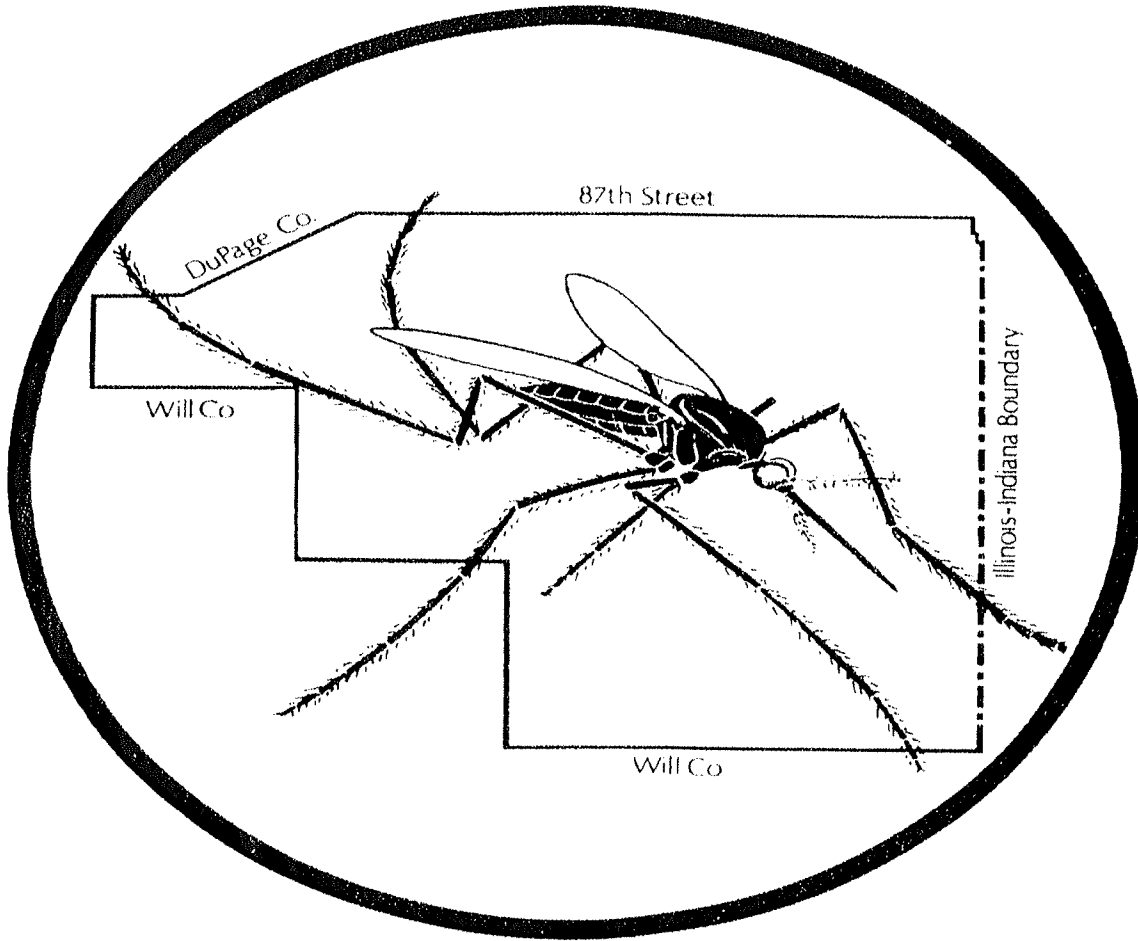


61ST ANNUAL REPORT - 2017



"AIMING FOR BETTER CONTROL"

MOSQUITO CONTROL

THE SOUTH COOK COUNTY MOSQUITO ABATEMENT DISTRICT
HARVEY, ILLINOIS

THE SOUTH COOK COUNTY MOSQUITO ABATEMENT DISTRICT

OFFICE: 15500 DIXIE HIGHWAY, (P.O. BOX 1030)
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BOARD OF TRUSTEES:

Charles Givines, President, Harvey
Lynette Stokes, Vice President/Treasurer, South Holland
Nick Maloni, Secretary, Chicago Heights

BOARD ATTORNEY:

Lauren Plahm-Dutch

FORWARD

We are pleased to submit the Sixty First Annual Report of the South Cook County Mosquito Abatement District. The policy of our District is to effectively, safely and economically abate the mosquito problems in an orderly and systematic manner, while giving due consideration to the rights of property owners and political subdivisions of the County of Cook.

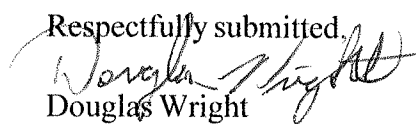
The 2017 spring mosquito season was very wet with cool temperatures. Wet conditions continued through early summer with average to slight above average temperatures. Mosquito activity was low to average during this time. In the second week of August, nearly forty-four percent (44%) of all mosquito pools tested in suburban Cook County were positive. This prompted a West Nile Virus alert to be issued for the SCCMAD area. Fortunately, no major West Nile Virus outbreak occurred in 2017.

A total of (271) mosquito pools were tested by the South Cook County Mosquito Abatement District this year (45) were positive from (19) different locations. As of mid-January, (89) human cases of West Nile Virus have been reported in Illinois, (52) in Cook County and (5) in SCCMAD.

The South Cook County Mosquito Abatement District continued a high level of surveillance for the presence of mosquito-borne diseases, and maintained a close liaison with the Illinois and Cook County Departments of Public Health, and local Public Works and Health agencies in an effort to prevent these diseases.

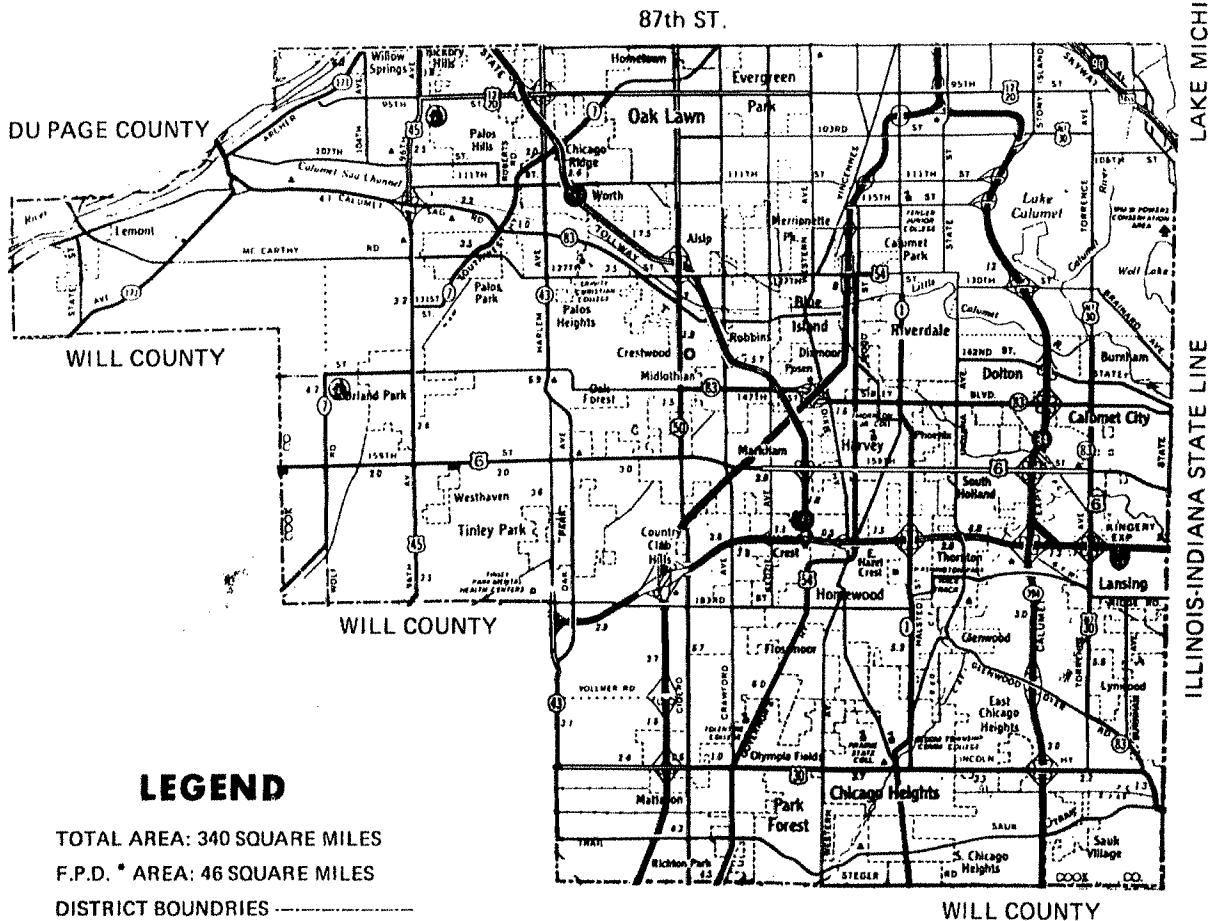
We are consistently stressing the importance of having a good to excellent survey and surveillance on all mosquitoes in our District and using larviciding as our primary control method to accomplish our goal.

Respectfully submitted,



Douglas Wright
General Manager

MAP OF
THE SOUTH COOK COUNTY MOSQUITO ABATEMENT DISTRICT



LEGEND

TOTAL AREA: 340 SQUARE MILES

F.P.D. * AREA: 46 SQUARE MILES

DISTRICT BOUNDRIES -----

SERVING THE TOWNSHIPS OF:

- BLOOM
- BREMEN
- CALUMET
- HYDE PARK
- LEMONT
- ORLAND
- PALOS
- RICH
- THORNTON
- WORTH

* COOK COUNTY FOREST
PRESERVE DISTRICT LANDS
WITHIN OUR BORDERS



GENERAL INFORMATION

ORGANIZATION

In 1927, the Illinois Legislature passed the "Mosquito Abatement Districts Act" (Chapter 111-1/2, section 82 (9) Illinois Revised Statutes, 1965) which enabled the voters, by referendum, to organize tax supported abatement District.

The South Cook County Mosquito Abatement District was organized in March of 1953 and became operational in 1955. The District is the largest mosquito abatement district in the State of Illinois and one of the largest in the Midwest. Three hundred forty square miles are served by the District which, in general, includes the area bounded by 87th Street in the City of Chicago on the north, the Indiana state line on the east, the Will County line on the south and west, and the DuPage County line on the northwest side. Four mosquito abatement districts together serve a little more than three-fourths of the county's total area.

Our District is governed by a Board of Trustees composed of five non-partisan, tax-paying residents of the District who serve without salary. Members of the Board of Trustees are appointed for four-year terms by the Cook County Board of Commissioners. A General Manager administers and directs all operations in the District.

Meetings of the Board of Trustees are open to the public and are scheduled for the second Monday of each month, at 4:00P.M. at the District Headquarters, unless otherwise announced.

POLICY

The Board of Trustees set the following operational policy in 1955 and it remains unchanged today: "The South Cook County Mosquito Abatement District will abate effectively and economically the mosquito problem, using modern, scientific and practical methods of control applied in an orderly and systematic manner while giving due consideration to the rights of property owners, residents and political subdivisions of the District."

2017 FIELD AND LABORATORY REPORT

WEATHER AND MOSQUITOES

During the mosquito season, field operators concentrate on controlling two different types of mosquitoes; nuisance floodwater species such as *Aedes vexans*, and vector species such as *Culex pipiens*. The *Culex* species, vectors of St. Louis Encephalitis and West Nile, breed in open containers such as discarded tires, buckets and bird baths, abandoned and poorly maintained swimming pools, roadside ditches, storm drains, and catch basins.

The 2017 season started out wet but after July was very dry. Temperatures were slightly above average for the season with no prolonged hot periods except for the very end of the season.

FIELD OPERATIONS

The 2017 season lasted from April 10th until October 10th. During the season, our field operators made numerous inspections of all the mosquito breeding sites in our district. Treatment of over 3988 acres, or 11,188 individual sites, that were producing mosquitoes were carried out. In addition, 56,943 catch basins were treated with a slow release insect growth regulator to help control the *Culex* population. Our operations concentrate on larval control, the most effective means of mosquito control, but adulticiding was also carried out in some areas throughout the season. In certain areas residential complaints, excessive mosquito populations, or areas with West Nile positive mosquitoes caused us to spray areas with an ultra-low volume adult pesticide.

LABORATORY FUNCTION

Laboratory personnel provide District management with information for planning and conducting an effective and efficient mosquito control program. They survey the larval and adult mosquito populations and test adult mosquitoes for the presence of West Nile Virus.

LARVAL MOSQUITO SURVEY

Larviciding is our primary mosquito control activity. This method involves locating mosquito breeding sites and killing them before they can become a nuisance or transmit diseases. Field operators take larval samples from some of these locations and return them to the lab for identification. During the 2017 season the laboratory identified a total of 2376 specimens from 583 sources. From these 2376 larvae collected, 924 (38.89%) were *Aedes vexans*, 616 (25.93%) were *Culex pipiens*, 449 (18.90%) were *Culex restuans* and 112 (6.01%) were identified as *Ochlerotatus japonicus*. A total of 15 species were collected.

LARVAE COLLECTED

	2011	2012	2013	2014	2015	2016	2017
<i>Culex restuans</i>	512	575	894	576	820	433	449
<i>Aedes vexans</i>	2237	1118	846	1659	1628	1059	924
<i>Culex pipiens</i>	424	1410	805	625	602	723	616
<i>Ochlerotatus stimulans</i>	213	11	71	196	8	159	62
<i>Ochlerotatus japonicus</i>	89	67	61	75	86	66	112
<i>Culex territans</i>	89	53	32	36	81	38	50
<i>Ochlerotatus sollicitans</i>	10	17	21	0	16	8	10
<i>Anopheles punctipennis</i>	7	7	17	3	18	12	0
<i>Anopheles quadrimaculatus</i>	40	20	15	42	27	31	23
<i>Ochlerotatus sticticus</i>	5	100	14	8	148	17	2
<i>Ochlerotatus triseriatus</i>	20	19	12	10	32	31	45
<i>Psorophora ciliata</i>	23	10	12	6	2	5	13
<i>Culiseta inornata</i>	62	499	7	57	20	35	52
<i>Culex erraticus</i>	0	27	5	0	5	7	6
<i>Psorophora columbiae</i>	0	6	2	2	1	3	3
<i>Culex salinarius</i>	4	2	2	0	5	0	0
<i>Orthopodomyia signifera</i>	0	7	0	0	0	0	0
<i>Ochlerotatus trivittatus</i>	18	28	0	18	11	14	9
<i>Ochlerotatus excrucians</i>	0	1	0	0	0	0	0
<i>Ochlerotatus infirmatus</i>	0	1	0	0	0	0	0
<i>Uranotaenia sapphirina</i>	7	1	0	4	0	0	0
<i>Psorophora cyanescans</i>	3	0	0	0	0	0	0
<i>Ochlerotatus fitchii</i>	0	0	0	0	0	0	0
<i>Ochlerotatus atropalpus</i>	0	0	0	0	0	0	0
<i>Ochlerotatus canadensis</i>	10	0	0	0	48	0	0
<i>Psorophora ferox</i>	11	0	0	0	1	0	0
<i>Culex tarsalis</i>	0	0	0	0	0	0	0
<i>Anopheles barberi</i>	0	0	0	0	0	0	0
<i>Aedes cinereus</i>	0	0	0	0	0	5	0
TOTALS:	3784	3979	2816	3317	3559	2646	2376
NUMBER OF SOURCES:	971	1002	725	849	885	649	583

Culex pipiens is the main vector of West Nile Virus in Illinois, *Culex tarsalis* and *Culex salinarius* may also be vectors in Illinois but are not very common. *Culex restuans* is important for spreading the virus in the host bird population. *Aedes vexans* is the most common nuisance species in Illinois, it appears in large numbers about a week after heavy rains and lives for about a month. *Ochlerotatus trivittatus*, *Ochlerotatus canadensis*, *Ochlerotatus stimulans*, and *Ochlerotatus triseriatus* are also nuisance mosquitoes and may be common early in the Spring in wooded areas. *Anopheles*

quadrimaculatus is a vector of malaria; however, there is no longer any malaria to spread in Illinois. *Psorophora ciliata* is the largest mosquito in Illinois with adults nearly an inch long. *Ochlerotatus japonicus* is a newly introduced species to North America, it was first found in Illinois in 2006 but is quickly spreading and becoming more common.

ADULT MOSQUITOS AND WEST NILE SURVEY

A total of 47,645 mosquitoes were collected over a period of 148 trap nights from 21 Gravid traps, an average of 15.33 mosquitoes per trap per night. Of these mosquitoes 43,121 (90.50%) were *Culex spp.* and 3368 (5.69%) were identified as *Ochlerotatus japonicus*. A total of 17 different species were collected.

Adult mosquitoes are tested by the South Cook County Mosquito Abatement District for West Nile Virus. Mosquitoes are pooled, up to 50 individuals per pool, by location, date, species, and sex. A total of 358 mosquito pools were tested with the RAMP system, a commercially available test kit. In 2016, 47 (13.13%) of these pools were positive for West Nile Virus from 18 different locations.

RAMP Test Results

Year	# Tests	# Positive	% Positive	# Human WNV cases in Cook County	# Human WNV cases in Illinois
2004	160	18	11.25	23	60
2005	301	82	27.24	134	252
2006	425	72	16.94	86	215
2007	368	33	8.97	33	101
2008	258	12	4.65	9	20
2009	201	4	5.25	1	5
2010	217	19	8.76	30	61
2011	285	22	7.72	22	34
2012	381	104	27.30	174	290
2013	277	32	11.55	60	117
2014	299	17	5.69	24	44
2015	349	29	8.31	27	77
2016	358	47	13.13	90	136
2017	271	45	16.61	52	86

As of December 19th, 86 human cases have been reported in the state of Illinois, of these cases 52 are in Cook County and 6 are in the SCCMAD.

Other Mosquito Virus's

Zika virus was a major problem south of the United States in 2016 but never became a major concern for the continental US in 2017. The mosquito vectors for this disease are *Aedes aegypti* and *Aedes albopictus*. Zika can also be spread person to person sexually. *Aedes albopictus* has been found in the District in the past in low numbers but none were found this season. They were found in other areas in Cook County this season. They are usually associated with tire piles that have been transported from infested areas. This species seems to be expanding its distribution in the southern US. *Aedes aegypti* has never been found in the SCCMAD.

MOSQUITO CONTROL MANAGEMENT

Control of mosquitoes is based on the biological and environmentally approved concept of integrated pest management. Systematic surveillance of all potential mosquito producing sites in the District has been implemented for maximum larval control. Since mosquito larva is centralized, relatively immobile, and accessible, we are able to kill large numbers of them and prevent many adult mosquitoes from entering the community.

Safe, biodegradable chemicals or highly dispersible oils are applied to these sites to kill the mosquito larva. In our opinion, the best solution to mosquito control is concentrating major efforts on the mosquito producing sites. Because of the complex problems of mosquito production from natural and man-induced changes in the environment, all potential mosquito producing sites are being repeatedly surveyed, recorded, and treated by the District.

Once adult mosquitoes have emerged from their aquatic environment and are in flight, there is very little effective control work which can be accomplished. In a very limited number of cases concentrations of adult mosquitoes can be driven away or may be killed in areas where they rest in woods, grassy vacant lots, or heavily vegetated areas. Generally, operations of this sort are limited by weather conditions. For example, calm weather (mild temperature and low wind speed) is needed for good results. Over two thousand miles of traffic crowded streets and alleys within our District make this operation impractical, rather dangerous, and decidedly too expensive to employ on a nightly basis during the summer. However, our District has made more use of complaint calls from citizens by sending field operators to spot sites of mosquito invasion to affect a high degree of efficiency and overall effectiveness.

In Illinois, major mosquito problems may be attributed to two different kinds of mosquitoes, the annoying floodwater mosquitoes and disease vectors. Floodwater mosquitoes deposit their eggs in the soil on the slopes of cattail marshes, grassland and woodland depressions, and hatch when inundated by rain or flood conditions at a later date. The inland floodwater mosquito, *Aedes vexans* is the most important pest mosquito throughout Illinois. This species of mosquito produces several generations each year if there is adequate rainfall or flooding to inundate the areas where their eggs have been deposited. *Aedes vexans* comprises at least 70% of the total adult population of mosquitoes and the accompanying annoyances during outdoor activities in the summer. The adult female mosquitoes are obnoxious biters and, although they have not been incriminated as vectors of any of the Encephalitic viruses, their biting habits serve to discourage the use of many areas of recreational purposes. The other 30% of the mosquito population consists of several different species of *Culex* and minor species of flood and permanent water mosquitoes of the genera *Aedes*, *Psorophora*, *Culiseta*, *Ochlerotatus*, and *Anopheles*. Some of these species produce several generations each year while others produce only one generation each season. Some are present only in the spring and early summer, whereas others may appear throughout the summer into the fall.

Culex spp. mosquitoes deposit their eggs in egg-raft clusters of 50 to 200 eggs on the water surface of permanent or semi-permanent pools, in addition to various types of artificial containers. *Culex spp.* is the main vector for West Nile Virus and other Encephalitic viruses in Illinois.

**SOUTH COOK COUNTY MOSQUITO ABATEMENT DISTRICT, ILLINOIS
GENERAL FUND
STATEMENT OF REVENUE, EXPENDITURES - BUDGET AND ACTUAL
AND CHANGES IN FUND BALANCE
YEAR ENDED JUNE 30, 2017**

REVENUES:	BUDGET	ACTUAL
Property Taxes.....	\$ 2,563,928	\$2,569,708
Replacement Taxes.....	214,566	265,385
Interest.....	-0-	551
Miscellaneous.....	-0-	352
Total Revenues.....	\$ 2,778,494	\$ 2,835,996
 EXPENDITURES:		
General and Administrative.....	\$ 794,627	\$ 689,756
Operating.....	3,468,857	2,490,237
Capital Outlay.....	729,606	125,220
Total Expenditures.....	4,993,090	3,305,213
Revenues Over (Under) Expenditures.....	(2,214,596)	(469,217)
 Fund Balance, July, 2016.....		 \$2,418,826
Fund Balance, July, 2017.....		\$1,949,609

Note: The total budget for the fiscal year 2017/2018 is projected at \$4,876,069 to cover 340 square miles which includes the area bounded by 87th Street in the City of Chicago on the north, the Indiana state line on the east, the Will County line on the south and west, and the DuPage County line on the northwest side.

HOW TO REPORT A MOSQUITO PROBLEM

There may be times during the summer months when a citizen in our District will have more than an acceptable number of biting mosquitoes around his home. Some species of mosquitoes are produced in standing water and it is the homeowner's or renter's responsibility to rid his surroundings of all such mosquito-producing sites. By using the information supplied on the last page of this pamphlet, the homeowner can accomplish this task.

If this fails to lower the nuisance level within a few days, or if a problem exists that is beyond the resident's capabilities, he should contact the District Headquarters. To reduce mosquito-producing sites, it is first necessary for us to determine if the insects are indeed mosquitoes and then find the source of production. A number of small flying insects such as midges, resemble mosquitoes, but in fact do not bite. Our operators will be pleased to identify the type of insect reported. When you call, you can help us by reporting any standing water known in your area. **To contact us, telephone (708) 333-4120, visit our website--www.sccmad.com or Facebook SCCMAD. Our address is The South Cook County Mosquito Abatement District, 158th Street & Dixie Highway (P.O. Box 1030), Harvey, IL 60426.** Visitors are always welcome to our headquarters during operating hours.

PLEASE HELP PREVENT MOSQUITO-BORNE DISEASES

Certain species of mosquitoes commonly found in Illinois are known to transmit encephalitic viruses from birds and mammals to man.

Normally, the insect is found in crowded urban neighborhoods where either unsanitary condition exists or where large amounts of abandoned artificial containers are prevalent. They lay their eggs in clusters of from 50 to 200 eggs and hatching occurs within a day or two in warm weather. From 8 to 10 days are required for completion of the larval and pupa stages, prior to development of the flying adult. Water remaining for more than a week can become a production site for mosquitoes.

Organized mosquito control districts using the best equipment, manpower and technology cannot eliminate all of the mosquitoes from any community without the help of every homeowner or business.

WHAT EVERYONE SHOULD DO

1. Discourage mosquitoes from breeding by eliminating unnecessary trash and containers that may hold water, such as tires, large cans and bottles.
2. Keep water clean in children's wading pool and drain when not in use.
3. Keep ditches and streams adjoining your property free of grass clippings, garbage and other debris, which will obstruct the natural flow of water.
4. Maintain rain gutters and downspouts. Make certain that no water remains on flat roofs after rains.
5. Keep weeds and grass cut short during summer months to eliminate hiding places for adult mosquitoes. Reprim vacant lots that are not maintained properly to city or local officials.
6. Stock ornamental pools and fish ponds with top-feeding minnows.

**MOSQUITO CONTROL IS A COMMUNITY PROBLEM
BE A GOOD NEIGHBOR AND DO YOUR PART
AIM FOR BETTER CONTROL**

**THE SOUTH COOK COUNTY MOSQUITO ABATEMENT DISTRICT
155th Street & Dixie Highway (PO Box 1030)**

Harvey, Illinois 60426

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