

Man vs. Mosquito on the St. Croix River

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http://www.wisconsinrivers.org/images/canoe/saint_croix_05_c5.gif

In 1968, the St. Croix River became one of the first eight rivers protected under the Wild and Scenic Rivers Act. Under this act, rivers with “outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values” will be “preserved in free-flowing condition” so that humans can enjoy them in their natural state. However, humans who want to fish, camp, canoe, live near, or just enjoy the natural beauty of the St. Croix River are not pleased with the natural abundance of mosquitoes, which bite and spread disease. To control mosquitoes, the MMCD, Metropolitan Mosquito Control District, puts three chemicals in the St. Croix River: methoprene, Bacillus thuringiensis (Bti), and pyrethrins. These three chemicals are toxic to mosquitoes, but are also toxic to various other forms of aquatic life and thus can alter ecosystems.



<http://cornellcollege.edu/biology/insects/2003/erimorgan/images/mosquito.jpg>

How can humans balance our wants and needs with the ultimate goal of keeping the St. Croix River wild and scenic?

The Pesticides

Methoprene



<http://www.buggypop.com/catalog/products/page1014.html>

-general use pesticide

-interferes with mosquito larvae maturation

-slightly toxic to birds

-moderately toxic to fish

-highly toxic to invertebrates

-degrades quickly in water and sunlight

Pyrethrins



<http://www.buggypop.com/catalog/products/page1014.html>

-restricted use pesticide

-natural insecticide produced by chrysanthemums

-affect the nerve system of adult insects

-cause breathing trouble, nausea and convulsions in humans

-extremely toxic to aquatic life

-broken down in sunlight and air

Bacillus Thuringiensis

(Bti)



<http://http://www.bionet.com/bionet/GIFs/bionet/bti.jpg>

-general use pesticide

-naturally-occurring bacteria

-poisonous to insect larvae

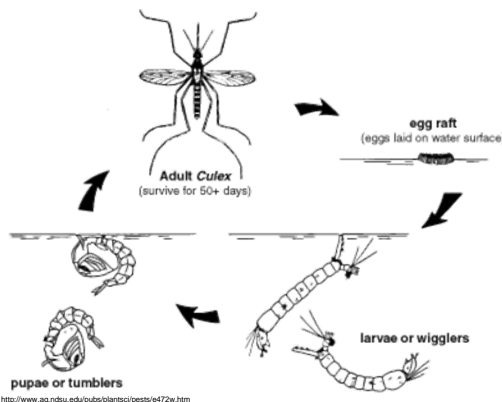
-slightly toxic to shrimp and mussels

-breaks down easily in the environment



The Metropolitan Mosquito Control District (MMCD) serves 2.7 million people in the seven-county area around the Twin Cities. With the help of the pesticides outlined to the left, they manage mosquitoes and other insects that carry disease and cause nuisance.

These pesticides do eliminate mosquitoes, but they aren't perfect. Like bombs, they aren't 100% accurate and can affect other important members of the ecosystem. When one species is inadvertently killed by mosquito control materials, this can have ramifications on the rest of the ecosystem as well and reduce biodiversity.



"The oldest task in human history: to live on a piece of land without spoiling it."

-Aldo Leopold

Solutions

As one of the rivers classified as “wild and scenic,” the St. Croix should theoretically be maintained in its natural state; we should leave the mosquitoes alone. However, the extent of wilderness preservation must be reconsidered when it comes to disease and comfort that play a major role in life near the river.

We have thought up three ways to approach this situation.

- 1. Continue using pesticides to control mosquito populations**
This effectively keeps mosquito populations at bay, reducing the risk of diseases and making riverside activities more pleasant. However, doing so detracts from the “wild” aspect of the St. Croix, and can be detrimental to humans, animals, and the ecosystem as a whole.
- 2. Leave mosquito control up to the people**
Should MMCD stop using pesticides, people could still protect themselves against mosquitoes by wearing clothing that provides more coverage or by spraying themselves with bug repellent. This would preserve the ecosystem in its natural state, but put a buffer between humans and the itchy, disease-carrying wild.
- 3. Let the mosquitoes bite and spread disease**
That's how the St. Croix was before humans started altering it, so why not leave it like that?

Something to think about . . .

Humans are part of nature, so is the MMCD spraying pesticides no less natural than a beaver building a dam?

Our Beliefs: We believe in the spirit of the Wild and Scenic Rivers Act; mosquitoes should be left alone to preserve the St. Croix's natural – wild and scenic – state. Humans can deter mosquitoes on their end using insect repellent and clothing with a lot of coverage. At the same time, we recognize that health is a major concern. Should mosquito-spread disease become a significant problem, chemical intervention would be justified. However, we believe that altering the ecosystem for the sake of human comfort is not warranted and contradicts the idea of a **wild** and scenic river.