

Bugs Can't **Park** Here

September 27, 2025

Mr. Salvatore A. DiCaro, Jr.

Director, Parks & Recreation

Macomb Township

20699 Macomb St.

Macomb, MI 48042

Dear Mr. DiCaro,

Thank you for taking the time to read the following proposal addressing a recurring concern at Waldenburg Park that has been voiced by many residents and visitors: the persistent mosquito problem within the park's wetland and trail areas. It is clear that Waldenburg Park is a valuable community asset – combining nature with recreational opportunities – however, its usability has been significantly diminished from mosquito infestations. This issue does not only impact a visitor's comfort but also raises public health concerns given the presence of West Nile in Macomb County.

The attached proposal outlines a two-phase approach that is both environmentally responsible, and cost-effective in attempts to mitigate this issue.

I was born and raised in Macomb County and look forward to strengthening the community and assisting with the safety and enjoyment of Waldenburg Park for future generations. I attended the park rigorously as a child, teenager, and young adult and believe all future generations deserve the chance at experiencing the opportunity of the natural offerings this park has. I believe this proposal offers a practical and sustainable path forward that balances ecological preservation with public health and recreation.

I would be happy to discuss the proposal in more detail or provide additional information as needed. Thank you for your time and consideration, and for your ongoing efforts to maintain and improve our parks.

Sincerely,

Kristie Bowles

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Executive Summary

Waldenburg Park in Macomb County, Michigan, offers a unique and beautiful blend of trails, wetlands, and recreational spaces. However, the park's usability has been severely impacted by the recurring mosquito populations affecting visitors. Community feedback underscores the urgency of this issue, with many residents voicing frustrations and concerns. The pests do not only diminish the experience at Waldenburg Park but also pose as a public health concern with the cases of West Nile virus been detected in the county.

The attached proposal outlines a three-phase approach that is a long-term and sustainable solution, both environmentally responsible, and cost-effective in attempts to mitigate this issue:

Phase I: Targeted application of BTI, *Bacillus Thuringiensis Israelensis*, a safe, EPA approved treatment that eliminates mosquito larvae without damaging the ecosystem around it, people or pets.

Phase II: Community-led initiatives that reduce mosquito breeding grounds, fosters civic engagement, and lowers maintenance costs.

Phase III: Volunteer based garden club that helps plant and maintain natural mosquito repellant flowers around the areas specific to where humans are located.

The estimated first year cost is \$6,000 - \$12,400, with ongoing costs of \$4,700 - \$9,300. BTI is a sustainable option, safe for families and ecosystems, and backed by evidence from the CDC.

This proactive strategy will help to improve public health, strengthen the community, and increase park usability by promoting long term environmental stewardship. Additionally, it demonstrates responsiveness to community concerns, by helping to strengthen trust in local leadership while protecting the residents and the environment.

Background

Macomb County, MI is thriving with an abundance of luscious green parks and lakefront areas for people to visit; specifically, Waldenburg Park. This park is the perfect combination of entertainment for children as well as peaceful scenic trails for those looking to immerse themselves in nature. The trails are made up of 17 acres of protected marsh and wetlands, that are protected preservations for visitors to enjoy. What makes this park so distinctive is the environmental balance between recreational activities and the preservation of the wooded wetland, which makes up 80% of the park.

The pathway through the park is a beautiful way to immerse yourself in the refreshing wetlands of Michigan, which overlooks the Clinton River. With these protected lands comes an array of ecosystems living within the environment. As Michiganders, we go to great lengths to protect our nature, specifically lakes and rivers, and Waldenburg Park reflects this commitment to preservation.

However, these wetlands present a challenge: the standing water creates the perfect breeding ground for pests like mosquitoes. This not only disrupts visitors' experiences, but this also poses a public health risk as the West Nile virus has been identified in the Macomb County Area. This natural treasure is at risk for being underutilized, as residents are choosing to avoid the park rather than endure the discomfort and potential health risks posed by mosquitoes.

Statement of Problem

While Waldenburg Park is thriving with an intricate ecosystem, the pathways that were created with the intention for families, youth, and children to enjoy have now been overshadowed by overwhelming mosquito populations. Visitors often finding themselves needing to leave early due to the discomfort caused by mosquito attacks, threatening the usability of the park, and the reputation of the park as a safe, and family friendly space.

15% of reviews on Google for the park mention something about how mosquitoes and bugs are a burdensome aspect of the park. One resident on Google stated:

“It’s a very shameful thing I must pay taxes to come to mosquito park. I have come here for a while but I’m going to put my foot down. I just left and I’m full of mosquito bites. Honestly, I bring 3 bottles of bug spray, and it still doesn’t work. The worst park I’ve been to. Every year they say they will spray the park, but I don’t believe it.”

This feedback helps us understand how the mosquito problem is not just about comfort but also protecting residents and making the community feel heard.

Possible Solutions

- BTI - Utilizing our local environmental employees, whenever there is rainfall or flooding, employees can ensure to releasing *Bacillus Thuringiensis Israelensis* (BTI) bacteria on the surface of standing water near where mosquitoes would lay their eggs, while remaining safe for humans, pets, and the ecosystem. BTI is a bacterium that targets and kills mosquito larvae without harming fish, humans, pets, or beneficial insects like pollinators.
- Spraying Chemical Insecticides – Spraying down the park with insecticide with help reduce the mosquitoes quickly, however this would drastically impact the natural ecosystem that exists in this area. This would hurt the natural pollinators and put children and pets at risk for exposure to harsh chemicals.
- Stocking Fish – Bringing in native fish that are natural predators of mosquitoes is an option that has been considered previously for the Clinton River, the body of water running through Waldenburg Park. However, since the floodplains are often overflowing and creating small pools of water, fish would not be able to access these areas.
- Mosquito-repelling plants – Some flowers naturally deter mosquitoes because of their strong scents, planting new wetland adaptable plants around the trail areas could help deter mosquitoes from entering the areas where humans walk, and support biodiversity.

Proposed Solution

A proposed solution I have found was a tiered approach that could help mitigate the mosquitoes in Waldenburg Park, help the environment, and continue nurturing a community excited to spend time in nature. Since Waldenburg park is situated on a floodplain, whenever flooding happens, small pools of standing water are created, which creates the perfect breeding ground for mosquitoes. This solution is long-term, and sustainable solution which in turn promotes a happy and positive community environment.

This issue could be resolved with three phases:

Phase I: Targeted BTI Treatments

- After periods of rainfall, local parks and rec employees specializing in environmental solutions are dispatched to identify the areas of still water.
- Apply the BTI to these sites to effectively kill mosquito larvae before they hatch
- BTI is registered with the Environmental Protection Agency (EPA) and is naturally occurring in soil. BTI is environmentally friendly and will not harm the ecosystem, making it a more sustainable alternative to other chemical insecticides.
- This proactive approach can help to reduce the mosquito population in this area using an environmentally friendly and sustainable method to reduce the chances of any public health or environmental concerns.

Phase II: Community Garden Club

- Establish a volunteer-led garden program focused on planting mosquito-repelling flowers and plants along trails, and park entrances.
- Select native or wetland adaptive species, such as marsh marigold, bee balm, pickerelweed, and lemon balm to plant alongside trails.
- This helps to encourage community engagement, beautifies the park, and provides an additional, natural deterrent to mosquitoes while supporting pollinators and natural diversity.

Phase III: Volunteer-led Cleanups

- Organize monthly clean-ups with local organizations such as scout troops, schools, nonprofits, and community organizations.
- Volunteers can remove any debris that could potentially hold water and become additional breeding sites for the mosquitoes, as well as cut down any large brush that might encroach on pathways.
- Volunteers can help to reduce labor costs while strengthening community ownership of the park

Proposed Timeline

Phase I: Targeted BTI Treatments

Timeline: Spring through early fall (March-September)

March: Train staff on BTI application, safety protocols and equipment setup

After rainfall events:

- Inspect Waldenburg Park for standing water
- Start keeping a map of common areas that develop pools of standing water for future teams and to reduce time
- Apply BTI to identified mosquito breeding areas

Monthly Review: Evaluate effectiveness and adjust treatment locations as needed.

Ongoing: Staff monitor water accumulation after storms throughout the mosquito season

Phase II: Community Garden Club

Timeline: Early spring to Fall

March-April: Recruit volunteers, specifically individuals from the Master Gardening Club Program to help with establishing locations, and best plants for the area

May-June: Plant mosquito repelling flowers

July-September: Maintain Garden areas, monitor growth, and involve volunteers for watering, weeding, and seasonal care

Ongoing: Replace plants as needed, expand garden areas in following years

Phase III: Volunteer-led Cleanups

Timeline: Monthly from April - October

April - May: Gather volunteers, reach out to local schools, and organizations that would be interested

May – September: Monthly cleanups targeting any standing water, leaf litter, and other mosquito breeding sites

October: Seasonal wrap-up, prepare park for the wintertime while reviewing and documenting successes and areas for improvement

Cost Breakdown

Phase	Item	Year 1 Cost	Annual Cost	Notes
Phase I:	AQUABAC BTI Granules	\$1,000-\$3,800	\$1,000-\$3,800	Based on 10 acres, 8 treatments/season at 2.5-10lbs/acre
	Staff Labor	\$1,200-\$2,100	\$1,200-\$2,100	2 staff x 2 hours c \$15-\$20/hr x 8 treatments
	Training + Equipment	\$800-\$1,300		One time cost for sprayers, training, and protective gear
Phase II:	Flowers + Garden Supplies	\$1,000-\$2,000	\$500 - \$1,000	Seeds, mulch, starter plants, maintenance
Phase III:	Supplies + Logistics	\$2,000-\$3,200	\$1,500-\$2,400	Tools, trash bags, water, gloves; higher cost for first year for initial tools

TOTAL:

Year One: \$6,000 - \$12,400

Annual Ongoing Cost: \$4,700 - \$9,300

Benefits

This proposal is immensely beneficial for everyone of Macomb County. Together, these benefits strengthen the community, giving people the opportunity to take ownership over the park and effectively make the space safer for families.

Environmentally responsible

- The BTI approach avoids damaging eco-systems or using harsh chemicals, while protecting families, pets and the preserved wetlands of Macomb.
- Native flowers not only repel mosquitoes but also support pollinators, enhance the park's appearance, and encourage more frequent community use.
- This proposal is a long-term solution rather than just a temporary patch on the problem.

Cost-effective

- Opportunities to volunteer at local parks for clean-up can promote community bonding as well as reduce overall costs, building civic connection and stronger neighborhoods.
- The upfront costs will lead to fewer complaints, less maintenance, and possibly fewer health risks down the line.

Community-centered

- Proper maintenance would promote safer, more family-friendly environments, fostering a sense of ownership among residents, creating safer spaces for the community.

Evidence-based

- This approach is backed by the CDC and EPA-supported materials and is proven mosquito control that ensures effectiveness and safety.

Health-focused + Accessibility

- Reducing mosquito populations lowers the risk of West Nile Virus and other mosquito borne diseases, creating a safer recreational space for everyone to enjoy.
- Keeping the parks usable during mosquito season ensures families, seniors, people with health concerns can still enjoy the trails and nature without being driven away.