

Establishment, Expansion, and Centralization of the Anastasia Mosquito Control District, 1948-2023

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On 7 December 1948, Anastasia Island residents of St. Augustine, Florida voted to create the Anastasia Mosquito Control District (AMCD) of St. Johns County to provide mosquito control services for 17 square miles. The first AMCD Board of Commissioners were Dr. S. Raymond Cafaro, Mr. Robert W. Hamilton, and Mr. Charles E. Young. In January 1950, taxes of \$4,545 were received, the first employee Mr. George Pitts was hired at \$200 per month, and a facility in the lighthouse area



Fig. 1. First station of Anastasia Mosquito Control District of St. Johns County at lighthouse area from 1949 to 1973.

was leased (Fig. 1). In 1952, Mr. Robert Barnett (Fig. 2), a newly graduated entomologist from the University of Florida, was selected as the first director of AMCD. Mr. Barnett arrived with plans to expand the program. He began with 3 employees, a 1941 Ford weapons carrier with a Buffalo



Fig. 2. First Director Robert Barnett (sitting) - 1950-1962.

turbine on loan from the Florida Public Health Service, a WWII Jeep with a Bean sprayer for oil, and a new garage on St. Augustine city property. Mr. Barnett led the District for 12 years and oversaw expansion in both land area and mosquito control techniques. Following Mr. Barnett, Mr. Hampton



Fig. 3. Retiring Director Mr. Hampton Mickler (left) with incoming Director Mr. Robert Betts (right) - 1999.

J. Mickler served as Director for 23 years from 1976-1999. Mr. Robert Betts subsequently served as Director for five years from 1999-2004. Current Director, Dr. Rui-De Xue (Fig. 4), has served in that position since 2005.

Since the inception of AMCD, St. Johns County has grown nearly seven-folds, from 45,000 residents in 1949 to over 300,000 in 2023. Since 1948, the AMCD has likewise continually expanded from a small portion of Anastasia Island to

its current responsibility of the entire 609 square miles of St. Johns County since 2003. In the 1960's, the AMCD Board of Commissioners expanded from three to five members due to these coverage expansions. AMCD has grown with the county, in area, employees, and up-to-date technology through numerous collaborations (Xue et al. 2016). In 1968, the District expanded operations

by adding a second substation in Ponte Vedra Beach in addition to the original Base Station at the light house area on Anastasia Island. In 1973 AMCD purchased a 3-acre property from City of St. Augustine and built/relocated the base station at 500 old beach road (Fig. 5). A third substation located in northwest St. Johns County was established in 1989. In 2002, the southwest part of the county was the last part of the county to join AMCD, mainly due to the West Nile virus pandemic, adding a fourth substation in Hastings in 2003. These expansions of the district were accomplished through several voter referendums which spanned six general elections. The County-wide coverage increased service requests and brought in more tax revenue. In 2003, the District hired a total of thirty seven full time and thirteen part time employees, which included three new positions, Assistant Director, Entomologist, and Biological Technician. The four substations provided more opportunity, more convenience, and essential services to the residents in each area, but each station had many duplications including vehicles (total 57), fuel stations (3), mechanics (6), station supervisors (4), lawn mowers, ice machines (4), telephones, fax/internet

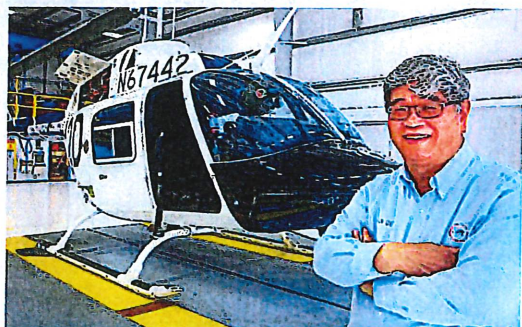


Fig. 4. Current Director Dr. Rui-De Xue (2005-present)



Fig. 5. Headquarters, Anastasia Mosquito Control District, 500 Old Beach Road, St. Augustine, Florida, 1974-2015.

and cable lines from 4-5 vendors, trash collection (4), and other unneeded and duplicated equipment. Personnel management lacked good cooperation between substations. Relocation and rotation of employees between substations were difficult.

The district with four substations provided service starting in 2003 (Fig 6). In 2005, the new Director, Dr. Xue, examined the possibility of centralization. The Board of Commissioners voted to purchase 25-acres of vacant land centrally located in the county, just off a major interstate highway in late 2005. The District gave 7 acres to county to build Emergency Operation Center in 2007. The Ponte Vendra Substation was merged with the Northwest Substation to form the North Station in 2007. The Southwest Substation was merged with the Base Station in 2015 and soon after, the North Station was merged with the Base Station in late 2016. The four substations were gradually centralized to the new 18-acre complex located at 120 EOC Drive, St. Augustine (Table 1). The gradual centralization reduced 37 full time employees to 27, 57 vehicles to 40, 13 phone/fax lines to two. Aspects of the District's budget

were redirected to provide new and additional operational technologies (Sypes et al. 2021), education, employee training, applied research, and aerial capability (Xue and Qualls, 2022). The current facility on 18-acre complex (Fig. 7) includes an administration building with a large conference room, a vehicle storage building, a trap room, taxonomic lab, bioassay lab, molecular lab, two insectaries, one quarantine insectary, two greenhouses, 24 outdoor larvicidal test pools, three large outdoor cages, an animal house, a

wind tunnel/olfactometer lab, droplet size and laser lab, a 400 meters x 400 meters field testing site, helicopter hangar with three Bell 206 helicopters, student apartments, and education center building, with a mass rearing sterile insect technology facility. Currently, AMCD has thirty-two full-time employees including three grant funded positions, six to eight seasonal full-time employees, eight to ten intern students, and a varying number of visiting scientists supporting customer service, surveillance, operations, applied research, and education (Xue 2009, 2015). The District continues to apply and adopt innovative new technologies with the goal of improving District programs (Xue & Qualls 2022). Since AMCD centralized locations and built a new state-of-the-art facility, AMCD has assembled a strong applied research team (five Ph.D. and four M.S. degrees in entomology, public health, and biology), and has attracted more than two million research dollars from Federal, State, and private industries. AMCD staff have received sixteen national and state awards and recognitions. The District has trained four Ph.D. students through the University of Florida, one hundred-six intern students, and twenty two visiting scientists. The staff authored and coauthored more than 150 book chapters and publications worldwide.



Fig. 7. AMCD's current facility in 18-acre complex, 120 EOC Drive, St. Augustine, FL 32092

AMCD has been recognized as one of the American Mosquito Control Association's ten training hubs in 2017 and 2018, and has been a mentor for small mosquito control programs, awarded by the National Association of the City and County Health Officers (NACCHO) in 2019 and 2020. In 2023, AMCD hosted/trained the CDC/Entomological Society of America's three college summer intern students, eight college interns, and seven high school summer interns.

The Anastasia Mosquito Control District experienced creation, expansion, and then centralization according to the growth of population and has provided an excellent service to the citizens of St. Johns County. The citizens have been free of any local-acquired mosquito-borne diseases from 2004 to 2021 and only one human case of WNV happened in 2022. The District has been recognized as not only a center of mosquito control but also applied research and education and will continue to provide a high

quality service for the community in the Northeastern Florida.

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