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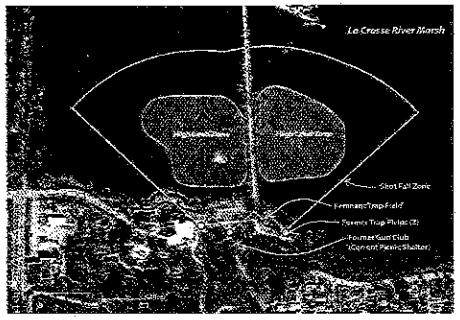
AN UNINTENDED LEGACY:
Trapshooting and Lead Pollution in the La Crosse River Marsh

La Crosse probably is the greatest trapshooting center in this section of the country, annually attracting leading scattergun exponents from a wide territory to its State championship shoots.



The Marsh and the La Crosse Gun Club

You are standing next to what was once a five-station trapshooting field built by the La Crosse Gun Club. Clay pigeon shooting was a popular community pastime at this location beginning in the 1920s, until the facility closed in 1963. Myrick Park was the site of four trap fields as well as a gun club shelter (now used as a picnic shelter). If you look around carefully near the marsh shoreline you can still find fragments of the clay pigeons used over 50 years ago!

What is Legacy Pollution?

In addition to clay pigeons, trapshooting over the marsh for nearly 40 years left millions of lead shot pellets buried in the marsh sediment. Most of the lead pellets remain in the shot fall zone. This shot has been breaking down over time, releasing lead into the sediment. Due to the potentially harmful environmental health effects of lead, scientists have studied its legacy in the marsh ecosystem.

Studying the Marsh's Legacy Pollution

Is Lead from Old Shot Affecting Plants and Animals in the Marsh?

Funded by the U.S. Environmental Protection Agency's Urban Waters program, UW – La Crosse, and the UW – La Crosse River Studies Center, a research team from the River Studies Center and the Wisconsin Department of Natural Resources set out to answer that question. The team analyzed water samples, aquatic floating plants (duckweed), aquatic insects in the sediment (long-horned caddis flies), and fish (bullhead, bluegill, northern pike) for lead content. Toxicity tests were also performed in the laboratory to determine whether lead in the sediments impacts the development and survival of fish and invertebrates.

Results indicate that as lead in the sediment increases, the concentration of lead in the water, duckweed and caddis flies also increases. Over time, lead from the shot can move from the marsh sediment and accumulate in plants and animals living in the shot fall zone. Although lead is transferring through the food web, minimal toxicity was detected in laboratory tests.

What Does this Mean for the Marsh and Public Health?

While lead has been found to escape the sediment, the amount of lead in the water, plants and animals, and the toxicity tests currently do not exceed the threshold for impairment.

Through the City's partnership with UW-La Crosse, the Wisconsin Department of Natural Resources and U.S. EPA, ongoing sampling will monitor legacy lead pollution to determine if there is a threat to public health.

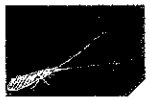
At this time, it is recommended that the public avoid contact with marsh sediment in the contaminated area.

How Does the Marsh Food Web Work?

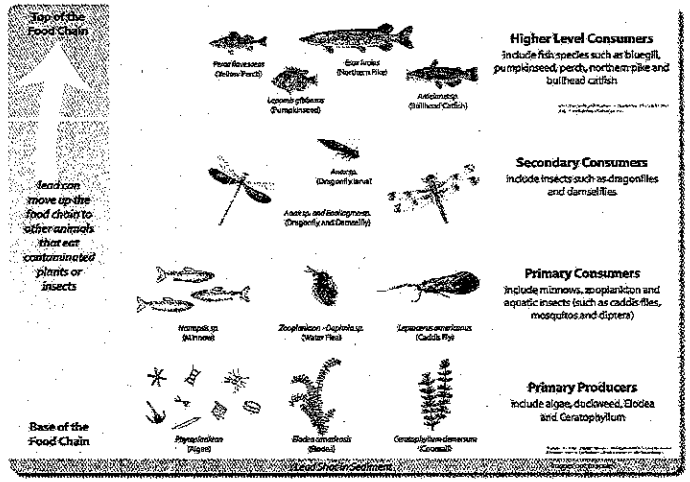
The La Crosse River Marsh is home to a remarkable variety of plants and animals. If lead is found in duckweed and caddis flies, it is potentially also making its way into other plants and insects in the marsh. Once lead is in plants and insects, it can be introduced into the marsh food web. The lead can then move up the food chain to other animals that eat contaminated plants or insects, including fish and waterfowl.

Common Marsh Species

Duckweed (*Lemna* sp.) are tiny plants that float on the surface of the water. They are an important food source for many animals in the La Crosse River Marsh.



Long-horned caddis flies (*Leptocerus americanus*) are the most abundant insect living in the marsh. The larvae swim through the water and feed mostly on decaying plant matter. They live in a cone-shaped case that they spin from their own silk. The insects hatch in June and July.



The Marsh Food Web

Did You Know?

LEAD *(chemical symbol Pb)*
Lead is a naturally occurring element found in small amounts in the earth's crust. While it has some beneficial uses, it can be toxic to humans and animals if ingested.

For More Information

Project partners are working together to make sure the La Crosse River Marsh remains a healthy and vibrant ecosystem and a community treasure for generations to come. If you would like more information or have questions about legacy lead pollution, monitoring or other topics, please contact:

University of Wisconsin – La Crosse River Studies Center
608.785.8261 or http://www.uwlax.edu/river-studies-center/

Wisconsin Department of Natural Resources
1-888-936-7463 or http://dnr.wi.gov/

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