



Pennsylvania Coastal Resources Management Program (CRMP)

A proposal to expand the current Lake Erie
Coastal Zone Boundary to include the entire
Lake Erie watershed.

PA CRMP Background

- Established in 1980 by a gubernatorial Executive Order.
- Funding provided by the National Oceanic & Atmospheric Administration (NOAA.)
- The Lake Erie Coastal area and the Delaware Estuary serve as PA's two coastal zones.
- Each coastal zone is delineated by a 306A sub-boundary (construction) and larger coastal non-point pollution (CNPP) program boundary.
- NOAA, when appropriated funds through Congress, provides annual Federal funding for projects including minor construction, plans & studies, outreach, environmental education and research.

The goal of the PA CRMP is to protect and restore the natural and historic resources of the Great Lakes coastal area and its watersheds.



The PA CRMP basics

- Eligible applicants include political subdivisions, non-profit organizations, schools, colleges and universities.
- Projects that can be funded through pass-through grants include minor construction, land acquisitions, plans and studies, outreach, environmental education and research.

Minor Construction

This stainless steel fish passage (ladder) was constructed and installed using partial funding by the PA CRMP program in a joint venture with the PA Fish & Boat Commission, that now enable Steelhead trout to migrate upstream past this former impediment (dam) on Fourmile Creek in Lawrence Park Township. Funding also assisted in the design of a second fish passage to be constructed in 2011.



Public Access

The PA CRMP provided partial funding for this floating boat dock located in the Erie harbor that enables transient boaters to dock in the bay front area and enjoy the local amenities and resources, and also provides a public fishing platform for local residents.



Acquisitions

The PA CRMP helped fund purchase of the Brugger property, a Lakefront site now called Avonia Beach Park that provides public access for fishing and other recreational activities. Acquisition of this property which sits adjacent to Trout Run - a steelhead nursery tributary, involved restoration efforts, construction of a streamside observation platform, a parking area for fisherman and circular turn-around and a multi-use pavilion.



Environmental Education and Outreach

The PA CRMP supports environmental outreach and education efforts such as award-winning weekly inserts developed by Erie Times News in Education that focus on regional environmental issues and impacts affecting Lake Erie residents.

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Reconnect with your environment

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

Fish-For-Free Day reels in newcomers

By ANNA MCCARTNEY
Contributing writer

If you've always wanted to try fishing, or if you used to fish and want to get back into it, you can join the Pennsylvania Fish and Boat Commission for a few hours of free fishing on Memorial Day. No license is required, so it won't cost you a thing.

Since across Pennsylvania are participating in the Memorial Day event. Locally the commission is working with Presque Isle State Park to hold this special Fish-For-Free Day event at the Percy Monument area. Fish and Boat Commission staff will be on hand from 10 a.m. until 2 p.m. to show anglers of all ages how to fish. All equipment will be provided.



CONTRIBUTED PHOTO

Learn to fish for free from Pennsylvania Fish and Boat Commission staff on Memorial Day.

There will also be a number of displays and demonstrations, including a trap net, an electro-fishing boat, and more. Experts will be there to answer your questions, teach you basic fishing techniques, and the local Waterways Conservation officer will be on site. Pennsylvania Sea Grant staff will share information from 10 a.m. until noon about Aquatic Invasive Species and how you can prevent their spread.

To find out more about an event near you and to learn how you could even catch a "Million Dollar Fish" visit the PFBC's website for content and Fish-For-Free information.

For more information, contact Keith Edwards at keidw@pa.gov or 610-339-2426.

ANNA MCCARTNEY, a communications and education specialist for Pennsylvania Sea Grant, can be reached by e-mail at amcc@psg.edu.

LEARN • MOVE • MAKE A DIFFERENCE

LEARN MORE

Please note that the **Native Plant Sale** that was scheduled at the Tom Ridge Environmental Center for Saturday, May 7, has been rescheduled for Sunday, May 8, from 8 a.m. to 1 p.m. In the event you have anything posted regarding this event, we would appreciate if you could make the necessary changes.

your space

a place to share



CONTRIBUTED PHOTO

Environ first place Fairview Middle School students "Team Red" are, from left, Sam King, Anna Dislefono, Jordyn Sanner and Nolan Green. Alex Robinson is kneeling in the front.

Environ challenges middle-school students

More than 100 students from six area schools competed in the first Erie County Education Middle School Division at Houshwater Park on May 12 after several months preparing for the event.

Although the results were close, "Team Red" from Fairview High School came out on top with the first place score. Team members include Jordan Sanner, Nolan Green, Sam King, Alex Robinson, and Anna Dislefono.

Second place was captured by the North East Middle School "A" Team, consisting of Hocker, Andrew Sherman, Tyler Stinson, and Caleb Wenzel.

The third place award was earned by Fort Lafayette.

"Team Green," with members Hannah Richardson, Kaitlyn Burrell, Martin Winkler, Elijah Miller, and Donovan Baines.

The mission of the event is to encourage students to expand conservation and environmental practices while introducing them to various scientists and experts in those fields. The students were challenged in five subject areas: wildlife, land use, aquatics, forestry and a current issue presentation.

Several local agencies volunteered their time to bring hands-on activities to the park and engage students in experiential learning, including Pennsylvania Sea Grant, the Erie Zoo, Mercyhurst College and the Forestry Department of the Pennsylvania Department of Conservation and Natural Resources.

Additional sponsors also included the event throughout the year. Thank you to First Niagara Bank, David Lind Associates, S.N.S. of Lakota Erie, Wegmans, and Cracker Barrel Old Country Store, Inc.

For more photos of the event or information on how to volunteer or become a sponsor, please contact the Erie County Conservation District at www.erieconservation.com or 822-6443.

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CONTRIBUTED PHOTO/Anna McCartney

Presque Isle State Park attracts approximately four million visitors each year and is considered a major source of recreation and revenue for the region. Great Lakes Restoration Initiative funding received by the Regional Science Consortium is addressing the need for a more accurate and rapid method of issuing beach warnings and closings.

Beachcombers

Researchers use new ways to check water safety

By ANNA MCCARTNEY
Contributing writer

Isolating the source of E. coli and other bacteria that are responsible for beach closures is like solving a crime that has no known witnesses.

Microbial contaminants, such as the bacteria that cause beach closures, often come from human or animal, but reach coastal water because of runoff from septic systems, through irrigation, or from storm water runoff from urban streets and farms.

Beach closings and swimming advisories, which are on the rise in the Great Lakes, are issued when water quality monitoring shows bacteria levels exceed health and safety standards. High levels of E. coli, which can cause cramping and diarrhea, trigger beach closures.

Presque Isle State Park, but E. coli is also associated with several other more harmful microbes, including the shiga toxin, which causes severe gastrointestinal illness.

Unfortunately, current methods to determine levels of E. coli can take 24 hours. By the time the beach is posted with an advisory, the levels of E. coli may have increased or decreased substantially. Because advisory is based on measured levels of E. coli, not accurate.

Often not accurate, an additional problem is that small but consistent levels of the chemicals of concern, including Phosphorus, the active ingredient in the drug Prozac, have been found in the water off Beaches 1, 2, 6 and 10 at Presque Isle State Park and in Elk and Walnut creeks. While those water quality data are collected, they are in a nearby tributary to the E. coli bacteria. This could make the water appear safer than it is.

The Great Lakes Restoration Initiative grants totaling nearly \$270,000 from the U.S. Environmental Protection Agency, the Regional Science Consortium and the Pennsylvania Department of Environmental Protection are funding the development of a new, efficient warning mechanism that allows beach managers to make better decisions on beach closures or beach advisories.

"Determining the sources and how they are related would play a huge role in solving the mystery," said Jeannette Schumars, Regional Science Consortium Director.



CONTRIBUTED PHOTO/Anna McCartney

Cladophora is a nuisance algae that is present in the beach waters and shoreline of Lake Erie. It is suspected of transporting bacteria from western tributaries to Presque Isle swimming beaches.



CONTRIBUTED PHOTO/Anna McCartney

Regional Science Consortium Director Jeannette Schumars and her team are collecting data using emerging technologies in the lab. In addition, they use two weather stations and a buoy at the park to allow for fast acquisition of water quality data, including bacterial and non-bacterial contaminants present in the recreational waters at Presque Isle State Park.

Different sources may be the reason for high bacteria counts in different days when water samples detect the bacteria. However, understanding the environmental conditions that were present when the water samples were taken can be the clues that help us develop a model for predicting E. coli levels," said Schumars.

Schumars and her team, which includes biologist Steve Maurer and statistician Mike Hutter and field and lab interns, will use that data as well as new real-time data to create an effective predictive model that relates different environmental, meteorological and chemical parameters.

They will have local results for these chemicals of concern, tri-nitrobenzene and dioxin, human source, nitrate and other agricultural sources. Those results can then be used to compare their relationship to fecal indicator bacteria and to determine whether the source is human or nonhuman.

Fast modeling also suggests Cladophora is transporting bacteria from the western tributaries of Elk Creek to the beach waters. Investigation of these streams indicated similarly high levels of human-specific Bacteroides at the stream mouth on days of high bacteroides and E. coli levels on beaches 1 and 2, implicating these streams as a non-point source of contamination for these beach waters.

Along with data from past studies, real-time data collected at two weather stations and a water quality buoy are being used. Weather stations include wind direction, wind speed, air temperature, rainfall, barometric pressure, relative humidity, and solar radiation year-round every 10 minutes for the last five years. A water quality buoy deployed during the summer season at Beach 12 continuously logs water chemistry parameters: water temperature, specific conductivity, pH, turbidity or water clarity and dissolved oxygen. These parameters are provided in real-time to the Regional Science Consortium's website.

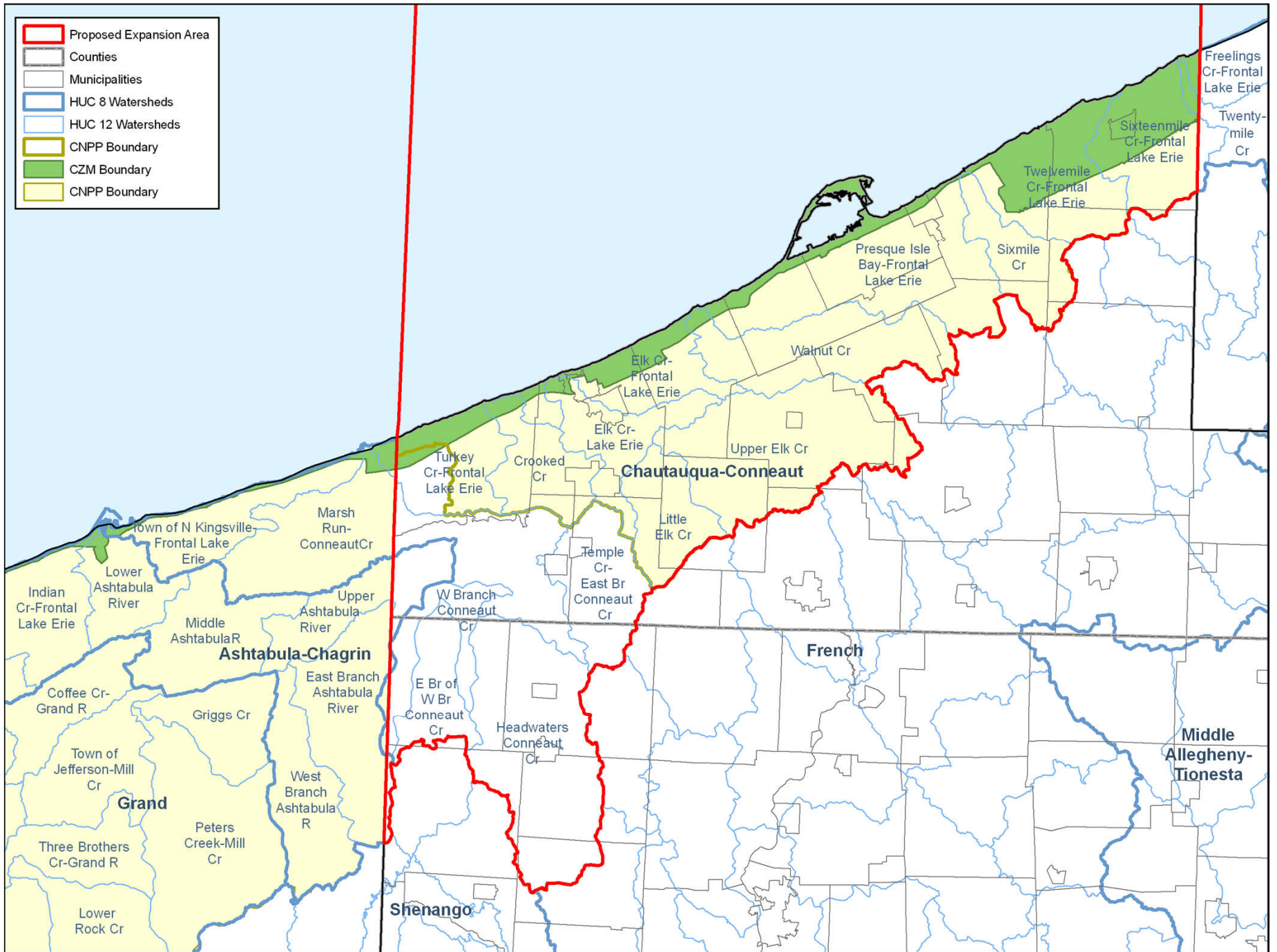
In the end, the model that researchers create will be a big improvement from the old way of determining water quality conditions. A predictive model that utilizes various real-time and rapid assessment parameters can create a more accurate daily notification system to beach managers before beach closures.

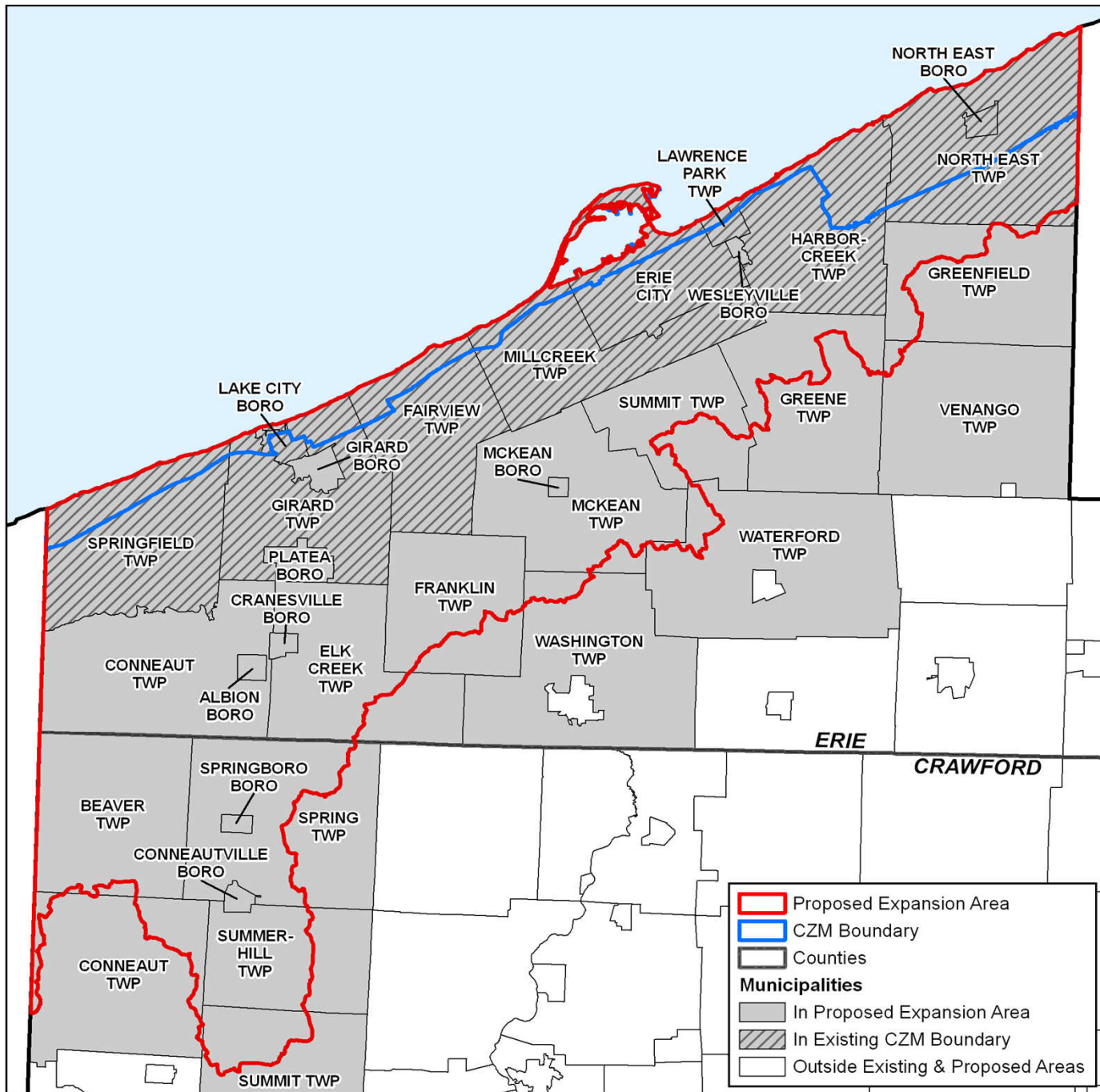
"The mission of the Regional Science Consortium is to promote research and education related to Lake Erie and the Upper Ohio Basin by providing centralized facilities and equipment, which facilitate education, research and collaboration among college and university researchers and educators. Regular conferences, workshops and other formal and informal education programs promote an environmental, interdisciplinary and interdisciplinary related issues. For more information about membership contact Jeannette Schumars, Ph.D., at 822-6443.

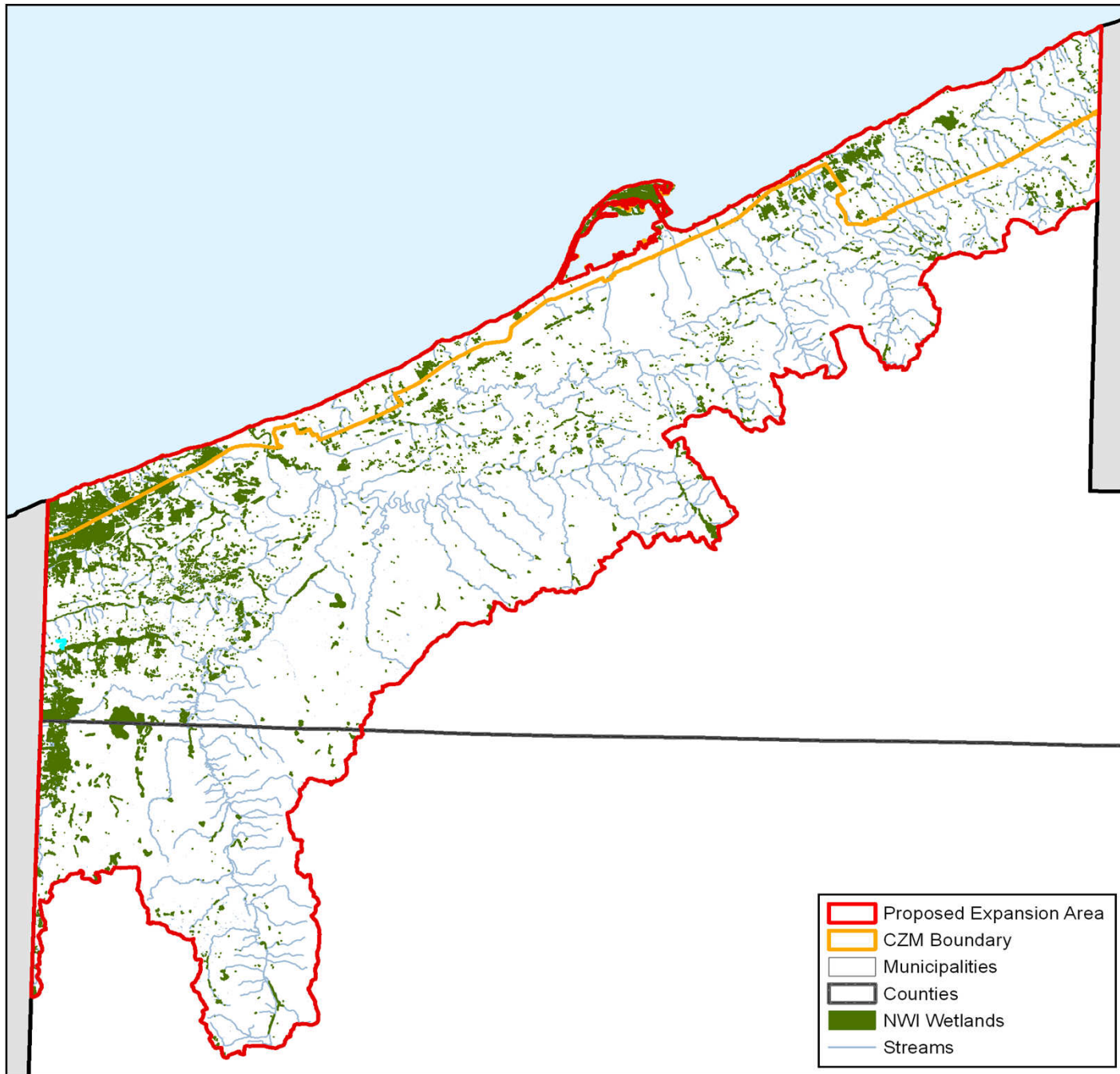
ANNA MCCARTNEY, a communications and education specialist for Pennsylvania Sea Grant, can be reached by e-mail at amcc@psg.edu.

Are you one of the millions of visitors to Presque Isle Beaches in the summer? Beach closures affect the local economy. When beaches are unsafe for swimming, people don't visit and we lose tourism dollars.

Learn about the importance of Presque Isle State Park for our region's economy. Share your opinions about why we should work to eliminate the sources of pollution for possible publication in "Your Space" by sending them to Anna McCartney at amcc@psg.edu.







Considerations for Boundary Expansion

- Recommendation from the Lake Erie Advisory Committee to expand program coverage.
- Changes to the Lake Erie Steelhead stamp program will allow stream restoration in headwaters that can be matched by PA CRMP funding.
- The ability to conduct restoration projects to the entire Lake Erie watershed drainage area.
- Increased diversity and expanded coverage for restoration projects and funding (projects NOAA considers as construction.)

Boundary Expansion Would Add:

- 325,692 additional acres to PA CRMP coverage
- 1,006 miles of addition streams
- 807 acres of freshwater emergent wetlands
- 12,000 acres of forested/shrub wetlands
- 23 municipalities
- 206,431 Pennsylvania residents

More information on the Pennsylvania
Coastal Resources Management Program
can be found at:

[http://www.dep.state.pa.us/river/cz
mp.htm](http://www.dep.state.pa.us/river/cz
mp.htm)