) Black Creek in Esopus, d) Fall Kill in Poughkeepsie, e) Minisceongo Creek in West Haverstraw, f) Furnace Brook in Cortlandt, g) CURB in Yonkers, and h) Richmond Creek in Staten Island. **Note:** Each graph has a different scale.

2021 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
153	Poestenkill	9	19	2.1	47	5.2	66	7.3	26-Apr	14-May
132	Hannacroix Creek	54	23073	427.3	2523	46.7	25596	474.0	31-Mar	28-May
98	Saw Kill	58	715	12.3	50	0.9	765	13.2	22-Mar	20-May
85	Enderkill	57	395	6.9	210	3.7	605	10.6	5-Apr	1-Jun
84	Black Creek	80	22022	275.3	750	9.4	22772	284.7	17-Mar	6-Jun
76	Fall Kill	70	21881	312.6	867	12.4	22748	325.0	10-Mar	28-May
67	Hunters Brook	11	702	63.8	12	1.1	714	64.9	18-Apr	29-Apr
38	Furnace Brook	71	3513	49.5	21	0.3	3534	49.8	5-Mar	18-May
37	Minisceongo Creek	48	1482	30.9	16	0.3	1498	31.2	11-Mar	12-May
14	CURB	57	1830	32.1	4	0.1	1834	32.2	25-Feb	28-May
Long Island Sound	Blind Brook	35	341	9.7	2	0.1	343	9.8	4-Apr	17-May
NY Harbor	Richmond Creek	50	278	5.6	0	0	278	5.6	2-Mar	14-May
Total		**600**	**76,251**		**4,502**		**80,753**			
Average				**127.1**		**7.5**		**134.6**		

Table 16. Results for all community science sampling sites in 2021, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

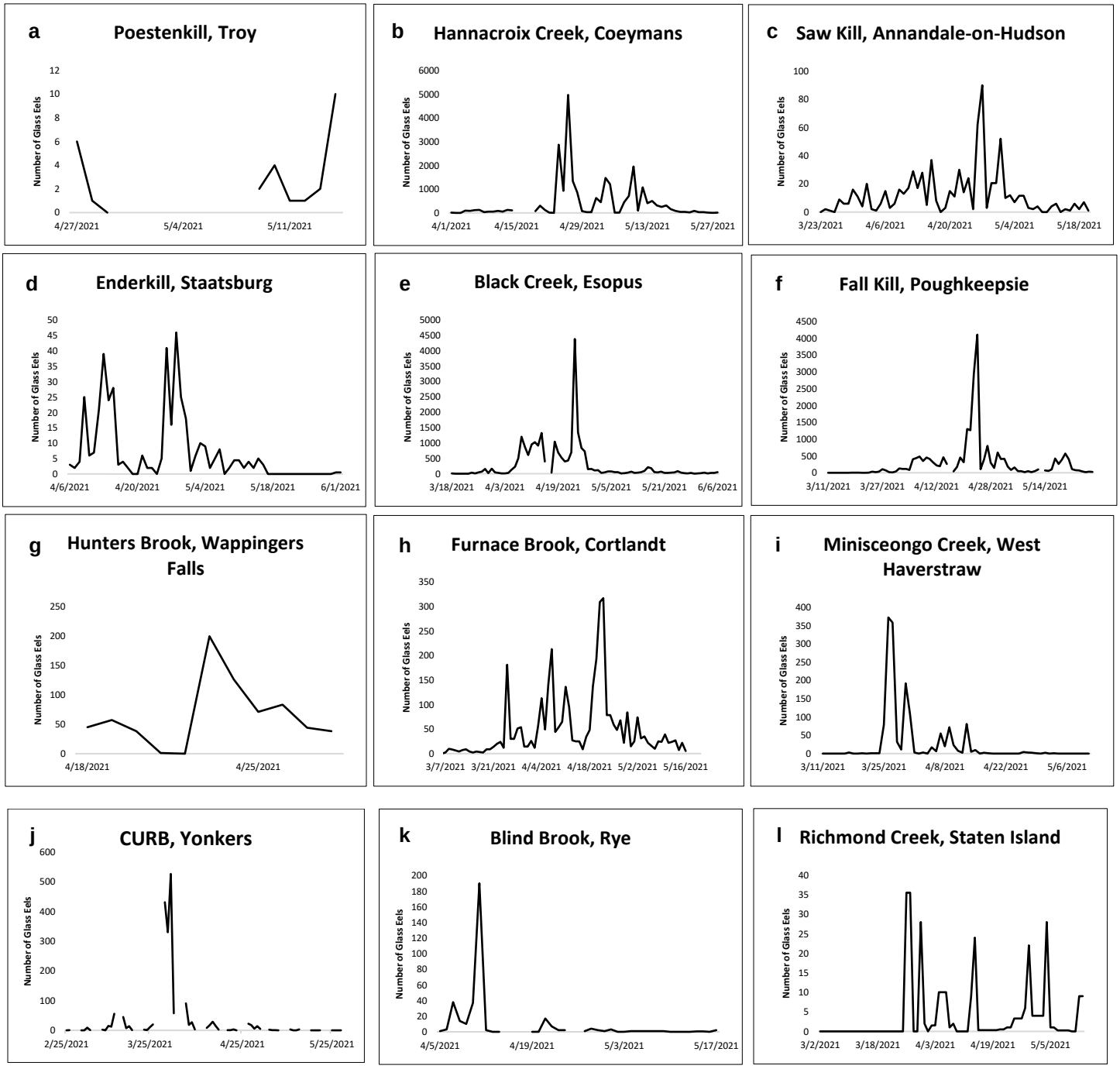

Figure 14. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2021. a) Postenkill in Troy, b) Hannacroix Creek in Coeymans, c) Saw Kill in Annandale-on-Hudson, d) Enderkill in Staatsburg, e) Black Creek in Esopus, f) Fall Kill in Poughkeepsie, g) Hunters Brook in Wappingers Falls, h) Furnace Brook in Cortlandt, i) Minisceongo Creek in West Haverstraw, j) CURB in Yonkers, k) Blind Brook in Rye, and l) Richmond Creek in Staten Island. **Note:** Each graph has a different scale.

2022 Results

RM	Site	Days Sampled	Total YOY Glass Eels	Average YOY Glass Eels Per Day	Total Older Elvers	Average Older Elvers Per Day	Total Eels Caught	Average Eels (YOY and Older) Per Day	Start Date	End Date
153	Poestenkill	15	931	62.1	138	9.2	1069	5255.7	13-May	27-May
132	Hannacroix Creek	47	38368	816.3	683	14.5	39051	830.9	1-Apr	27-May
98	Saw Kill	63	3325	52.8	106	1.7	3431	54.5	21-Mar	23-May
85	Enderkill	53	2287	43.2	194	3.7	2481	46.8	18-Mar	27-May
84	Black Creek	79	112566	1424.9	574	7.3	113140	2432.2	9-Mar	9-Jun
76	Fall Kill	82	54340	662.7	454	5.5	54794	668.2	8-Mar	4-Jun
67	Hunters Brook	35	17619	503.4	68	1.9	17687	505.3	20-Apr	25-May
61	Quassaick Creek	37	29151	787.9	28	0.8	29179	788.6	26-Mar	16-May
38	Furnace Brook	78	13117	168.2	11	0.1	13128	168.3	6-Mar	27-May
37	Minisceongo Creek	58	34292	591.2	44	0.8	34336	592.0	10-Mar	19-May
14	CURB	51	3571	67.4	4	0.1	3575	67.5	1-Mar	27-May
NY Harbor	Richmond Creek	73	2006	27.5	2	0.03	2008	27.5	25-Feb	16-May
Total		**671**	**311,573**		**2,306**		**313,879**			
Average				**464.3**		**3.4**		**467.8**		

Table 17. Results for all community science sampling sites in 2022, including total numbers of eels caught, and average eels caught per day. In this study, eels are separated into two age classes: young of year (YOY) glass eels, and older elvers. “Glass eels” are defined as eels that are just entering the Hudson River system in the spring of the sampling year (including recently pigmented eels in late spring), while “elvers” are fully pigmented eels that have been in the Hudson River system for at least a year.

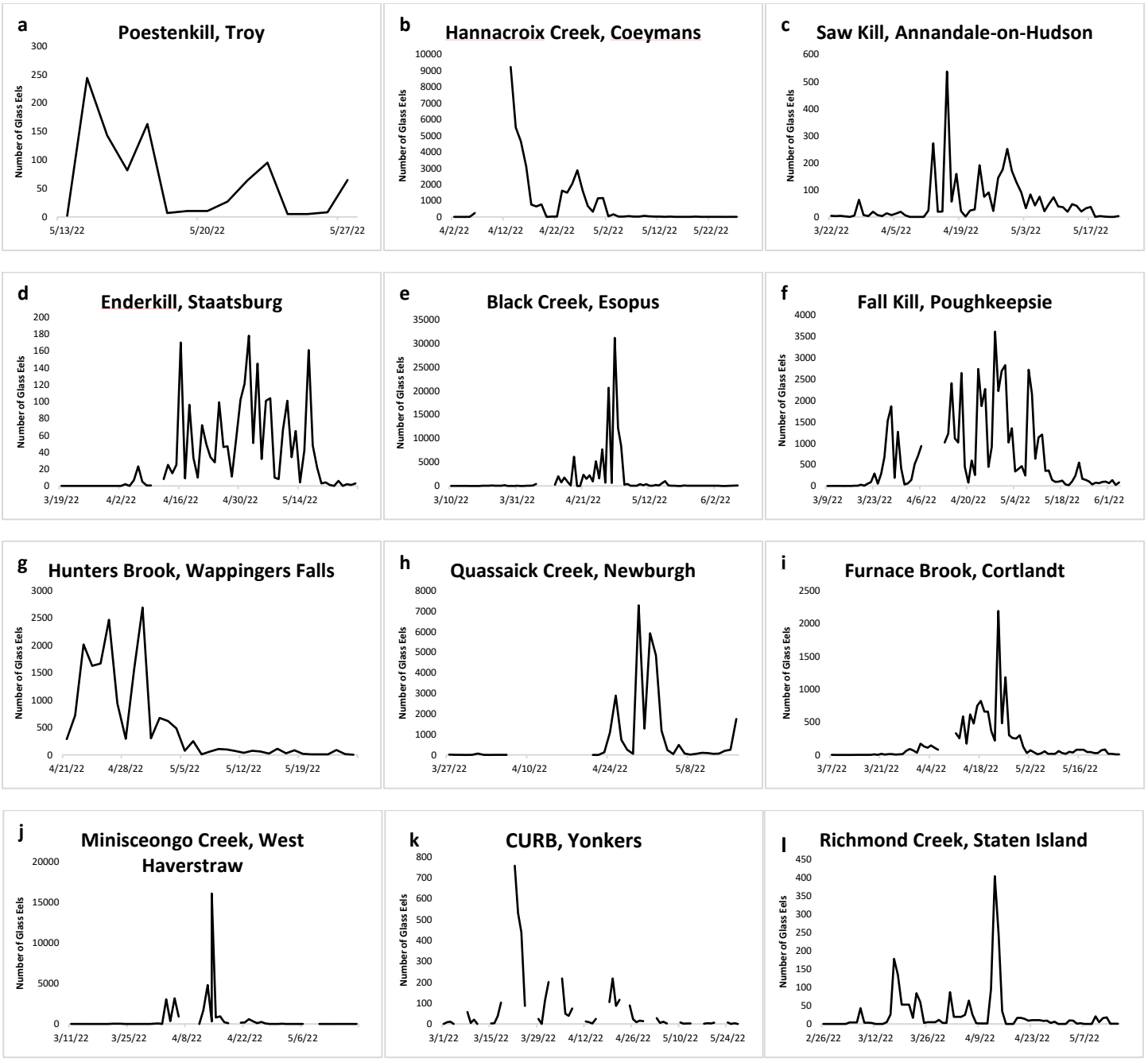

Figure 15. Daily catches of glass eels (YOY) in fyke nets at all sampling sites in 2022. a) Postenkill in Troy, b) Hannacroix Creek in Coeymans, c) Saw Kill in Annandale-on-Hudson, d) Enderkill in Staatsburg, e) Black Creek in Esopus, f) Fall Kill in Poughkeepsie, g) Hunters Brook in Wappingers Falls, h) Quassaick Creek in Newburgh, i) Furnace Brook in Cortlandt, j) Minisceongo Creek in West Haverstraw, k) CURB in Yonkers, and l) Richmond Creek in Staten Island. **Note:** Each graph has a different scale.

Eel Ladder Restoration

Mitigating Barriers to Migration

In 2011, a low-cost eel ladder (approximately $400 in materials) was installed at Furnace Brook in Westchester County to help eels access habitat upstream of an approximately 6-meter-high dam. In 2012, the same design was installed at Crum Elbow Creek and Saw Kill in Dutchess County. Electrofishing surveys show that the number of eels upstream of the dam is roughly an order of magnitude lower than the number of eels directly downstream of the dam.

The ladder is made of a PVC tube (8-inch diameter) with one end in the stream and the other end landing in a bucket. Eels climb up netting in the tube to land in the bucket and are counted by volunteers before being transported upstream. There are two siphons that bring water from upstream of the dam to the ladder to ensure flow down the PVC tube, and to provide eels with the scent of upstream waters. In summer and fall, volunteers and scientists check the bucket twice a week for eels. All eels caught are separated into size classes: stage one (<3 inches), stage two (3-6 inches), stage three (6-12 inches), and stage four (>12 inches). The majority of eels that use the ladders are 3-6 inches. All eels are then released above one or more barriers to their migration upstream.

From 2017 to 2021, another eel ladder was placed on the Sparkill in Rockland County. This device was modified to be able to raise and lower the ladder and bucket to the stream from a platform above the dam. The ladder itself (PVC tube and bucket) is smaller than the design at the other sampling sites. Similar to the other design, two hoses siphon upstream water into the ladder to keep it wet and to provide the scent of upstream waters.

2011 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Furnace Brook	323	967	168	13	**1471**

2012 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	1	37	1	0	**39**
Crum Elbow Creek	3	73	3	1	**80**
Furnace Brook	61	207	41	0	**309**

2013 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	0	43	5	1	**49**
Crum Elbow Creek	9	98	21	0	**128**
Furnace Brook	36	66	2	0	**104**

2014 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	0	0	23	173	**196**
Crum Elbow Creek	1	135	24	4	**164**
Furnace Brook	47	37	0	1	**85**

2015 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	5	32	22	14	**73**
Crum Elbow Creek	1	78	13	0	**92**
Furnace Brook	43	109	13	7	**172**

2016 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	5	134	26	14	**179**
Crum Elbow Creek	6	53	9	2	**70**

2017 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	0	5	2	0	**7**
Crum Elbow Creek	13	107	23	0	**143**
Sparkill	0	25	6	0	**31**

2018 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	15	124	38	5	**182**
Crum Elbow Creek	7	27	2	0	**36**
Sparkill	5	3	0	0	**8**

2019 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	5	53	12	2	**72**
Crum Elbow Creek	1	14	3	0	**18**
Sparkill	11	17	0	0	**28**

2020 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	1	64	9	3	**77**
Crum Elbow Creek	18	40	1	0	**59**

2021 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	0	74	81	25	**180**
Crum Elbow Creek	0	54	9	0	**63**
Sparkill	0	4	0	0	**4**

2022 Results

Site	Stage 1 <3 inches	Stage 2 3-6 inches	Stage 3 6-12 inches	Stage 4 >12 inches	Total Eels
Saw Kill	4	50	13	10	**77**
Crum Elbow Creek	3	50	1	0	**54**

Low-cost eel ladder at Furnace Brook, Westchester County

The raise-able eel ladder at Sparkill, Rockland County

Eel Project Partners by Site

Poestenkill, Troy
Sanctuary for Independent Media
Mount Ida Preservation
Rensselaer County Soil and Water Conservation

Hannacroix Creek, Coeymans
Cornell Cooperative Extension of Columbia & Greene Counties
New Baltimore Conservancy
Coxsackie Elementary School
Coxsackie-Athens High School
Pieter B Coeymans Elementary School

Saw Kill, Annandale-on-Hudson
Bard College
Hudsonia
Saw Kill Watershed Community
Red Hook High School

Black Creek, Esopus
Scenic Hudson
Kingston High School
New Paltz High School
SUNY New Paltz
The Mount Academy
Kingston YMCA Farm Project

Fall Kill, Poughkeepsie
Poughkeepsie High School
Arlington High School
Mid-Hudson Children's Museum
Marist College
River Haven

Indian Brook, Cold Spring
National Audubon at Constitution Marsh

Enderkill, Staatsburg
Marist College
NY State Parks, Recreation, and Historic Preservation
Dave Lindemann
Oakwood Friends School
Rhinebeck High School
Scouts BSA

Hunters Brook, Wappingers Falls
Wappingers Jr High School
Our Lady of Lourdes High School
Roy C Ketcham High School
John Jay High School

Quassaick Creek, Newburgh
Mt. St. Mary's College
Quassaick Creek Watershed Alliance
Newburgh Free Academy
Marlboro Middle School
West Point Academy

Furnace Brook, Cortlandt
Teatown Lake Reservation
Ossining High School

Minisceongo Creek, West Haverstraw
Rockland County Division of Environmental Resources
Strawtown Arts Studio
NRG Bowline Plant
Lamont Doherty Earth Observatory
Haverstraw Community Center

Richmond Creek, Staten Island
New York City Department of Environmental Protection
St. Clare's School
NY Harbor School
Scouts BSA
NYS DEC Region 2

Fin