AGENDA

HUMAN SERVICES COMMITTEE

111 S. Michigan Ave., Room 200, Saginaw, MI 48602

Monday, March 31, 2025 – 4:00 p.m.

Members: Tracey Slodowski – Chair, Gerald Little – Vice-Chair, Lisa Coney, Michael Webster, Jack Tany

Others: Administrator, Finance Director, Civil Counsel, Board Staff, *Media*

I. Call to Order
II. Welcome
III. Correction/Approval of Minutes *(**March 3, 2025** – Attached)*
IV. Public Comment (*Speakers limited to 3 minutes)*
V. Agenda

1. **William Stanuszek, Director, Mosquito Abatement Commission, re:**
   - **4-15-1** Presenting its 2025 Program Plan for review and discussion

2. Any other matters to come before the committee

VI. Miscellaneous
VII. Adjournment

3-28-25/rls/sek

DRAFT

MINUTES

HUMAN SERVICES COMMITTEE

111 S. Michigan Ave., Room 200, Saginaw, MI 48602

Monday, March 3, 2025 – 4:00 p.m.

Present: Tracey Slodowski – Chair, Gerald Little – Vice-Chair, Lisa Coney, Michael Webster, Jack Tany

Others: Mary Catherine Hannah, Koren Thurston, Dave Gilbert, Jaime Ceja, Darcie Totten, Sandra Lindsey, Christina Harrington, Jessica Sargent, Jody Becker, Suzy Koepplinger, Renee Sharkey, and Catherine Hicks

I. Call to Order ***---Chair Slodowski at 4:00 p.m.***

II. Welcome

III. Correction/Approval of Minutes **(*Jan. 13, 2025)*** [Note: Feb. meeting cancelled]

- ***Moved by Coney, seconded by Tany, to approve. Motion carried.***

IV. Public Comment ***---None***

V. Agenda

1. **Sandra Lindsey, CEO, Saginaw County Community Mental Health Authority, re:**
   - **3-18-1** Presented the Saginaw County Community Mental Health Authority 2024 Update pursuant to agreement
   - ***Discussion was held. SCCMH provides for the publicly funded mental health needs of eligible people in Saginaw County. It is governed by a 12-member Board of Directors, appointed by the Saginaw County Board of Commissioners. It serves people with serious mental illness, emotional disorders, intellectual/developmental disabilities, and co-occurring substance use disorders. Staff go where the people who need them are, so there isn't much need for telemedicine. Lack of sufficient space available in the Medical Diamond is preventing SCCMHA from moving Behavioral Health and a pharmacy there. Due to the risk involved with patients not taking their medicine, and the importance of having the pharmacy, it was decided not to move to the Medical Diamond. When asked about employee safety, Ms. Lindsey reported there haven't been any major safety incidents caused by consumers. Domestic disputes caused by people who know the consumers happen occasionally. Ms. Lindsey spoke about SCCMHA's status of Certified Community Behavioral Health Clinic and contracts with Mid-State Health Network (MSHN) and Michigan Department of Health and Human Services (MDHHS) and being a certified Community Mental Health Services Program (SMHSP). The Mental Health Authority employs 280 full-time staff and 70 part-time staff and has done the required credentialling of 249 professional staff members. Ms. Lindsey discussed the Office of Recipient Rights (ORR) and their investigation of 239 allegations of rights violations in 2024. She also reported on SCCMHA continuing education and department trainings completed. She spoke of the 2024 program audits and external audits and accreditation. SCCMH has a 24/7 Mobile Response and Stabilization Service, and she discussed the many other services offered. Commissioners inquired about challenges anticipated in the near future. Underfunded public mental health systems, implementation of the Earned Sick Time Act and finding coverage for staff who are out sick was discussed and unfunded, mandated, demands of the State and uncertainty about Federal changes/cuts to several programs were disclosed as challenges. Ms. Lindsey finished by reporting on demographics and SCCMH financial statements.***
   - ***Moved by Webster, seconded by Little, to receive and file. Motion carried. (Receive and File)***

2. **<u>Christina Harrington, Health Officer, Saginaw County Health Department</u>, re:**
   - **3-18-2** Presented a Summary of the BWell Saginaw Update/Year in Review
   - **Health Officer Harrington reported that Saginaw County is ranked one of Michigan's least healthy counties and the present goal is to become one of the state's top 25 healthiest. The most urgent health priorities are obesity & chronic disease, maternal & child health and substance use. She advised the community is responding and reported that participation in "Strides Toward Wellness" nearly doubled in 2024. The next race is scheduled for September 26, 2025. "Start a Healthy Conversation with Your Doctor" campaign launches January 2025 and Step Up & BWell is Focusing on the health of students, staff and families in the county school districts. Saginaw Count's Youth Commissioners have recommended "Chill Rooms" for schools to provide a space for students to decompress. Health Officer Harrington was happy to announce the RxKids program is coming to Saginaw. The program will offer no-strings-attached cash payments to expectant and new moms (up to child's 1st birthday). RxKids was created by Flint pediatrician Dr. Mona Hanna and the program has been very successful in Flint. State funding has been secured and to maintain the funding Saginaw needs to raise $1.4 Million annually to help secure families in Saginaw County by helping to protect them from the income plunges and poverty spikes that happen right before a baby is born and through the child's first year.** ***(No Action)***

3. **<u>Jessica Sargent, Director, Commission on Aging,</u> re:**
   - **3-18-3** Requesting approval to amend Commission on Aging (COA) Board Bylaws
   - ***Director Sargent advised that the amendments to the COA Board Bylaws have been made to coincide with the new 4-year commissioner terms and the amendments have been approved by the Commission on Aging Board and Legal Counsel.***
   - ***Moved by Webster, seconded by Coney, to approve. Motion carried. (Board Report)***

4. Any other matters to come before the committee ***---None***

VI. Miscellaneous ***---None***

VII. Adjournment ***---Moved by Coney, seconded by Little, to adjourn. Motion carried; time being 5:34 p.m.***

Respectfully Submitted,
Tracey Slodowski, Committee Chair
Suzy Koepplinger, Committee Clerk

SAGINAW COUNTY MOSQUITO ABATEMENT COMMISSION

HUMAN SERVICES

William W. Stanuszek, Director

March 28, 2025

Jack Tany, Chairman
Saginaw County Board of Commissioners
County of Saginaw
111 S. Saginaw Ave.
Saginaw, MI 48602

4-15-1

SAGINAW COUNTY BOC
MAR 28 '25 AM11:44

RE: MOSQUITO ABATEMENT 2025 PROGRAM PLAN

Dear Chairman Tany:

I will be attending the April Human Services Committee meeting to present and address any questions related to Mosquito Abatement Commission's 2025 Program Plan. This document provides a general synopsis of our operations and serves as public notification for the upcoming mosquito control season.

I look forward to discussing our plan at the April Human Services Committee meeting.

Respectfully,

William W. Stanuszek
Director

705 N. Towerline Rd, Saginaw MI, 48601
(989) 755-5751 I Fax (989) 758-2309 I www.saginawmosquito.com

2025 PROGRAM PLAN

Saginaw County Mosquito Abatement Commission

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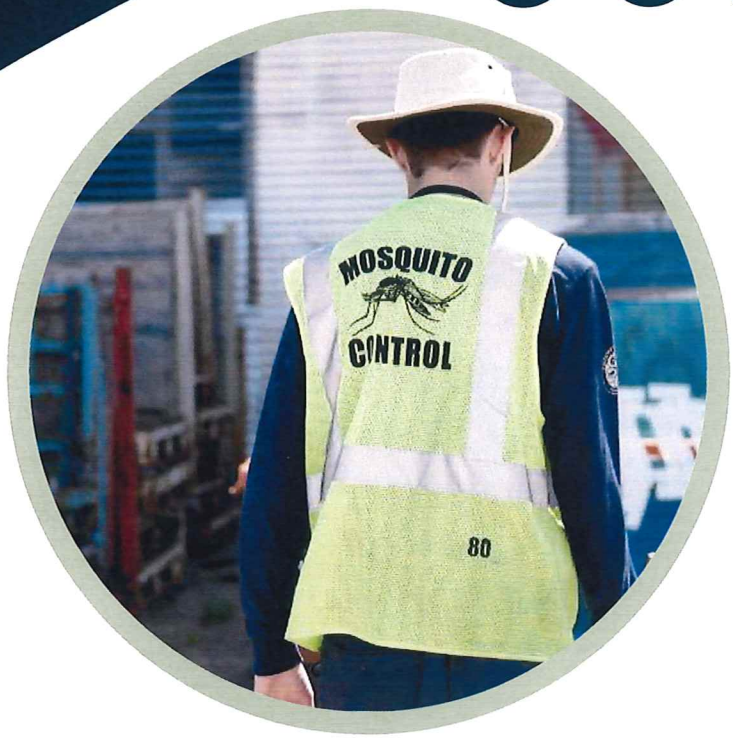

Accountability and transparency documents are available under the Performance Dashboard at www.saginawcounty.com

SAGINAW COUNTY
MOSQUITO
ABATEMENT COMMISSION

BOARD OF TRUSTEES

Chairman: David Gutierrez — Saginaw; Member-at-Large

Vice-Chairman: Rene DeSander — Saginaw; Member-at-Large

Secretary: Randall Knepper — Saginaw; Member-at-Large

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Director: William Stanuszek

Account Specialist: Gabriel Brown

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Education Coordinator: Mathys Kotze

Field Technologies Coordinator: Ryan DuRussel

Foreman: Travis Coughran

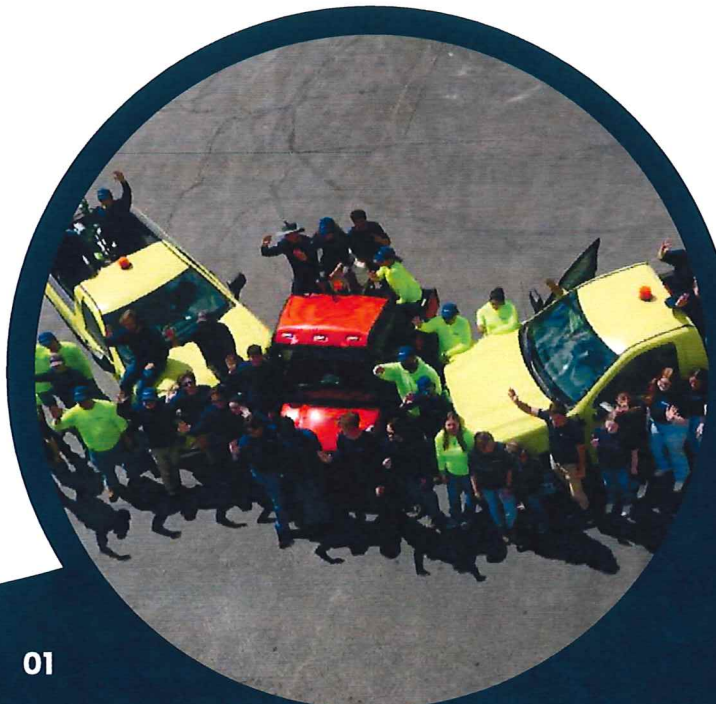
Foreman: Paul Gutka

Office Manager: Courtney Eggebrecht

Operations Manager: Isaac Blackmon

CONSULTANT

Entomologist: Edward Walker, Ph.D., Michigan State University



INTRODUCTION

The Saginaw County Mosquito Abatement Commission's (SCMAC) **Program Plan** presents methods and responsibilities for continuing to provide **Integrated Mosquito Management** (IMM) for the entire Saginaw County community in 2025. SCMAC is a county governmental agency which serves to promote public health through the control of nuisance and disease carrying mosquitoes.

Careful consideration and attention are given to environmental concerns. SCMAC is dedicated to a **quality environment for both man and animals.** The Board of Trustees for SCMAC meets monthly and determines policies for the agency.

The Commission is advised by a **Technical Advisory Group** (TAG) composed of stakeholders' representative of many disciplines involved with mosquito control in Michigan, including researchers, industry, and regulators. Within the TAG is a consultant from Michigan State University, the Saginaw County Environmental Health Services Director, and the Saginaw County Public Works Commissioner.

SCMAC's funding is through a 1.0 mil, 20-year millage, which passed in 2022 with 70% countywide approval. A homeowner with a home/property valued at $150,000 ($75,000 SEV) pays $75 annually.

SCMAC has embraced the concept of IMM for many years. This multifaceted approach uses a combination of methods to reduce the level of nuisance and disease bearing mosquitoes.

Control strategies are chosen after careful consideration of efficacy, health effects, ecological effects, and cost benefit analysis of the various options. Mosquitoes will never be eliminated but can be controlled to tolerable levels. The basis for all our programs is disease prevention. Today's nuisance mosquitoes may be tomorrow's disease vectoring mosquitoes.

Should you desire additional information about a specific aspect of the program, please **contact** the office at **989.755.5751**. Visitors are always welcome to tour our facility. We encourage you to visit our website at **saginawmosquito.com** and follow our activities on social media. Any suggestions, comments, and/or questions may be submitted through our e-mail address **info@scmac.org**.

For notification on adult treatment please download our Saginaw Mosquito notification app on any mobile device.

CONTACT US

705 N. Towerline Rd, Saginaw, MI 48601
(989) 755-5751
www.saginawmosquito.com
Facebook.com/saginaw.mosquito
Saginaw Mosquito Notification App

PERSONNEL

SCMAC employs **10 permanent staff** members. In addition, **55 seasonal employees** are hired among the following positions: 3 office assistants, 6 biology assistants, 43 vector control technicians, 1 GIS technician, 1 education assistant, and 1 seasonal mechanic assistant. Seasonal employees work approximately 40 hours per week for 18-20 weeks, depending upon the program needs. Beginning the first week in April, a few seasonal staff are employed to evaluate our aerial larviciding. The remaining staff begins work as they become available May through the middle of June.

Seasonal Employee Qualifications

The Commission follows guidelines set forth by Saginaw County and agency policy. SCMAC is an **equal employment opportunity employer** and makes **no discrimination** pertaining to race, religion, color, sex, age, height, weight, national origin, gender identity, orientation or disability. Seasonal recruitment begins in December and applicants must meet the following requirements:

- At least **18 years of age** by April 1st of each year.
- Must possess a **valid Michigan driver's license**, at the time of application, with no more than five points on their record and be insurable by the Commission.
- **Must pass** a drug test, physical examination, and criminal background check.

The Commission is under no obligation to rehire past seasonal employees.

Safety

Each technician is issued **personal protection equipment** with specific instructions for its proper use. Safety vests are required for specific tasks and identification purposes. Every employee is required to attend **regularly scheduled safety meetings**. Instructions are given in reference to the Employee Right to Know Law which includes Safety Data Sheets (SDS) and potential hazards within our facility.

Training

SCMAC's annual training session will take place online **April 25, 2025**. All 1st and 2nd year employees in the Biology and Field Departments are required to pass a written test administered by the Michigan Department of Agriculture and Rural Development (MDARD) prior to employment. All new employees must pass an examination covering the National Pesticide Applicator Certification core manual to become a **Registered Pesticide Applicator**. An intensive ten days of "hands-on" training begins the first day of work. All 2nd year employees must pass the Category 7F, "Mosquito Control" test to become a **Certified Pesticide Applicator**. Training continues throughout the season covering policies, safety, products, and best practices. Each employee is provided an **Employee Training and Resource Manual** which covers all aspects of employment at SCMAC.

ADMINISTRATION

The **Administrative Department** has a multitude of responsibilities. Some of the most essential roles are **coordinating activities** amongst our multiple departments. Administration handles the **day-to-day business** of the agency ranging from: citizen service requests, mosquito-borne disease concerns and questions, household scrap tire collection, and general questions about services. This department **notifies residents** on the State Pesticide Sensitive Registry prior to all pesticide treatment scheduled in their immediate area. Other responsibilities include management of service schedules and program records, logging and auditing all pesticide application records; and the administration of the *Bti* Distribution Program.

SCMAC is a governmental agency that applies insecticides in addition to other mosquito control methods. Therefore, the agency is required to **keep public records** of all insecticide applications. SCMAC continues to incorporate technology to improve the **efficacy, efficiency, and accountability** of our control program. We are able to track all control operations utilizing GIS and compatible equipment. All adult spray operations are tracked, and larval control operations are logged as they occur in the field.

The Administrative Department manages the following programs:

Medical Certification Program

The agency has developed a special program for residents who exhibit **severe reactions to mosquito bites**. Annually, interested residents must fill out a Medical Certification (Medcert) Request Form and obtain a doctor's stamp or prescription confirming a special medical need exists. Residents meeting SCMAC requirements receive yard treatment when a ULV zone sweep is conducted in their township (no more than once every 10 days). Request forms are available on our website.

No Spray Program

Residents may request their **property not be treated** by completing a No Spray Request Form annually. Reflective yellow signs are furnished to no spray residents to post along the road at each end of their property line. The property owners' information is located on agency maps and within GIS software, noting the exact location of the no spray area. Organic agricultural operations are identified within this **"opt-out" program**.

Service Requests

Residents contact SCMAC to perform or inquire about a variety of available services. This can range from requesting the treatment of **standing water** (larval mosquito habitat) or request a **property-level adult treatment**. These are directly entered and/or managed into our operations, depending on availability for service.

Long Drive Program

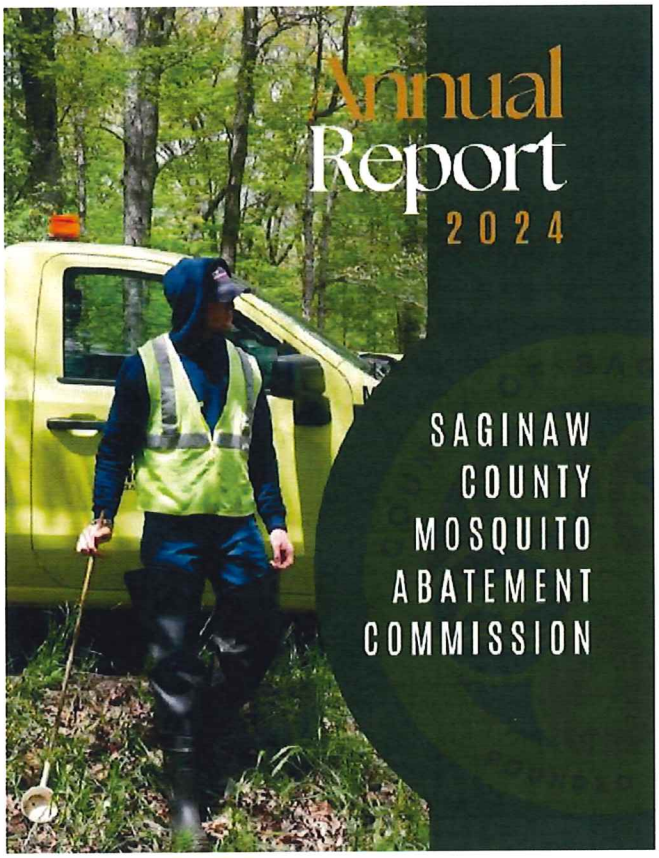
To promote effective adult control, long drives are treated when requested by the homeowner if the following criteria are met: home must be **300 feet or greater** from the edge of the road, adjacent roads, and other approved long drives; provide adequate turnaround; and possess significant vegetation providing mosquito harborage. Upon **citizen request**, SCMAC inspects and may add the address to the "Long Drive Program" if qualifications are met. All approved long drives are designated on ULV route maps and within the GIS software. **Reflective markers** are placed at the entrance of all approved driveways serving as a visual reference for technicians. SCMAC reserves the right to remove long drives as services as current best practices dictate.

Community Use Sites

Sites that are frequently utilized by the public such as parks, campgrounds, and community clubs are routinely checked and treated for mosquitoes to **promote community enjoyment and use**. Each site is unique and receives site-specific IMM. While most sites receive routine larval treatment, adult control may occur as needed, event-based, or not at all.

Annual Reporting and Community Outreach

Once the mosquito control season ends, reports are generated, compiled, and data is analyzed. The department begins working on the **Annual Report** which serves as an accounting for all SCMAC services and activities occurring in that given year. It is distributed in December to the SCMAC Board, SCMAC Technical Advisory Group, and the Saginaw County Board of Commissioners. The **Program Plan** must be updated and ready for distribution by March of each year. Additionally, the plan is sent to the Michigan Department of Agriculture and Rural Development to fulfill our yearly community outreach responsibilities as described in Regulation 637, Rule 11 (5)(b)(ii).



Bti Distribution Program

As part of our self-help larviciding program, SCMAC solicits participation from Saginaw County residents. Administration of this self-help program necessitates that distribution of this ***Bti* control product** occurs at SCMAC's headquarters. In addition to answering questions, participating residents are provided an instruction packet as to the proper application of the product, including the product label. *Bti* product availability is based on resident's property size and is limited by a fixed annual inventory.

Notification

SCMAC has increased access to information, forms, and services through our website and social media. We also offer a **Public Notification App** that is available for residents to download onto their smart devices, which offers treatment notifications and other important information.

PUBLIC INFORMATION AND EDUCATION

Public education is an important part of SCMAC's Integrated Mosquito Management Program aiming to promote cultural awareness of both SCMAC's and the public's responsibilities. It is important for residents to understand the primary purpose of our control efforts. Our purpose is to reduce mosquito-borne diseases while realizing the impact these control efforts have on mosquito habitat within our community. It is truly a collaborative effort.

Community Outreach

SCMAC attends community events such as Friday Night Live, Saginaw Children's Zoo, Saginaw County Park Programs, and the Saginaw County Fair. These events allow SCMAC to address frequently asked questions and concerns, which promotes community participation and awareness resulting in better mosquito control.

SCMAC also sponsors an annual **Creative Arts Contest** to Saginaw County students. The contest is conducted via our website and pushed through social media. Students have the opportunity to creatively express their understanding of mosquitoes, and how they can help control mosquitoes around their homes and community. The best artwork may be used in some of SCMAC's education campaigns.

Education Programs

SCMAC's educational program provides presentations to pre-K through college level students. **In-person or virtual presentations** are presented upon request. Educational material such as videos, presentations, and activities are available on our website. Program materials focus on mosquito development and habitat; mosquito-borne disease; monitoring methods; insecticide safety; and methods for personal protection and control. Our **Education Coordinator** is available to speak to community service groups and organizations about the importance of our program and how to make a difference by helping control mosquitoes in their neighborhoods.

Educational Tools and Materials

SCMAC's website, **saginawmosquito.com**, contains a wealth of information about our programs, services, and related mosquito topics. Residents can also utilize our website and notification app to quickly and easily report mosquito activity in their area. A visual representation of our treatment and surveillance efforts are displayed along with other important announcements. In addition to the website, social media such as Facebook provide relevant information and developments. To follow us on the **social media** of your choice (if available) please visit our website.

Cooperative Relationships

The Saginaw County Health Department has been helpful in utilizing the Public Health Code to resolve nuisance problems involving sanitation and neglected swimming pools. In addition, SCMAC works with the Health Department providing tick surveillance to establish baseline tick presence, abundance, and risk.

New for the 2025 season is the establishment of local arbovirus testing for our mosquito vectors. This joint venture between Saginaw County Mosquito Abatement Commission and the Saginaw County Health Department will serve as a valuable resource for the community and region for years to come.

Resources

Employees and Trustees stay abreast of current science, practices, and information on a routine basis. Attending conferences, classes, and seminars increases staff knowledge and awareness. Our **Technical Advisory Group** (TAG) is comprised of academics, public health professionals, regulators, industry members, and leaders in the field of mosquito control. The TAG is a resource that provides counsel with regard to control strategies, systems, and science as they pertain to our program. SCMAC is also an active member of the **Michigan Mosquito Control Association** (MMCA).

SCMAC also continues to work in collaboration with the Midwest Center of Excellence Vector-Borne Diseases (MCE-VBD), assisting with coordinated surveillance and resistance monitoring and standardization. The MCE-VBD focuses on the Upper Midwest to better monitor, understand, control, and share information about disease-carrying mosquitoes and ticks. Additionally, SCMAC works cooperatively with other professional associations, such as the **American Mosquito Control Association (AMCA), the Entomological Society of America (ESA), the Michigan Mosquito Control Association (MMCA), and the Michigan Pest Management Association (MPMA)** to ensure that our staff receives the most current information. SCMAC carefully tracks proposed legislation as it relates to mosquito control. Members of our permanent staff serve on Michigan regulatory committees and work groups when needed.

BIOLOGY

Mosquito-borne disease surveillance is crucial as it promotes public health within Saginaw County. Monitoring virus activity and mosquito populations throughout the season dictates SCMAC's control strategies both preventive and responsive as well as public notification and education. SCMAC samples for mosquito-borne virus activity, which includes **Eastern Equine Encephalitis (EEE), Jamestown Canyon virus (JCV), La Crosse Encephalitis (LAC), St. Louis Encephalitis (SLE), and West Nile virus (WNV).**

Quality control is an important element of the Biology Department's operation. Mosquito control products are scrutinized, as are application crews, to ensure effective, consistent, and high-quality mosquito control. New insecticides and formulations are tested routinely to ensure the most environmentally acceptable and effective products are utilized. Monitoring insecticide resistance and changing management strategies is critical to ensuring effective mosquito control and maintaining a successful control program. Research is conducted by SCMAC annually. Only through improved knowledge and understanding of mosquitoes, mosquito-borne diseases, insecticides, and application techniques are we able to enhance our Integrated Mosquito Management Program.

Larval and Pupal Surveillance

Monitoring the presence and abundance of mosquito larvae and pupae in various standing water habitats **directs larval control** efforts. The Biology Department routinely samples all types of breeding habitat, noting type, abundance, and mosquito life stage. This helps maintain a current inventory of breeding sites.

Larval surveillance begins in March as spring mosquito larvae begin to hatch and develop in flooded woodlands. The department samples this habitat prior to and after our spring aerial larviciding program. Routine larval surveillance continues throughout the season as dictated by weather and season. Permanent water habitats like stormwater catch basins and neglected swimming pools are routinely checked for *Culex* mosquito infestation, as they are important sources of this WNV vector.

Adult Mosquito Surveillance

Routine adult mosquito surveillance is conducted using a **variety of trapping methods**. Adult mosquitoes collected in these traps determine where and if adult control is needed; presence of mosquito habitat; potential mosquito-borne disease threats; and control strategy efficacy.

The New Jersey Light Trap (NJLT) Program is conducted every Monday, Wednesday, and Friday during the mosquito season. Twenty-five of these traps are placed at geographically assigned locations throughout Saginaw County and manned by citizens. These traps monitor **changes in local mosquito populations**. General trap location has changed very little since 1977, offering insight into mosquito population change overtime, including throughout the season or one year to the next. This is very important as seasons and control strategies change over time.

The CDC Trap Program is conducted Monday through Thursday during the mosquito season. Spring and Summer ***Aedes* nuisance mosquitoes** are highly attracted to carbon dioxide (CO2) released by the dry ice bait. Five CDC traps are placed in tandem with gravid traps. When resources are available, five additional traps are utilized. CDC traps are placed individually at locations where increased mosquito population resolution is needed. Ten CDC traps allow us to survey four townships a night.

Elevated CDC traps are used to monitor disease, efficiently sampling **summer *Culex* mosquitoes** which are the primary vectors of West Nile virus. These customized traps baited with CO2 are placed 15-20 feet off the ground into the tree canopy where the *Culex* feed on birds; a primary host for mosquito virus. Elevated trapping begins in June with up to four traps deployed every Wednesday night.

Gravid traps are used to monitor **mosquito-borne disease** in Saginaw County. Gravid traps use highly organic water to attract female mosquitoes, especially *Culex*, looking to lay their eggs. These female mosquitoes have taken a blood meal and therefore are capable of transmitting arboviruses. Deployment occurs Monday through Thursday with five gravid traps paired with the aforementioned CDC traps.

The BG-Sentinel 2 traps and its lure are designed to attract and catch *Aedes aegypti* and *Aedes albopictus*. This is an important tool for targeting the aforementioned **invasive mosquitoes** should populations migrate into the Saginaw Bay region. Incorporating new technology into adult trapping, the BG-Counter is a remote monitoring device that counts the number of mosquitoes collected in the BG trap. This device also collects environmental data and transmits the data in real time. This data will be analyzed along with the trap collections to provide insight into daily adult mosquito activities, their response to weather, and effectiveness of our control activities.

Mosquito-Borne Disease Surveillance

During 2024, the agency's disease surveillance program noted 6 Jamestown Canyon virus (JCV) positive mosquito sample; 12 mosquito samples and 8 birds positive for West Nile virus (WNV); and 1 positive Eastern Equine Encephalitis (EEE) mosquito collection. There were no human cases of mosquito-borne disease reported in Saginaw County. During 2024, the State of Michigan reported 31 human WNV cases as well as 5 human cases of JCV. There were also 8 horses, 106 birds, and 150 mosquito samples found positive for WNV. These results and others demonstrate that **WNV and other mosquito-borne disease continue to maintain their presence within the State of Michigan.** Our program suppresses these mosquito threats providing benefit to the public health of Saginaw County.

The threat posed by mosquitoes and the diseases they transmit may change over time. The recent statewide Eastern Equine Encephalitis (EEE) outbreak in 2019 through 2021, arrival of Zika virus to the U.S., and the regional re-emergence of Jamestown Canyon virus serves as evidence for this. Climate and the resultant seasonal changes are impacting our mosquito populations. As mosquito populations change, so does the threat of native and exotic diseases they may transmit. **Each mosquito season is unique** and varies from the last. SCMAC monitors and responds to current mosquito threats and will change with future threats.

Certain mosquito species are capable of transmitting one or more mosquito-borne disease, but not all mosquitoes can transmit disease. In Michigan, mosquito-borne viruses are responsible for disease in not only humans but animals as well. Mosquito species responsible for transmitting certain viruses are submitted to the Michigan Department of Health and Human Services' **(MDHHS) Bureau of Laboratories** or the **Saginaw County Health Department (SCHD)** for their respective virus testing. Adult mosquito collections are processed within our lab and then shipped to the state or local lab for polymerase chain reaction (PCR) testing to determine mosquito-borne virus presence and abundance. These test results direct control operations to reduce risk to the public. Approximately **2,000 samples** are submitted annually. The following species are tested for their respective viruses: ***Aedes canadesis, Ae. japonicus, Ae. triseriatus, Anopheles quadrimaculatis, Coquillettidia perturbans, Culex erraticus, Cx. pipiens, and Cx. restuans.***

Mosquito-Borne Disease Surveillance (Cont.)

Dead Bird Reporting

Birds in the Corvidae family, which include **crows and blue jays**, are very susceptible to WNV often resulting in death. Residents are encouraged to report dead crow and blue jay sightings. Depending on the condition of the dead bird, an oral swab is taken. The swabs are sent to the **Veterinary Diagnostic Laboratory at Michigan State University** for WNV testing. This reporting further allows the agency to monitor and respond to WNV activity in Saginaw County.

Insecticide Resistance and Efficacy

Adult mosquitoes throughout the county are routinely tested for resistance by exposing them to lethal doses of various insecticides. If resistance appears to be present or developing within a given mosquito population, control strategies are altered to lessen the likelihood of resistance. A resistant population is harder to control, and resistance may be amplified if the use of the insecticide is continued.

Annually, **CDC Bottle Bioassays** are utilized to detect and track any insecticide resistance. **Caged mosquito trials** are performed to ensure current and perspective adult control products perform in the field. Adult mosquitoes are placed in cages and subjected to truck mounted ULV treatment. The above testing allows for an operational understanding and expectation for the control product prior to use in the field.

Equipment Calibration

In coordination with the Field Department, all application equipment is **routinely calibrated** to ensure the proper amount of control product is applied. The type of equipment and product amount are determined based on effectiveness and product label. Our **Ultra Low Volume (ULV) spray equipment** delivers very small amounts of insecticide via tiny droplets 12-25 microns in size, which is effective against flying mosquitoes. For reference, an average human hair's thickness is 100 microns. The ULV material only controls flying mosquitoes offering no residual control. Machines are calibrated monthly to ensure proper droplet size, and that we meet product label requirements.

FIELD

The **Field Department** is responsible for conducting all **community mosquito control operations** including larval and adult control, performing property-level services such as long-drive treatment, larval surveys, and adult priority treatment. Community treatment involves a variety of strategies and equipment from aerial treatment to dropping individual packets into stormwater catch basins. Other responsibilities include source reduction efforts such as community habitat surveys, neglected swimming pools, and the collection and handling of tires associated with our community scrap tire collection efforts.

Larval Control

Larval control, or larviciding, involves the introduction of control products into aquatic habitats. The mosquito larva is the least mobile, most concentrated, and accessible life stage of the mosquito. By targeting numerous larvae in habitats such as ditches, flooded yards, roadside catch basins, and others, countless mosquitoes are eliminated before they reach the adult biting stage. Larviciding is the "first line of defense" for any environmental mosquito management program. **Twelve hours of SCMAC's 16-hour workday is spent larviciding.**

Spring Larval Control

Aerial larviciding of seasonally flooded woodlots is tentatively scheduled to begin the week of April 14, 2025 (weather dependent). Fixed wing aircraft treat approximately **53,000 acres** of mosquito breeding habitat using granular *Bacillus thuringiensis* variety *israelensis* (*Bti*), attached to ground corn cob, at the low application rate of 2.5 to 3 pounds per acre. Aerial treatment is monitored in real-time and recorded using GIS technologies. The *Bti* bacteria is naturally occurring, and when eaten by mosquito larva results in rapid death. ***Bti* is specific to mosquito, blackfly, and midge larvae and non-toxic to mammals, birds, fish, and many insects, including honeybees.** *Bti* bio-degrades quickly and leaves no residue. Seasonal vector control technicians begin larviciding immediately following the completion of spring aerial treatment. They concentrate on woodlots infeasible to treat by aircraft. Ground crews will use *Bti* or larviciding oil for this treatment depending on the mosquitoes' stage of development.

Summer Larviciding

Most **roadside ditches** are checked one to three times during the control season and treated when necessary. They are routinely checked after a significant rainfall as this often produces larval activity. Ditches are treated using granular ***Bti* or methoprene**. If late fourth instar larvae or pupae are present, larviciding oil may be applied to the water with a pressurized sprayer. If the ditch cannot be accessed by a truck, treatment is made by ground crews.

All villages, cities, and townships with urban and suburban development have **stormwater catch basins**, which are significant sources of *Culex* mosquitoes, the primary vector for West Nile virus. This habitat is treated whenever an area's infestation is 25% or greater. The agency uses a variety of larvicide formulations and methods to treat over **60,000** catch basins annually. **Methoprene, biological (*Bti & Bs*) and pyriproxyfen products** are applied by foot, bicycle, e-scooter, or truck targeting 30 days to season long control, depending on formulation. Targeted catch basins are located in subdivisions, parking lots, yards, and along roads. Catch basins are normally treated one to four times depending on product formulation, mosquito infestation and disease activity.

Saginaw County has 16 **sewage lagoon** sites. This organic rich habitat can produce very large numbers of *Culex* mosquitoes. The Field Department monitors infestation rates throughout the summer and treats if necessary. Treatment is with the bacterial larvicide, **VectoLex® WDG.**

Saginaw County has a large amount of mosquito breeding habitat that routinely floods after significant rain events. This **floodwater habitat** can produce substantial nuisance mosquito populations. SCMAC has an extensive catalog of these known floodwater sites which may be treated multiple times each season, depending on rainfall. These breeding habitats include flooded fields, yards, woodlots, and floodplains. Larval control products used to treat these habitats include ***Bti*, methoprene, and larviciding oil.**

Adult Mosquito Control

Adult control, or **adulticiding**, targets adult mosquito populations. Even the most rigorous larviciding program may not be able to keep adult mosquito populations at acceptable levels. For instance, Saginaw County has a species of mosquito which is very difficult to control in its aquatic stages; larvae of the cattail marsh mosquito, *Coquillettidia perturbans* attach to aquatic plant roots to obtain oxygen. Another factor is Saginaw County has State and Federal lands located in the center and southwestern portions of the County which are not accessible to summer larviciding efforts.

ULV Adult Mosquito Control

Our **community adult control** program relies on truck-mounted **Ultra-Low Volume** (ULV) spraying to eliminate adult mosquitoes in-flight. Each ULV unit is carefully calibrated monthly to dispense only 0.05 ounces of active ingredient per acre. It is important for these machines to break down insecticides into proper droplet sizes, which are 12-25 microns. All trucks are tracked utilizing GIS technologies which records location, speed, and spray activity. ULV treatment normally takes place from **sunset to approximately 12:30 a.m.**, Monday-Friday to coincide with peak mosquito activity. If mosquito-borne diseases or mosquito populations are high, additional spray shifts may be implemented on weekends or early morning hours prior to sunrise.

ULV applications are less effective at temperatures below 56 degrees, winds are greater than 10 mph, or during rainfall. Due to these factors, **ULV operations cannot be performed every evening. Adulticiding is only performed after careful analysis of biological data from traps, disease surveillance, and citizen complaint calls**. Saginaw County is divided into 9 treatment zones based on city, village, or township boundaries. These zones are adulticided when surveillance warrants treatment. Our principal adulticiding material is a **4% permethrin** ULV formulation.

Geographic Information System (GIS)

SCMAC's Field Operations rely on our Geographic Information System or GIS to **plan, conduct, track, and report** our operations and services. This system utilizes ESRI-based computer software, technology, and specialized equipment promoting efficient mosquito control operations. This system catalogues and presents intuitive tracking and mapping of mosquito larval habitats, roads and properties, control operations, and special service considerations. This geographic inventory of important items is accessible and interactive in the office as well as the field utilizing both web-based applications and mobile devices. In addition, other departments use GIS for **public outreach and mosquito surveillance**. Our Field Technologies Coordinator is responsible for maintaining and promoting GIS and related workflows.

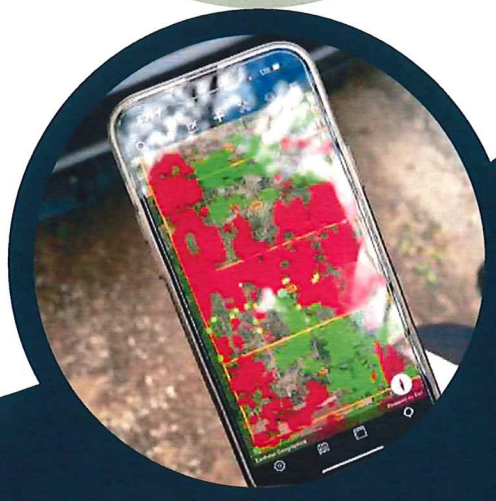
In 2025 Saginaw County Mosquito Abatement Commission will be integrating Unmanned Aerial Systems (UAS) into its operations. This initiative represents an expansion of services to the public. SCMAC is looking to procure a mapping drone and a treatment drone. Our Field Technologies Coordinator is properly licensed and will follow all accepted practices to ensure **public safety and privacy**. They will pilot the drone missions and look to expand and implement the program further in the future.

Mapping Drone

A mapping drone will be used to update and create detailed maps, which will improve our control operations and understanding of mosquito habitats. This vehicle can be used to assess immediate impacts of weather or changes over time.

Treatment Drone

SCMAC will be integrating a Hylio 230 drone into its larviciding operations. The Hylio 230 has a payload of 85 pounds and can treat up to 60 acres per hour. This platform will increase our control capacity as it allows us to access and treat large habitats which are difficult for foot crews to treat utilizing traditional equipment. Targeted mosquito breeding habitat includes flood plains, marshes, woodlots, and large flooded fields.



Pollinator Awareness

SCMAC recognizes the importance of pollinators in Saginaw County. The majority of our insecticide budget is for biological larvicides which are applied directly to the water and do not affect pollinators. Bees and many pollinators are most active from sunrise to sunset. To adequately **protect honeybee colonies and other pollinators from possible pesticide exposure, community ULV treatment begins after sunset**, well after the time most bees have returned to their hives. SCMAC works with the Saginaw Valley Beekeepers Association to follow the best management practices for bee colony/pollinator health in Saginaw County. With this in mind, our control efforts are designed around **Pollinator Best Management Practices**, using an **Integrated Mosquito Management Program**.

Spray equipment is carefully calibrated to dispense proper droplet size to impact mosquito sized insects, not larger insects like butterflies, bees, or beetles. The spray is a contact insecticide, once released it breaks down rapidly. The treatment has a short range, 300 feet from the treatment path, depending on wind direction and speed. The amount of active ingredient applied for our adult control is much less than in other insect control uses. On average we rely on three thousandths (0.003) of a pound per acre of active ingredient (permethrin) which is **hundreds to thousands of times less** than other common uses such as those amounts used for lawn and human treatments.

SCMAC also utilizes the Environmental Protection Agency's (EPA) "Bulletins Live 2" website to ensure we are administering our products responsibly with regard to **impacts on threatened and endangered species**.

Best Management Practices for Pollinator/Mosquito Control Interaction

Mosquito Control

- **Locate** apiaries annually, communicating regularly with local beekeepers
- ULV treatment when bees are not flying, **late evening/night** and early morning
- Let beekeepers **know** the insecticide we are using
- **Avoid** direct application of spray to flowering plants
- **Monitor** treatment related to wind direction with respect to colonies

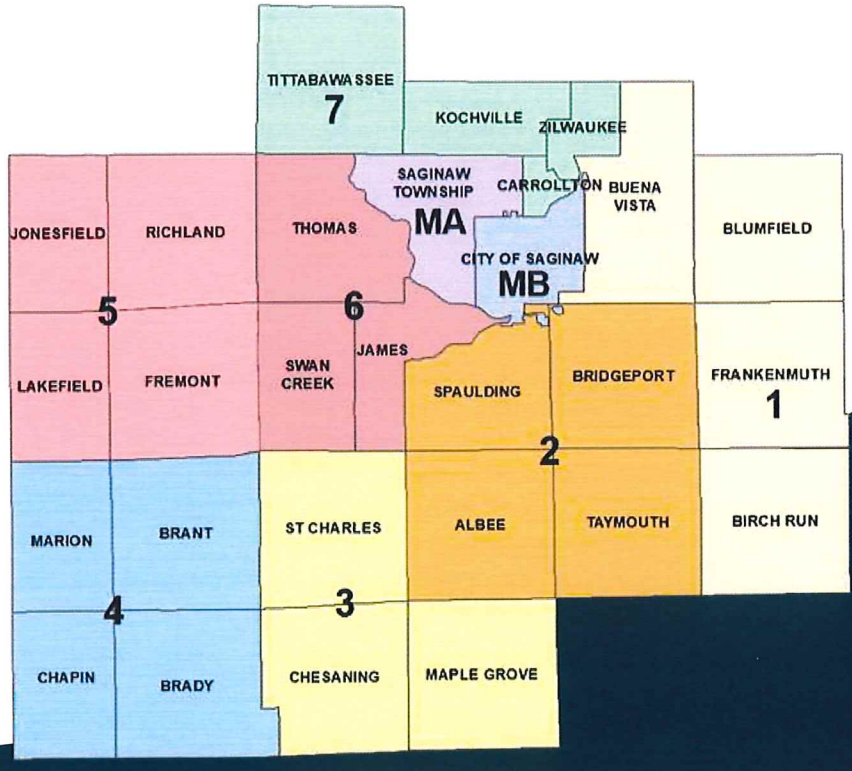
Beekeepers

- **Report** colony movement (location) to mosquito control
- If possible, locate hives **300 feet** from the roads
- Beekeepers are responsible to **manage health** of their colonies; healthy hives are less susceptible to disease and possible damage from pesticides

Endangered Species

- **Monitor** Bulletin Live 2
- Consult with the U.S. Fish and Wildlife Service as needed

The **Treatment Zone Map** below, notes our operational zones that divide the county into serviceable sections, for example our nightly adult shift can normally complete an entire zone in one night. Dividing the county allows us to better track and respond to mosquito threats. There are times when only a portion of the zone may need treatment, i.e. treatment (larval or adult) may not be necessary throughout the entire zone.



SUMMARY OF CONTROL PRODUCTS

Altosid® XR Briquets (2.1% (S)-Methoprene) - larvicide used in **catch basins**, 1 briquet/CB

Altosid® P35 (4.25%(S)-Methoprene) - larvicide used in **floodwater** habitat, 10 lbs./acre

Altosid WSP® (4.25% (S)-Methoprene)- larvicide used in **catch basins**, 1 packet/CB

Bti (Serotype 14) -corn cob granule- larvicide used in a variety of **floodwater** habitat including flooded fields, woodland pools, and roadside ditches, 2.5 - 20 lbs./acre

DeltaGard® (2.0% Deltamethrin) - adult control **ULV product** used in urban and suburban areas during mid to late summer months at 10.5 -12 fl.oz./minute. Active ingredient = 0.00045 to 0.00067 lbs. Ai/A

Fourstar® Briquets -180 (6% Bs, 1% Bti) - larvicide used in **neglected pools** or **catch basins**, 1 - 2 briquets/100 sq. ft. or 1 briquet/CB

Larviciding Oil (BVA2) -used where pupation has occurred in **floodwater** habitat, 3 - 5 gallons/acre

MetaLarv® S-PT (4.25% (S)-Methoprene) - larvicide used in **floodwater** habitats, 2.5 to 10 lbs./acre

MetaLarv® XRP (4.25% (S)-Methoprene) – larvicide used in **catch basins**, 1 pouch/CB

Permethrin 4 - 4 (4% Permethrin) - adult control **ULV product** used in all temperatures at 5-10.5 fl.oz./minute Active ingredient = 0.001 - 0.007 lbs. Ai/A

Remoa Tri® (4% Fenpropathrina, 0.11 lbs Abemectin, 0.08 lbs. C-8910) adult control product used to **manage insecticide resistance**, 0.00157, 0.00059, 0.00039 lbs. Ai/A

Sumilarv® 0.5g (0.5% Pyriproxyfan) - larvicide used in **catch basins**, 1 - 2 packets/CB

VectoBac® WDG (37.4%Bti) - **wide area** larviciding, 1.75 to 14oz./acre

VectoLex® WDG (51.2%Bs) - **sewage lagoon** treatment, 0.5 - 1.5 lbs./acre

VectoMax® WSP (2.7% Bs. 4.5% Bti) - larvicide used in **catch basins**, 1 packet/CB

***Product use may change as needed in response to control needs.**

SOURCE REDUCTION

Source Reduction is the removal of mosquito breeding habitat through **eliminating standing water**. This practice is the most effective way to control mosquitoes around the home and community. SCMAC's Source Reduction Program seeks to reduce the number of mosquitoes and mosquito-borne disease within communities through **education and habitat removal**. The following source reduction strategies are employed to achieve this goal:

- Homeowner education and consultation
- Search and Inform Program
- Household Scrap Tire Collection Program
- Neglected Swimming Pool Program

Mosquito breeding habitat (standing water) comes in various forms, varying from artificial habitats such as tires and buckets to natural habitats like floodwater found in low areas. In either case, the elimination of these mosquito sources is often possible; simply dumping or removing artificial habitats or draining standing water can eliminate local mosquito threats.

Public Education

Homeowner Education and Consultations

In addition to providing public awareness, via our website and social media on the variety of mosquito breeding habits, homeowners may have questions in regard to eliminating standing water around their home or property. We can **determine breeding habitat**, and if asked, refer the homeowner to other resources which may assist with its elimination. We occasionally refer residents to follow-up with the **Saginaw County Public Works Department**, their **local government** for drainage questions, or the **Saginaw County Health Department** for man-made mosquito habitats such as swimming pools and scrap tires that cannot simply be removed. There are regulations and codes that define what and how certain habitats can be eliminated and managed.

Search and Inform Program

SCMAC prides itself in providing residents with **useful information** that can help control mosquitoes in and around their yard and community. Our Search and Inform Program entails technicians **canvasing yards and neighborhoods** educating homeowners as to sources of mosquito breeding around their home; specifically, artificial habitats that can simply be emptied or removed. This practice is completed whenever a **resident requests** a habitat check/treatment service, while also prioritizing and surveying entire neighborhoods during periods of increased mosquito-borne disease activity, often targeting urban and suburban communities. The following mosquito habitats are frequently encountered by technicians: buckets, tarps, rain barrels, toys, tires, swimming pools, flowerpots, trash cans, kiddie pools, and ornamental ponds.

Household Scrap Tire Collection

In 2004, legislation was passed in Michigan making it illegal to dump scrap tires into landfills. This action resulted in an abundance of tires dumped in ditches, fields, woods, and yards. Our **Household Scrap Tire Collection Program** reduces the number of tires that promote mosquito breeding. As a service to Saginaw County residents and an effort to reduce the number of mosquitoes, SCMAC will accept scrap tires at **our facility**, three off-site **tire drives**, and continue to **work with communities** to assist with clean-up efforts that remove tires from the landscape. Our Scrap-Tire program runs from **May 1st through August 31st** with collected tires processed through Environmental Rubber Recycling (Flint, MI). Funding assistance may be sought through the Michigan Department of Environment, Great Lakes and Energy's EGLE Scrap Tire Cleanup Grant.

Tire collections are limited to the following:

- Saginaw County residents only
- Limited to 10 household scrap tires (no rims) per address per year
- Passenger-size or smaller tires only, includes car and pickup truck tires
- No semi, tractor, or larger tires accepted
- Businesses and other revenue generating enterprises are excluded from program

Neglected Swimming Pool Program

Neglected swimming pools are capable of breeding very large populations of ***Culex* mosquitoes**, the primary West Nile virus vector. Mosquito Control and SCHD take these habitats very serious as they pose a serious threat to public health. Swimming pools are monitored for mosquito breeding routinely throughout the season, as well as kiddie pools, hot-tubs, and ornamental ponds. This program has achieved much success with many pools removed or reopened.

Historic Source Reduction Projects

SCMAC has drained a large amount of standing water over the last few decades. Mosquito Control provided engineered drainage solutions, **prior to 2015**, to qualified residents through a SCMAC funded drainage program. This program was eliminated due to engineering and construction costs far exceeding those associated with larviciding. Nearly 400 projects were completed with over 1,000 catch basins placed to eliminate standing water in yards, parks, churches, ball fields, and other community areas. It is important that SCMAC **monitor** these projects and **treat** the catch basins for mosquitoes. Digitized plans are available for public and municipalities for reference.

VEHICLE & EQUIPMENT MAINTENANCE

SCMAC's **Vehicle Maintenance Department** performs major and routine vehicle maintenance on the **agency's vehicle fleet** as well as **other participating Saginaw County departments**. Additional responsibilities include the repair, fabrication, and maintenance of the following mosquito control equipment: truck-mounted and handheld ultra-low volume (ULV) sprayers, compression sprayers, granular applicators, bikes, e-scooter, tire trailers, and other agency equipment. The work is completed in a fully equipped **2,100 square foot vehicle maintenance facility**. The facility consists of three bays (two hoists), as well as a wash bay.

Preventative Maintenance

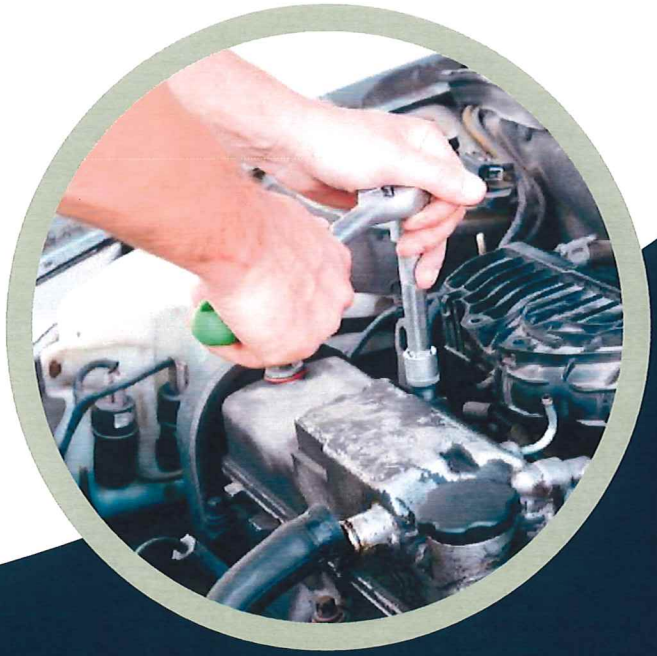
In addition to routine maintenance, preventative maintenance is crucial in ensuring **proper working order and longevity** of our equipment and vehicles, while prioritizing **safety and functionality** in the field. The agency utilizes a vehicle and equipment maintenance sheet that is reviewed by the staff at the start of each shift to ensure the equipment is in proper working condition. Seasonal employees assigned a vehicle must complete a "Daily Truck Checklist." This guides them through a thorough inspection of the vehicle which includes checking fluid levels, taillights, turn signals, safety lights, headlights, tire condition and pressure, etc. While our mechanic maintains the equipment and vehicles **all staff are responsible** for ensuring that they are in the proper working order.

Vehicle Care

SCMAC takes pride in the appearance of our trucks and equipment; therefore, a **finishing and detailing shop** is located in the service garage building. Employees not only paint new vehicles, with our **"trademark" optic yellow** color, they repair dents, dings, and scratches which occur throughout the season. Most vehicle repairs are performed during the winter months saving the agency money.

Fueling Facility

SCMAC operates a secure **24-hour fueling** station providing gasoline for mosquito control, as well as other county departments, and serves as an emergency fuel site for local emergency services. SCMAC utilizes a Fuel Master system which is supplied by a **6,000 gallon** above ground tank. The system logs all fuel transactions using a ProKey and pin number combination.



DISEASE DETECTION AND MOSQUITO OUTBREAK EMERGENCY RESPONSE GUIDELINES

LEVEL	CRITERIA	RESPONSE
I	**Below Normal to Normal Mosquito Populations** All New Jersey Light Traps less than 200 mosquitoes/night CDC Traps average less than 100 mosquitoes/trap/night Complaint/Reports average less than 100/ day **Disease Detection** No Detection of Disease	Control operations target nuisance and/or disease vectoring mosquitoes in locations with highest mosquito densities Target larval breeding sites associated with vector and/or nuisance mosquitoes Continue routine surveillance Priorities accepted: 10 Wednesday, 25 Thursday/Friday Medcerts treated routinely with zone sweeps
II	**Normal Mosquito Populations** Less than 3-5 New Jersey Light Traps greater than 200 mosquitoes/ night CDC Traps average less than 250 mosquitoes/trap/night Complaint/Reports average 100-175 /day **Disease Detection (Background Activity)** Occasional positive detection in mosquito collections and citizen reported dead crows and blue jays. Normal for time of year	Control operations target nuisance and/or disease vectoring mosquitoes in locations of highest mosquito densities Increase larval control in areas with increased virus, vector, and nuisance activity Noted Community Use Sites receive adult treatment during zone sweeps Monitor potential hot spots using various surveillance methods Priorities accepted: 10 Wednesday, 25 Thursday/Friday Medcerts treated routinely with zone sweeps
III	**Elevated Mosquito Populations** 3-5 New Jersey Light Traps greater than 200 mosquitoes/ night for consecutive collections CDC Traps average greater than 250 mosquitoes/trap/night Complaint/Reports average 175-200/ day **Elevated Disease Detection (Mosquito-Borne Illness Advisory)** Noted increase in mosquito and dead bird reporting infection rates Multiple detection noted throughout the county Arrival of new mosquito-borne disease or vector	Repeated nightly spraying in high-risk areas and increased larval surveillance/control in areas most likely to breed disease vectoring mosquitoes Continue spraying nuisance mosquitoes in areas with high mosquito densities Increase disease surveillance in areas with noted mosquito disease activity. News release encouraging citizens to use personal protection Priorities reduced: 5 Wednesday, 10 Thursday/Friday; Priorities for civic/community events only, not for complaint calls Medcerts treated routinely with zone sweeps AM spray shift implemented as needed to assist with nights
IV	**Mosquito Populations Substantially Above Historical Levels** New Jersey Light Traps with more than 5 traps greater than 200 mosquitoes/ night for consecutive collections CDC Traps average greater than 500 mosquitoes/trap/night Complaint/Reports average greater than 200 per day **Highly Elevated Disease Detection During Weekly Testing Period** Single human case of mosquito borne disease Mosquito and bird surveillance higher than historical levels Increase in mosquito-borne disease or vector	Focus control efforts to high-risk mosquito populations and areas commensurate with arbovirus indicators for risk Control operations will continue to target nuisance mosquitoes in locations of highest mosquito densities Increased disease surveillance to obtain estimates of mosquito transmission frequency in targeted areas News release encouraging citizens to use personal protection Total ban on accepting new Priorities (ONLY honoring requests already in system) civic/community events treated; Medcerts treated no more than once every 10 working days (treated as a long drive only if within 10-day time frame) Night Shift (adulticiding only): 6 days a week Sunday - Friday AM and weekend spray shift implemented (weather dependent) as needed
V	**Mosquito Populations Extremely Elevated** New Jersey Light Traps greater than 300 mosquitoes/ night in 5 or more traps for consecutive collections CDC Traps average greater than 1,000 mosquitoes/trap/night Complaint/Reports average greater than 300/ day **Extremely Elevated Disease Detection During Weekly Testing Period** Multiple human cases of mosquito-borne disease Mosquito and bird surveillance infection 75% above historic data Arrival/detection of new arbovirus with multiple infectious pathways	Aggressive adulticiding and larviciding efforts in areas commensurate with arbovirus risk and surveillance Consider aerial adulticiding Consider strategies for increased disease surveillance: canceling outdoor events, closing parks, etc. Consider control on protected lands, includes no sprays and Federal/State lands Increase news releases encouraging citizens to use personal protection Total ban on Priorities except civic/community events; Total ban on Medcerts Night Shift (adulticiding only): 6 days a week Sunday - Friday, AM and weekend spray shift implemented (weather dependent) Consider requesting assistance from Centers for Disease Control (CDC) for increased disease surveillance; State and Federal (FEMA) support for control operations