Unmanned Aircraft Systems in the Vector Control Industry

California's mosquito and vector control districts have a vested duty to protect the public from existing and emerging health threats caused by mosquitoes. For years, districts have sought and implemented safer use alternatives and best management practices that go beyond traditional methods to reduce the threat of mosquito-borne diseases. One such example is the evaluation of emerging technology using small unmanned aircraft vehicles (UAVs) or drones, which are operated by a pilot on the ground using a remote transmitter.

In urban settings, UAVs could be used to identify unmaintained swimming pools that produce mosquitoes and pose a public health threat. In rural settings, UAVs can help agencies fight mosquitoes and other vectors in remote locations that can be difficult to access such as wetlands or rice fields. In addition, UAVs are less disruptive to environmentally-sensitive areas than physical entry and provide a significant savings over manned aircraft.

A new law (AB 527 – Caballero, Chapter 404, Statutes of 2017), sponsored by MVCAC, allows mosquito and vector control agencies to use UAVs for pesticide applications in California without a commercial pilot license. The previous outdated law didn't consider how mandating a commercial pilot license to operate UAVs impacted a mosquito control agency's ability to quickly address emerging public health threats from mosquito-borne viruses, such as West Nile, Zika, chikungunya, and dengue.

The new law is more flexible and requires mosquito control agencies that use UAVs to hold a valid pest control aircraft pilot certificate issued by Department of Pesticide Regulation (DPR) and be authorized by the Federal Aviation Administration (FAA) to conduct pest control operations. Through future regulations, DPR will create a new licensing category for mosquito control agencies by clarifying requirements for unmanned aircraft vehicles. Districts will also adhere to the FAA's best management practices to address privacy-related issues. The new law does not cover agricultural operations or other entities seeking to use drones for pesticide applications.

While ongoing federal rules provide some guidance on how to safely use UAVs in commercial settings, placing unnecessary state restrictions would be overly burdensome when drones are used by a public agency whose primary function is protecting public health. Any future legislation concerning this subject must recognize the legitimate use of UAVs to protect public health and safety and not overly restrict the ability to utilize this new technology.

Due to the ongoing challenge of West Nile virus and emerging diseases such as Zika virus, allowing flexibility on the use of drones will bring public safety benefits. The use of UAVs will make vector control activities safer and more efficient with less insecticide drift, improved safety for employees, and reduced costs. Promoting public acceptance of UAVs by demonstrating their safe, effective, and responsible use will be key to help expedite DPR's rules for both short-term and long-term benefits to public health.

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