Final Project Report for the Nettle Creek Native Mussel Survey, Grant number 07-23W

Submitted by Rebecca Meyer, Nettle Creek Watershed Conservancy Chair, 4050 W. Minooka Rd., Newark, IL. 60541, 815-942-4895, becky@4050westminookaroad.com
Roger Klocek, Senior Biologist, Shedd Aquarium, 1200 S Lakeshore Dr., Chicago, IL, 60605, 312-692-3233, rklocek@sheddaquarium.org

Project objectives from the Application Form

- Data Collection: determine the numbers and species of mussels populating the Nettle Creek by conducting wading surveys at ten sites.
- Foster watershed education and concern for aquatic wildlife habitat among children and young adults by involving students in the data collection process.
- Educate and influence the public and local governing bodies/policymakers by disseminating mussel survey results using a variety of media (posters, power point presentations, and technical documents.)

Introduction

The watershed of Nettle Creek covers more than 45,000 acres stretching from the Southwestern corner of Kendall County , through Grundy and the eastern portion of LaSalle. It is generally characterized as a high gradient creek. A comprehensive survey of unionid mussel in Nettle creek has never been undertaken, despite the fact that a 2004 IDNR fish survey rated the creek as a borderline "A" stream with an IBI score (Index of Biotic Integrity), of 57. A more recent survey in 2006 gave a similar IBI. Only two records of mussels exist in the voluminous mussel database of the Illinois Natural History Survey's database. In 2007, ten stations were examined in the Nettle Creek watershed for mussels using standard survey techniques. The data and locales are recorded on the excel survey sheets appended to this report, along with a map page for localities, and digital photos of the species and some of the surveyors. Students from the Nettle Creek School conducted a survey at a selected site. Results are tabulated and will be disseminated to local government as well as the general public. All of the project objectives were completed, and the public dissemination of results will continue.

Materials and Methods

Standard quantitative mussels were conducted that lasted a minimum of four person hours per station and consisted of examining the substrates by touch for buried mussels in generally turbid waters. All mussels, living and relic specimens were collected and placed in a mesh bag that was kept submerged. At the end of each survey, the living specimens were sorted, counted and photographed within several minutes of being taken from the water. The living specimens were then returned to the river and placed in appropriate habitats with suitable substrates. The handling of living specimens is standard practice for mussel surveys, and the shells seal tightly, preventing drying of the mussel during the sorting process. Empty shells, termed relics, both old and fresh were examined for species that weren't represented in the living collection. Voucher specimens were saved from the relics for eventual depositing with the Illinois Natural History Survey's permanent collection and online database. Temperature, GPS, and habitat notes were collected on Shedd Aquarium datasheets for each station.

Results

A total of eleven stations were surveyed during the grant period, with an additional four stations surveyed before the grant was awarded. A total of thirteen living species of native mussels were found, with an additional species, the pondhorn, that was only found as a relic shell, though it is probably still present in the watershed as a living mussel. The living mussels are: threeridge, cylindrical papershell, fatmucket, white heelsplitter, creek heelsplitter, fragile papershell, pink

papershell, pink heelsplitter, giant floater, creeper, Lilliput, deertoe, and plain pocketbook. A list of species with their scientific names is appended to this report.

The three most abundant mussels are the cylindrical papershell, fatmucket, and creeper, which make up 24%, 18% and 15% of the living collection respectively. Single living specimens represented five other species, the deertoe, pink papershell, pink heelsplitter, threeridge, and plain pocketbook. Most of these were taken at the Gerhard Woods stations. All of the living species are considered to be common to abundant elsewhere in Illinois. None of the mussels found are Endangered or Threatened species in Illinois, and none are considered particularly sensitive species. The pondhorn found as a single, relatively fresh, relic shell is an oddity because it has extremely sporadic distribution in Illinois, but can be abundant in very localized sites. In Northeastern Illinois, they are rarely seen.

Robert Szafoni, a biologist with the Illinois Department of Conservation, developed a system of rating Stream quality based on the presence of mussels. The rating system ranges from *Restricted* through *Limited, Moderate, Highly Valued* to *Unique Aquatic Resource*. Nettle Creek rated *Moderate*, though it is only one point below the *Highly Valued* category, and future surveys may increase its rating. This rating is below the "gold standard", IBI score of 57, or an "A" stream, the highest category of biological integrity that a stream can obtain using the fish index. However, streams have also be rated as a natural resource heritage site by the presence of at least 10 species of living native mussels within approximately a one mile length, and Nettle Creek may qualify for this designation.

Education-Public Awareness

Representatives of the watershed group participated in the day-long Grundy Co. Environmental Fair on March 3, 2007 with an exhibit of live aquatic insects, fish, and mussel shells of the creek, with a stereo microscope set up for examination of minute aquatic insects. The fair attracted approximately 2000 visitors according to the estimates, and a fair number of them stopped at the watershed table to chat or look at the aquatic creatures. A poster of Nettle Creek features, flora and fauna was produced and is expected to be distributed to libraries, schools, and decision makers. It will be featured at the next environmental fair. All of the photos used in its production are of high caliber, and were donated for the project by watershed members.

The Seventh and Eighth grade classes of students were given an in-school presentation on mussels then brought into the field to survey two contiguous sites. Their enthusiasm for the experience was high, and their participation was excellent, (though their enthusiasm may have been fueled by the fact that the end of school was only a few days away.) However, they found another species, the pondhorn that was not found elsewhere during the surveys. Surveys are generally conducted from June through September, when environmental conditions allow the streams to be comfortably surveyed. Only one set of surveys with school groups was conducted to date, and another survey will be conducted with the science class of the Morris high school during September of 2007.

It is difficult to judge the impact of any of these activities on their intended audiences of adolescents, working adults who are interested in the environment, or policymakers. The easy way out is to adopt a "wait and see" attitude to see if any positive feeling has been kindled in the populace by watershed activities. This attitude of waiting is perhaps the most true to life method of evaluating change, aside from expensive polls conducted by professional pollsters. People who might not be aware of the fragile nature of a stream system might become more aware because of their conversations with watershed members, or seeing a pretty photo or actually finding a living mussel. That's what the watershed group and so many other organizations are trying to accomplish yet it is one of the most difficult things to judge the efficacy of. In the end, we can only try our best to make a difference individually and as a group, and hope that it works!

One benefit of the project to wildlife is that before the project, there was very little information available about mussel diversity and abundance in the watershed. Now there is much more. While we have very good and very up to date information about the fish fauna from the 2006 IDNR IBI survey, the fish fauna is very resilient to some types of changes because of their mobility. The mussel fauna is both sedentary and long-lived, in some cases more than 20 years, giving a different perspective on stream health and dynamics. This type of information may be useful in the very near future as Grundy County moves toward the establishment of a Forest Preserve District.

List of Products

1. Mussel Database for watershed and to be supplied to INHS
2. Mussel presentation for schools, community groups, political groups.
3. Student participation in surveys
4. Nettle Creek Poster

Acknowledgements

Thanks is due to the entire watershed group for their support of this project through the donation of their time, effort, material and permission to survey on their property. Particular thanks is extended to the fish and mussel surveyors which include George Gore, Don Lyon, the William Pfaff family, John and Cindy McKee, John Reardon, Steve Carter, Roger Klocek, Cindy Fahlstrom, Nick Barkowski, and especially Rebecca Meyers for her continued good cheer and excellent coordination efforts. The Seventh and Eighth grade classes of Nettle creek school, and their principal, Mrs. Chandler, and science teachers, Michael Gorham, and Patricia Kirkpatrick, deserve special mention for their participation in a mussel survey. Special thanks are extended to the William Pfaff family, Cindy and John McKee, for providing wonderful images for the poster. We would also like to thank the Shedd Aquarium for providing staff for many watershed activities, and validating the mussel identities.

Works Consulted

1. Cummings, K.S., and C.A. Mayer. 1992. Field guide to freshwater mussels of the Midwest. Illinois Natural History Survey, Manual 5. 194 pp.

2. Starrett, W.C. 1971. A survey of the mussels (Unionacea) of the Illinois River: a polluted stream. Illinois Natural History Survey Bulletin 30(5): 267-403.

3. Poole, K.E., and J.A. Downing 2004. Relationship of declining mussel biodiversity to stream-reach and watershed characteristics in an agricultural landscape. Journal of the North American Benthological Society 23(1):114-125.

4. Sustainable Development Principles: Protecting Nature in the Chicago Wilderness Region. 2003.6 pp.

5. http://www.museum.state.il.us/ismdepts/zoology/mussels/gallery.html?TopicID=Paleoheterodonta IL State Museum Mussel Photo ID pages online database

6. http://www.inhs.uiuc.edu/cbd/collections/mollusk/molluskintro.html Illinois Natural History Survey searchable mussel database

July 30, 2007

List of Mussels from the Nettle Creek Watershed as of June 2007

1.	**Cylindrical papershell**	***Anodontoides ferussacianus***
2.	**Threeridge**	***Amblema plicata***
3.	**Plain pocketbook**	***Lampsilis cardium***
4.	**Fatmucket**	***Lampsilis siliquoidea***
5.	**White heelsplitter**	***Lasmigona complanata***
6.	**Creek heelsplitter**	***Lasmigona compressa***
7.	**Fragile papershell**	***Leptodea fragilis***
8.	**Pink heelsplitter**	***Potamilus alatus***
9.	**Pink papershell**	***Potamilus ohiensis***
10.	**Giant floater**	***Pyganodon grandis***
11.	**Creeper**	***Strophitus undulatus***
12.	**Deertoe**	***Truncilla truncata***
13.	**Lilliput**	***Toxolasma parvus***

Shells Not Represented as Living Specimens but as Relic shells only

1.	**Pondhorn**	***Uniomerus tetralasmus***

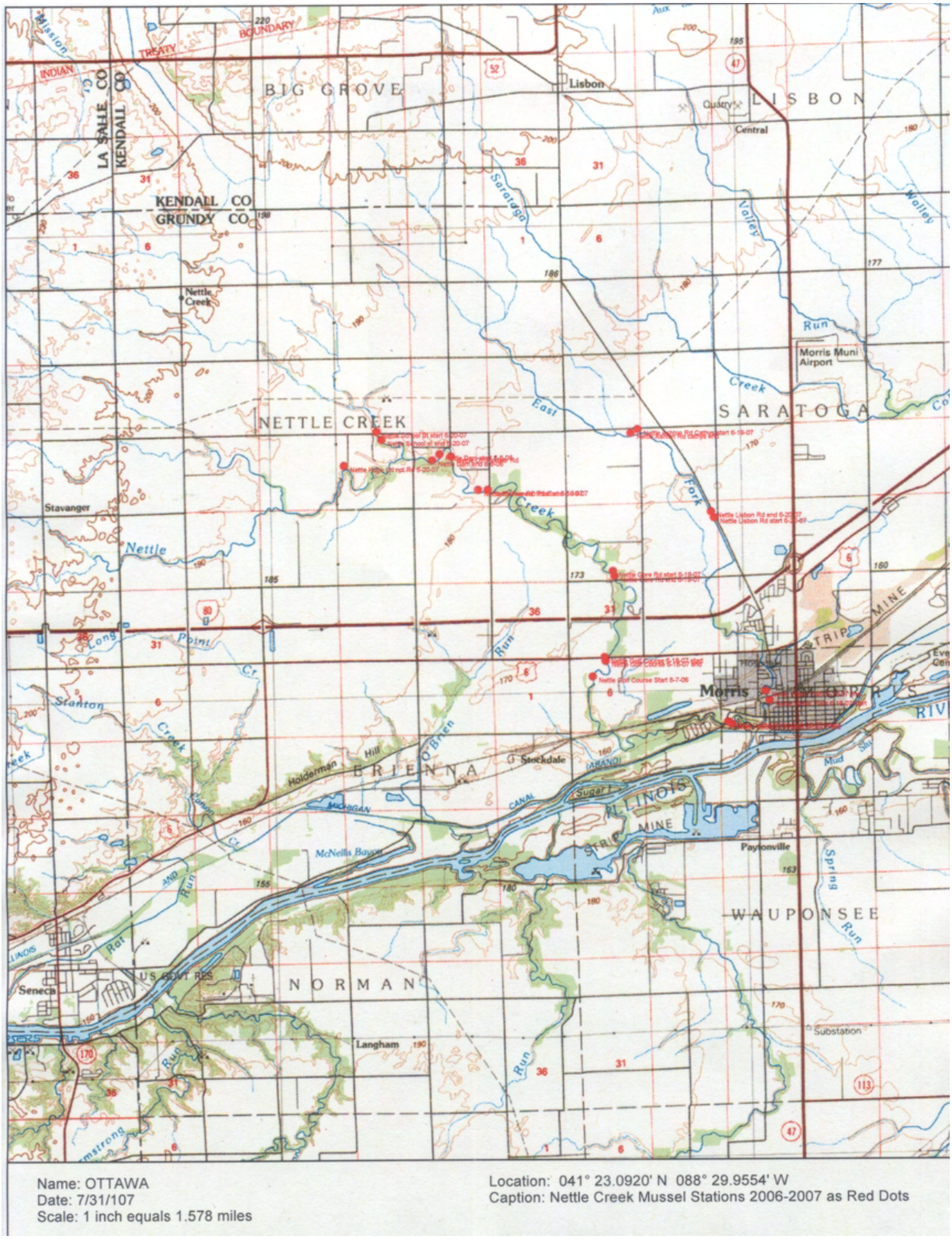
Data Sheets and Locality Data

RIVER AND SITE NUMBER	Nettle Creek	Nettle Creek	Nettle Creek	Nettle Creek	Nettle Creek	Nettle Creek
Date	8/8/2006	8/7/2006	6/18/2007	6/18/2007	6/18/2007	8/7/2006
Station Number	Preliminary	Preliminary	1	2	3	Preliminary
GENERAL LOCALE	dam near	IDNR Fish Survey	Country	water	Gebhard	Gebhard
site	Nettle Creek	Country Club	Club Golf	filtration	Woods	Woods
site cont'd	School	golf course	Course	plant		preliminary
LATITUDE North - Start (WGS 84 datum)	41 24.497	41 21.986	41 22.167	41 21.712	41 21.455	41 21.522
LONGITUDE West- Start	88 30.821	88 28.393	88 28.199	88 25.761	88 26.341	88 26.245
LATITUDE- End (WGS 84 datum)	41 24.551		41 22.208	41 21.814	41 21.423	41 21.551
LONGITUDE- End	88 30.730		88 28.213	88 25.764	88 26.278	88 26.199
COUNTY	Grundy	Grundy	Grundy	Grundy	Grundy	Grundy
STATE	IL	IL	IL	IL	IL	IL
CURRENT- centimeters/second, average	0	1-10	5 - 10	5-15	5-10	1 -10
STREAM WIDTH - in feet	25-30	15-25	45	12-18	30-40	24-32
AVERAGE DEPTH - estimate in inches	23	20	30	18	24	28
TEMPERATURE - in degrees Fahrenheit	78	76	72	70	71	76
TURBIDITY- in centimeters	25	30	15	60	20-30	30
% Key: 0 = 0; A = <1; B =1-5; C= 6-25; D=26-50; E=51-75; F=76-100						
% Hard Bottom	0	0	0	0	0	0
% Boulder >20cm	a	a	a	a	a	a
% COBBLE 1-5cm	b	d	d	e	d	b
% GRAVEL 50mm-1cm	c	c	d	d	c	c
% SAND < 50mm	c	c	d	d	c	e
% MUD/SILT	d	b	c	b	b	b
% WOODY DEBRIS	a	a	a	a	a	a
DEPTH OF SILT in centimeters - average	5-10	5-10	5-10	5	5-10	5
% RIPARIAN WOODS	f			f		f
% AGRICULTURAL						
% GREENBELT or PARKLAND					f	
% OTHER/SPECIFY		golf course	golf course			
% COVER	d	a	b	b	c	c
TOTAL AREA SURVEYED, in square meters	500	100	200	175	175	400
TOTAL SURVEY HRS.	1.75	1.25	4	4	4	1.5
SURVEYOR 1	Roger Klocek	Roger Klocek	Roger Klocek	Roger Klocek	Roger Klocek	Roger Klocek
SURVEYOR 2	Bob Rung in part	Don Lyon	George Gore	George Gore	George Gore	
SURVEYOR 3	Frank Janusek part		Becky Meyer	Becky Meyer	Becky Meyer	
SURVEYOR 4	Becky Meyer part		Cindy McKee	Cindy McKee	Cindy McKee	
SURVEYOR 5			John McKee	John McKee	John McKee	
SURVEYOR 6						
SURVEYOR 7						
SURVEYOR 8						
threeridge - *Amblema plicata*				1 relic	1 relic	1
cylinder - *Anodontoides ferussacianus*		relic				
plain pocketbook - *Lampsilis cardium*		relic				1
fat mucket - *Lampsilis siliquoidea*		relic	5			1
white heelsplitter - *Lasmigona complanata*	3			1 relic	2	1
creek heelsplitter - *Lasmigona compressa*		1				
fragile papershell - *Leptodea fragilis*		relic	3		4	
pink papershell - *Potamilus ohiensis*						1
pink heelsplitter - *Potamilus alatus*						1
giant floater - *Pyganodon grandis*	5	1	5	1 relic		
creeper - *Strophitus undulatus*	relic	relic				
lilliput - *Toxolasma parvus*			2	1 relic		
deertoe - *Truncilla truncata*						1
pondhorn - *Uniomerus tetralasmus*						
Asiatic clam - Corbicula fluminea - EXOTIC	present	present	present	present	present	present
zebra mussel - Dreissena polymorpha - EXOTIC	absent	absent	absent	absent	absent	absent
Total Number Live Native Species	**2**	**2**	**4**	**0**	**2**	**7**
Total number Relic Native Species	**1**	**5**	**0**	**4**	**0**	**0**
Total Number Live Specimens	**8**	**2**	**15**	**0**	**6**	**7**
Mussel Classification Index from Szafoni's woorksheets	**6**	**6**	**7**	**4**	**8**	**10**
Mussel Resource Value. 0-4= Restricted; 5-7=Limited	**Limited**	**Limited**	**Limited**	**Restricted**	**Moderate**	**Moderate**
8-11 = Moderate; 12-15 = Highly Valued; 16+ = Unique			**(high end)**			
Notes: students who participated in 5-07 survey were:	very sediment		deeper	hard bottom	cobble riffle	water a
Erin Taylor, Lucas Harris, Charlotte Ulrich, Nicholas West	laden below		water makes	little sub-	would be	bit deep for
Nichlas McKee, Charlee Alcarez, Sarah Hernandez, Kelsy	home made dam		it harder to	strate for	higher in	truly effective
Schaffer, Austin Amsler, Allysa Paulsen, Jon Schaltes			sample	mussels	softer	sampling but
Mycala Post, Ashley Karthheiser, Jordan Robbins, Anna Pfaff					substrate	lower than
Gen Toussaint, Alex Dodge					juveniles here	normal
					high water	

Data Sheets cont'd

Nettle Creek	Nettle Creek	Nettle Creek	Nettle Creek	Nettle Creek	Nettle Creek	Nettle Creek	Nettle Creek	Nettle Creek	Totals	Percent of Catch
6/19/2007	6/19/2007	6/19/2007	6/20/2007	6/20/2007	6/20/2007	6/20/2007	8/8/2006	5/23/2007		
4	5	6	7	8	9	10	Preliminary	Preliminary		
Gore Road	East Branch Ashton Road	Pioneer Road	School St Cattle Farm	Hoge Lane	Lisbon Road	Pfaff Farm Pioneer Road	Pfaff Farm Pioneer Road Preliminary	Pfaff Farm Pioneer Road Preliminary		
41 23.218	41 24.840	41 24.143	41 24.827	41 24.640	41 23.818	41 24.142	41 24.167			
88 28.085	88 27.707	88 29.982	88 31.707	88 32.1354	88 26.532	88 29.982	88 30.021			
41 23.147	41 24.799	41 24.146	41 24.733	NA	41 23.886	41 24.146	41 24.144	412 24.157		
88 28.063	88 27.807	88 30.134	88 31.617	NA	88 26.589	88 30.134	88 30.133	88 30.167		
Grundy	Grundy	Grundy	Grundy	Grundy	Grundy	Grundy	Grundy	Grundy		
IL	IL	IL	IL	IL	IL	IL	IL	IL		
10-15	10	10-15	5-10	0-5	10-20	10-15	10	10-20		
30	22	25	20	3-6	8-10	30	25 - 35	20-30		
28	27	24	24	10	12	22	20	21		
71	70	72	64-72	72	71	72-74	76	70		
20	15	15	15	15	30	15	30	15		
0	0	0	a	0	0	0	0	0		
a	a	a	a	a	a	a	a	a		
d	c	e	Cattle Farm	b	b	c	c	c		
c	c	c	Cattle Farm	b	c	d	c	c		
c	c	c	Cattle Farm	b	d	c	c	c		
c	c	c	e	f	c	c	c	c		
a	a	a	a	b	a	a	a	a		
5-10	5-10	5-10	5-10	5-10	5-10	5-10	5 -10	5		
f		f	f			f	f	f		
	f	f	f	f	f					
b	0	b	c	d	c	b	c	b		
150	150	200	400	500	400	300	150	500		
4	4	4	4	2		4.25	2	10		
Roger Klocek	Roger Klocek	Roger Klocek	Roger Klocek	Roger Klocek	Ray, Jake	Ray, Jake		Roger Klocek		
George Gore	George Gore	George Gore	George Gore	George Gore	Anna, Jackie	Anna, Jackie		Becky Meyer		
Becky Meyer	Becky Meyer	Becky Meyer	Becky Meyer	Becky Meyer	Madeline, Valerie	Madeline, Valerie		Michael Gorham		
Nick Barkowski	Nick Barkowski	Nick Barkowski	Nick Barkowski	Nick Barkowski	& William Pfaff	& William Pfaff		Pat Kirkpatrick		
John McKee	John McKee	John McKee	Madeline Pfaff	Madeline Pfaff	Becky Meyer	Becky Meyer		William Pfaff		
Anna Pfaff	Anna Pfaff	Anna Pfaff	Anna Pfaff	Anna Pfaff	George Gore	George Gore		Madeline Pfaff		
			Bill Pfaff	Bill Pfaff	Nick Barkowski	Nick Barkowski		Kyle Tuggle*		
					Roger Klocek	Roger Klocek		7 & 8th graders		
									Totals	Percent of Catch
	49	1			21	4	1	relic	1	0.31
						relic			76	24.1
						25	10	4	1	0.31
6		7				2	5	1	1	0.31
		23	1 relic		1	relic	1	1	58	18.4
	7				9	1			38	12.1
									19	6.03
									8	2.5
									1	0.31
1		5				7	11	1	1	0.31
4	33	3			5	2	1	relic	33	10.5
	23				1	1	3	relic	48	15.3
									30	9.5
								relic *	1 relic	99.98%
present	present	present	relic	absent	present	present	present	present	present	
absent	absent	absent	absent	absent	none	absent	none	absent	absent	
3	4	5	0	0	5	7	7	4		
0	0	0	1	0	0	3	0	4	Live sp 13	
11	116	39	0	0	37	42	32	7	Relic sp 1	
8	10	9	4	4	9	11	11	6	Total sp 14	
Moderate	Moderate	Moderate	Restricted	Restricted	Moderate	Moderate (High End)	Moderate (High End)	Limited	total #'s 315	
rain yesterday	rain yesterday	rain yesterday	water high	impermanent	we were just	water a bit deep				
deep water	deep water	deep water	cattle farm	water	getting to	recent rain		water deep from		
cobbly	softer		sediment		better substrate	made survey		recent rain		
bottom	upstream		over		when time	difficult; some		Pondhorn found		
			substrate		was called	spots too		by student is		
juveniles here	juveniles here	juveniles here	cold water		could rate	deep		relatively fresh		
			seep		higher					

Map of Stations



Press Article featuring Watershed work and Wildlife Grant

Nettle Creek Grade School students work with Shedd Aquarium mussel specialist Roger Klocek to identify species of mussels pulled from Nettle Creek. The Nettle Creek Watershed Conservancy received a grant to inventory the mussel species. ***(Photo provided)***

Mussel survey of creek conducted

Relic shell from rare pondhorn species found

Nettle Creek Watershed Conservancy has received a grant from the Illinois Wildlife Protection Fund to inventory the mussel species in Nettle Creek.

Mussels are indicators of the water quality of a stream.

On May 23, the first survey of these mussels was conducted in a stretch of Nettle Creek near Pioneer Road. The watershed conservancy invited 19 seventh- and eighth-grade students from Nettle Creek School to take part in the survey, along with two of their teachers.

Roger Klocek, a mussel specialist from Shedd Aquarium in Chicago, taught the students how to find the mussels and how to identify the different species they discovered.

The students found many specimens of four different live species, of which one, the creek heelsplitter, is considered vulnerable, intolerant of poor water quality, and uncommon. One of the many empty (relic) shells they found was of the rare pondhorn, only the third specimen Klocek has ever seen in northeasern Illinois.

Nineteen seventh and eighth graders from Nettle Creek Grade School and two of their teachers get waist deep in Nettle Creek to assist with the first mussel survey conducted of the stream. The Illinois Wildlife Protection Fund is paying for the study through a grant. ***(Photo provided)***

Nettle Creek Watershed Conservancy will be conducting three more days of mussel surveys in June.

NCWC is a group of local citizens interested in the preservation of surface and ground water quality, wildlife habitat, and local natural history. Monthly meetings are held at the Grundy County Farm Bureau building at 7 p.m. each first Thursday.

Contact Becky Meyer at (815) 942-4895 for further information.

Photographs from the surveys

Eighth grade Nettle Creek School mussel surveyors

Photographs from surveys

Photographs from surveys

White heelsplitter (*Lasmigona complanata*), a two-year-old juvenile of this native mussel that can live for 20 years .

An Adult, (*Strophitus undulatus*), an abundant mussel in some section of Nettle Creek.

Photographs from surveys

06-18-2007 14:08

Copy of nettle creek poster produced in 18x24 inches acknowledging Grant

Projects time and Dollar value Donated to project

Nettle Creek Project Costs	affiliation	date	Description	hourly rate	# of hours	total dollars
Roger Klocek	Shedd Aquarium	5/23/2007	Nettle Creek Mussel Survey & presentation with Nettle Creek School	35	8.5	297.5
Rebecca Meyer	Nettle Wateshed	5/23/2007	Nettle Creek Mussel Survey & presentation with Nettle Creek School	10	5	50
William Pfaff	Nettle Wateshed	5/23/2007	Nettle Creek Mussel Survey & presentation with Nettle Creek School	10	5	50
Nick Barkowski	Shedd Aquarium	5/23/2007	Nettle Creek Mussel Survey & presentation with Nettle Creek School	12.5	8.5	106.5
Roger Klocek	Shedd Aquarium	6/18/2007	Nettle Creek Mussel Surveys with Watershed Members	35	8.5	297.5
Rebecca Meyer	Nettle Wateshed	6/18/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
George Gore	Nettle Wateshed	6/18/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
John McKee	Nettle Wateshed	6/18/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
Cindy McKee	Nettle Wateshed	6/18/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
Madeline Pfaff	Nettle Wateshed	6/18/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
Steve Carter	Nettle Wateshed	6/18/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
Roger Klocek	Shedd Aquarium	6/19/2007	Nettle Creek Mussel Surveys with Watershed Members	35	12.5	437.5
Nick Barkowski	Shedd Aquarium	6/19/2007	Nettle Creek Mussel Surveys with Watershed Members	12.5	12.5	150
Rebecca Meyer	Nettle Wateshed	6/19/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
George Gore	Nettle Wateshed	6/19/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
John McKee	Nettle Wateshed	6/19/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
Cindy McKee	Nettle Wateshed	6/19/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
Madeline Pfaff	Nettle Wateshed	6/19/2007	Nettle Creek Mussel Surveys with Watershed Members	10	7	70
Roger Klocek	Shedd Aquarium	6/20/2007	Nettle Creek Mussel Surveys with Watershed Members	35	12.5	437.5
Nick Barkowski	Shedd Aquarium	6/20/2007	Nettle Creek Mussel Surveys with Watershed Members	12.5	12.5	150
Rebecca Meyer	Watershed group	6/20/2007	Nettle Creek Mussel Surveys with Watershed Members	10	8	80
George Gore	Watershed group	6/20/2007	Nettle Creek Mussel Surveys with Watershed Members	10	8	80
John McKee	Watershed group	6/20/2007	Nettle Creek Mussel Surveys with Watershed Members	10	8	80
Valerie Pfaff	Watershed group	6/20/2007	Nettle Creek Mussel Surveys with Watershed Members	10	8	80
Madeline Pfaff	Watershed group	6/20/2007	Nettle Creek Mussel Surveys with Watershed Members	10	8	80
William Pfaff	Watershed group	6/20/2007	Nettle Creek Mussel Surveys with Watershed Members	10	8	80
Roger Klocek	Shedd Aquarium	5/1/2007	prepare poster samples	35	2	70
Roger Klocek	Shedd Aquarium	7/13/2007	start poster photo edits	35	3	105
Roger Klocek	Shedd Aquarium	7/14/2007	poster layout	35	6	210
Roger Klocek	Shedd Aquarium	7/15/2007	poster layout	35	2.5	87.5
Roger Klocek	Shedd Aquarium	7/16/2007	poster layouut	35	1.5	52.5
Roger Klocek	Shedd Aquarium	7/17/2007	finalize poster	35	2	70
Rebecca meyer	Nettle Wateshed	7/18/2007	finalize poster	10	1	20
Roger Klocek	Shedd Aquarium	7/20/2007	first poster file corrupt, start redo	35	4	140
Roger Klocek	Shedd Aquarium	7/21/2007	finish new poster file and upload	35	4	140
Roger Klocek	Shedd Aquarium	various	specimen preparation and report writing	35	5	210
			Total Hours and Dollar Value Donated to Project	**n.a.**	**241.5**	**$4,331.50**