



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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PAT QUINN, GOVERNOR

JOHN J. KIM, INTERIM DIRECTOR

217/785-4787

November 13, 2012

Ms. Janet L. Agnoletti, Executive Director
Barrington Area Council of Governments (BACOG)
112 Algonquin Road
Barrington Hills, Illinois 60010

RE: Insurance Auto Auction/Trout Park Nature Preserve - Class III: Special Resource Groundwater

Dear Ms. Agnoletti,

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed BACOG's letter concerning the Village of East Dundee's proposal to locate a site referred to as Insurance Auto Auction Inc. (IAA) site in Kane County. Concerns have also been raised to us from the Illinois Nature Preserves Commission (INPC), and the Village of Barrington Hills regarding this site. The purpose of this letter is to inform you, the Village of East Dundee, Village of Barrington Hills, and the INPC that it appears that approximately two-thirds of the proposed IAA site (see Attachment I) is located within an area designated by the Illinois EPA, pursuant to 35 Ill. Adm. Code 620.230(b), as Class III: Special Resource Groundwater. (See Environmental Register July 2012, p.36). The groundwater in this area contributes to the Trout Park Dedicated Nature Preserve. The Illinois EPA believes the groundwater in this area is demonstrably unique and vital for the nature preserve.

Section 12(a) and 12(b) of the Illinois Environmental Protection Act ("Act") (415 ILCS 5/12(a) and (b)) prohibit the degradation of Class III groundwater in Illinois. The Illinois EPA has and continues to work to prevent the degradation of groundwater in Illinois through various means, including when necessary legal action to enforce the provisions of the Act and Board regulations.

We agree with your recommendations for special measures to prevent the contamination of this Class III area. For example, a liner with a minimum performance standard of 1×10^{-7} centimeters per second (cm/sec) hydraulic conductivity; a secondary collection system to prevent any potential groundwater contamination; an appropriate groundwater monitoring well system (a minimum of 3 wells which is needed to determine the direction of groundwater flow); and an appropriate groundwater sampling program to determine the effectiveness of the technology controls.

The Illinois EPA wishes to convey our concerns and the need for special measures to prevent the contamination of this Class III area. I encourage all parties to call if there are questions.

Sincerely,



Richard P. Cobb, P.G.
Deputy Division Manager, and
Manager Groundwater Section
Division of Public Water Supplies

Cc: Village of East Dundee

Mr. Jerald Bartels, Mayor, Village of East Dundee
Robert Skurla, Village Manager, Village of East Dundee
Patrick O'Connor, Municipal Attorney - East Dundee, Hartigan & O'Connor

Village of Barrington Hills

Robert G. Abboud, President, Village of Barrington Hills
Robert Kosin, Village Administrator, Village of Barrington Hills
James P. Kelly, Municipal Attorney - Barrington Hills, Matuszewich, Kelly, & McKeever

INPC

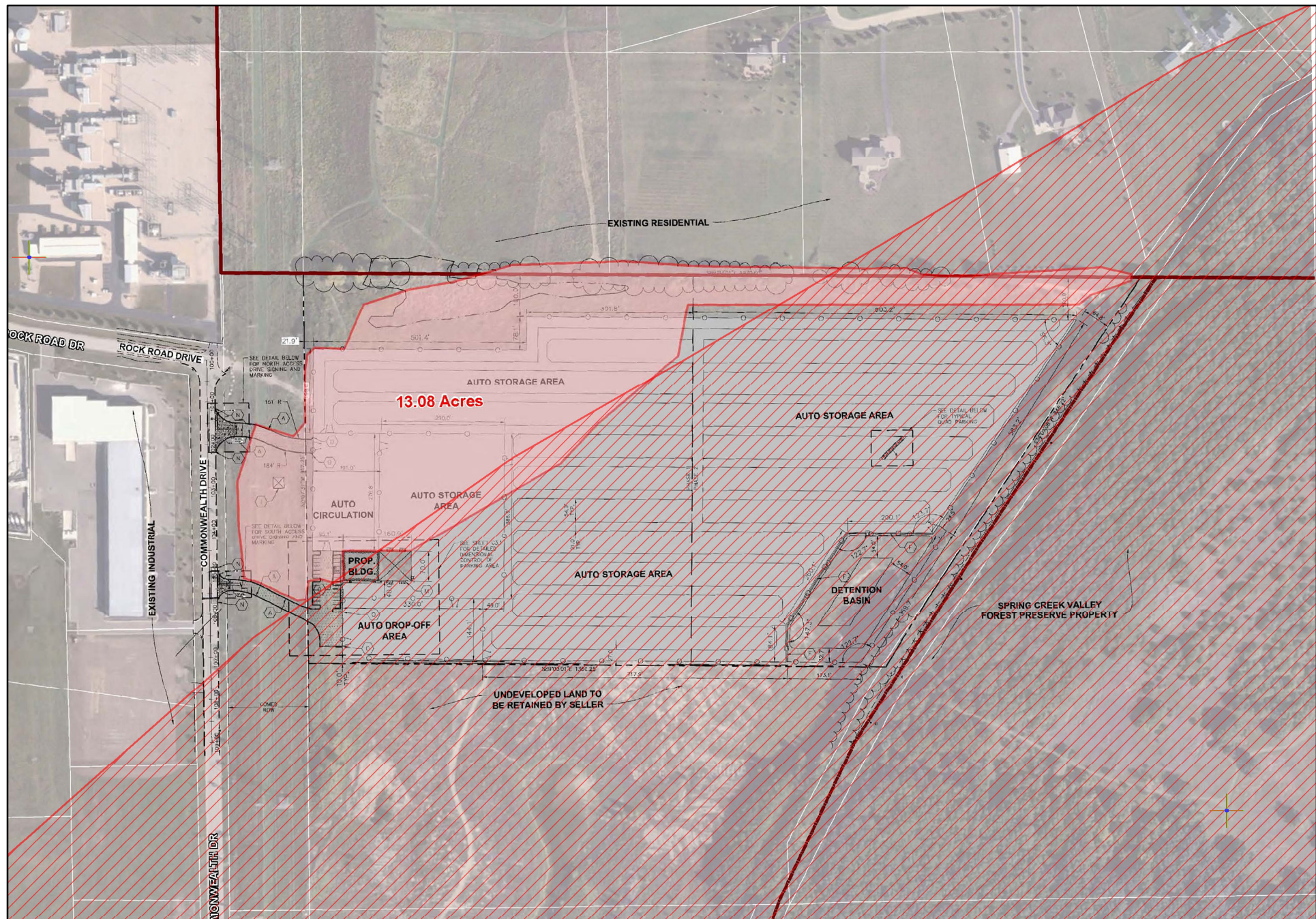
Jenny Skufca, Illinois Nature Preserves Commission, Illinois Department of Natural Resources

Illinois EPA

Bill Buscher, Manager, Hydrogeology and Compliance Unit, Groundwater Section, Division of Public Water Supplies (DPWS), Illinois EPA
Joanne Olson, Division of Legal, Counsel, Illinois EPA
Chuck Grigalauski, Manager, Field Operations Section (FOS), Bureau of Land, Des Plaines, Illinois EPA
Jay Patel, Manager, FOS, Division of Water Pollution Control, Des Plaines, Illinois EPA
Segundo Nallatan, Manager, FOS, Elgin, DPWS, Illinois EPA

Attachment I

Proposed Auto Auction Site Relative to Trout Park Class III Groundwater Area

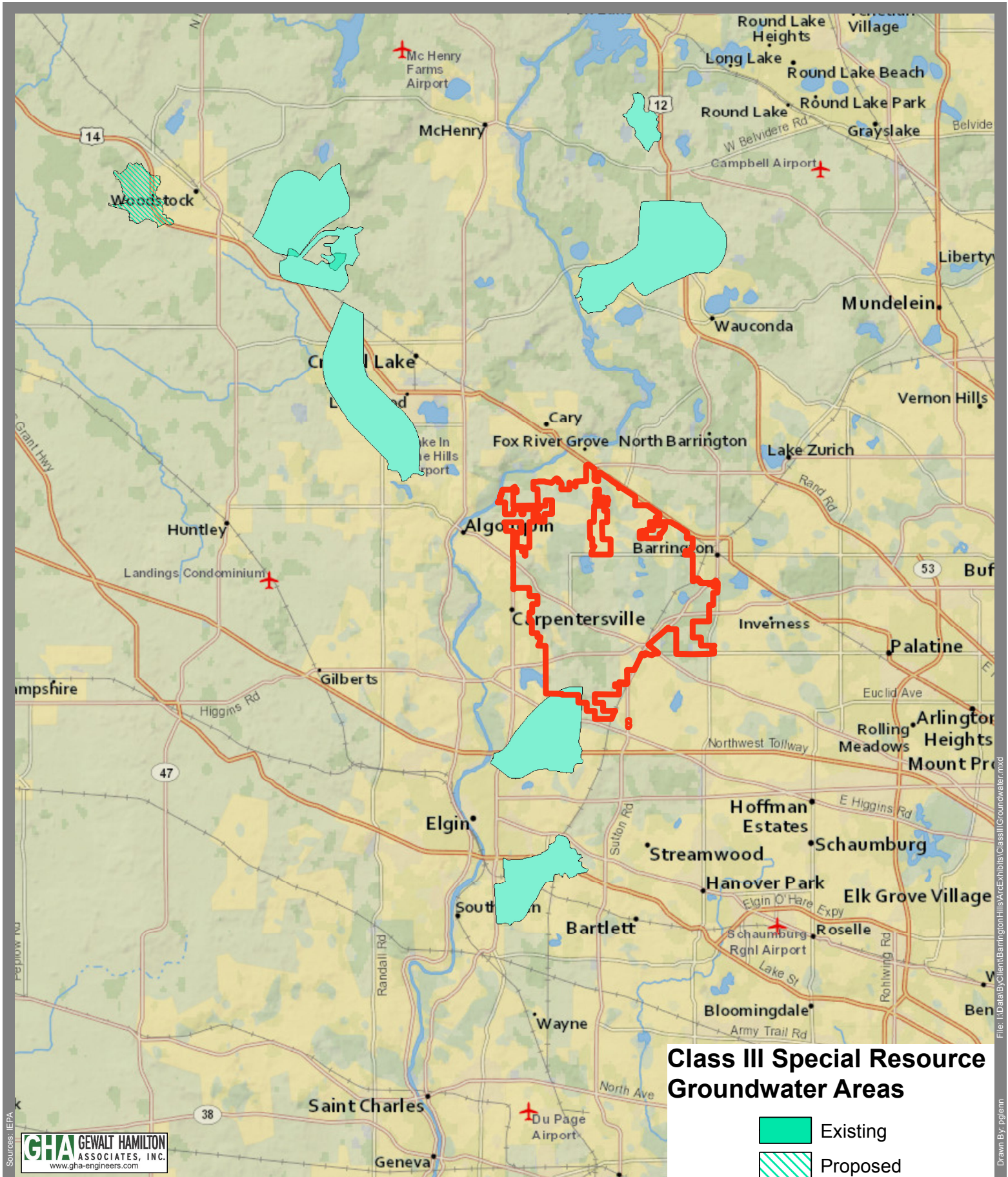


Legend

 Trout Park Class III Groundwater Area

0 250 500 1,000 1,500 Feet





Sources: IEPA

GHA GEWALT HAMILTON
ASSOCIATES, INC.
www.gha-engineers.com

File: I:\Data\ByClient\Barrington\GIS\ClassIII\Groundwater.mxd
Drawn By: pglem

Joint Committee on Administrative Rules

ADMINISTRATIVE CODE

**TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE F: PUBLIC WATER SUPPLIES
CHAPTER I: POLLUTION CONTROL BOARD
PART 620 GROUNDWATER QUALITY
SECTION 620.230 CLASS III: SPECIAL RESOURCE GROUNDWATER**

Section 620.230 Class III: Special Resource Groundwater

Except as provided in Section 620.250, Special Resource Groundwater is:

- a) Groundwater that is determined by the Board, pursuant to the procedures set forth in Section 620.260, to be:
 - 1) Demonstrably unique (e.g., irreplaceable sources of groundwater) and suitable for application of a water quality standard more stringent than the otherwise applicable water quality standard specified in Subpart D; or
 - 2) Vital for a particularly sensitive ecological system.
- b) Groundwater that contributes to a dedicated nature preserve that is listed by the Agency as set forth below:
 - 1) A written request to list a dedicated nature preserve under this subsection must contain, at a minimum, the following information:
 - A) A general description of the site and the surrounding land use;
 - B) A topographic map or other map of suitable scale denoting the location of the dedicated nature preserve;
 - C) A general description of the existing groundwater quality at and surrounding the dedicated nature preserve;
 - D) A general geologic profile of the dedicated nature preserve based upon the most reasonably available information, including but not limited to geologic maps and subsurface groundwater flow directions; and

- E) A description of the interrelationship between groundwater and the nature of the site.
- 2) Upon confirmation by the Agency of the technical adequacy of a written request, the Agency shall publish the proposed listing of the dedicated nature preserve in the Environmental Register for a 45-day public comment period. Within 60 days after the close of the public comment period, the Agency shall either publish a final listing of the dedicated nature preserve in the Environmental Register or provide a written response to the requestor specifying the reasons for not listing the dedicated nature preserve.
- 3) At least once annually, the Agency shall publish in the Environmental Register a complete listing of all dedicated nature preserves listed under this subsection (b).
- 4) For purposes of this Section the term "dedicated nature preserve" means a nature preserve that is dedicated pursuant to the Illinois Natural Areas Preservation Act [525 ILCS 30].

(Source: Amended at 21 Ill. Reg. 6518, effective May 8, 1997)

Trout Park Nature Preserve

Kane County

Location and Access:

From Elgin at jct. I-90 (Northwest Tollway) & Hwy. 25 (Dundee Avenue), take Dundee Avenue south 1 block to Trout Park Boulevard, then west 1 block to Trout Park. The nature preserve is in the park.

Description:

Trout Park represents unique aspects of the glacial features of the Fox River valley in northeastern Illinois. The undisturbed woodlands extend from dry bluff tops to moist depressions located lower on the slopes. The bluff tops support bur oak and white oak, while red oak, basswood, white ash and witch hazel occur on the slopes. Near the base of the slopes, the woods are dominated by sugar maple, blue ash, chinquapin oak and rock elm. The steep bluffs are bisected by two ravines formed by converging springs and seeps. The diverse topography, coupled with the calcareous nature of the water, combine to provide habitat for a rich and unique assemblage of plants and animals. Dr. Henry C. Cowles, President of the Wild Flower Preservation Society of America, wrote in 1923: "The wonderful group of arbor vitae in Trout Park. . . is one of the most notable plant colonies in Illinois. I have long known of the place and love it for its beautiful springs and evergreens. There is no place like it in the whole state." Dr. Cowles was, of course, referring to the arbor vitae that occur along the springs and seeps and in shallow depressions at the base of the slopes. These cool, calcareous and moist sites also support a rich variety of plants and animals. Notable plants include marsh marigold, bulbous cress, American black currant, butternut, swamp saxifrage and great Angelica. In addition, the cold and clear streams of Trout Park support a rich variety of aquatic life including seven species of caddis flies found nowhere else in the entire state.

Ownership: City of Elgin

Dedicated: December 1972

Size: 26 acres in two parcels

Topo Map: Elgin 7.5

For Further Information Contact: City of Elgin, 150 Dexter Court, Elgin, IL 60120 (708/695-6500)

[\[Return to Area 2 Map\]](#)

ILLINOIS NATURAL HISTORY SURVEY - UNIVERSITY OF ILLINOIS

INHS Reports November-December 1997

Mayflies, Stoneflies, and Caddisflies Help Researchers Track Water Quality

Summertime evening strolls along the banks of Illinois rivers and streams provide an opportunity for Illinoisans to encounter aquatic insect adults. The adults of mayflies (Ephemeroptera) and caddisflies (Trichoptera) are the most frequently encountered groups, but the lucky observer may find the more ecologically sensitive stonefly (Plecoptera). Fishermen know these insect orders as the "hatch to match" when choosing or making artificial "flies" to catch a trout or other gamefish. The immatures of these insects live inconspicuously in gravel, on logs, and buried in the mud of large rivers, streams, and lakes. The life cycles of some species last for only several months, but other species must live in the stream for up to several years before changing to the winged adult stage. It is the immature stages of these insects that aquatic biologists use to monitor changes in water quality of streams.

Monitoring of the entire aquatic invertebrate community has been an effective tool for documenting changes in stream health. Recent studies suggest that a subset of sensitive aquatic insects may actually provide information more quickly (and cheaply) than the entire community. The EPT index (number of Ephemeroptera, Plecoptera, and Trichoptera species in a sample) is one of the most efficient indices of stream health due to its ease of use and low variability. Its usefulness in monitoring stressed ecosystems has been tested by the addition of insecticides to experimental and control watersheds in the North Carolina Piedmont. Researchers found that EPT values in samples displayed low variability, showed different effects in different stream habitats (leaf packs, moss, sand bottoms), and correlated well with other more costly measures of ecosystem function such as rates of nutrient processing, total invertebrate diversity and biomass, and with the calculation of a biotic index specific to the region.



Caddisfly larva.



Stonefly larva in stream substrate.

The Illinois Natural History Survey has been a hotbed of research in the taxonomy, distribution, and ecology of mayflies, stoneflies, and caddisflies throughout the century. Survey entomologists including Barnard D. Burks (mayflies), Theodore H. Frison (stoneflies), and Herbert H. Ross (caddisflies) wrote a large proportion of the original descriptions for North

American species during the early and middle part of this century. The original specimens, or types, used to describe those species, and all material collected throughout the careers of Frison, Burks, and Ross, reside in the Survey Insect Collection. Researchers collected the majority of the specimens before the most severe environmental degradation took place. Consequently, they represent irreplaceable and irrefutable proof that species occurred in areas throughout the state and region. Efforts are currently under way to database all these specimen records to make the data more accessible for aquatic entomologists, pollution biologists, and other government agencies needing this type of information. A database containing records of all stoneflies (>17,000 records) in the Survey collection facilitated Dr. Donald W. Webb's efforts to establish imperilment status for several rare Illinois species. These and other databases may be visited at the Survey [homepage](#).

A new statewide monitoring effort, the Critical Trends Assessment Project (CTAP), has begun to monitor the quality and biodiversity of streams, forest patches, prairie remnants, and wetlands in the state. The author is presently monitoring trends in stream health by using EPT species, water chemistry, and habitat quality characteristics. CTAP randomly chose 30 sites this year from across the state to provide an average look at water quality of wadable streams. The fieldwork is complete, with identification and data analysis to follow. At least 120 randomly chosen sites will be sampled over the next four-year period. Resurvey efforts follow a five-year rotation. Some streams drain several landowner partnerships in the state. Landowners in these partnerships institute some best management practices with the help of local and state agencies. Hopefully, these practices will lead to a healthier environment. The ability to make comparisons with historical collections (using insect collections databases) will add another dimension to this project.

The author and his colleagues currently work on several other Survey projects involving EPT species. Reassessment of Illinois summer-emerging stoneflies is a priority. Many large species no longer occur in locations where they historically resided. Ultraviolet light trap collections of adult EPT species, a project funded by the U.S. Geological Survey, provide information on water quality in the lower Illinois River basin. Additionally, The Nature Conservancy funds a search for an Illinois endemic stonefly not collected since 1860.

R. Edward DeWalt, Center for Biodiversity.

Charlie Warwick, editor



Mayfly larva.

Illinois Natural History Survey

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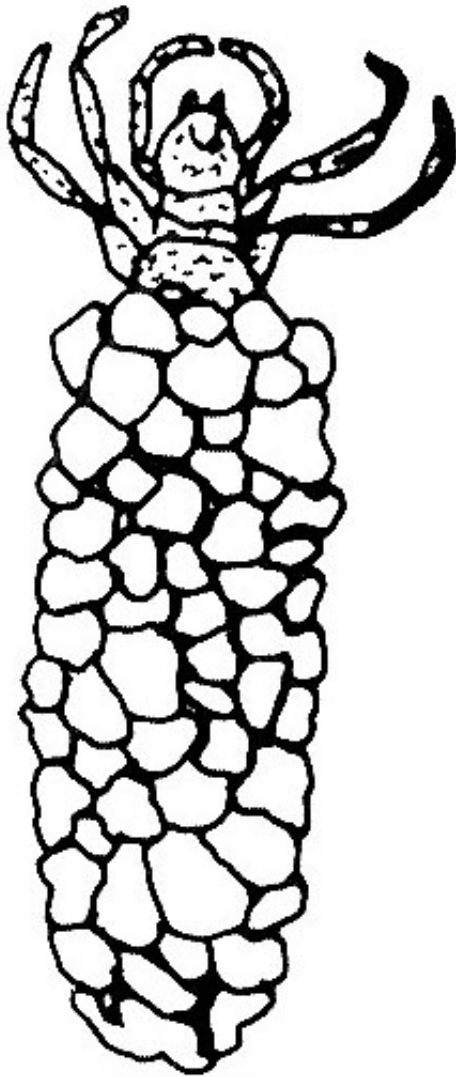
Staff Intranet

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Species Spotlight: Caddisflies

"Stretched over the brooks, in the midst of frost-bound meadows, we may observe the submarine cottages of the caddis-worms, the larvae of the Plicipennes; their small cylindrical cases built around themselves, composed of flags, sticks, grass, withered leaves, shells, and pebbles, in form and color like the wrecks which strew the bottom, --now drifting along over the pebbly bottom, now whirling in tiny eddies and dashing down steep falls, or sweeping rapidly along with the current, or else swaying to and fro at the end of some grass-blade or root."

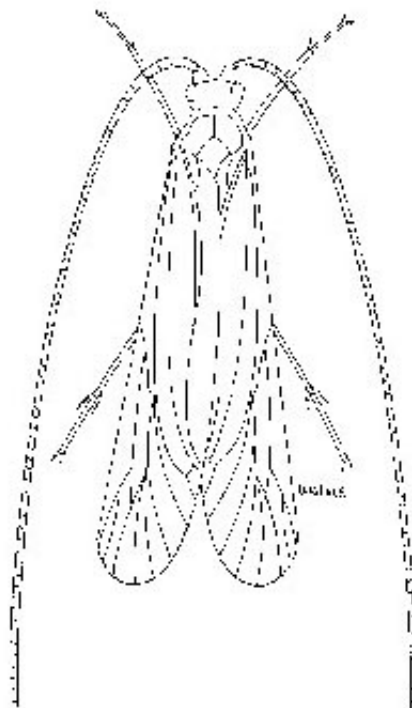
Henry David Thoreau



Caddisfly larva with case.

Thoreau is describing the larvae of caddisflies, an insect order familiar to fly-fishermen and aquatic entomologists alike. Caddisfly adults are mothlike and have two pairs of black, gray, or brown wings that are held rooflike over the body. Their wings are covered with hairs instead of scales and they have relatively long, slender antennae. These insects are closely related to the butterflies and moths (Lepidoptera), but they are adapted for an aquatic life in the immature stages.

Caddisflies belong to the insect order Trichoptera, which means hairy wing. It is a large insect order with over 1,200 species in North America; 184 species are found in Illinois. The common name "caddisfly" comes from a Middle English term meaning bits and pieces of worsted yarn and refers to the larvae and the way they make their unique homes. Other common names include shadflies, sandflies, traveling sedges, caddis worms, and periwinkles.



Caddisfly adult.

Caddisflies have complete metamorphosis (different adult and larval stages). Eggs are laid in the water on aquatic plants, in overhanging vegetation, or at the shoreline. The eggs hatch into larvae, which are elongate, and 2-40 mm in length. They have chewing mouthparts and small, simple eyes. Only the forward part of the larval body (head, thorax, and legs) is hardened. The remainder is soft and flexible. As soon as the larvae hatch they begin construction of their "homes." The larvae construct an assortment of portable cases in which to house and protect themselves. The most studied and fascinating aspect of caddisfly

biology is the form and behaviors relating to the cases in which they live.

The larvae use stone, sand, pebbles, or twigs to construct their houses and silk to hold it together. These cases are so distinctive that larvae can be recognized and identified by their cases alone. The larvae anchor themselves in the case with hooks at the tip of the abdomen and as the larvae molts the cases are enlarged by adding material to the entrances. There are usually five larval instars.



Caddisfly larva without case.

The majority of the larvae eat algae, diatoms, and other aquatic vegetation. However, a few larvae are carnivorous and instead of making a "house," these larvae are free-living and spin nets which they anchor to vegetation and use to seine for insects and crustaceans. To complete development the larvae seal the case (house) with silk, spin a cocoon, and pupate inside. About a month later the pupa swims up to the water surface, finds a rock or log to settle on, and emerges as an adult. Once the adult emerges it quickly flies away from the water. The adults can live 1-2 months and are usually found in damp woods, wetlands, and riparian areas.

Caddisfly larvae are common bottom fauna in most freshwater environments and they occur in association with all substrate types. Their cases and retreats are seemingly well-adapted for camouflaging and protecting them from predators; however, both adults and larvae are part of the diet of many sport fish (trout can consume case and all). While caddisflies are not as important as mayflies to fly-fishermen, they are the models for the Grannom, White Miller, Adams, and Grizzly King, all flies used by fishermen in North American waters.

Susan Post, Center for Economic Entomology

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