Adopt-A-Stream
1820 East Avenue
Rochester, NY 14610

Adopt-A-Stream Newsletter

Fall 2002

Message from Adopt-A-Stream

By Linda Driscoll

I want to take this opportunity to introduce myself. I have been involved with the Adopt-A-Stream program for several years, initially as director in 1990, and, two children later, have served periodically as an editor, water quality monitor and project coordinator. Through the early influence of my late father, Stuart Free, I have been instilled with an appreciation for all things outdoors, and wanted to make a contribution to environmental concerns. It is my privilege to work with the teachers and students who participate in the Adopt-A-Stream program, for it is the education of our future generation that is the key to bring positive change to one of our most precious resources.

One of my first priorities has been to complete new editions of the Elementary, Middle, and High School Teacher's Manuals. All of the new editions reflect the national and state teaching standards for interdisciplinary, inquiry-based learning.

Another project will be to make contacts with schools, cosponsors, and other youth organizations. I had the opportunity to present Adopt-A-Stream to Greg Yaekel's forth graders at Caledonia-Mumford Schools. We reviewed the basics of how water can become polluted through point and non-point sources, what a watershed is in relation to pollution, and how to monitor stream quality using benthic macroinvertebrate (bottom-dwelling invertebrates large enough to be seen without the aid of a microscope) samples I had collected the day before. The kids were enthusiastic and had a great time examining all the creatures. This fall I'll be presenting to potential co-sponsors. If you know of a group of young people who would enjoy and benefit from a hands-on learning experience and would like more information or assistance, please contact me through our Web site or info@adopt-a-stream.org.

Included in this newsletter is a sheet to fill out and send in to help me get in touch with those who are currently doing water quality monitoring. Please take a moment to fill it out and send it in to our office.

A third focus will be to update our Web site. With the information from the data sheet we hope to include the data you've collected and allow participants to compare data and interact with each other, especially participants within the same watershed. ❖

Message from the President

By Wayne Harris

Delta Laboratories, Inc., a 501 © (3), tax exempt, not-for-profit corporation, has been testing water and air and conducting educational programs for school children since 1971.

We need you and your corporation's support and membership to continue our activities are designed to not only conduct important testing, but also to involve students whenever possible, thereby opening their minds to the importance of preserving our natural resources. ❖

A "Shocking" Experience

Delta's latest effort was to coordinate a fish-sampling project on the Erie Canal with the cooperation of fisheries staff from the New York State Department of Environmental Conservation. This was a follow-up project to a survey that was conducted by Delta Labs in 2001. The survey and testing covered the New York state Erie Canal from Fairport, east of the Genesee River, to Brockport, which is west of the river. These important tests revealed that the water quality was good and the fish population was surprisingly diverse.

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Delta Laboratories' staff and some of its directors were present to assist Region 8 DEC biologists Web Pearsall and Brad Hammers, technicians Marvin Verna and Jim Webb and teacher Larry Hohl and his AP biology students Mary Berhendt, Heather Gebhardt, Emily Tyll, Megan Pecoraro, Duc Le, Jessica Larsen and Jennifer Odorczyk from East Rochester High School sample part of the Erie Canal at Clover St. in Pittsford, NY on June 4th.

DEC's Web Pearsall helps students from East Rochester get experience picking fish from the net.

The students were shown two methods that can be done to sample vertebrate biota within the waterway: gill net sampling and electrofishing. DEC staff had placed two gill nets in the water within sight of a launching dock the previous afternoon. Once they had launched the boat and pulled in the nets, the nets and the catch were placed in large buckets.

The electrofishing boat was then carefully rigged with the cathode and anodes to generate an electrical field in the water.

The current in the water affected fish from one to six feet away from the probe. Smaller fish were affected at closer range. As the current reaches the fish, electrotaxis affects the nervous system and thus the muscular system, causing the fish to be attracted, slightly stunned, towards the positive probe. The samplers have to be very quick to catch the fish. The fish are caught in the net and passed back to the holding tank on the boat.

The students went into action separating the fish from the gill net. They proceeded to take data about each fish—-species, length, weight, external and (for a few specimens), internal examination.

Despite some initial misgivings by the students about handling the fish, curiosity got the better of them, and by the end of the morning, they had all eagerly taken part. Catfish, they discovered, like to eat zebra mussels!

The information gathered from electrofishing is useful for a number of reasons. Fish sampling can relate fish community characteristics to physical, chemical and biological characteristics of the waterway, and are conducted as part of a national water quality assessment program. Wildlife and fishery groups also use this data in determination of regulation changes, stocking analysis and many other ways.

We want to thank the future biologists and scientists from East Rochester High School who participated in this program.

Please write or e-mail us at info@adopt-a-stream.org if you would like copies of the test results. ✦

?????

By Mary Behrendt

On Tuesday morning, June 4, the East Rochester High School AP Biology class traveled to Lock 32 of the Barge Canal for a day of fish trapping and analysis. With the help of biologists and technicians from the Department of Environmental Conservation (DEC) and DELTA, the group was able to help collect various weight and length measurements from a number of different species of fish.

Through the use of two different methods, an assortment of fish was collected. The first was the gill net method. Two nets were placed on the shoreline of the canal for roughly twenty hours. The different weave patterns of the nets caught fish both large and small.

The second method was electroshock. When the technicians produced a small electric current in the water immediately around a boat, the fish underneath floated to the top, having been momentarily knocked out. No harm befell the fish, and this made the capture of live specimens much more time efficient.

The students, while a little apprehensive with the experience, learned a lot from the day's events. Seeing biology applied outside of the classroom really gave a unique view. As the biologists helped explain the process in depth, biology seemed to take on a new meaning. Even though it may have been a little slimy, the overall result was much appreciated. Information and data was collected on a good deal of fish – helping the DEC to continue to conserve the ecosystem of the Erie Canal. ✦

Mary Behrendt is a student at East Rochester High School.

Onlookers observe while each fish was identified to species, measured, weighed and examined for external anomalies.

Contents

Students and Water

This project was part of a student volunteer program that Delta hopes will more actively interest and involve area students in water quality monitoring. Students got an opportunity to not only observe science in action, but had a chance to actively participate by taking data. Local students involved in an active program will be offered a selection of follow-up projects to their school or club monitoring.

On-site Action

- ✔ Clean up the shoreline and/or streambed of your waterway, with assistance from Delta.
- ✔ Monitoring of selected waterways, accompanied by Delta representatives.

Education/Information

- ✔ Staff an information table at an event, (a great Earth Day activity).
- ✔ Distribute brochures and fact sheets.
- ✔ Art projects (i.e.: line drawings of benthic invertebrates to be published in the AAS Newsletter or utilized as training materials).
- ✔ Write articles to be published in the AAS Newsletter and/or the Web site.

Monitoring by Delta Labs

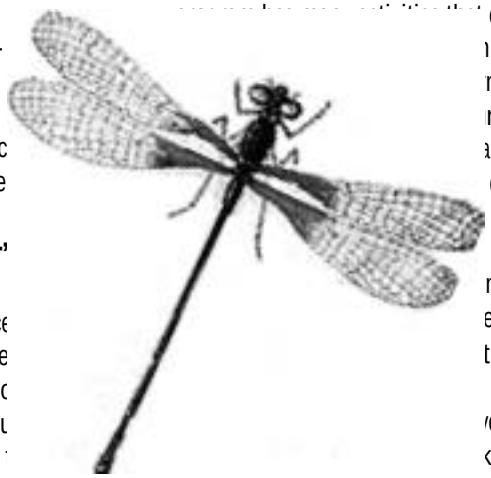
Besides its educational initiatives, Delta is also active in monitoring some of our local waterways. For the last two years, Delta has conducted physical, chemical, biological and microbiological assessments of Irondequoit Creek at 11 sites from its lower reaches into the Bay. A particular concern was the level of MTBE which fortunately was not present in detectable levels. ✥

Teaching Materials from Delta Labs

The *Adopt-A-Stream* program was started by Delta Laboratories in 1986 to provide information and support for groups who wanted to monitor the health of a local waterway. Participating groups agree to evaluate their adopted waterway, report the results to Delta Labs, and take any action they feel would improve their lake, stream, pond, or wetland.

Adopt-A-Stream Elementary Teacher's Manual: The Water Detectives and Student Workbook

The Water Detective Teacher's Handbook is an instructional aid for teachers and other youth leaders who want to encourage children to transform environmental concern into community action by becoming aware of the importance of water of how pollution affects water systems and all the creatures that rely on it for life. It also contains detailed instruc tions for a variety of environmental quality tests that can be ried out by the students.



Adopt-A-Stream Math/Science/Technology Teacher' and Student Workbook

In the development of any technological device or proce results or impacts. Impacts fall into four categories: expecte ed, desired and undesired. It is necessary to examine all pc impacts before a particular technology is implemented. You examine the impacts of technology on the environment or ecosystem. You will focus on the aquatic ecosystem, and utilize certain methods to monitor that system.

The monitoring of waterways is a necessary job because water is one of our most important resources. We all depend on having a constant, clean supply of water, as do all other living organisms. Unfortunately, there are many more waterways to monitor than there are conservationists and scientists to monitor them, so we need your help to care for and protect local waterways.

Adopt-A-Stream High School Teacher's Manual and Student Workbook

We know that teachers are pressed for time to get across material designated by state standards. Adopt-A-Stream is designed to address some of these standards, especially those relating to ecosystems. Specific New York state standards relating to each activity are listed after the objectives for all of the activities in this manual.

Although Adopt-A-Stream is best appreciated and utilized as a field activity, oftentimes field trips are not possible. In recognition of this, the can be done entirely in the classroom. include: ready-to-use activities with mation and student assessments, a plan- rces for equipment and supplies, dia- l aids (poster potential), charts and dichotomous keys.

Getting started is easy.

✔ Teachers and students first identify mmunity water quality issues to study esearching background information. tions can be generated that will be

veloped. kills and methods are then needed.

✔ Next, select and carry out those techniques that generate data to answer the questions developed from examining the water quality issues.

✔ Once data is collected and analyzed, participants are encouraged to devise a course of action to put the information to work. ✥

Training and presentations are available locally.
Please contact us through our Web site or info@adopt-stream.org.

Volunteers are needed to help clean up shorelines along the Genesee River and Lake Ontario

By Margit Brazda Poirier, Water Education Collaborative

What is there to do on a sunny, crisp, Saturday morning in September? You can participate in the Annual International Coastal Clean Up event held this year on **September 21, 2002 from 9 a.m - noon!** Every year (for 15 years now), beaches, shorelines, and river banks are cleaned up by volunteers all over the world. Last year, 222 volunteers picked up litter along the shorelines of the Genesee River and Lake Ontario.

Together the volunteers collected and disposed of over 2 tons of trash (4000 lbs.!) from four locations: Durand Eastman Beach, Genesee Valley Park, Seth Green fishing site, and Turning Point Park. Volunteers worked in teams to pick up litter and also record the types and amount of trash found. This data is entered into a national database that you can access at: www.alsnyc.org.

Come be a part of this international event on Saturday, September 21st. The locations will be the same as last year, with the addition of several streams and the Erie Canal. Clean-up begins at 9 a.m. at all locations (except Durand Beach where it begins at 10 a.m.) and is followed by a free "trash bash" at the Sunset Shelter at Durand Eastman Park. Enjoy a picnic lunch, games, prizes, and entertainment to celebrate your efforts.

This event is sponsored by the Water Education Collaborative (which includes the Rochester Museum and Science Center, City of Rochester, Monroe County, Cornell Cooperative Extension), the 4H Earth Girls, the Town of Irondequoit, and Wegmans.

To register on-line, see www.thewec.org or contact Noreen Mazurowski (271-4552, ext. 324, or noreen_mazurowski@rmsc.org) or Margit Brazda Poirier at margit_brazda@rmsc.org (please note: these email addresses have an underscore, not a space between the names) at the Water Education Collaborative. You will receive confirmation of your registration a week before the event.. ❖

Next Issue

I would like to point out some of the features of the Adopt-A-Stream Newsletter that I hope to include regularly beginning this fall.

A student-generated feature:

- ✔ What action they've taken.
- ✔ Reflections about their waterway.
- ✔ Poems.
- ✔ Line drawings of stream organisms.

Articles from teachers:

- ✔ Activity ideas you'd like to share with other participants.
- ✔ Integrating water quality monitoring into your curriculum.
- ✔ Reflections on monitoring as an educational activity. ❖

Historical Perspective: Water Quality of Honeoye Creek

In May 2001, Honeoye Falls-Lima High School students Daniel Harris and Brian Fonk assisted Delta Board directors Duncan Harris and Scott Zimmerman in analyzing beautiful Honeoye Creek at seven sampling sites upstream and downstream of the Village of Honeoye Falls. The purpose of the study was to determine the general water quality of the creek, especially to see of the effluent from the sewage treatment facility affected stream quality downstream of the outfall. The data collected showed that the discharge from the treatment facility had a negligible impact to downstream quality, far different from when President Wayne M. Harris tested Honeoye Creek in 1965 and 1966 in preparation for his battle to have the creek reclassified from "F" to "B".

The mile-long section of Honeoye Creek downstream of Honeoye Falls, with it's low "F" classification, was literally an open sewer into which the Village of Honeoye Falls could pour its untreated sewage. The water from the creek flows through Rush and into the Genesee River. Mr. Harris fought for the rating change because the water from the creek eventually gets into Lake Ontario, which was a source of drinking water. Honeoye Creek used to be a threat to public health. A "B" classification would require treatment to a point where the water would be safe enough for human bathing. After a three-year struggle, when presented with films, scientific tests, and testimony that the creek was indeed grossly polluted, the state Water Resources Commission finally reclassified Honeoye Creek from "F" to "B", setting new standards with which polluters, municipal and private, must comply by construction of advanced treatment facilitates. ❖

Adopt-A-Stream

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Contact Us!

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www.adopt-a-stream.org
E-mail:
info@adopt-a-steam.org

Please remember to fill out the included monitoring sheet and send it back to the address lsited above!

Are you Monitoring?

Please take a moment to fill out the form below and send it back to us. We would like to stay in touch with our participants and offer any assistance we can. You can also e-mail: info@adopt-a-stream.org.

Name of Participant: _____

Address: _____

_____

Telephone No.: (_____)_____ **Fax:** (_____)_____

E-mail address: _____

Contact Person: _____

Class: _____

Grade/Age Level: _____ _____ **Number of Students:** _____

Name of Co-sponsor: _____

Name of Waterway: _____

Type of Waterway: _____
(Ocean, Bay, Stream, River, Lake, Reservoir, etc.)

Number of Sampling Sites: _____

Type of analysis: Physical [] Chemical [] Biological [] Microbiological []

Particular interests (computer networking, acid rain, pollution, chemical analysis, etc.)

_____

_____

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Mail To: **Adopt-A-Stream/Delta Laboratories, Inc.**
1820 East Avenue
Rochester, NY 14610

OUR MISSION

Delta Laboratories, Inc. is a not for profit environmental organization that provides education, guidance, and resources for communities and individuals in order to preserve and protect our natural resources and the environment.

Friends of Delta Laboratories, Inc.

I/we wish to participate in the Friends of Delta Laboratories fundraiser to meet the future environmental goals of Delta which are:

To provide educational materials for teachers and students in K-12th grades.
To monitor water quality in areas of particular concern.
To provide assistance to individuals and the community to maintain or improve the quality of their environmental resources.

Each contribution is tax-deductible. As a "Friend" you receive our newsletter, which keeps you up to date with our latest findings and notifies you of upcoming events.

Enclosed is my/our tax-deductible gift to the "Friends of Delta Laboratories" at the following level:

___$ 10 +	Every drop helps!	___$ 500 +	Riverkeeper
___$ 50 +	Headwater Sponsor	___$ 1000 +	Watershed Watcher
___$ 100 +	Stream Protector	___$ 5000 +	Environmental Steward

Name(s)_____
(As you want it/them to appear on the donor list)

Address _____

City_____ State _____ Zip_____

Phone _____(h) _____(w)

E-mail _____

Please make checks payable to Delta Laboratories, Inc.

Thank You!