ECONOMIC EFFECTS OF FLOODWATER MOSQUITO BREEDING IN DREDGED DISPOSAL AREAS (SPOILS) ON MOSQUITO CONTROL OPERATIONS IN SOUTHWESTERN LOUISIANA

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We became interested in the mosquito breeding potential of dredged disposal areas, "spoils," after the influx of several massive *Aedes sollicitans* (Walker) broods into our urban areas. During this time there was no appreciable *Ae. sollicitans* breeding in our marsh areas. The Corps of Engineers (paragraph 4.11 of Impact Statement by U.S. Army Engineer District, Charleston, 1976) noted the presence of the saltmarsh mosquito, *Ae. sollicitans* as an adverse environmental effect of land dredged material sites in the Charleston area. It stated that the cracks that normally form during the drying of disposal areas provide very favorable oviposition sites.

Using this observation as a background, we were interested in determining (1) whether the disposal, "spoil," islands associated with the Calcasieu Ship Channel were responsible for the massive broods of *Ae. sollicitans* that appeared in our urban areas and (2) what the cost would be to our operation to control these mosquitoes.

To determine whether the "spoils" were responsible for these influxes of *Ae. sollicitans*, landing rate and rainfall stations were established along both sides of the Ship Channel and on the "spoils." The rainfall stations along the channel were checked twice a week, and landing rate counts were made daily during the mosquito season. The "spoils" were monitored at least once a week or more frequently when standing water was present, and for 3 days after the emergence of mosquito broods. To make sure only mosquitoes produced on the "spoils" were monitored, no landing rates were included in our comparisons during times when mosquitoes were present in our marsh habitats.

In every instance, there was a brood produced on an adajacent "spoil" ranging from 65 to 200+ mosquitoes landing/min on the day previous to the influx of *Ae. sol-*

licitans into an adjacent urban area. Five to 7 days prior to each mosquito brood produced on the "spoils," depending on the season of the year, accumulated rainfall measured at least 7.5 cm which provided sufficient time for adult development and emergence.

There are 1,985+ hectares of disposal islands which were created by contractors hired by the Corps of Engineers during their dredging operation of the Calcasieu Ship Channel over a number of years. These "spoil" areas constitute 6% of the flood water mosquito breeding areas in the parish whereas *Ae. sollicitans*-producing marshes comprise less than 5% (1,683.5+ hectares).

A comparison of the insecticide cost of aerial adulticiding for control of *Ae. sollicitans* produced on the "spoil" and marsh areas showed that the treatments cost $21,164.00 (32% of aerial costs) and $9,568.00 (14.5%), respectively. Although the areas of the two sites were comparable, aerial treatment of the "spoils" was 2.2 times more expensive than treatment of marsh areas. In addition, we had 503 spray nights because of *Ae. sollicitans* which were present in urban areas after high populations had been observed on adjacent "spoils."

These combined aerial and ground adulticiding costs (Table 1) comprised 38% of our total treatment costs for 1977. We expended $73,094.00 or 20% of our total budget for 1977 to control the *Ae. sollicitans* that were produced on disposal islands "spoils."

By utilizing rainfall records on the "spoil" areas relative to the influx of *Ae. sollicitans* into urban areas, we were able to reduce the amount and frequency of "spoil" inspection. At present we are expending 20% of our fiscal budget to control *Ae. sollicitans* in urban areas that are produced on adjacent "spoil" areas. In our area, industrial plants causing pollution problems in the Calcasieu River are liable for the correction of these problems. A pertinent question is whether or not the creation of breeding habitats for pest and vector species of mosquitoes by a governmental agency falls in the same category. The solution to the problem of

Table 1. The cost to Calcasieu Parish Mosquito Control of controlling adult *Aedes sollicitans* produced on "spoil" areas associated with the Calcasieu Ship Channel.

Category	Per Unit Cost	Total Cost
Spray Trucks	503 spray nights @ $67.00/night	$33,902.20[a]
Spray Plane		
A) Chemical	537.5 gal. @ $37.50/gal. plus tax	21,164.00[a]
B) Flying time	40.5 hr. @ $137.00/hr.	5,548.00[a]
		$26,712.00
Inspection		
A) Salaries		2,064.00
B) Gas (Boat motor)		220.00
C) Survey plane	20.0 hr. @ $33.00/hr.	660.00
		$ 2,944.00
Administrative	(15%)	9,536.00
TOTAL		$73,094.20[b]

[a] 38% of ground and aerial costs for 1977.
[b] 20% of budget expended for 1977.

mosquitoes produced by the activities of one agency which becomes the problem of another agency requires communication and cooperative planning.

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WASHINGTON

April 8–12, 1979

The joint meeting of the American Mosquito Control Association and the Mid-Atlantic Mosquito Control Association, April 8–12, 1979, has been scheduled for the Capital Hilton, just a few blocks from the White House. The City of Washington is especially beautiful in April and has something to offer for everyone—science, art, history, entertainment, education . . . Of course the principal objective of those in charge will be to provide an outstanding professional program.

Co-Chairmen for the meeting are Robert M. Altman and Stanley R. Joseph. Major Charles Bailey is chairman of the Publicity Committee.

The last meeting of the AMCA in Washington took place in February, 1958. Among the featured speakers at that time were Fred L. Soper and R. E. Snodgrass. There were no concurrent sessions, and the total number of submitted papers was 29. There were reports on the use of DDT, dieldrin, and Paris green, but there was also a talk on mosquito control and wildlife conservation.

For additional information about the 1979 meeting, write to Dr. Robert M. Altman, Box 274, College Park, MD 20740.

BULLETIN NO. 7

Excellent progress is being made in the preparation of Bulletin No. 7, Identification and Geographical Distribution of the Mosquitoes of North America, North of Mexico. The Department of Entomology at Kansas State University is cooperating in facilitating completion of the art work. Dr. R. F. Darsie spent ca. 2 weeks at the USNM in November. Distribution maps are being completed. If you have new state records, please send appropriate details to Dr. R. A. Ward, Medical Entomology Project, Smithsonian Institution, NHB 165, Washington, D. C. 20560. Voucher specimens and reprints of papers giving distribution records may also be sent to Dr. Ward.