

# The Guardian Gazette

Newsletter of the Wildcat Guardians  
Dedicated to the Health & Beauty of Wildcat Creek  
January – February 2012

## President's Press

Start 2012 off right – join the Wildcat Guardians today !

First meeting of 2012 is on January 16, 6:30 pm at Treece's II restaurant in Burlington.  
Join us!

Become a section coordinator!

Fill out a section report!

Tell someone about the beautiful Wildcat!

Take a guest on the Wildcat!

Help with a clean-up!



## 2012 Officers for Wildcat Guardians

President: Mary Rowe

Vice President: Mike Laughner

Past President: Bob Hoshaw

Secretary: David Inskip

Treasurer: Mike Bach

Adopt A River Coordinator - Charlie Skoog Education - Nancy Franklin Water Monitoring - Sarah Brichford



We're on Facebook



We're on the web

[www.wildcatguardians.org](http://www.wildcatguardians.org)

Print the membership form from the web page and join the Wildcat Guardians today.  
Get connected to your environment.



## ***News from the Creek***

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### **Adopt-A-River Update By Charlie Skoog**

As we enter 2012 I have 10 years of Wildcat Guardian experiences to celebrate and look back upon. It has been quite a journey up and down the creek, it's banks and floodplains. I've followed in the wake and footsteps of some special men who cannot be replaced and will never be forgotten. Rest in perfect peace Carroll Baker and Hod Peabody. Your passion and purpose live on in all of us who love the Wildcat as you did and served so well.

The year 2011 was busy for Adopt-A-River as hundreds of volunteers joined the Guardians in removing tons of trash and scores of tires from the creek and floodplain areas. My favorite highlight was when the entire Northwestern High School football team joined us for the Howard County Day of Caring in September. We needed a football team to clean a longtime, creekside dumpsite, (including hundreds of semi tires still on rims-those suckers our heavy!) on Main St. in Downtown Kokomo just 2 blocks from City Hall. Just this week I found out that a plan is evolving that will further transform this dumpsite into a community garden and lush greenspace. Wow!!! Since this is my Section # 29 I will have more detailed information on how you can help at our January business meeting.

It seems Section #29, Crystal St. dam to Washington St. bridge is going to be a focal point in 2012. The City of Kokomo has allocated funds and accepted bids to remove the Crystal St. dam and work will begin in the spring. This is something the Guardians have asked for and advocated from our beginning and it's actually going to happen this year! My thanks again to Stormwater Manager Don Cree, City Engineer Carey Stranahan and Mayor Goodnight for supporting our efforts to clean the Wildcat and set it free.

Valerie Gordon has been helping me update the Section Coordinator list and it will soon be revised on the website. If we have not heard from you recently, give us a shout out. We want and need to hear from you. I can be reached at [runckrr@aol.com](mailto:runckrr@aol.com), (765) 437-6268, on Facebook or through the website.

Mark your calendars, our Earth Day Cleanup in March will take place in Howard County on Saturday, March 17, with plans to work from 9 am until Noon or beyond. More specific details to follow in the next newsletter and on Facebook and [www.wildcatguardians.org](http://www.wildcatguardians.org). Also, this year's Howard County Day of Caring will be September 8. Hopefully it will be as memorable as last year! ■

### **Adopt-A-River Section Report**

David Inskeep

Section 26

Saturday January 7, 2012 – 1 PM

No trash collected

#### Problems found:

Lots of trash on the river left above and below the former Continental Dam site. This is paper and plastic trash that is invisibles in the high growth of summer & fall but is depressingly visible and abundant this time of year.

Lots of trash creep from properties all along river left downstream of the confluence of Kokomo Creek – the worst are the storage facility, a private residence with a burn barrel on the high bank, and Haynes (they didn't do anything all summer about the issues I brought to their attention early last year).

There is erosion taking place in spots along the bank on river right where the remediation has created open fields right up to the edge of the creek.

Comments:

It was a beautiful sunny day with temperatures reaching the high 40's. The USGS stream flow data on the web is unavailable for some reason, I estimate about 150 cfs and a height of 3 feet tops. The remediation of the former Continental Steel site has had a dramatic effect on the scenery on this section. Beginning at the Kokomo Creek confluence, the bank on river right is now open field all the way to just above the Dixon Road bridge. This was once all brushy overgrown vacant lot wildlife habitat that is now to become soccer fields. It will be interesting to see what changes occur on the creek.

The water was somewhat turbid having been higher in recent days. No odors or contaminants were noted. Blue herons and Kingfishers as well as squirrels were abundant but for the most part surprisingly little wildlife was seen.

A beautiful day on the creek except for all the paper and plastic trash now visible. It was much less trashy between Dixon and the 440 West takeout. ■

## **Calling All Section Coordinators !**

**Check your status. Sections are available.  
New coordinators are welcome.**

<b>Section</b>	<b>Length</b>	<b>Location</b>	<b>Section Coordinator</b>
#1	2.8 mi.	SR 25 bridge to Wabash River	Available
#2	2.4 mi.	Peters Mill Access to SR 25	Available
#3	3.0 mi.	Wildcat Park to Peters Mill Access	Brenda & Greg Jones
#4	4.5 mi.	Mi-So-La Access to Wildcat Park	Ed & Andrea Ragsdale
#5	3.0 mi.	Heath Rd bridge to Mi-So-La Access	Terry Pontius
#6	3.0 mi.	County Line Rd bridge to Heath Rd bridge	Rob Weston
#7	2.0 mi.	Pyrmont bridge to County Line Rd bridge	Doug McKnight
#8	1.3 mi.	Knop Lake Access to Pyrmont bridge	Rob Weston
#9	2.3 mi.	US 421 bridge to Knop Lake Access	Available
#10	1.5 mi.	Lancaster bridge to US 421 bridge	Available
#11	2.7 mi.	Zenie bridge to Lancaster bridge	Available
#12	4.5 mi.	SR 75 bridge to Zenie bridge	Garry Hill
#14	1.6 mi.	Adams Mill bridge to SR 75 bridge	Dennis Kern
#15	1.0 mi.	Adams Mill dam to Adams Mill bridge	Dennis Kern
#16	3.9 mi.	350 E bridge to Adams Mill dam	Dana Neer
#17	2.4 mi.	500 E bridge to 350 E bridge	Michelle Arvin/Ryan Gilbert
#18	2.2 mi.	SR 29 bridge to 500 E bridge	Jack Johnson/Sarah Brichford
#19	2.0 mi.	SR 22 bridge to SR 29 bridge	Ted and Joan Dudash
#20	2.4 mi.	Stonebraker bridge (1100 W) to SR 22	Morgan Metzger
#21	2.5 mi.	Gordon bridge (950 W) to Stonebraker bridge	Steve Carnes
#22	3.3 mi.	Newcom bridge (750 W) to Gordon bridge	John Holmes
#23	4.8 mi.	Yeoman bridge (450 W) to Newcom bridge	Mike Bach
#24	2.4 mi.	Malfalfa Rd bridge to Yeoman bridge	Ross Jordan
#25	1.2 mi.	Dixon Rd bridge to Malfalfa Rd bridge	Mary Rowe
#26	1.4 mi.	Continental Steel dam to Dixon Rd bridge	David Inskeep

#27	0.7 mi.	Guillotine dam to the Continental Steel dam	Ken Munro
#28	0.7 mi.	Washington St bridge to the Guillotine dam	Ben & Nancy Franklin
#29	0.9 mi.	Crystal St dam to Washington St bridge	Charlie Skoog
#30	0.6 mi.	Waterworks dam to Crystal St dam	Ray Ashcraft
#31	1.0 mi.	Delco Park to Waterworks dam	Lloyd & Debbie Hollingsworth
#32	2.0 mi.	300 E bridge to Delco Park	Paul Plomp
#33	1.7 mi.	Reservoir dam to 300 E bridge	Jim Trump
#34	1.1 mi.	500 E bridge to Reservoir dam (reservoir)	Jim Trump
#35	1.1 mi.	600 E bridge to 500 E bridge (reservoir)	John Floyd
#36	1.6 mi.	50 N bridge to 600 E bridge (reservoir)	Available
#37	0.6 mi.	US 35 bridge to 50 N bridge (reservoir)	Ray Ashcraft
#38	0.7 mi.	High School bridge to US 35 bridge	Jolene Rule
#39	1.7 mi.	SR 213 bridge to High School bridge	Steve Rule
#40	1.6 mi.	Jerome bridge to SR 213 bridge	Garry Hill
#41	1.4 mi.	1100 E bridge to Jerome bridge	Gary Voorhis
#42	0.7 mi.	300 S to 1100 E bridge	Rick Moulton
SF #1	1.5 mi.	100 N bridge to Wildcat Park	Available
SF #2	2.8 mi.	Monitor access to 100 N bridge	Available
SF #3	4.5 mi.	Fairfield Park to Monitor access	Available
SF #4	1.7 mi.	Dayton access to Fairfield Park	Available
SF #5	3.4 mi.	Wyandot bridge to Dayton access	Available
SF #6	3.2 mi.	800 E bridge to Wyandot bridge	Available
MC #1	1.3 mi.	SR 26 to 300 S Bridge	Shane Campbell
MC #2	1.4 mi.	1100 E to SR 26	Randy Richey
MC #3	1.2 mi.	Beaver Point CG to 1100 E bridge	Randy Richey
MF #1	1.2 mi.	Edna Mills to Southfork	Rick Eaton
LWC #1			Available



## ***News from the Creek Bank***

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### **Water Quality Report for South Fork Wildcat Creek Ben Reinhart, Clinton County SWCD**

Similar to other Midwestern streams, the South Fork Wildcat Creek and its tributaries have struggled to meet certain water quality standards. Currently, these waters carry impairments such as elevated levels of *E. coli* bacteria, impaired biological communities, and the presence of polychlorinated biphenyls (PCBs) in various fish tissues as documented in the Impaired Waters List maintained by the Indiana Department of Environmental Management. These impairments have been one of the primary drivers behind watershed planning efforts currently being led by the Clinton County Soil & Water Conservation District (CCSWCD). Along with partners such as the Wildcat Guardians, Wildcat Creek Foundation, and other local organizations and governments, a comprehensive Watershed Management Plan (WMP) is almost complete for the South Fork Wildcat Creek Watershed. This WMP will help to identify various goals and strategies for improving water quality in the South Fork Wildcat Creek Watershed.

Part of this planning effort included a water monitoring effort to further characterize documented impairments. Chemical, physical, and biological monitoring was completed throughout the watershed. For chemical monitoring, parameters included measurements of Nitrate-Nitrite (N-N) and Total Phosphorus (TP). As expected within heavily agricultural watersheds, both nitrogen and phosphorus levels increased with high flows

seen during wet weather. However, during base flow conditions nutrient concentrations showed relatively low levels. One exception to this was high nutrient concentrations documented during both high and low flows downstream of the City of Frankfort and the Frankfort WWTP. These results help to illustrate that while nutrient runoff remains an issue during wet weather, nutrient concentrations during base flow more closely resemble quality streams within the Eastern Corn Belt Plains ecoregion. Also, wastewater discharges from local communities appear to impact nutrient levels in the South Fork Wildcat Creek Watershed.

Physical monitoring focused on Total Suspended Solids (TSS) and habitat evaluations completed using the Qualitative Habitat Evaluation Index (QHEI) method. Evaluations of TSS showed similar trends to measured nutrients; increased concentrations with wet weather but much lower levels during base flow conditions. Again, this shows that high flows are a significant driver of impairments related to TSS delivering sediment from stormwater runoff and causing bank erosion in a number of areas. The highest QHEI scores were recorded along Kilmore Creek and South Fork Wildcat Creek downstream of U.S. 421 with scores indicating “Good” to “Excellent” conditions. Habitat evaluations along smaller tributaries and headwater areas recorded lower scores indicating “Fair” to “Poor” conditions in many of these stretches.

Biological monitoring was an analysis of macro-invertebrate populations and *E. coli* bacteria levels. Bacteria and pathogens are arguably the most significant impairment in the South Fork Wildcat Creek Watershed. Each of the 13 sampling locations where *E. coli* was sampled indicated levels exceeding recreational standards for full body contact set by the State of Indiana. On average, *E. coli* levels were lower during late summer and early fall seasons compared to levels 2 to 8 times higher than the state standard during late spring and early summer. Macro-invertebrate sampling followed similar trends seen during habitat evaluations. The highest quality communities were recorded on the main channels and tributary outlets to Kilmore Creek and South Fork Wildcat Creek downstream of U.S. 421. The diversity of species and degree of intolerance to pollution decreased in macro-invertebrate communities sampled on smaller tributaries and headwater streams. Site scores in the “impaired” category included locations on Prairie Creek, Stump Ditch, Blinn Ditch, and South Fork Wildcat Creek upstream of the City of Frankfort. ■

## **The Astonishing Life Cycle of the Freshwater Mussel**

### **David Inskeep**

[Editor’s Note: This article is Part II of an essay by David Inskeep. Part I was featured in the Guardian Gazette in the summer of 2011. David is a Wildcat Guardian and teaches biology at Northwestern High School in Howard County.]

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An adult mussel appears immobile and passive in its tightly shut shell, yet within those confines lurks a gambler, a hitchhiking freeloader, and if female, a fisherman.

#### ***Rolling the dice – Broadcast spawning...***

Most freshwater mussels reproduce sexually, having both males and females, while some species are hermaphroditic (having both male and female organs in a single individual). Females of some species can be recognized by their slightly inflated shells as compared to males of the same species. When conditions are right males use the strategy of broadcast spawning - releasing large numbers of sperm into the current or surrounding waters. Females take in the sperm through their incurrent siphon and internal fertilization occurs. The proximity (nearness) of individuals and the population density are important factors influencing successful fertilization. It may be that the mussels move about to position themselves for more favorable fertilization opportunities. The fertilized eggs are held and brooded within the body of the female in a special gill pouch called a marsupium. Within the marsupium the fertilized eggs develop into tiny, parasitic larva called glochidia. The glochidia, which cannot move about on their own, need to be transmitted to a suitable host if they are to survive their next stage of development.

### ***Hitching a ride - a parasitic phase in the life cycle...***

When the fertilized eggs have developed into tiny glochidia, the female mussel seeks to transmit them to the gills, body, and/or fins of a host. Most mussel species use fish hosts although one Michigan species is known to transmit glochidia to an aquatic salamander. Most freshwater mussel species are strict specialists that use only one or a few fish species as hosts, while others are generalists capable of surviving on a wide range of host fish species. Once transmission occurs, the tiny glochidia cling to and take nourishment from the blood of the host while their own internal organs develop. This parasitic phase lasts for approximately 1 to 3 months depending on the mussel species and does not appear to significantly harm the host. Although some mussel species such as the non-native asian clam may skip the parasitic phase, in general, glochidia that don't find a suitable host will perish.

### ***Let's go fishing...***

To increase the rate of successful transmission of glochidia female freshwater mussels have developed some astonishing adaptations and strategies for attracting or entangling host fish. Known adaptations include fish lures and mucus webs.

The fleshy mantle of the females of some mussel species is modified into a moving lure that, depending on the specie, resemble small fish, crayfish, or aquatic insects. Host specialists often display lures that are remarkably realistic mimics of the preferred prey of the host fish. The female manipulates the lure inducing the host to attack and bringing the host into direct contact with the glochidia. The female mussel may even rapidly close its shell to capture and hold the host fish during transmission.

In other host specific mussel species, the female produces and releases conglomerates, containers of glochidia that resemble insects or small fish. When a host fish attacks, the conglomerate breaks open releasing and transmitting the glochidia. As with the mantle lures, conglomerates increase the chances of direct contact with a host.

A more generalist approach adopted by some mussel species involves releasing the glochidia into large mucus webs produced by the female. Fish hosts are brought into contact with the glochidia when they become entangled in the web.

### ***Life on their own...***

After the glochidia has developed into a juvenile mussel it drops from the host, hopefully in a suitable location. Still smaller than the head of a pin, the juvenile mussels are now able to move under their own power. They pull themselves about with their muscular foot. The foot is also used to bury the mussel and to anchor it in place. In addition, it is thought that juvenile mussels may be able to absorb food through their foot. The juveniles bury themselves completely in the sediment where they remain hidden as they grow to maturity. Some mussel species remain completely buried even as adults, but many species at least partially emerge as adults with part of the shell including the siphons protruding from the sediments. Even large adults can be difficult to locate because they blend in with the rock, sand, and gravel bottom. When the adults move about they may leave a visible furrow or "trail" which can be helpful in locating live mussels for observation. Because many freshwater mussel species are threatened or endangered it is recommended that live mussels not be disturbed! ■



## ***Odds and Ends***

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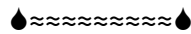
*The Indiana Conservation Alliance invites you to...*

### **Conservation Day at the Indiana Statehouse Tuesday, January 24, 2012**

The event is free! Due to new statehouse restrictions, pre-registration is required by January 19<sup>th</sup> and can be completed [online](#)

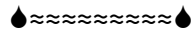
<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/events/conservation-day-at-the-statehouse.xml>

Conservation Day is an incredible opportunity to show state legislators that Hoosiers care about protecting our precious natural resources and preserving our environment. This is your chance to engage legislators in matters that mean the most to you and meet fellow conservationists throughout the state. The more people that attend Conservation Day, the bigger the impact. Carpool with co-workers, friends and family or walk to the statehouse during your lunch hour, and help make a difference.



### ***Get your garb on! Order Wildcat Guardian Apparel***

Sweatshirts, tee shirts and hats are available in attractive colors at reasonable prices. Orders are accepted at each Guardian monthly meeting. Ask a Guardian or attend a meeting.



### **Annual Meeting for Howard County Soil & Water Conservation District & Stormwater District February 7 at 5:30 p.m. - IU Kokomo Kelley Student Center**

(alternative weather date is February 21)

This meeting provides an opportunity to learn about 2011 accomplishments for both Districts and visit with friends and colleagues interested in a wide range of natural resources issues.

5:00 to 5:30 p.m. – social time, view displays, register for door prizes

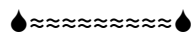
5:30 p.m. – complimentary dinner served

6:00 p.m. – recognition of conservation award winners

6:30 p.m. – breakout sessions (20 min. each) on cover crops, drainage, septic systems

There is no charge to attend but advance reservations are required.

Please call the Howard County SWCD at 457-2114 Ext. 3.



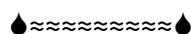
### **Kokomo Outdoor Expo**

**February 11 & 12 - Kokomo Event Center** (U.S. 31 north side of Kokomo)

Saturday: 9 am to 6 pm    Sunday: 9 am to 5 pm

\$5.00 general admission / 14 yrs & under are free

Booths and displays about fishing, hunting, Wildcat Guardians, soil & water conservation, water quality, more.



Important Dates to Remember:



Meetings  
3<sup>rd</sup> Monday of every month

#### 2012 CALENDAR

January 16: monthly meeting  
February 20: monthly meeting  
March 19: monthly meeting  
April 16: monthly meeting

September 8: United Way Day of Caring  
Howard County

## The Guardian Gazette

### 2011 Publication Schedule

January  
March  
May  
July  
September  
November

The Gazette is available online at  
[www.wildcatguardians.org](http://www.wildcatguardians.org),  
via email, or hardcopy.

## Contact us:

Email: [wildcatguardians@yahoo.org](mailto:wildcatguardians@yahoo.org)

Web site: [www.wildcatguardians.org](http://www.wildcatguardians.org)

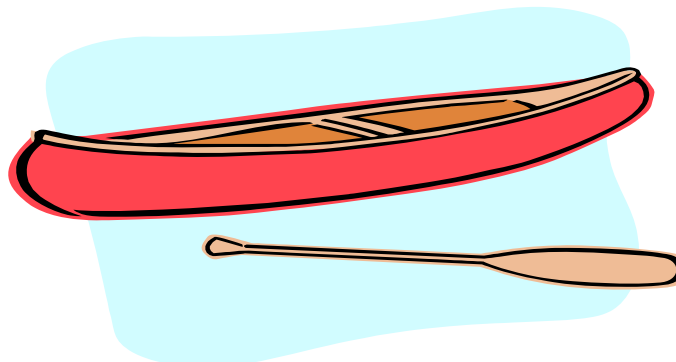
U.S. Mail: P.O. Box 6421, Kokomo, IN 46904-6421

## Monthly Meetings at:

Treece's II Restaurant in Burlington, Indiana

5:30 pm - dining and social

6:30 pm - meeting begins



# *In the flow*

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## **Howard County Soil and Water Conservation District**

### **Annual Tree and Plant Sale has begun!**

Choose from evergreens, deciduous trees, flowering trees, native plants and grasses.

Good prices. Good products.

Visit the soil and water conservation district web site [www.howardswcd.com](http://www.howardswcd.com) for links to descriptions of all species for sale.

Order now through March 30. Pickup is April 14 at Jackson Morrow Park, 9 am to Noon.



**Wildcat Guardians**

**P.O. Box 6421**

**Kokomo, Indiana 46904-6421**