

# How to Safely Take a Bite Out of the Mosquito Population

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Having a "place" on Lauderdale is a great privilege. Our lakes are an escape that feels like the North Woods. We can boat, fish and lounge on or near the water. But, one annoyance that comes with that privilege is, of course, summertime mosquitoes. While hiring a spray service may seem like an easy way to control them, the chemicals these services spray, almost entirely pyrethrin based compounds like *permethrin*, are toxic to beneficial insects and other animals that help make our lakes so special. With privilege comes responsibility. To keep our lakes healthy and natural, please consider the following information from the EPA Fact Sheet:

- Permethrin is a member of the pyrethroid class of pesticides. It alters nerve function by modifying the normal biochemistry and physiology of nerve membranes.
- Permethrin is highly toxic to fish, invertebrates and sediment organisms. And, according to the National Pesticide Information Center, permethrin may stay on plant leaves for between 1 and 3 weeks, and when it gets into surface water it sticks very strongly to sediment and can stay there for more than a year.

- Permethrin toxicity data show that the compound is highly toxic to honeybees, as well as other beneficial insects.

Learn other ways to control mosquito populations, as detailed in the article that follows. Reprinted from Lake Tides, Volume 45, No. 3, Summer/Fall 2020.

*NOTE: While permethrin is "registered" for use by the EPA, discussion covers mainly its use in agricultural setting and public use to pre-treat fabrics (to prevent disease carried by mosquitoes). The significant risks above are cited as ecological concerns where urban runoff occurs.*

## Did you know killing mosquitoes with pesticides can kill other beneficial insects?

# DYK

This summer, several waterfront property owners in northern Wisconsin complained that the *Galerucella* beetles, that were providing bio-control of the invasive purple loosestrife plant in their lake, died off after a neighbor had their yard treated with pesticides to kill mosquitoes.

Wisconsin Extension staff did some sleuthing and spoke with Bernd Blossey, an associate professor of natural resources at Cornell University in New York state. Bernd said, "We have seen dramatic die-offs of the *Galerucella* (purple loosestrife beetles) in two areas sprayed for mosquitoes. In both places, thriving populations disappeared and it took many years for them to recover. There is nothing published that I know of, but this includes aerial spraying, not larvicides."

Having your yard sprayed for mosquitoes can also harm other insects that many people value. Karen Oberhauser, who has studied monarch butterflies for 30 years, published a study in 2006 finding that monarch caterpillars and adults are likely to be killed if exposed to a pesticide used for mosquito control. She found that many monarch caterpillars died even if the leaves they ate were sprayed up to 21 days earlier.

*Used with permission from Northcentral Wisconsin Pollinator Partnership*



### Protect yourself and your loved ones from mosquito-borne illnesses by:

- Cleaning buckets, tires, or other mosquito "breeding ponds" on your property.
- Creating habitat that invites mosquito predators like bats, purple martins, and dragonflies.
- Wearing appropriate outdoor clothing and repellent.
- Avoiding outside activities at dawn and dusk when most mosquitoes feed.
- Helping your community create an effective mosquito management plan.

### Are "organic" sprays safe?

Some companies that spray for mosquitoes offer an "organic" spray that contains chrysanthemum oil, claiming it isn't harmful to other insects. Chrysanthemum oil contains pyrethrins, which are highly toxic to honeybees and fish. There are no definitions for the term "organic" related to lawn and garden products, so any service can make this claim. To know if a spray or treatment is safe, you need to get a full list of ingredients and look them up.

#### *References:*

*Oberhauser, K.S. et al. 2005. Growth and survival of monarch butterflies (Lepidoptera: Danaidae) after exposure to permethrin barrier treatments. Environmental Entomology, 35(6):1626-1634.*  
*National Pesticide Information Center. 2014. Pyrethrins General Fact Sheet. <http://npic.orst.edu/factsheets/pyrethrins.html>*  
*Oneida County Land and Water Conservation website. <https://www.ochw.org/insect-decline.html>*