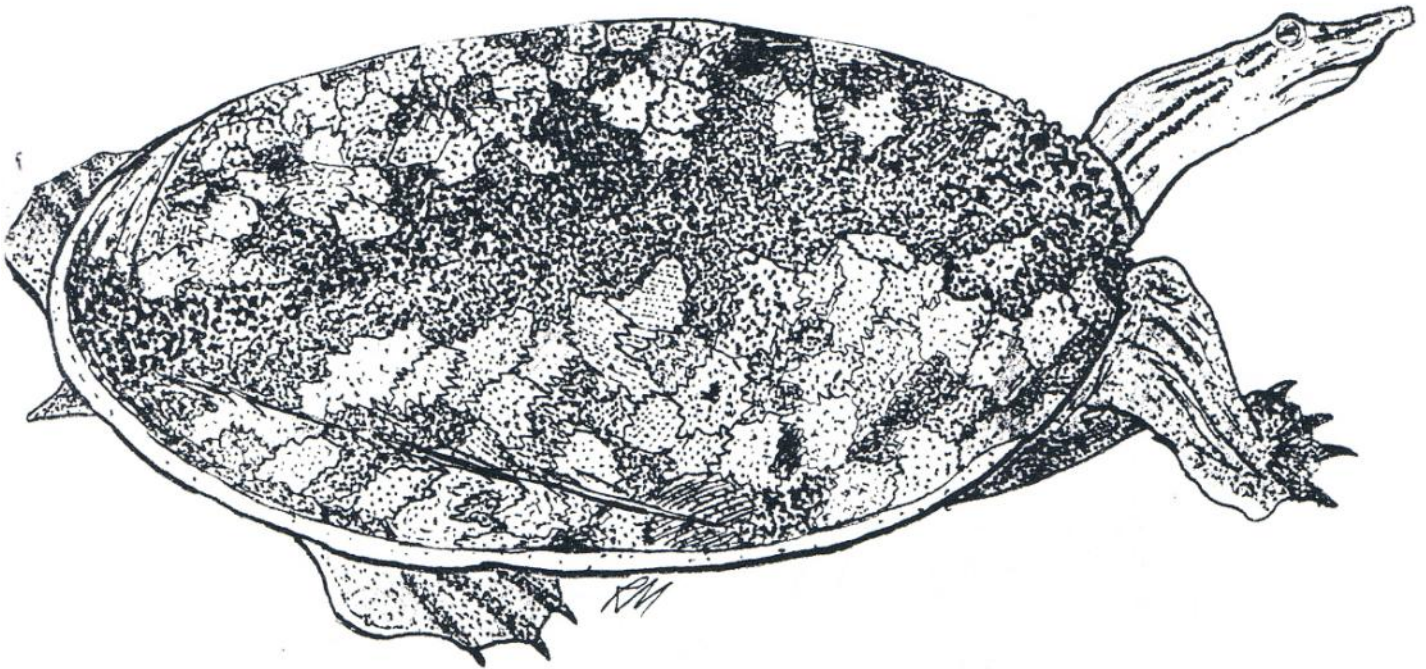


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SURVEY OF THE HERPETOFAUNA  
OF  
MUD CREEK CONSERVANCY PROPERTIES



Submitted by:  
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**SURVEY OF THE HERPETOFAUNA OF  
MUD CREEK CONSERVANCY PROPERTIES**  
(Preliminary Report)

A total of 20 species of amphibians and reptiles was recorded during the first season of the survey.

Surveying methods consisted of visual identification aided by capture by hand, dip netting, looking under natural and man-made cover, and the use of drift fences in conjunction with pit traps (which were checked daily while in use).

All specimens captured during the survey were released immediately after identification was made.

**IWC EASEMENT**

Red-backed Salamander  
Southern Leopard Frog  
Green Frog  
American Toad  
Snapping Turtle  
Stinkpot  
Kirtland's Snake  
Banded Water Snake  
Racer  
Five-lined Skink  
Midland Brown Snake  
Garter Snake

**SMEITANA EASEMENT**

Red-backed Salamander  
American Toad  
Five-lined Skink  
Eastern Garter Snake

**EAST 86<sup>TH</sup> STREET PRESERVE**

Red-backed Salamander  
Gray Tree frog  
Southern Leopard Frog  
Green Frog  
Bullfrog  
American Toad  
Snapping Turtle  
Midland Painted Turtle  
Spring Soft-shell Turtle  
Five-lined Skink  
Midland Brown Snake  
Red-bellied Snake  
Eastern Garter Snake  
Banded Water Snake  
Black Rat Snake  
Racer

**GOODMAN EASEMENT**

Two-lined Salamander  
Green Frog  
American Toad  
Five-lined Skink  
Midland Brown Snake  
Eastern Garter Snake  
Ribbon Snake  
Banded Water Snake  
Racer  
Black Rat Snake

Fieldwork for this survey did not begin until late spring of 2004 and concluded in mid-October. I predict that after the survey resumes in late winter of '05, several more species will be added to the list. Of particular interest are the late winter/early spring-breeding amphibians.

**TWO-LINED SALAMANDER**

*Eurycea cerrigera*



Specimens were found in a small stream within the Goodman Easement. This species requires permanent, flowing shallow water in order to reproduce because the aquatic larval stage requires a year to metamorphosize into the adult form.

**RED-BACKED SALAMANDER**

*Plethodon cinereus*

Fairly common in wooded areas, red-backs are important prey for various small snakes and mammals.

**GRAY TREEFROG**

*Hyla versicolor* and *H. chrysonscelis*

Several treefrogs were seen crossing 86<sup>th</sup> street during a rainstorm but no calls were heard. Breeding calls are a crucial factor in differentiating between the two species found in Indiana.

**SOUTHERN LEOPARD FROG**

*Rana ultricularia*

Leopard frogs are one of the species that would greatly benefit from slight modifications in the habitat.

**GREEN FROG**

*Rana clamitans melanota*

Several specimens captured in June were gorged with cicadas. Green frogs were the only anurans found with any regularity in Mud Creek. Only adults and sub-adults were found, suggesting that reproduction is occurring elsewhere.

**BULLFROG**

*Rana catesbeiana*

One adult male was found crossing a road during a shower.



**AMERICAN TOAD**  
*Bufo americanus*



Toads were frequently seen on roads at night and in wooded areas.

**SNAPPING TURTLE**  
*Chelydra serpentina*

Some were seen in Mud Creek and a nest was found, presumably destroyed by a raccoon.

**STINKPOT OR COMMON MUSK TURTLE**  
*Sternotherus odoratus*

While Mud Creek is hardly optimal habitat (too shallow) for “stinking jims”, remains consisting of an adult shell were found along its bank.

**MIDLAND PAINTED TURTLE**  
*Chrysemys picta marginata*

I assisted an adult female in crossing a road bordering one of the properties.

**SPINY SOFT SHELL TURTLE**  
*Aponlone spinifera*

A large female was spotted basking on bank of Mud Creek.

**FIVE-LINED SKINK**  
*Eumeces fasciatus*

Three of 15 specimens showed traits characteristic of both *E. fasciatus* and the Broad-headed skink *E. laticeps*.

**MIDLAND BROWN (DEKAY'S) SNAKE**  
*Storeria dekayi wrightorium*

Although secretive and rarely seen, this little snake is fairly common in the conservancy properties.

**RED-BELLIED SNAKE**  
*Storeria occipitomaculata*



One specimen of this close relative of Dekay's Snake was captured in a pit trap. This is the first time I have found this species in Central Indiana.

**EASTERN GARTER SNAKE**  
*Thamnophis sirtalis*

This adaptable species was found in all the properties.

**KIRTLAND'S SNAKE**  
*Clonophis kirtlandii*

No living specimens were found, but a discarded skin with *C. kirtlandii* markings was found near several chimney crayfish burrows. This species has been found occasionally in Fort Benjamin Harrison State Park. It is of interest because of its status as an Endangered Species in Indiana. Much of the Mud Creek drainage area contains suitable habitat for this inoffensive and attractive serpent.

**RIBBON SNAKE**  
*Thamnophis sauritus*

Two juvenile ribbon snakes were caught in mid-August. This species is very rare in Central Indiana and these captures are the first I have ever had of *sauritus* from Marion County since 1976.

**BANDED WATER SNAKE**  
*Nerodia sipedon*

Water snakes appeared to average slightly smaller and be somewhat less common than in the State Park.

**RACER**  
*Coluber constrictor*

The area is home to two varieties of "black snakes" which are often assumed to be the same species. Racers are faster moving and fonder of open, grassy habitat.

**BLACK RAT SNAKE**

*Elaphe o. obsolete*

The largest snake found in Central Indiana. This snake is more often encountered in woods and near peoples' homes than the more wary, sun-loving Racer.





### ANECDOTAL OBSERVATIONS

One of the benefits of being “in the field” is the privilege of experiencing first-hand the special moments that occur while in the midst of Nature’s splendors.

I will always remember watching a family of Brown Creepers flitting about as the nestlings followed their parents in the foliage, begging for tidbits.

Another time I happened across a freshly shed turkey feather lying on the ground near the microwave tower at IWC. I smile to think that some of the birds we incubated and released at fort Harrison’s Rod and Gun Club have managed to hang on.

A family of Red-tailed Hawks managed to successfully rear at least one chick at the IWC Easement. I still recall the parents scolding their offspring, as the young hawk forsook his newly acquired ability to fly and gorged himself on the periodic cicadas that covered the leaves and branches of the greenery bordering the meadow.

Assuming they were not the same ones that I saw on three different properties in one day, at least three families of Wood Ducks made their homes on Mud Creek Conservancy properties.

Perhaps the memory that stands out most vividly is finding a very small, very angry, Short-tailed Weasel in one of my pit traps. Amazing that such a diminutive creature would have such effective teeth!



## SUMMARY/RECOMMENDATIONS

A habitat that supports a thriving, diversified herptile population is apt to be a healthy environment for other plants and animals. In ecological circles, amphibians are referred to as “indicator species”. Because of their aquatic larval stages, they act as an indicator of water quality. The more terrestrial adult forms can be studied to determine soil quality and other environmental factors.

Most environmental alterations that positively affect the local herpetofauna would also benefit ecologically interdependent flora and fauna. The following recommendations are made with this concept in mind.

- Continue Monitoring Mud Creek’s Water Quality

Mud Creek flows through primarily agricultural and residential areas interspersed with stretches of old-growth and second-growth forest. Chemical and organic runoff may be affecting Mud Creek in a negative way.

- Eradication of Invasive Non-Native Plants

Of primary importance is the control of Asian Honeysuckles. These shrubs form a dense understory, creating a forest floor unsuitable for native plants and animals.

- Create Small Ephemeral and Permanent Wetlands

Frogs and salamanders require uncontaminated, fishless bodies of water for reproduction.

- Put Up Turtle and Frog Crossing Signs

During their breeding seasons, many species travel overland in search of suitable places to mate and lay eggs. Increasing motorists’ awareness can do much to eliminate roadway mortalities.

- Landscape with Native Wildlife in Mind

Residences abutting Conservancy properties could be landscaped in a nature-friendly manner. Planting native ornamental plants, such as Flowering Dogwood, and installing bird houses and feeders are just a couple of ways to add to the Conservancy’s effectiveness.

- Acquire More Land

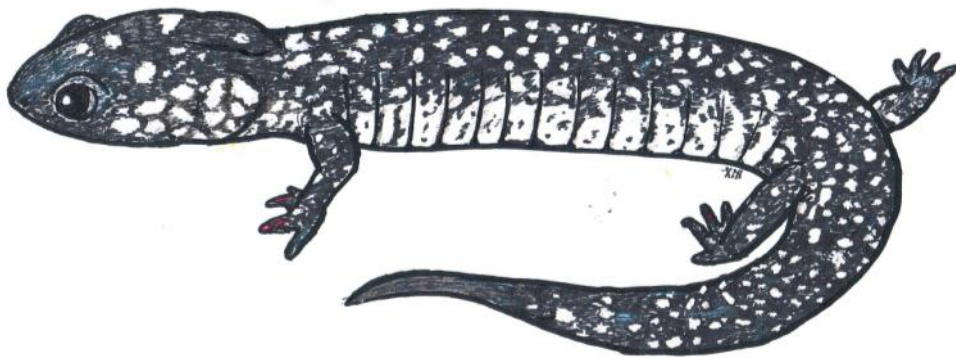
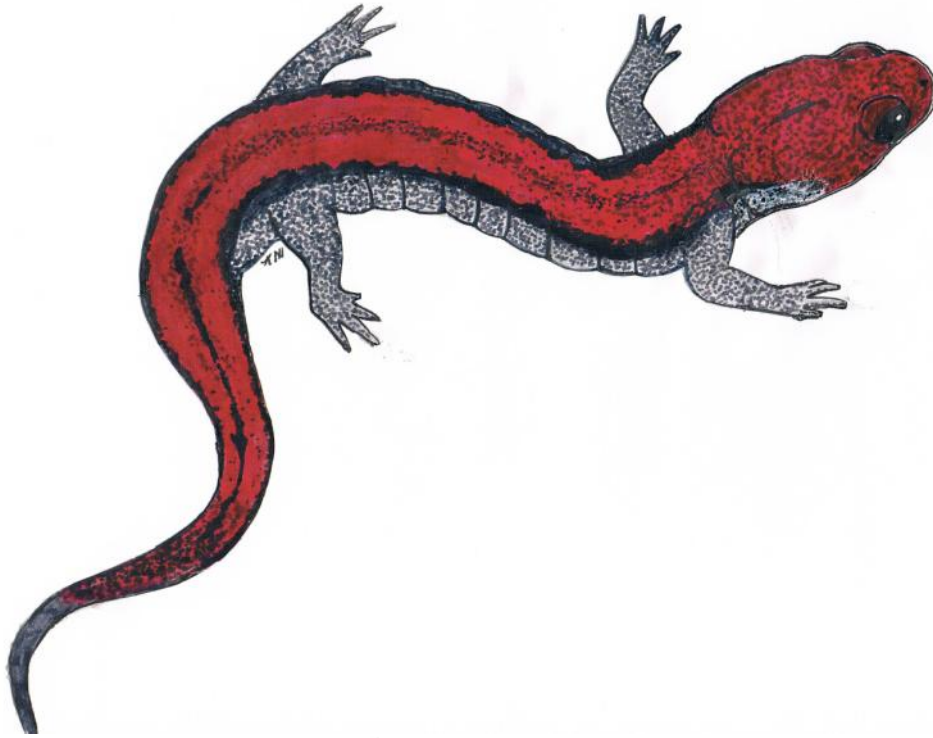
Preventing habitat fragmentation, genetic isolations, and suburban sprawl are crucial in preserving a lasting natural legacy for ourselves and future generations.

## **SUMMARY/RECOMMENDATIONS**

- **Enjoy Your Land**

Environmentally low impact activities such as bird watching, hiking and educational field trips could inspire a greater appreciation for what the Mud Creek Conservancy is accomplishing.

Red-backed Salamander



Slimy Salamander