

The Conservation Corner

August 2009



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A publication developed to highlight conservation efforts, programs and events throughout Hamilton County
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Stream Monitoring



Since 1999, the HCSWCD has been assessing stream water quality using measured parameters and benthic macroinvertebrates.

Benthic macroinvertebrates are bottom dwelling organisms that live in streams for part or all of their life, lack a backbone, and are visible with the unaided eye. They are used as bioindicator organisms, meaning their presence in an

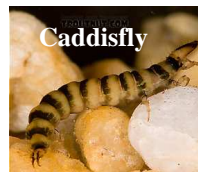


ecosystem indicates pristine or polluted aquatic conditions. Benthic macroinvertebrates are diverse and ubiquitous in streams, with life spans ranging from a few weeks to a few years. Their mobility is relatively limited, and they cannot readily escape pollution. Species are assigned pollution tolerance values, and based on the taxa collected from a sample, the health of the stream can be inferred.

Benthic macroinvertebrate stream communities are dominated by insect larvae, worms, and mollusks. These organisms form an essential link in the aquatic food chain. They help to break down organic matter, and are excellent fish food. At each stream sample site in Hamilton County, a YSI probe is used to measure dissolved oxygen, pH,



and conductivity. Water velocity, depth, and stream width are also documented. A permit from the DEC is renewed each year for invertebrate collection. A kick sample is then taken to collect benthic macroinvertebrates. A net is placed downstream in a riffle, and the bottom of the stream is disturbed, rocks are overturned, and sediment is kicked to dislodge organisms. The stream current carries organisms into the kick net, and contents are sorted and preserved in alcohol. In the lab, organisms are identified to the lowest taxonomic level possible using keys and a microscope.



Stream water quality is determined using EPT, Biotic Index, and Percent Model Affinity. EPT richness is the diversity of Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies). These orders of macroinvertebrates are pollution intolerant, and the greater their diversity, the healthier the stream. Biotic Index assigns a pollution tolerance value to macroinvertebrate species, and classifies streams into excellent, good, fair, and poor quality. Percent Model Affinity compares the community in the sampled stream to one of excellent water quality.

This year, we have revised our program. Instead of collecting invertebrates once a year, collection will take place 3 times a year to obtain more representative data for analysis. Priority sampling areas are chosen based on the amount of development along a stream, as well as if the stream flows into a lake that is sampled in our Water Monitoring Program. In general, stream water quality is good, but it is essential to keep a watchful eye on streams in order to detect problems early so that steps may be taken to remedy the prob-



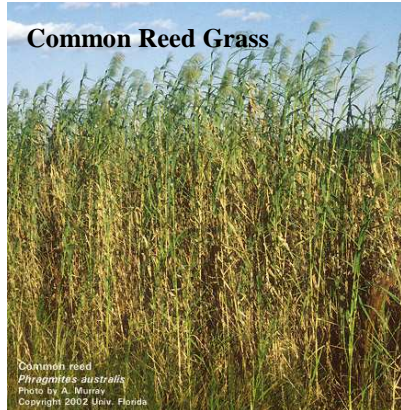
lem. The 1999, 2000, and 2003 Stream Assessment reports are available on our website. Presentations on stream monitoring with benthic macroinvertebrates including an outdoor lab are available for students and organizations. Call 518-548-3991 to schedule a presentation.

Invader of the Month

Common Reed Grass

Biology

This tall, herbaceous perennial invasive plant is native to Europe and Africa and invades roadways and wetlands. Plants reach 15 ft high, and leaves are opposite, broad, and sheath-like. Stems and leaves are sharp and rigid. Feathery plumes of brown or purple flowers appear in mid to late summer.



Problems

Plants sprout from rhizome fragmentation, and pieces of roots are transported to new locations by animals, water, and construction equipment. Seed production is great, allowing this invader to form monotypic stands that span hundreds of acres. Wetland species are out-competed, and biodiversity decreases.

Management

If invasive plant stands are growing on your private property, best management practices may be implemented to reduce their populations. Do not become discouraged as management will need to be repeated yearly in order to control the population. Cut plant in late July/early August 6" above the ground. Place all plant material in a heavy duty plastic bag, allow contents to liquefy, and dispose of in a proper landfill or transfer station. Swab or spray glyphosate herbicide to cut stems. Glyphosate is non-selective; apply with caution on a non-windy, dry day.

What YOU Can Do

Prevent the spread of terrestrial invasive plants by removing all plant fragments from clothing and vehicles when leaving or returning from a trip. Dispose of plants in a sealed trash bag in an approved landfill or transfer station. Avoid traveling through areas infested with invasive plants. Plant natives, not invasives. If you see an invasive plant growing along a roadway or on public land, report to the Adirondack Plant Invasive Plant Program at 518-576-2082.

Go Green

This Summer!

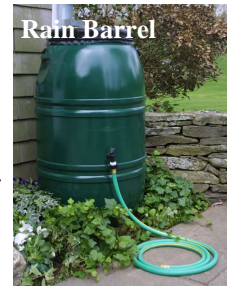
Now that Hamilton County is experiencing warm, sunny days, here are some tips on how you can go green this summer:

1. Decrease your footprint. Minimize your impact on the environment, but still enjoy the summer by reading a book on your porch, enjoy local activities such as a walk in the park, woods, or zoo, or check out the home team at the ball field.
2. Turn up the thermostat a few degrees on the AC to decrease overuse.
3. When grilling, propane burns cleaner than wood or charcoal briquettes. Avoid lighter fluids and self-lighting charcoal. Try an electric charcoal starter or a charcoal chimney.

ney. Try natural charcoals, lump charcoal, Cowboy Charcoal, or certified wood briquettes.

4. Visit your local farm stands, or purchase veggies from road-side stands. Buying locally helps our economy, and the environment. When you buy local, you are purchasing food that has not traveled thousands. The Speculator Farmers' and Crafters' Market is held every Thursday at the ball field across from Lake Pleasant from 3—6 PM through August 27. The Long Lake Farmers' Market is every Thursday from 10—2 at Mt. Sabattis. The Indian Lake Farmers' Market is every Tuesday and Friday from 12—4 on Pelon Road across from the Library.

5. Be wise about water use. Water plants only when necessary. Install a low-flow showerhead.



6. Install a rain barrel to collect rain water for watering lawns and gardens, for washing your car, or for emergency use.

Go Green!
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In July, we
recycled approx. 80
lbs of paper!