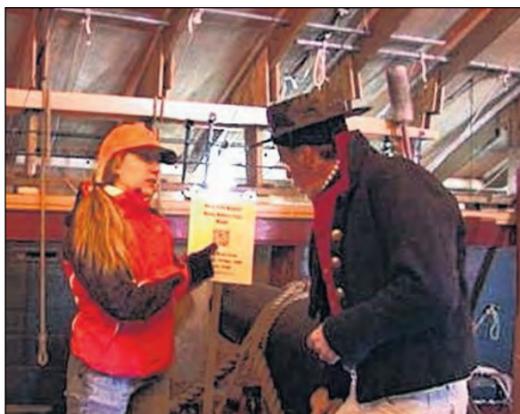




# Reconnect with your environment

Learn about environmental issues, their affect on your community and actions for your involvement.



CONTRIBUTED PHOTO

A new buoy will help sailors such as those on the Niagara.

## Friday is deadline to vote for our buoy

By ANNA McCARTNEY  
Contributing writer

Help the Regional Science Consortium promote boater safety by helping it secure an education grant from the BoatU.S. Foundation with your daily vote at [www.boatus.org/grants/vote.asp](http://www.boatus.org/grants/vote.asp) until Friday at 11:59 p.m.

The education grant will provide the funds needed to educate boaters and others on how to access and use the data from a new buoy system that is being deployed in the Pennsylvania waters of Lake Erie. The consortium received a \$100,000 grant from the Great Lakes Observing Systems to purchase the buoy and deploy it in spring 2014. The buoy will collect meteorological data required for accurate forecasts for this region, and could help reduce "the loss of life and negative impacts caused by coastal storms."

Your vote every day will provide the funding to pay for signs at boat launch locations and marinas, window clings, watch cards and fact sheets for distribution at marinas, bait shops, lectures and other events. It will also pay for the development of a text-alert system that can send text messages to users when weather, water or wave conditions change and a video camera attachment on the buoy system that will provide 30-second clips of lake conditions (updated hourly). The consortium and its partners will also provide lectures to yacht clubs, sailing groups, boater organizations and sportsman's clubs to educate boaters on accessing and using the information.

**ANNA McCARTNEY**, a communications and education specialist for Pennsylvania Sea Grant, can be reached by e-mail at [axm40@psu.edu](mailto:axm40@psu.edu).



JERRY SKRYPZAK/Contributed photos

Poor land-use decisions alter streams and cause floodplains to develop, leading to disastrous floods and pollution. Allowing rivers to flow naturally by preserving riparian areas, wetlands and forested areas for parks or ecological reserves can prevent these costly environmental and economic problems. The top photo shows Mill Creek flood destruction in 1915. The new city of Erie wastewater treatment plant, in the bottom photo, helped to remedy pollution and flooding problems. Mill Creek and Garrison Run empty into Presque Isle Bay at the bottom left of the photo.

# Down the drain

We're paying for mistakes at Millcreek watershed

By ANNA McCARTNEY  
Contributing writer

Can we learn from our mistakes or are we doomed to repeat them?

Our focus this week, the Millcreek watershed, is a perfect example. This watershed, named for its main tributary, drains water from portions of Greene, Summit and Millcreek Townships and the city of Erie into Presque Isle Bay. Stream alterations, deforestation, development and poor industrial practices carried a high environmental and economic price tag that was never considered as the area grew and prospered.

Once-pristine streams became major sources of pollution, carrying human waste, industrial pollutants and sediment into Presque Isle Bay. This contributed to the bay being designated an Area of Concern in 1991 as one of the most polluted spots in the Great Lakes.

Changes made to the aquifer also caused major floods. The most serious was the Mill Creek flood that occurred in 1915 after a series of storms produced more than 5.77 inches of rain in 13 hours. Before it was over, 36 people died and 225 homes were damaged or destroyed, along with 300 commercial and other buildings.

These costly problems could have been prevented if the streams, wetlands and forests had been valued for their important roles in providing habitat, protecting water quality and preventing damaging floods.

When Erie County was opened to settlement, it was covered with a dense forest and clean streams that flowed continuously. Wildlife, including native trout, was plentiful. Unfortunately, humans al-



JERRY SKRYPZAK/Contributed photo

You might not realize that Mill Creek runs through the city of Erie. The section from the Erie Zoo to the wastewater treatment plant disappeared into concrete pipes and covered over with impervious roads, buildings and parking lots.



PA DEP

Toxins can accumulate and contribute to health problems for fish and for people who eat them. Some Presque Isle Bay studies showed that the highest brown bullhead tumor rates were found at the mouth of Mill Creek.



CONTRIBUTED PHOTO

If only people would stop littering. City workers clean the Mill Creek litter boom near the wastewater treatment plant weekly to remove large amounts of trash before it reaches Presque Isle Bay.

tered the watershed and the flow of Mill Creek and the other tributaries. They cleared the forests, built mills and dams on the streams, drained and filled wetlands and marshes so they could build on them, sunk wells and pumped groundwater, channelized the streams, and created

impermeable surfaces, such as roads, parking lots, sidewalks and buildings, too close to the water.

Ravines were gradually filled in. Protective riparian buffers, or areas of trees, shrubs and other plants next to, and upslope from the streams, were removed and development occurred

right up to the stream banks. Rain and snow melt could no longer be filtered or soak into the ground to replenish groundwater and gradually enter the stream. Instead it became runoff that generated erosion and carried sediment and pollutants.

Sections of Millcreek, Garrison Run and other streams disappeared into concrete pipes that were covered over with impervious roads, buildings and parking lots. The pipes carried runoff, sewage and industrial waste, including heavy metals, DDT, dioxin, polychlorinated biphenyls (PCB's), and a number of pesticides, into Presque Isle Bay and Lake Erie.

These activities affected the natural water cycle and the streams began to suffer from too much or too little water that could no longer support healthy habitats for fish and other animals.

Humans also suffered environmental and economic consequences. Fish advisories limit fish consumption. Increased treatment for drinking water and wastewater, damaged fisheries, flood damage and the restoration of Presque Isle Bay and Lake Erie has cost taxpayers billions of dollars.

The good news is we can protect many streams in the Lake Erie watershed by avoiding these mistakes. Learn more about your watershed and get involved in protecting your water sources. Read more about the AOC at [www.pibpac.org/](http://www.pibpac.org/) and PA Lake Erie watersheds at [www.paseagrant.org/topics/watersheds/](http://www.paseagrant.org/topics/watersheds/).

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a place to share



CONTRIBUTED PHOTO

Diehl students pick up trash and litter near their school.

## Diehl students offer tips to keep streams clean

By ANNA McCARTNEY  
Contributing writer

Diehl Elementary fifth-grade students and their teacher, Jane Ross, know the importance of keeping litter and other trash from traveling to local streams. Fifty students and three adults collected 20 bags of trash around the school and their Fairmount Parkway neighborhood for the 2013 Pennsylvania Lake Erie effort for the International Coastal Cleanup.

Here are some words of advice from the students:

When you eat, don't throw garbage on the

ground because it will eventually make its way to the ocean. Litter can harm the animals, as well as the streams. People don't want that to happen! — **Taina Crowell**

We need to keep our water clean. Do not throw litter on the ground because it ends up in the lakes and ocean. Our water needs to stay healthy! — **Lanae Gamble**

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Rules to protect wetlands, floodplains, riparian buffers and groundwater from development did not exist in the past. Find out if there are any rules to protect them where you live. If there are rules, are they sufficient to protect water resources for wildlife and for current and future generations? Send your thoughts on this issue for possible publication in the weekly "your space" to [axm40@psu.edu](mailto:axm40@psu.edu).

