

# AMCA Legislative and Regulatory Subcommittee on Unmanned Aerial Systems (UAS) Report: UAS in Mosquito Control Survey Results

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I hope this report finds everyone well and ready for the 2018 mosquito season. Thanks to all of the 187 respondents to the UAS in Mosquito Control survey that was sent out following the 2017 AMCA annual meeting in Kansas City. The findings of the survey were as follows:

1. 187 respondents were generally spread among all AMCA regions, and included vector control agencies, academic institutions, federal and state agencies, and industry from the continental US, Hawaii, Puerto Rico and Canada. (Figure 1, 2, 3)

Figure 1: Map of 2018 AMCA UAS Survey Respondents

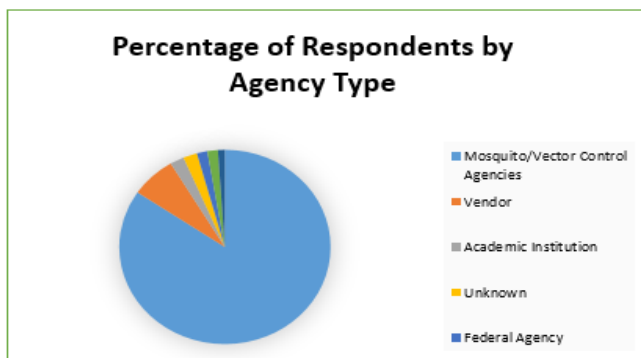
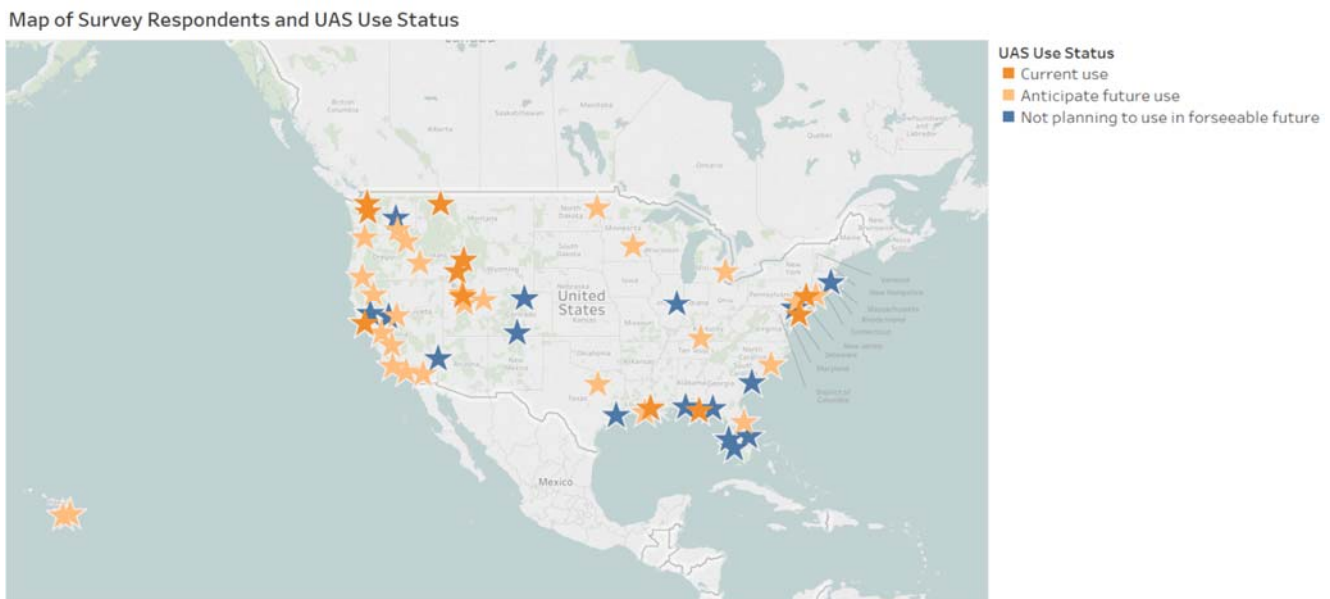


Figure 1: Percentage of Respondents by Agency Type

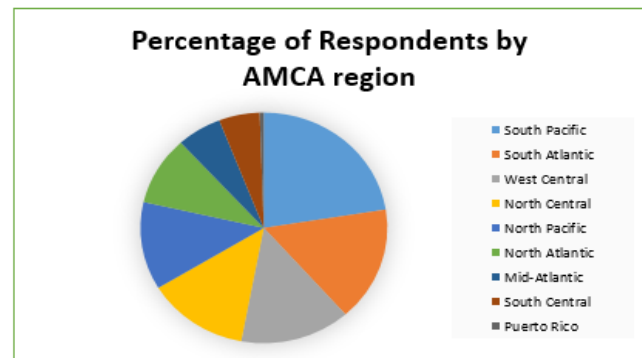


Figure 3: Percentage of Respondents by AMCA region

- 16% or 30 out of 187 respondents stated that they currently use UAS. Of 22 respondents who use UAS, 72% operate under Part 107 (Small UAS Rule), 40% under a Public Aircraft COA, and 14% under a Part 333 exemption.
- Out of 162 responses, 64% indicated that they anticipate using UAS in the future while 36% do not anticipate using UAS in the foreseeable future.
- Looking for standing water, mapping or imagery, and mosquito larvae detection were the top three UAS operations that respondents stated that they currently do or plan to do in the future. Larval detection and larvicide application were the UAS operations that respondents indicated that they were planning to use, but not currently using. (Fig 4)

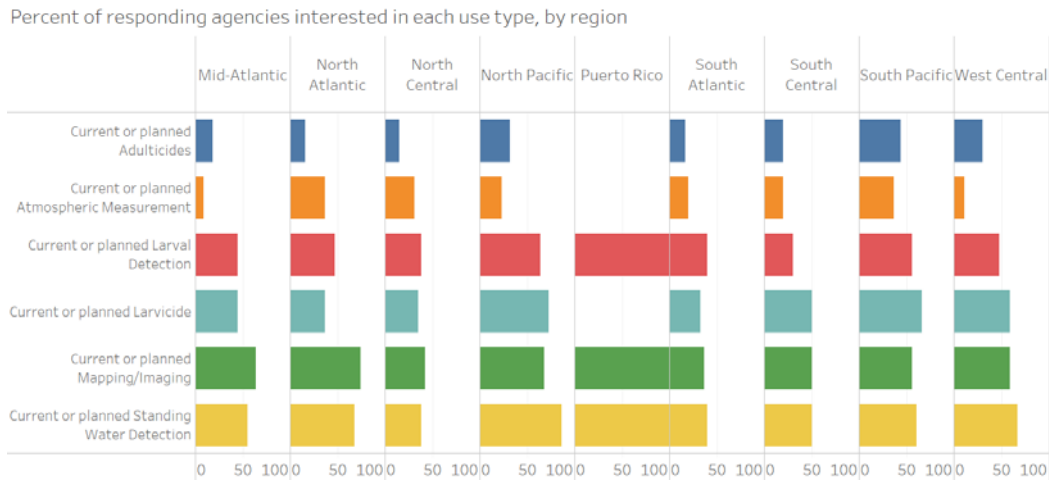


Figure 2: Percent of respondents interested in each use type by AMCA region

- FAA regulations, Cost and Safety/Liability concerns were identified as the top three barriers to using UAS in mosquito control. Privacy concerns, pilot training, and State/Local regulations were the next most identified barriers. (Figure 5)

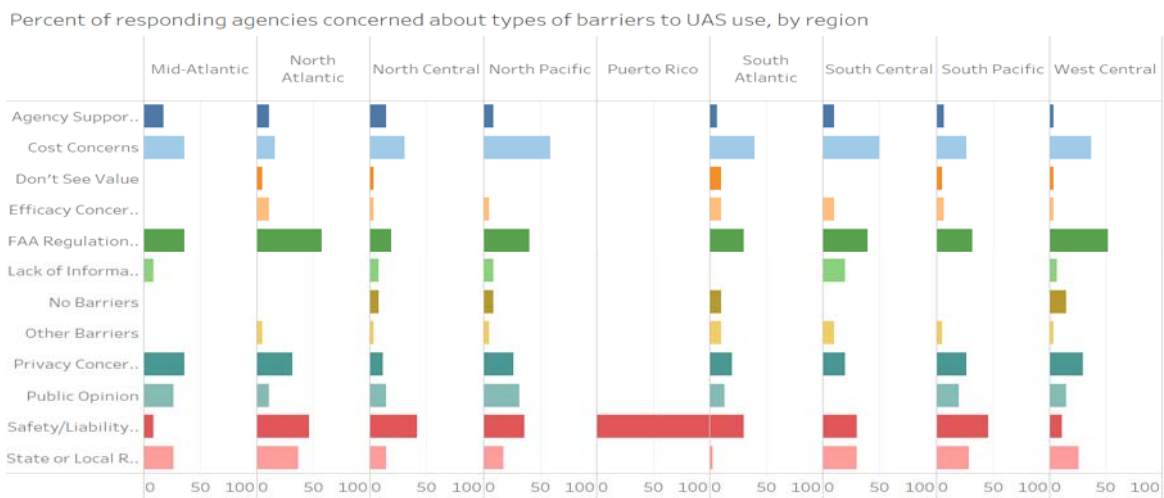


Figure 3: Percentage of participating agencies concerned about types of barriers to UAS user by region

6. Most respondents (>90%) did not have a clear preference in mind for brand or model of UAS, however 63% were considering using a multi-rotor type unmanned aircraft.
7. Approximately 25% of respondents (n=90) indicated that they are affected by state or local regulations that apply to operating UAS and/or applying pesticides from UAS. Respondents from California, Florida, and Montana cite specific state laws or permit processes that directly or indirectly apply to mosquito control use of UAS. Other states such as New Jersey, New York, Colorado may have some jurisdictions that are considering or have passed regulations on UAS use. The majority of comments indicated that it was unclear or unknown if local or state laws or regulations covered UAS in general or pesticide applications from UAS in particular.

### **Conclusions:**

There seems to be widespread interest and support for the use of UAS in AMCA member agencies. While there are a few agencies that seem to have started regular UAS programs, most are in the planning stages. Several clear non-pesticide mission types were identified as the most likely for mosquito control programs to adopt (Mapping, visual detection of mosquito habitat, and larval detection), while larvicide and adulticide application were somewhat less so. This could reflect the perception that FAA regulations, cost and liability, and safety were listed among the top barriers to implementing UAS programs. Among other barriers mentioned, many such as privacy, local and state regulations, and public perception are either very sparsely documented, or new issues that have not been thoroughly addressed by regulators or the UAS community. Overall, this survey provides a baseline for perceptions by AMCA members regarding current UAS use and interest in the mosquito control community, and can be used measure future developments of UAS technology in this area.