



Another Puzzle Piece of the Mukwonago River Watershed Protected

by Ellen Gennrich

When a property came on the market with the Mukwonago River running through it, the Waukesha County Land Conservancy jumped at the opportunity to protect it. Designated by The Nature Conservancy as one of the "Last Great Places" in Wisconsin, the Mukwonago River boasts excellent water quality and diverse habitat types supporting a high diversity of species. (For more information on these rare creatures, see the articles in this newsletter on "Clams" and "The Mukwonago River State Natural Area.")

- Thanks to our members' donations and matching funds from the Knowles-Nelson Stewardship Fund, the Waukesha County Land Conservancy was able to purchase 54-acres of the Davis property on the Mukwonago River and do our part to help protect this amazing resource.

The Davis property includes 50 acres of upland habitats as well as 4.3 acres of floodplain wetlands. Planned restoration of the 50 acres of agricultural fields to prairie vegetation will provide new wildlife habitat to this area, while protection of the floodplain wetland will minimize the threat of flooding and sedimentation flowing into downstream sections of the Mukwonago River and into Upper and Lower Phantom Lakes.

In 2008 the Wisconsin Department of Natural Resources purchased the 970-acre Rainbow Springs property. Located immediately south of Rainbow Springs, the Davis property is an addition to this large area of State protected lands. With the addition of the Davis property, the Waukesha County Land Conservancy now protects 272 acres of the Mukwonago River's watershed. The Longear Sunfish and over 50 other species of fish thank the Conservancy's members – AND the Knowles-Nelson Stewardship Fund!

- **If you would like to contribute toward the purchase of the Davis property, please send your donations to the Waukesha County Land Conservancy/ Davis Acquisition Fund today!**



Winter views of the Davis Property in the Town of Mukwonago



Riddle:

What animal has no head, no eyes, no sound, no arms, only one foot; adults stay in one place while youngsters hitch hike a ride on a fish?

The Clam

“The clam, esteemed by gourmets highly,
Is said to live the life of Riley;
When you are lolling on a piazza,
It’s what you are-as happy as a.” (clam)

Ogden Nash

The Mukwonago River Designated as a State Natural Area in 2005

from the DNR website

“The Mukwonago River is among the cleanest and most biologically diverse streams in southeastern Wisconsin and provides critical habitat for a number of rare, threatened, and endangered species of fish and invertebrates. Between Eagle Spring and Phantom Lakes, the river is designated an Exceptional Resource Water, with clear, warm water and a maximum depth of 2'. The bottom is composed of sand, rocks and gravel and contains many large glacial boulders. At least 53 species of fish, including the state-threatened longear sunfish (*Lepomis megalotis*) and state-endangered starhead topminnow (*Fundulus dispar*) have been found here. In fact, the two-mile stretch of river from the natural area downstream to its confluence with the Fox River, contains the last known self-sustaining longear sunfish population in Wisconsin. Among the other fish inhabiting the stream are grass pickerel, rosyface shiner, sand shiner, banded killifish, tadpole madtom, rainbow darter, and brook silverside. Longnose gar are often seen patrolling the waters. Equally diverse is the freshwater mussel fauna. This reach of the Mukwonago is one of the most biologically-rich mussel habitats in the state. Sixteen species are found here, including Wisconsin's only remaining viable population of the state-endangered rainbow shell (*Villosa iris*). Rare dragonflies known from the stream are the fragile forktail (*Ischnura posita*) and the double-striped bluet (*Enallagma basidens*). Beds of coontail and other submerged aquatics are common in the stream, while the banks contain bulrushes, sedges and other emergent plant species. The 44-acre State Natural Area lies within the larger Mukwonago River watershed corridor, a mosaic of natural communities including forest, savanna, wetlands, and lakes. This diverse landscape is home to a wide array of native plants and animals and is an important stopover site for a number of Neotropical migratory birds. Mukwonago River is owned by the DNR and was designated a State Natural Area in 2005.”

Happy as a Clam

by Marlin Johnson

Have you ever picked up what looks like a strange cobble on the bottom of a lake or stream only to have it squirt water and ‘clam shut’ within seconds? Yes, you have found yourself a live clam which will remain snugly confined in its home beyond the length of your patience or your vain attempts to pry it open with your hands. For the moment at least, clam life is good. The expression, “happy as a clam” seems an appropriate metaphor for certain moments in the lives of our own species.

When is a clam not a clam.....when it’s a mussel! Actually, nearly everything we call a clam in Wisconsin is really a mussel. The only true clams we have in Wisconsin are quite small, hence their names—pill clam, pea clam and fingernail clam. Mussels are larger, measuring up to seven inches long. Another difference between clams and mussels has to do with their life cycle. Fertilized eggs of true clams remain inside the shell and develop into miniature adults which are released into the water to get dispersed by local currents. After settling to the bottom they remain more or less in one place for the rest of their lives.

Mussels have a life cycle which involves a small intermediate larval stage which must attach to the skin, fins or gills of a host fish. Not just any fish. For some reason only certain fish will do. Some have many acceptable host species; others choose any member of a particular family of fish, while some have only one acceptable species. If the larvae do not attach to the right fish, they die. They hold on for three to six weeks as a parasite until they mature into a miniature adult and drop to the bottom where they, like their parents, remain in the same area for the rest of their lives. The key advantage of this hitch-hiking youngster is that the species gets dispersed to new habitat away from its passive, slow moving parents. This is how mussels can move around and become established in new territory.



Washboard Mussel



Pigtoe Mussel

Happy as a Clam (cont)

Mussels have the craziest names: washboard, pigtoe, warty-back, heelsplitter, floater, pocketbook and papershell . The names describe the shape and characteristics of the shells. Mussel shells are made of calcium carbonate (lime) crystals. The outer layer appears as concentric growth rings laid down annually. The inner smooth pearly layer is called the ‘mother of pearl’ and is laid down by a thin sheet of tissue called a mantle. Some species have a truly beautiful soft pink or purple color lining the interior of the shell. If an irritant like a sand grain gets lodged between the shell and the mantle, layer upon layer of mother of pearl is laid down to seal off the irritating particle. The resulting structure may be just a bump on the inner surface or a rounded pearl.

Mussels have no head, no eyes, no tentacles or arms and make no sounds. They do have gills for extracting oxygen, a gut for digesting food and siphons for intake and exit of water. The bulk of the body is made up of a single, large muscular foot used to pull the animal forward through the mud, sand or gravel. Mussels do not seek out food but rather remain in one place, drawing in water through a siphon and filtering out algae and other small food items.

Native Americans have used mussels for centuries for food and for making scrappers, dishes, and body jewelry. During the 1800s mussels were collected in the Mississippi River to be cut into pearl buttons for the clothing industry. Currently, shells are cut up into small pieces and used by the cultivated pearl industry in China and Japan as an ‘irritant’ to stimulate freshwater mussels and salt water oysters to produce pearls.



The Wartyback Mussel

Nineteen (40%) of the 51 mussels in Wisconsin are threatened or endangered. Many situations are causing their demise: damage to favorable habitat, over-harvesting, loss of host fish species, siltation which smothers or clogs gills. Toxic chemicals, which are passed through the local food chain by predators (fish, raccoons, muskrats, mink and otters) can accumulate in the body and cause death.



Zebra Mussels brought over from Europe in the ballast of ships threaten the native mussels .

A recent threat is competition from zebra mussels brought over from Europe in the ballasts of ships. The foreign mussel has no diseases or predators in this country. Consequently it can proliferate uncontrollably, stealing food, oxygen and space from the natives.

The status of mussels in our lakes and streams tells us much about the health of the water environment. In the long run their loss is our loss. Saving what we still have is important. The Waukesha County Land Conservancy will be doing its part to keep Ogden Nash’s “ Clams” snug and happy. He would be proud of us!



White Heelsplitter Mussel
photo by Jason Dare

The Waukesha County Land Conservancy is proud to share the success that donations from our members have helped to achieve:

- Over **2660** acres of environmentally significant land in Waukesha County saved.
 - Over **1500** donors: individuals, corporations, foundations.
- **All membership donations used for land purchase and management.**

None of these successes would be possible without the enthusiasm and generosity of the Waukesha County Land Conservancy members. Your annual membership or gift membership is deeply appreciated.

*Please Consider Renewing your Membership With The
Waukesha County Land Conservancy*

Name: _____

\$35 Contributor

Address: _____

\$50 Sentinel

City: _____ St: _____ ZIP: _____

\$100 Guardian

E-Mail: _____

\$250 Steward

I am a member. I would like to give a gift membership to:

\$500 Conservator

I would like to make a gift in honor or in memory of:

\$1,000 Benefactor

Name: _____

Address: _____

City: _____ ZIP: _____

Match this gift through my employer's Matching Gift

Payment by: Check Visa Master Card

Name on Card: _____ Amount: _____

Card Number: _____ Exp Date: _____ Code: _____

Please make checks payable to WCLC (Waukesha County Land Conservancy.) WCLC is a non-profit 501(c)(3) charitable organization. Your gift is tax-deductable. All donors, unless directed "anonymous" will be listed in our annual donor recognition report.

Scenes From 2013 Annual Meeting



Susan VanVleet and Bruce Hawkins at Annual Meeting Dinner



Steve Schmuki, with Galop Gala Hosts Mary and Dr. Adel Korkor, auction Dr. Korkor's photo of a Scarlet Tanager.



Greg Bisbee, Cindy Ziegler-Fritz and Tom Fritz attend Annual Meeting



Donna Meyer chats with Diana Markus



Barb Holtz and Jason Dare, Pres of Dare Ecosystem Management LLC, fill in as speakers for Craig Thompson when a snowstorm prevents Craig's arrival.