

Source Reduction in Central Massachusetts by Timothy Deschamps

As many in our industry already know, tire casings in the outdoor environment can provide an excellent habitat for mosquito larvae to develop from egg to adult. Because of their shape and permanent nature, tires may hold water for long periods of time even during periods of drought, providing a consistent habitat for larval mosquito development. A single tire can produce hundreds, even thousands, of mosquitoes each year. Some of the mosquitoes that develop in tires throughout the northeast, such as *Culex pipiens* and *Ochlerotatus (Aedes) japonicus*, can transmit West Nile to humans. Work to suppress mosquitoes in tires may consist of weekly visits by technicians to apply larvicides and/or wide scale applications of airborne pesticides to control the adult mosquitoes that have emerged from these habitats. Elimination of tires by recycling cleans the environment from this blight, and permanently eliminates larval habitat and the need for repeated inspections and pesticide applications. This "source reduction" is an important part of an Integrated Mosquito Management (IMM) program.

An Internet search revealed that other mosquito control programs were performing this service, most notably in Florida, Michigan and New Jersey. After reviewing their success, we began our program with minimal expectations. Earth Day 2010 marked the official start of the Central Massachusetts Mosquito Control Project (CMMCP) waste tire removal program, but work had already begun in late 2009 thanks to the McColgan Grant-in-Aid funding we received from the Northeastern Mosquito Control Association. The program initially consisted of three components:

- Clean-up of large waste tire dumping sites that had been added to our database
- Curb-side residential waste tire removal
- Removal of waste tires discarded on the side of the road

A fourth component was added after this program became popular:

- Coordination with communities during recycling events, hazardous waste collections, river cleanups, etc.

Tires collected in this program were brought to Liberty Tire, a recycling facility located in Littleton, MA. According to the company's website, <http://www.libertytire.com>: "As the top tire recycling company in North America, Liberty Tire has a wide network of production facilities. The company collects and recycles about a third of the nation's scrap tires, saving more than 140 million tires from the waste stream each year."

Our first large scale project was in the town of Ashland, MA in early 2010. We worked with the local Board of Health and Conservation Commission and removed a tire pile that consisted of over 1200 tires; see Figure 1. Our records show this pile has been an area of concern for us for well over 30 years. A press release was generated on Earth Day 2010, and many media outlets picked up this story. We have worked with the town of Tewksbury during their "Zero Waste Day" event the past



Figure 1: Tire dump site in Ashland, MA before (left) and after clean-up by CMMCP in 2010.

few years, collecting over 325 tires from residents. In 2013 we worked with the city of Lowell during the Merrimack River cleanup and brought 113 tires to the recycling center; see Figure 2. For Earth Day 2013 we announced our 10,000th tire recycled; see Figure 3. In the 3+ years we have worked in this program, we have performed over 150 curbside pickups, dozens of roadside pickups, collaborated in over 50 community events, and coordinated over 2 dozen large scale tire cleanups. We have mapped over 565 tires piles through our GIS program, of which over half have already been removed. CMMCP staff is always on the lookout for new piles to be databased – and physically removed at a future date. Several Boards of Health and Highway Departments collaborate with us and depend on this program, calling us when they've collected 50 to 100 tires.

Since 2009 we have partnered with the US Environmental Protection Agency's (EPA) WasteWise program, reporting our tire collection data through their



Figure 2: Tires collected during the Merrimack River cleanup in 2013.

Re-TRAC system. In 2011 we received a Bronze certificate in the Institution and Non-Profit category from MassRecycle, a statewide coalition of individuals, municipalities, businesses, and organizations dedicated to promoting the benefits of waste reduction, reuse, recycling and diversion; see <http://massrecycle.org>.

In 2014 we received an Environmental Merit Award from the EPA regional office in New England; see Figure 4. EPA

recognized our efforts in not only recycling tires, but reducing pesticide use; see <http://www.epa.gov/region1/ra/ema/2014recipients.html#Governmental>. The award announcement noted the accomplishments of CMMCP: "Through this project, the organization has recycled 11,500 tires, which saved 192 staff hours in monitoring larval habitats, and resulted in usage of 720 pounds less of pesticides."

Our program was featured in the September 2014 issue of *Scrap Tire News* magazine, a monthly trade periodical for the tire recycling industry (Deschamps 2014); see Figure 5. Since publication, we have received correspondence from several people about our program. The article has been posted to our website at http://www.cmmcp.org/STN_9-14.pdf.

We have recycled over 14,100 tires from most of our 40 member cities and towns as of November 2014. We are averaging just over 2,700 tires a



Figure 3: CMMCP employees celebrate Earth Day 2013 and collecting 10,000 tires.



Figure 4: CMMCP's EPA award.

year in four full years, with a high of 3,263 in 2012; see Figure 6. Our success has generated interest and creation of similar programs in other mosquito control districts in Massachusetts. With the potential expansion of *Aedes albopictus* in their northernmost fringe here in Massachusetts, this program may become even more necessary as a public health intervention. We have reported our accomplishments at several conferences and public meetings. More information about our program can be found at <http://www.cmmcp.org/tires.htm>.

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CA Lawmakers Say No To RAC

The California Senate Transportation and Housing Committee failed to pass a bill that would have extended a provision for the California Department of Transportation to have its total annual paving material tonnage be at least 50-percent rubberized asphalt concrete (RAC), the California Tire Bulletin reported.

Assembly Bill 2658 would have extended the 50-percent RAC requirement from 2015 until 2020. According to the CA Tire Bulletin, the measure had broad support from the asphalt rubber industry and its associations, as well as environmental groups and at least one labor group.

However, manufacturers and supporters of "terminal blend" rubberized asphalt-blends that use a fine-grained rubber...

Massachusetts Mosquito Program Eliminating Tire Piles

Waste tire removal project seeks to thwart disease-carrying mosquitoes

By Tim Deschamps

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The CMMCP crew poses with the 10,000th tire cleaned up. See Massachusetts page 12...

Figure 5: CMMCP was featured in Scrap Tire News magazine.

CMMCP was created by the Massachusetts State Legislature in 1973, and currently consists of 40 cities and towns in central Massachusetts, in both Worcester and Middlesex Counties, covering over 725 square miles. Mosquito control districts here are state agencies with unique funding structures; towns vote into the program at annual or special town meetings and cities opt in by City Council vote.

REFERENCE CITED

Deschamps, Tim. 2014. Massachusetts mosquito program eliminating tires piles. Scrap Tire News 28(9): 1, 12-13.

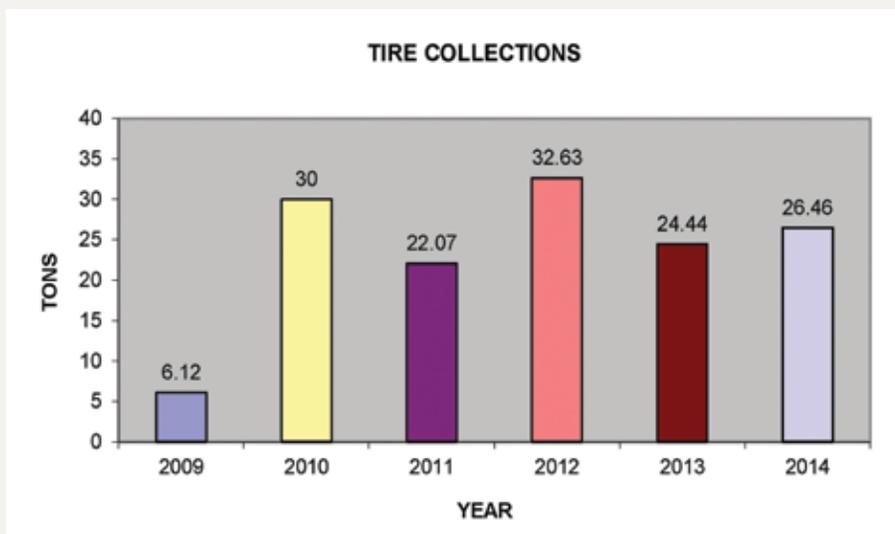


Figure 6: Tons of tires recycled by CMMCP, 2009 - 2014.

Timothy D Deschamps
 Executive Director
deschamps@cmmcp.org
 Central Massachusetts
 Mosquito Control Project
 111 Otis Street
 Northborough, MA 01532
 508-393-3055