

Savannah–Chatham Metro Police & Chatham County Mosquito Control



Photos by Christian Shepherd

Savannah–Chatham Metropolitan Police Aviation Unit's MD 500Es have proven highly effective in both the law enforcement and mosquito control roles.

Multipurpose unit uses mixed fleet of MD500E helicopters, Air Tractor AT402 and Piper Aztec to perform law enforcement, mosquito control and other government missions as required.

By Christian Shepherd
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One of many government services the City of Savannah and Chatham County in Georgia offer to the community is a unique aviation program that offers a variety of benefits to the public.

Many cities and counties first enter the aviation field to support law enforcement operations. Savannah–Chatham Metropolitan Police added an aviation capability to combat crime using a government aviation program originally established to combat mosquitoes. Now the Savannah–Chatham Metropolitan Police and Chatham County Mosquito Control use a mixed fleet of helicopters and fixed-wing aircraft to carry out multiple missions in Savannah and greater Chatham County.

Although most people regard mosquitoes as a mere annoyance, this family of insects has had a major impact on the development of society and public health from the beginnings of human civilization. Since 1733, when Savannah was established as part of the newly-founded colony of Georgia, people have suffered from disease transmitted by mosquito bites. The sheer numbers of the biting insects also had an impact on the general quality of life and economic development of the Georgia coast for centuries. By the mid-20th century, modern techniques to manage the mosquito menace had been developed, and mosquito control became a widely-recognized function of local government in mosquito-prone regions.

Chatham County is home to 38 species of mosquito, and in 1957 local leaders established Chatham

County Mosquito Control as a government agency. To manage insect populations the agency uses an approach known as integrated pest management (IPM), which incorporates several techniques, including surveillance and chemical control.

Aircraft play a major role in pest management, and Chatham County acquired its own intrinsic aviation capability in the 1970s. Today Chatham County Mosquito Control operates 2 helicopters and 2 airplanes from a modern hangar complex at SAV (Intl, Savannah GA).

All these aircraft are used for the application of chemical pesticides, with the helicopters also being used for mosquito surveillance and logistical support. The rotary-wing portion of the fleet comprises a pair of MD Helicopter MD500E helicopters, while a single-turboprop Air Tractor AT402 and a twin-piston Piper PA23-250 Aztec round out the

fleet. The AT402 utilizes a 400-gallon hopper which can accommodate both liquid and granular forms of pesticide, while the internal tank of the Piper Aztec carries only liquid product. Detachable pods used on the helicopters can also apply both liquid and granular product.

One kind of war

Chemical pesticide applications for mosquito abatement take 2 forms—larviciding and adulticiding.

Larviciding is the application of pesticide to standing water to control the growth of immature (larval) mosquitoes. As a result, these insects never develop into adult flying and biting mosquitoes.

Adulticiding attacks fully-developed mosquitoes. To minimize environmental impact and human exposure, small volumes of pesticide are delivered in a precise manner—generally from low altitudes—in the late evening and early morning hours.

Helicopters are used for mosquito surveillance flights. These are conducted regularly during mosquito season and involve the transportation of specialists to locate and inspect standing water sites. Nearly 300 such sites have been identified in Chatham County and require the insertion of personnel—frequently at austere and confined-space landing zones. Helicopters are also used to transport equipment and personnel to offsite work areas. External load operations are routine for equipment delivery.

To carry out such demanding work, highly experienced pilots and mechanics are needed to fly and maintain the aircraft. At present, Chatham County Mosquito Control has 2 pilots and 2 mechanics on staff. All pilots are commercial rated and have extensive flight hours.

Chief Pilot Scott Yackel serves primarily as the helicopter pilot and manager of flight operations. Yackel holds single-engine, helicopter and instrument ratings. He is also a CFI and A&P mechanic. Mark Hansen pilots the fixed-wing aircraft and holds single and multi-engine, as well as single-engine seaplane ratings. Hansen is also instrument rated and a CFI.

Russ Bacon and Bo Payne are the unit mechanics. Both have exten-



Savannah-Chatham Metropolitan Police Dept Aviation Unit currently employs 5 sworn tactical flight officers and a civilian pilot. (L-R) Officer Claude Debnam, Chief Pilot Scott Yackel, Officer Allen Riley, Sgt Daniel Davis, Lt John Best and Lt Scott Simpkins.

sive training and experience with fixed and rotary-wing aircraft.

Although only one part of the county's overall mosquito control program, the flight department is considered vital. Because of this, it has been well supported under the leadership of Chatham County Mosquito Control Director Henry Lewandowski.

Lewandowski not only supports the use of aviation resources by other county and city agencies—he strongly encourages it. The aviation program has also been well supported by local elected officials and county and city managers. When requested, mosquito control aircraft have been used to support other county and city agencies and their needs—including flood control, erosion control, economic development and emergency preparedness objectives.

Waging war on crime

Early on, support of county law enforcement agencies was one of these missions, although use of aircraft for police work was sporadic and very informal in nature. Typical flights might involve searches for missing persons or aerial photography of crime scenes. Police officers with no training or experience as aerial observers would be picked up from the scene of the incident. Results were sometimes mixed, but this activity began to prove the concept of airborne law enforcement with the Chatham County and City of Savannah Police Departments, which until recent years were separate agencies.

The City of Savannah's first police force was established in 1796, with

a staff of 28 men assigned to guard and watch the city during night hours. Gradually, policing in Savannah evolved and developed, especially in the years following the Civil War. By 1902 the unincorporated areas of Chatham County had grown enough to require their own police force, although it would take until 1912 for a formal department to be organized.

Over the years both agencies grew and gained greater capabilities. By 1962, duplication of these capabilities within the 2 agencies led some local leaders to suggest that one large consolidated police department would better serve the people of Savannah and Chatham County. Over the next 40 years this idea was discussed and considered, but no action was taken.

This changed in 2003, when the Chatham County Commission and Savannah City Council voted to formally merge the 2 police departments. The task of fully merging the two agencies took just over a year. By the beginning of 2005 both had been integrated into a functional and singular police agency now known as the Savannah-Chatham Metropolitan Police Department (SCMPD). During the merger process, government and police leaders recognized the valuable aviation resources available to them and decided it was time to establish a formal police aviation unit by teaming police tactical flight officers (TFOs) with helicopters and pilots from Mosquito Control.

The police aviation program was organized in the summer of 2004. Five experienced police officers were selected to train as TFOs. Chief Pilot Scott Yackel instructed

the officers in aircraft safety, communications and observation techniques. Yackel's prior experience as a US Coast Guard aircrew member proved invaluable in this endeavor. The police officers also attended training conducted by the Airborne Law Enforcement Association (ALEA) and other established police aviation units. The 5 current police tactical flight officers are Officers Claude Debnam and Allen Riley, Sergeant Daniel Davis, and Lieutenants John Best and Scott Simpkins.

SCMPD uses its highly maneuverable MD500Es for both law enforcement and mosquito control missions. Equipment for either type of mission can be installed or switched between the 2 helicopters in a matter of minutes.

City and county government in Chatham County operate an 800-MHz trunked radio system that allows all agencies to talk to each other if needed. The helicopters have this radio equipment installed in addition to standard aircraft radios. During police missions dedicated channels can also be used for air-to-ground communications. In late 2004 SCMPD bought a Spectrolab SX16 Nightsun searchlight for night missions. A FLIR Systems 8000 thermal imager was obtained in 2005 using a Dept of Homeland Security grant administered by the State of Georgia.

As the new equipment was placed into service, TFOs went through extensive ground and airborne training with each system. In a novel approach to training, the FLIR 8000 sensor gimbal and associated equipment was installed on a golf cart normally used by the mechanics to carry tools and parts. Each officer was required to operate the hand control and track stationary and moving targets while another officer maneuvered the golf cart around the ramp. Before using the system in the air each officer had used this ground technique for 10 hours. This training innovation produced competent FLIR operators and saved 50 flight hours that would have been spent gaining basic experience with the equipment.

SCMPD serves the county seat city of Savannah and the unincorporated portions of Chatham County. The Aviation Unit patrols a 438-square-mile land area and numerous waterways, including the Savannah River and Atlantic coast. When requested, the unit also responds to aid the city police departments of Bloomingdale, Garden City, Pooler, Port Wentworth, Thunderbolt, Tybee Island and Vernonburg—all of which are also located in Chatham County. Helicopter support is also routinely provided to various other federal, state and out-of-county agencies on request. The population served in



Chatham County Mosquito Control employs 2 mechanics and 2 pilots. (L-R) Mechanics Russ Bacon and Bo Payne, Fixed-Wing Pilot Mark Hanson and the unit's Air Tractor AT402.

Chatham County numbers nearly 240,000 people, which is greatly increased by visitors to this popular tourist area.

The unit conducts day and night patrol flights, scheduled missions and emergency callouts. Data on calls for police service and trends in crime patterns are evaluated to schedule patrols during peak times and locations of criminal activity. Scheduled missions include crime scene photography, marijuana eradication, traffic enforcement and directed crime suppression operations coordinated with units on the ground. Emergency callouts include missing person searches, fugitive searches, vehicle pursuits and SWAT operation support.

On guard against terrorism

Homeland security missions are also a regular part of the Aviation Unit's mission. Savannah is a major tourist and historic area, which in

itself makes it a potential terrorist target. Most importantly, Savannah is a major seaport for container ships and a primary military port of embarkation for the southeastern US. The city has also played host to special events such as Olympic Sailing in 1996 and the G8 Summit in 2004. Savannah is also close to major military bases such as Hunter AAF and Fort Stewart, and is home to one of the nation's few liquefied natural gas (LNG) import terminals. The Elba Island LNG Import Terminal can accommodate ships up to 950 feet long and 141 feet wide. The Aviation Unit works in close cooperation with the police marine unit and various USCG units on port security matters.

The partnership between the City of Savannah and Chatham County can be seen as a positive role model for the efficient use of aviation to provide various government services. Already combating crime, terrorism and mosquito-borne disease, and providing other government services, Savannah-Chatham Metropolitan Police Dept and Chatham County Mosquito Control continue to strive toward new and improved services.

As an example, the unit is currently flight testing a GPS/moving map navigation system and investigating the possibility of adding fire-fighting capability.

Additional pilot staffing and purchase of a third helicopter are also under consideration to enhance the airborne law enforcement mission. It will be interesting to see how aviation services continue to evolve in Savannah and Chatham County.



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