



May 11, 2017

To the Trustees:

Please find attached the report of our progress on the Sudbury Riverschools Project, funded by the NYANZA Restoration Plan. Through the support of this fund, we have been able to establish a thriving program of river- and watershed-based educational field trips and classroom visits to area schools in communities around the SuAsCo watershed. We are enormously grateful for the support you have given us to make these programs a reality.

The focus of these programs has been, since the beginning, on connecting students with their local rivers, including the study of the watershed and the habitat that the wetlands and the surrounding uplands provide for wildlife. This year, we were able to bring over 1,000 children to the river. In many of these cases we were also able to support the visit with an in-class visit before the trip, to prepare the children and help them get the most out of the visit. In some cases where students were not able to go on a field trip, we brought wetland animals or a wetland scientist to visit them. Details of all trips are listed at the end of this report.

The chance to get up close to a river or wetland is a first for many of our students, and even some of our participating classroom teachers. The students often complete this trip as a capstone to a water study unit, and the chance to see a toad or turtle, to spot birds and insects, to test water quality and survey the landscape, even to smell the mud, brings the lessons home to them in a very direct way.

In the last phase of the grant period, encompassing part of FY17, we have focused on making the Riverschools program as sustainable as possible after the funding ends, so that we might continue to take children to the rivers. We have received support from the River Stewardship Council, and some of our school districts are finding ways to pay for their trips through fundraising on their own. We believe that next year we will be able to support approximately 60% of the amount of programming we did this year. If further funding is available to support the Riverschools programming, we would be most grateful to learn of those opportunities.

Highlights of the final phase (partial FY17) of the Nyanza Riverschools project include:

- Wetland study programs in eight schools, reaching 1,626 students.
- Guided river study walks for 1,192 students, with a focus on wildlife habitat and river ecology.
- Visits from Grassroots Wildlife wetland biologist in two classrooms



- In six schools, our teacher-naturalists were able to visit the classroom prior to the river visit, preparing students for what they would be studying.
- Family programming at seven community events focused on Sudbury River wildlife.
- Purchase of water testing and collection equipment for school programming.

Again, thank you for the opportunity to provide watershed ecology programming to so many students along the Sudbury River. We are so grateful for the funding you have provided over the past years, and look forward to working with you in other capacities in the future.

Warm regards -

A handwritten signature in cursive script that reads "Jennifer Feller". The signature is written in black ink and is positioned above the typed name.

Jennifer Feller, Education Manager, Drumlin Farm





Riverschools 2016. Top row from left: examining macroinvertebrates; hiking in; recording data.  
 Middle row: Dipping for macroinvertebrates; Reading the landscape; Scooping up "critters" for viewing.  
 Lower row: Teacher-naturalists setting up for a trip; Students studying watershed water flow in preparation for a river trip;  
 Reptile visitor.



## Summary of Activities, Final Phase

**Communities:** Ashland, Framingham, Hudson, Somerville, Wayland, Weston

**Total students served:** 1,626

**Community events:** 7

### Community Festivals Attended, fall 2016- spring 2017

- SuAsCo Riverfest at Great Meadows Wildlife Refuge in Sudbury
- Stapleton School Earth Day Event, Framingham: 50 families
- SuAsCo Riverfest at Old Manse in Concord
- Earth Day in Concord
- Earth Day in Lowell
- Girls STEM Summit, Wellesley
- HudsonFest, Hudson

### School Based Program Details:

*All field trips are conducted in groups of 12 or fewer students per teacher-naturalist. Thus, for many of these groups, field trips were spread out over multiple days to include all students.*

- Happy Hollow, Wayland: 5th grade, **64 students**
  - 1.0 hr in classroom visit from Spadefoot Toad scientist
    - Focus: threatened wetland species and habitat needs of spadefoot toads
  - 4.0 hr Field Study program at Great meadows Wildlife Refuge/Sudbury
    - River study focusing on water quality testing, macroinvertebrate inventories, upland and wetland explorations and data collection.
    - Transportation to Great Meadows Wildlife Refuge/Sudbury
- Field School, Weston, 5<sup>th</sup> grade, **161 students**
  - 2.0 hr River study program at Great Meadows, focusing on water quality testing, macroinvertebrate inventories, upland and wetland explorations and data collection
  - 1.0 hr. in-classroom visits focusing on wetlands and watersheds.
- East Somerville Community School, Somerville, Kindergarten, **68 students**
  - 1.0 hr in classroom visit from Spadefoot Toad scientist
  - 1.0 hr. wetland habitat study
- David Mindess School, Ashland, Grades 4 and 5, **334 students**
  - 1.0 hr. in-class visit from captive wildlife (turtle) with focus on wetland habitats (4<sup>th</sup> grade)
  - 1.25 hr wetland and aquatic habitat hike, with focus on local species and habitat needs (5<sup>th</sup> grade)
- Farley School, Hudson, 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> grades, **314 students**
  - 1<sup>st</sup> grade: animal visit (duck) with focus on local wetland habitats



- 2<sup>nd</sup> grade: 1.0 hr. in-classroom wetland and 1.5 hr river visit with focus on habitats studied in previous class
- 3<sup>rd</sup> grade: 2.0 hour river visit, with focus on water quality testing, macroinvertebrate inventories, upland and wetland explorations and data collection
- **Mulready School, Hudson, 1<sup>st</sup> and 2<sup>nd</sup> grades, **79 students****
  - 1<sup>st</sup> grade: In-classroom animal visit (Mallard) with focus on wetland habitats
  - 2<sup>nd</sup> grade: in-classroom wetland followed by 2.0 hour river visit, with focus on adaptations of wetland animals
- **Forest Ave School, Hudson, 1<sup>st</sup> and 2<sup>nd</sup> grades, **166 students****
  - 1<sup>st</sup> grade: in-classroom animal visit (Mallard) with focus on wetland habitats
  - 2<sup>nd</sup> grade: : in-classroom wetland followed by 2.0 hour river visit, with focus on adaptations of wetland animals
- **Stapleton Elementary School, Framingham, 1<sup>st</sup>-5<sup>th</sup> grades, **360 students****
  - Grade 1 60 Students, 3 classes
    - Aquatic Habitats
    - In class visit, 45 minutes/class about aquatic habitat and watershed
    - Investigation at Sudbury River of aquatic animal and plant life- see water connections, 1hr/class
  - Grade 2 60 Students, 3 Classes
    - Insects
    - Look at upland and aquatic insects, where found in watershed and how affected by changes in watershed
  - Grade 3 70 Students, 4 Classes
    - Diversity and Adaptations
    - Investigate riparian and upland areas by school for diversity of organisms in the watershed and how they are adapted to the specific parts of the ecosystem
  - Grade 4 90 Students, 4 Classes
    - Plants
    - Hikes on upland and riparian areas comparing plant adaptations and habitat needs in watershed, using watershed maps; 1.5hrs/class
  - Grade 5 80 Students, 4 Classes
    - Watershed Comparison and Ecology: Sudbury and Charles Rivers
    - In-class prep and outside investigate Sudbury River Ecology, compare to earlier trip to Charles River; 1.5hrs/class



## Financial Summary

Current request for approval to release funds: \$25,244.05

Breakdown of yearly spending for Riverschools from Nyzana Restoration funds is as follows:

FY14	\$21,641.00	Actual
FY15	\$23,853.00	Actual
FY16	\$19,207.00	Actual
FY17	\$25,244.05	Requested for release
<b>TOTAL</b>	<b>\$89,945.05</b>	

*Note that the original scope of work extended only through FY16, but a request through 3/31/17 was granted to allow the completion of work in FY17.*

### Summary of expenses to be released\*

Program Costs:	\$18,050.00
Bus costs:	\$1,597.55
Coordination/Supervision	\$3,069.00
Community Events:	\$1,120.06
<u>Equipment:</u>	<u>1,407.44</u>
TOTAL \$	25,244.05

*\*Please see detail of expenses, attached, for breakdown of each category.*



Sudbury Riverschools Project, Nyzanza Restoration Fund

ADJUSTMENT to final report

Submitted 5-30-17 by Mass Audubon

Corrected Expenses: please see adjustment under the equipment category, detailed below (addition of \$54.95 in laminated field guide and field ID cards). Total expenses to be released are now \$23,319.00. All other expenses are as detailed in original report.

Summary of expenses to be released\*

Program Costs:	\$18,050.00
Bus costs:	\$1,597.55
Coordination/Supervision	\$3,069.00
Community Events:	\$1,120.06
<u>Equipment:</u>	<u>1,482.39</u>
<b>TOTAL \$</b>	<b>25,319.00</b>

**Equipment**

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invertebrate nets	\$ 197.82
replica: skulls, skeletons, tracks and shells	\$ 405.90
water testing chemicals	\$ 124.00
Laminated field guides and macroinvertebrate field ID cards	\$ 54.95
Digital water testing equipment	\$ 699.72
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	<b>\$ 1,482.39</b>

**Riverschools (Nyanza and RSC) Programs, FY17**

**Field Trips**

District	School	Grade	Students	Teacher	Prog hr:	w/OH	Bus Cost	Program Cost	Total Cost
Hudson	Farley	3	66	3	2	\$ 400.02	\$ 165.60	\$ 518.00	\$ 683.60
	Farley	3	46	3	2	\$ 400.02	\$ 71.40	\$ 365.00	\$ 436.40
	Farley	1	125	2	3	\$ 373.35	\$ -	\$ 783.00	\$ 783.00
	Farley	2	77	2	2	\$ 320.02	\$ -	\$ 753.00	\$ 753.00
	Farley	2	31	2	1.5	\$ 240.01	\$ 71.40	\$ 453.00	\$ 524.40
	Farley	2	46	3	1.5	\$ 360.02	\$ 71.40	\$ 663.00	\$ 734.40
	Mulready	1	75	1	3	\$ 186.68	\$ -	\$ 483.00	\$ 483.00
	Mulready	2	44	3	2	\$ 400.02	\$ -	\$ 393.00	\$ 393.00
	Mulready	2	44	3	2	\$ 400.02	\$ 71.40	\$ 753.00	\$ 824.40
	Forest Ave	1	100	1	3	\$ 186.68	\$ -	\$ 633.00	\$ 633.00
	Forest Ave	2	66	1	3	\$ 186.68	\$ -	\$ 483.00	\$ 483.00
	Forest Ave	2	66	3	2.5	\$ 440.02	\$ 70.00	\$ 843.00	\$ 913.00
	Weston	Field School	5	50	4	2	\$ 533.36	\$ 103.75	\$ 496.00
Field School		5	76	6	2	\$ 800.04	\$ 206.30	\$ 736.00	\$ 942.30
Field School		5	75	6	2	\$ 800.04	\$ 206.30	\$ 736.00	\$ 942.30
Field School		5	100	2	2	\$ 320.02	\$ -	\$ 734.00	\$ 734.00
Field School		5	100	2	2	\$ 320.02	\$ -	\$ 734.00	\$ 734.00
Wayland	Happy Hololow	5	64	6	4	\$ 1,120.06	\$ 560.00	\$ 1,457.00	\$ 2,017.00
	Happy Hollow	5	64	1	1	\$ 26.67	\$ -	\$ 570.00	\$ 570.00
Somerville	East Somerville Cc	K	68	1	3	\$ 80.00	\$ -	\$ 570.00	\$ 570.00
	East Somerville Cc	K	68	5	3	\$ 800.04	\$ -	\$ 340.00	\$ 340.00
Ashland	David Mindess	4	184	2	5	\$ 1,066.72	\$ -	\$ 1,479.00	\$ 1,479.00
	David Mindess	5	150	10	1.25	\$ 733.37	\$ -	\$ 425.00	\$ 425.00
Framingham	Stapleton Elemen	1	60	1	12	\$ 320.02	\$ -	\$ 2,650.00	\$ 2,650.00
	Stapleton Elemen	2	60	1	6	\$ 160.01	\$ -	\$ -	\$ -
	Stapleton Elemen	3	70	1	6	\$ 160.01	\$ -	\$ -	\$ -
	Stapleton Elemen	4	90	1	6	\$ 160.01	\$ -	\$ -	\$ -
	Stapleton Elemen	5	80	1	6	\$ 160.01	\$ -	\$ -	\$ -
<b>2145</b>							<b>\$ 1,597.55</b>	<b>\$ 18,050.00</b>	<b>\$ 19,647.55</b>

**Coordination/Supervision**

Staff Member	Hours	Total
Robin	24	\$ 744.00
Melissa	24	\$ 744.00
Carol	51	\$ 1,581.00
		<b>\$ 3,069.00</b>

**Community Events**

Event	Ages	# partici	Teacher	Hours	Cost
Stapleton Earth Day	All	50	1	2.5	\$ 133.34
Riverfest: Great meadows Fis	All	100	1	2	\$ 120.01
Riverfest: Old Manse	All	250	2	2	\$ 120.01
Earth Day Concord	All	300	1	5	\$ 200.01
Earth Day Lowell	All	350	1	5	\$ 200.01



Girls STEM Wellesley	8th-12th	250	1	4	\$ 173.34
HudsonFest	All	500	1	4	\$ 173.34
		<b>1800</b>			<b>\$ 1,120.06</b>

**Equipment**

invertebrate nets					\$ 197.82
replica: skulls, skeletons, tracks and shells					\$ 405.90
water testing chemicals					\$ 124.00
Laminated field guides and macroinvertebrate field ID cards					\$ 54.95
Digital water testing equipment					\$ 699.72
					<b>\$ 1,482.39</b>

<b>TOTAL</b>					<b>\$ 25,319.00</b>
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