

THE IMPACT OF MOSQUITO ABATEMENT ON THE ECONOMIC SURVIVAL OF NEW ORLEANS

FREDERICK W. WAGNER AND RICHARD K. MAGEE

Urban Studies Institute, University of New Orleans, New Orleans, LA 70122

ABSTRACT. The effects of the mosquito and associated diseases on the economic vitality of the City of New Orleans were investigated since the establishment of the Crescent City in 1718. Numerous yellow fever epidemics and occasional outbreaks of malaria claimed the

lives of over 100,000 people and caused economic hardship to the city. With the establishment of an organized mosquito control agency in 1964, the city has regained a share of its economic vigor in the quest for regional survival.

Throughout history the mosquito has been the greatest killer of human beings. This insect has slain more people than all the wars, altered the direction of civilizations and created uninhabitable regions around the globe. Numerous accounts of the impact of the mosquito on people have been recorded. For example, "in 1802 Napoleon sent 2,000 troops to Haiti to use the island as a stepping stone to Louisiana and the conquest of North America. His dream collapsed when the mosquito unleashed its malaria and yellow fever and destroyed the expeditionary force (Locke 1971)." Earlier, the Spaniards gave up Florida and named it the "land of swamps and pestilence." Perhaps the most notable example was the attempt by the French Government to construct the Panama Canal. It was here that yellow fever won a temporary but convincing victory over man. While these are historical examples of the destructive nature of the mosquito, the mosquito still plays a dominant role in the world today. Yellow fever, malaria, elephantiasis, encephalitis and other mosquito borne diseases continue to plague millions of people and claim thousands of lives each year.

These diseases have also played a major role in the economic and physical development of New Orleans. It is our attempt in this paper to present a general historical review of the economic impact of uncontrolled and controlled mosquitoes on the city of New Orleans.

The City of New Orleans (population

approximately one-half million) is located in the coastal zone of Louisiana which has over 8 million acres of estuarine waters, marsh and wetlands. The state has an average rainfall of 56 in. and is rich in water resources, as more than 450 billion gallons of water flow daily through its more than 3,000 square miles of inland waterways. It is within this coastal zone that a significant amount of Louisiana industry and people are located and where the greatest mosquito problem resides.

Since New Orleans was originally founded in 1718 by Bienville as a French colony, yellow fever epidemics, related mosquito borne diseases, and high concentrations of mosquitoes have plagued the city. This, along with the attitudes of quick and deliberate news repression and immediate evacuation of the city's populace upon confirmation of an epidemic, helped to severely retard the economic growth and operation of the city. Confirmation of an epidemic brought about a moratorium on almost all activities within the city from late summer to late fall. Mosquitoes and their related diseases continued to depress the city's economy from 1796, when the first officially recorded epidemic occurred, to the early 1960's when the city of New Orleans engaged in a continuing mosquito abatement program.

The specifics of the economic impact that mosquito borne diseases and mosquitoes have placed upon the city throughout its history are extremely dif-

ficult to document. Although many accounts allude to the effect of mosquitoes on the economy, only a few authentic records exist that attest to its true impact.

In an extensive study of the yellow fever epidemic of 1853, Dr. Edward H. Barton, Director of the Sanitary Commission, estimated that approximately one-fourth of the total city population of 159,000 fled the city, leaving approximately 125,000 in the Crescent City (Carrigan 1961). Another account given of the same epidemic was published in the *Report on the Statistics of Cities, Tenth Census of the United States, 1880*. It stated that "... the effect of the ... epidemic upon the commerce of New Orleans was great." The Census reported that the 1853 aggregate value of all exports, imports, and domestic receipts in New Orleans exceeded \$236,000,000, while 1854 receipts fell below \$213,500,000, a decline of \$22,500,000.

The concern of the populace over the impact of yellow fever on the local economy became increasingly prevalent during the remainder of the 1850's. The editor of the *New Orleans Bee* commented in 1858 "Everyone is aware that the prevalence of yellow fever in our city is the chief drawback to our prosperity; that but for this haunting apprehension our summer population would not be materially reduced, nor would the tide of business recede from our shores." It was estimated that the progress of the Crescent City would have been at least ten times greater if the city had been absolutely free from the terror of the yellow fever epidemic (Carrigan 1961).

Later estimates of economic damage and the effect of uncontrolled mosquitoes upon the life of New Orleans were made by such prominent men as Dr. Samuel Choppin, president of the Louisiana State Board of Health. In a report dated January 10, 1880, Dr. Choppin said: "Great as are its natural advantages as a mart of trade—and they are unsurpassed by any city of the earth—its growth in population, business, and wealth, has hitherto been inconceivably retarded by this visitation of yellow fever" (Report on the Statistics of

Cities, 1886). Dr. Choppin also estimated that during the period between 1796 and 1880 over 100,000 city residents had lost their lives to yellow fever, with another 50–75,000 persons in the surrounding region also losing their lives due to the scourge. He summarized by saying, "The people who have died here of yellow fever would have built up a state" (Report on the Statistics of Cities, 1886).

J. A. Carrigan (1961) stated in her dissertation, "In terms of human lives and property, the cost of epidemic yellow fever to New Orleans, the State of Louisiana, and the South (from 1796–1905). . . is incalculable. Including such factors as the potential economic worth of human lives, the value of labor diverted from productive endeavor by illness or care of the sick, the cost of medical attendance, supplies, burials, charity, crop spoilage, investment losses, and the general disturbance to business conditions, the cost of one epidemic—that of 1878—to the Crescent City alone was estimated at 12 million to 100 million dollars. From 1796 through 1905 New Orleans experienced no less than thirty serious epidemics—and many more if one included all those outbreaks which were mild only in comparison with violent ones."

Using these figures we calculated that the total estimated cost of the 1878 yellow fever epidemic, in 1967 dollars would cost the city \$72 million to \$604 million at 1977 prices. This example is used to show the tremendous economic impact that a yellow fever epidemic of 1878 proportion would have on New Orleans today.

Although yellow fever had been conquered in the epidemic of 1905, mosquitoes and other mosquito related problems continued to plague the city until the early 1960's. Malaria, just one of the mosquito borne diseases, recorded in the area, caused 630 deaths in Orleans Parish from 1906–1948 (Louisiana Health and Human Resources Administration, 1977). Other observations or accounts of mosquito related problems and their impact on the local area are recorded numerous times in the local newspapers.

During the establishment of the N.A.S.A. Michoud Assembly Center in Eastern New Orleans, in the early 1960's, many of the highly-trained and highly-paid professionals threatened to leave the city if something was not done about the mosquito problem. There were also reports of cattlemen in neighboring and distant parishes losing hundreds of thousands of dollars due to mosquito infestations killing their cattle. The hordes of mosquitoes became greater and on July 18, 1963 the New Orleans *Times-Picayune* reported a growing concern in New Orleans for the loss of the tourist-spent dollars. The article stated "several New Orleans hotels reported guests cutting short their visits to America's most interesting city during this month's invasion. In addition, there is the greater danger of poor word of mouth advertising New Orleans may receive when these visitors return to their home." Harry L. England, past-president of the Greater New Orleans Tourist and Convention Commission voiced the same sentiment saying: "Tourist and resort centers depend greatly on word of mouth advertising, that is, what visitors tell their friends about where they have been. With this in mind, it is obvious that the mosquito onslaught during the past several weeks has resulted in unfavorable comments from visitors and possibly discouraged others from coming to our city" (New Orleans *Times-Picayune* 1963). Obviously, the presence of mosquitoes in high levels was costing the Crescent City large sums of money, not only through tourism spent dollars (the second largest industry within the city), but also by people with outside jobs who had to discontinue working. In addition, prospective new businesses were not locat-

ing in the city due to the excessive levels of mosquitoes.

The realization of the effect that mosquitoes were having upon the economy of New Orleans, as well as the inconvenience being placed upon the local citizenry, brought the establishment of a full time mosquito abatement program by the city on May 21, 1964. The full economic implications of controlled mosquitoes vs. uncontrolled mosquitoes has been difficult to document as data have been limited. It seems quite safe to say, based on past recorded experiences within the Crescent City, that the mosquito abatement program has played an important role in contributing to the stability of the overall economy of the city and generally helping to create a much more enjoyable and healthy place for tourists to visit and residents to live. Without such a program in New Orleans and in other parts of the U.S.A. and the world, economic viability and human survival would be in doubt.

Finally, as we move toward the 21st century we must continually be reminded that *Homo sapiens* is but one part of the ecological system; and we must ask ourselves in judging any policy affecting this system "not only how effectively an equilibrium is achieved, but also how the resilience, or the domain of stability is changed" (Holling and Goldberg 1971).

References Cited

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