

Analysis of Express Legal Authorities for Mosquito Control in the United States, Washington, D.C., and Puerto Rico

As vector-borne diseases have tripled over the past thirteen years in the United States, efforts to prevent their incidence and spread are as important as ever. Many of these diseases, such as chikungunya, dengue, West Nile virus, yellow fever, and Zika virus, are spread by mosquitoes. The United States has a long history of combating mosquito-borne diseases and public health officials have established many mosquito control programs and activities to both reduce the number of mosquitoes and prevent the spread of the diseases they carry. It is important for those who lead and conduct mosquito control activities to have a well-grounded understanding of the laws and policies authorizing their efforts since failing to realize and adhere to a program's legal authority can lead to agency liability and undue costs.

To assist those who oversee, lead, and administer mosquito control efforts, the Association of State and Territorial Health Officials (ASTHO) conducted an analysis of the express legal authorities for mosquito control in the United States, Washington, D.C., and Puerto Rico. Below is a brief overview of the types of legal authority for mosquito control activities, a set of considerations for better understanding the legal authority, a summary of the findings on the express legal authorities for mosquito control found in state law, and a state-by-state summary of the express legal authority for mosquito control in the United States, Washington, D.C., and Puerto Rico.

Background

The legal authority for mosquito control efforts, such as surveillance, investigation, and abatement, derives from state, county, and municipal laws. It can be general, such as general health or safety powers, or it can be specific, such as laws authorizing the creation of a mosquito control district. State and local regulations, interjurisdictional agreements, and other legal mechanisms may also form the basis for mosquito control programs. Legal authority options used to support and provide mosquito control efforts include:

- **General Public Welfare and Safety.** States, counties, and municipalities have a duty under their constitutions or articles of incorporation to maintain public safety. These are broad powers that can be used to authorize mosquito abatement.
- **Public Health Authority.** This usually is characterized by a state or local agency or governing entity with specific enabling authority to protect the public from threats to public health, such as epidemics and nuisances. Environmental health programs historically include vector control to prevent mosquito-borne diseases, such as dengue, Zika virus, and encephalitis, even if mosquito control activities are not currently funded. During mosquito-borne disease outbreaks, state and local public health agencies may use this authority for control efforts.

- **Statutory Enabling Authority Regarding Public Nuisance.** All states and counties have provisions in law dealing with public nuisances. Most have provisions to declare a property a public health nuisance or hazard and require mitigation by the owner.
- **Statutory Enabling Authority to Establish and Operate a Mosquito Control Program.** State legislatures can provide enabling legislation to allow a state, county, or municipality to operate a mosquito control program. Usually, there are funding opportunities provided by the statute.
- **Statutory Enabling Authority to Establish Mosquito Control Districts.** State legislatures can authorize the creation of locally established districts to provide control efforts. This option is a way of institutionalizing a mosquito control effort because it is specific and provides a dedicated funding mechanism via localized taxes or levies.
- **Statutory Mosquito Control Program with Options for Participation by County and Municipal Governments.** This type of program is often found where there is a major problem with pest mosquitoes. Regulations are promulgated by a commission, which prescribes parameters for control activities for counties and municipalities. Local governments can form districts and programs at their option provided they meet statutory requirements.

Understanding the legal authority of a mosquito control program is key to both achieving the program's duties and responsibilities and avoiding liability. To better understand a program's legal authority, consider the following:

- Review existing legal authorities and determine what entity or entities are authorized to conduct the various mosquito control activities (e.g., investigation, entry on property, abatement, technical assistance, etc.).
- Meet with and consult your legal counsel to ensure a sound interpretation of legal authorities.
- Are general or specific authorities used to conduct mosquito control activities?
- Is there specific authority for addressing significant mosquito breeding sites, such as tire piles?
- Do the authorities provide sufficient enforcement to perform mosquito control activities?
- Are current emergency powers authorities sufficient to use in an outbreak?
- Does state law expressly require property owners to undertake mosquito control and abatement activities?
- In the event of non-compliance, can a governmental mosquito control entity act? If yes, can the entity receive compensation for the control efforts from the property owner?
- Do state and local emergency response plans for floods and hurricanes reference mosquito control?
- What are the mosquito control funding authorities at the state and local levels?
- What are the requirements under the National Pollutant Discharge Elimination System (NPDES) permitting program for pesticide applications?ⁱ

ⁱ Depending on the jurisdiction, NPDES permits are issued by the U.S. Environmental Protection Agency (EPA) or a state agency. More information about NPDES permitting can be found in the EPA's factsheet on Pesticide General Permit (PGP) Mosquito Control Activities at: https://www.epa.gov/sites/production/files/2016-11/documents/pgp_2016_mosquito_control_activities.pdf.

Approach

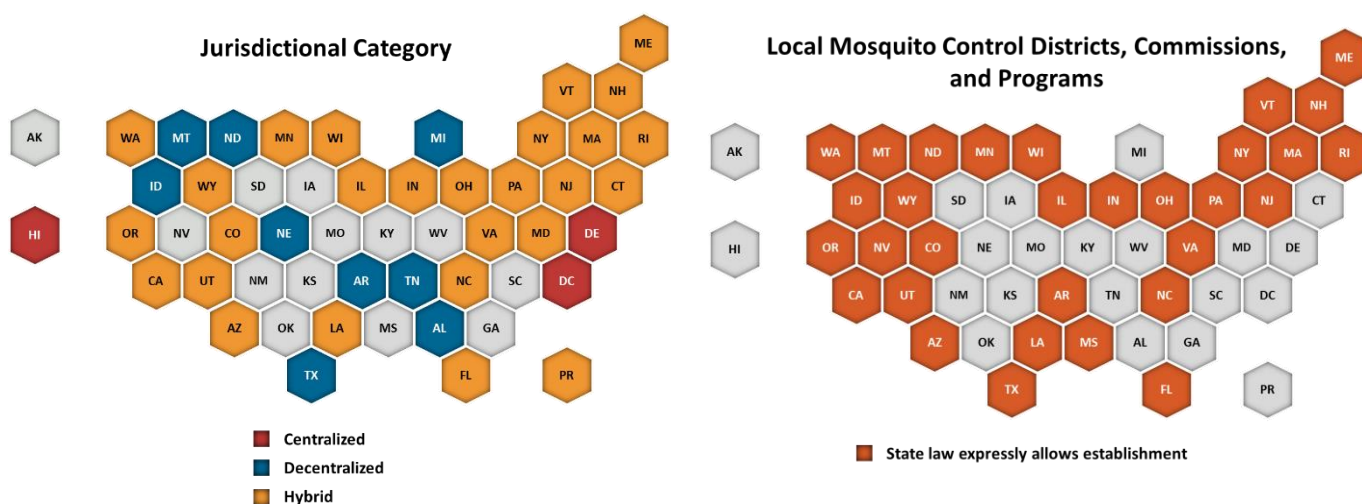
In 2017, ASTHO examined the existing statutory mosquito control authorities for each state, Washington, D.C., and Puerto Rico to better catalogue and understand the legal authorities for mosquito control efforts across the country. Search terms (e.g., “vector control,” “mosquito,” “mosquito control,” “pest,” “pest control,” etc.) were developed and used to identify statutes with Westlaw. The statutes were then reviewed and those not relevant to mosquito control were excluded. The analysis focuses on the express, statutory provisions related to mosquito and vector control activities. General authorities under which mosquito efforts may occur, such as a broad authority to protect public health or a basic law to abate public nuisances, are not included in the review unless mosquito control was specifically mentioned in a definition of public nuisance or enumerated as an authority.

To facilitate comparison across jurisdictions, the information collected through the statutory review was organized into the following categories:

- A designation of the structure of a state’s mosquito control regime (i.e., how are mosquito control activities organized in a state?). Three broad categories were noted:
 - **Centralized**, i.e., responsibilities or activities for mosquito control remain primarily at the state, territorial, or district level.
 - **Decentralized**, i.e., mosquito control responsibilities are primarily at the local level.
 - **Hybrid**, i.e., responsibilities are shared between the state, territorial, and local jurisdictions.
- The roles, responsibilities, powers, and authorities for mosquito control at the state, territorial, district, and local level.
- Any specific funding mechanisms for mosquito control and abatement at the various jurisdictional levels.
- The enforcement provisions and mechanisms for ensuring mosquito control and abatement at the various jurisdictional levels.

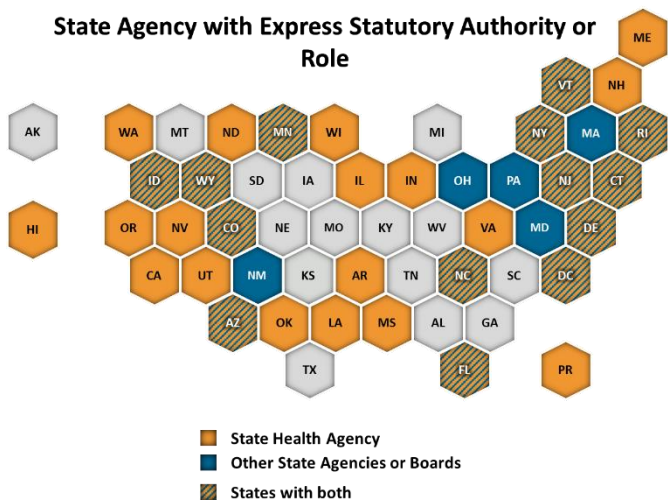
Findings

As expected, these jurisdictions exhibit a high degree of variability in the nature of their express legal authority for mosquito control activities. The analysis identified three centralized, 10 decentralized, and 28 hybrid jurisdictions. In 11 states, statutory authority was silent on the structure of mosquito control or too limited to determine the structure. Express statutory roles, responsibilities, powers, or authorities at the state, territorial, or district level were identified in 35 states, Puerto Rico, and Washington, D.C. These include such things as a state agency head being an ex officio member of a local mosquito control board (e.g., Mississippi) to providing technical assistance (e.g., Arkansas) or research (e.g., New York) to abatement (e.g., Hawaii). In 32 of the jurisdictions, the state health agency has an identified express statutory authority or role. Other state agencies or boards (e.g., department of agriculture, department of natural resources, department of environmental quality, etc.) are expressly given the roles or authority in 19 jurisdictions as well.

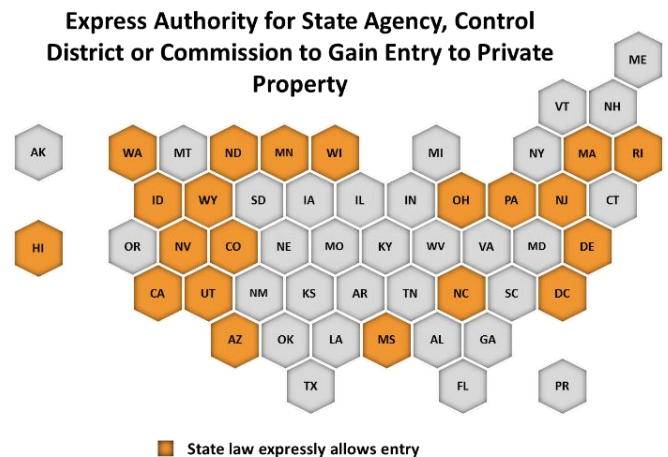
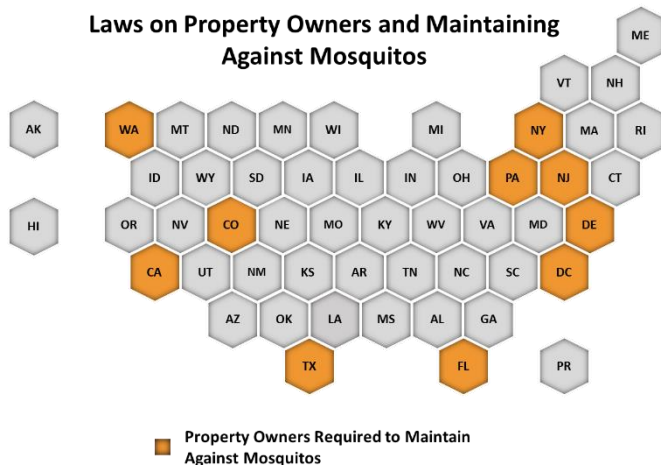


Local health agencies are provided express roles and authorities in 16 states and local governing entities (e.g., city, county, or municipality) in eight. In 31 states, statutes expressly allow for the establishment of a special district, commission, or local program specifically for mosquito control. The creation of these mosquito control entities are often achieved through a petition and ballot process while a few jurisdictions allow their creation by a resolution of a local governing body.

Funding mechanisms for mosquito control efforts were also identified at the various jurisdictional levels. In Maine and Washington, D.C., specific funds have been created into which appropriations for mosquito control efforts or fines from vector control rule violations may be deposited. In some states, specific statutory language allocates funding for mosquito control efforts (e.g., Indiana, Massachusetts, and Wyoming). In other jurisdictions, state agencies are authorized to reimburse local mosquito efforts (e.g., New York and Virginia), provide grants (e.g., Vermont and Pennsylvania), and fund the development of local mosquito control plans (e.g., Puerto Rico).



The most common funding mechanisms for mosquito efforts are at the local level. In some states, local governments are authorized to use general funds (e.g., Nebraska, New Hampshire, New York, North Dakota, and Wisconsin), impose a general levy (e.g., Mississippi), annual tax (e.g., Minnesota), special tax (e.g., California and Louisiana), or fee (e.g., Tennessee) for mosquito control efforts. In 22 states, property taxes are the funding mechanism for mosquito control efforts. The authority to levy property taxes vary among states. Most allow the special districts to levy taxes while others require the local governing entity (e.g., Pennsylvania) or the voters (e.g., Washington) to do so.



Through the statutory review, 10 jurisdictions were identified as having an express, statewide requirement for property owners to maintain their property against mosquitos. These provisions either specifically refer to mosquitos and mosquito breeding sites or expressly include mosquitos in the definition of public nuisance. Enforcing mosquito control activities is shared among the jurisdictional levels of government. In some states, more than one jurisdictional level has the responsibility or authority to enforce mosquito control rules or ensure abatement of breeding sites. In 21 states, the authority of mosquito control districts or commissions to enter private property for investigation and abatement activities is expressly provided by statute.

Limitations

While this review is meant to help foster a better understanding the legal authority for mosquito control efforts in the various jurisdictions throughout the country, there are some limitations. For instance, it identifies the mosquito control provisions expressly stated in statutes, but it does not reflect whether or how the statutes are implemented. Also, it does not examine the use of general authority to implement mosquito control efforts and how the various jurisdictions are doing so. Further research is needed to compare the use and effectiveness of express versus general powers for mosquito control. Until then, we have set out below a compilation of express statutory provisions for mosquito control in the United States, Washington, D.C., and Puerto Rico.

State-by-State Statutory Provisions

1. ALABAMA

Alabama has a decentralized structure with mosquito control responsibilities primarily at the local level. At the state level, there is no express role for state public health, no express emergency authorities to address mosquito control, and no express language to fund mosquito control. At the local level, state law does not expressly provide for establishing local mosquito control entities. However, certain counties, including Colbert, Limestone, and Mobile, do have unique constitutional authorities to assess taxes for drainage districts, pest control, and malaria control. (ALA. CONST. COLBERT COUNTY § 3, ALA. CONST. LIMESTONE COUNTY § 11, and ALA. CONST. MOBILE COUNTY § 31) Under Alabama law, there is an express role for local public health. The local public health infrastructure, including county boards of health and the county health officer, has authority to abate public nuisances. (ALA. CODE § 22-10-2 (2017)). Under state law, mosquitoes and their breeding habitats constitute nuisances. (ALA. CODE § 22-10-2 (2017))

Alabama does not have express, statewide requirements for private property owners to maintain property control mosquitoes. However, cities and towns have express authority to regulate property to reduce or eliminate mosquito breeding sites. (ALA. CODE § 11-47-140 (2017)). If a property owner fails to adequately maintain his or her property in a city or town that has mosquito abatement rules or ordinances, the city or town may undertake vector control measures at the expense of the property owner. (ALA. CODE § 11-47-140 (2017)). If a property owner fails to pay for the vector control measures, the city or town can place a lien on the property to recover costs. (ALA. CODE § 11-47-140 (2017)).

2. ALASKA

The structure of mosquito control responsibilities and activities cannot be ascertained. There are no express statutory provisions addressing mosquito control at a state or local level.

3. ARIZONA

Arizona has a hybrid structure with mosquito control responsibilities divided between the state government and local jurisdictions. At the state level, the director of health services and the department of environmental quality both have authority relating to mosquito control. The director of health services may serve cease and desist orders requiring abatement of public health nuisances, which include mosquito breeding sites. In addition, vector control is included in the enumerated powers and duties of the department of health services is to administer. (ARIZ. REV. STAT. ANN. § 36-104(b)(i) (2017)) The director of the department of environmental quality also has authority to abate environmental nuisances, which include mosquito breeding sites and may directly abate the nuisance or may order the

property owner to abate. (ARIZ. REV. STAT. ANN. § 49-141 (A)(1) (2017) and ARIZ. REV. STAT. ANN. § 49-143 and §49-142) (2017)). Under Arizona law, there is no express emergency authorities to address mosquito control or express provisions for state funding for mosquito control.

At the local level, Arizona law expressly provides for establishing pest abatement districts through a petition and hearing process managed by the county board of supervisors. (ARIZ. REV. STAT. ANN. § 48-261 (2017) and ARIZ. REV. STAT. ANN. § 48-271 (A) (2017)) Once established, pest abatement districts may be financed by an assessment on taxable property in the district, not to exceed \$0.50 per \$100 of valuation. (ARIZ. REV. STAT. ANN. § 48-2109 (H) (2017)) The assessment is determined annually based on the pest abatement district budget. (ARIZ. REV. STAT. ANN. § 48-2108 (A) (2017)) Pest abatement districts must have prior written consent from property owners before staff may enter property to conduct abatement activities. (ARIZ. REV. STAT. ANN. § 48-2109 (A) (2017)) Under Arizona law, there is an express role for local public health. First, local health officers must certify the need for a pest abatement district. (ARIZ. REV. STAT. ANN. § 48-2102 (2017)) Second, mosquito breeding sites constitute public health and environmental nuisances. (ARIZ. REV. STAT. ANN. § 36-601(A)(1) (2017)) Local public health or environmental governmental entities can order a property owner to abate such nuisances (ARIZ. REV. STAT. ANN. § 36-602 (A) (2017) In the event of non-compliance by a property owner, the local government may obtain a court order authorizing access to the property and direct abatement of the nuisance. (ARIZ. REV. STAT. ANN. § 49-143 and §49-144) (2017)).

Arizona does not have an express, statewide requirement for property owners to control mosquitoes. However, mosquito breeding sites are expressly considered nuisances and the state may require remediation as described in the preceding paragraph.

4. ARKANSAS

Arkansas has a decentralized structure with mosquito control responsibilities primarily at the local level. At the state level, the Director of the Department of Health serves as an ex officio member of local mosquito abatement district boards and provides support and technical assistance. (ARK. CODE ANN. § 14-283-105 (e) (2017)) There are no express emergency authorities to address mosquito control or express language to fund mosquito control.

At the local level, Arkansas law expressly provides for establishing mosquito abatement districts through a petition and election process managed by the county government. (ARK. CODE ANN. § 14-283-101 (2017)) Once established mosquito abatement districts are financed by a property assessment, conducted annually based on the district's implementation plan and budget. (ARK. CODE ANN. § 14-283-106 (2017)) Property owners may contest their assessment. (ARK. CODE ANN. § 14-283-107 (2017)) Mosquito abatement districts broad powers to address mosquito control, including authority to promulgate rules. (ARK. CODE ANN. § 14-283-104 (2017)) Under state law, there is no express role for local public health.

Arkansas does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

5. CALIFORNIA

California has a hybrid structure with mosquito control responsibilities divided between the state government and local jurisdictions. At the state level, the Department of Health Services is authorized to provide support and assistance to local governments, mosquito abatement and vector control districts, and pest abatement districts and may enter into cooperative agreements with such entities. (CAL. HEALTH & SAFETY CODE § 116111 and CAL. HEALTH & SAFETY CODE § 116180 (West 2017)) The department is to maintain a vector biology and control program and study mosquito-borne diseases. (CAL. HEALTH & SAFETY CODE § 116110 and CAL. HEALTH & SAFETY CODE § 116175 (West 2017)) The inspection of imported used tires and the certification that the tires are mosquito free is managed by the department. (CAL. HEALTH & SAFETY CODE § 116190 and CAL. HEALTH & SAFETY CODE § 116195 (West 2017)) State law also establishes a Vectorborne Disease Account. (CAL. HEALTH & SAFETY CODE § 116112 (West 2017)).

At the local level, California law authorizes the establishment of mosquito abatement and vector control districts. (CAL. HEALTH & SAFETY CODE § 2003 (West 2017)) A mosquito abatement and vector control district may be established through either a petition process or by resolution of the local government. (CAL. HEALTH & SAFETY CODE § 2011 and CAL. HEALTH & SAFETY CODE § 2013 (West 2017)) A board of trustees governs the district which has the power to conduct surveillance and studies of vectors and vector-borne diseases as well as provide prevention and abatement. (CAL. HEALTH & SAFETY CODE § 2020 and CAL. HEALTH & SAFETY CODE § 2040 (West 2017)).

A mosquito abatement and vector control district may obtain an inspection and abatement warrant to enter property to inspect for a public nuisance or vector, abate the public nuisance, or control the vectors. (CAL. HEALTH & SAFETY CODE § 2053 (West 2017)) A property owner is responsible for the abatement of a public nuisance on his or her property. (CAL. HEALTH & SAFETY CODE § 2060 (West 2017)) The district may notify an owner of a public nuisance on the owner's property, conduct a hearing to determine whether a public nuisance exists, order the owner to abate the nuisance, abate the nuisance if the owner fails to do so, and impose a civil penalty on the owner. (CAL. HEALTH & SAFETY CODE § 2061 (West 2017)) If the district abates the public nuisance then the owner is to pay the district for the cost of abatement or risk the property being subjected to an abatement lien. (CAL. HEALTH & SAFETY CODE § 2065 (West 2017)) The auditor of each county in a district allocates the share of property taxes due the district under California law. (CAL. HEALTH & SAFETY CODE § 2073 (West 2017)) The district may also levy special taxes and special benefit assessments. (CAL. HEALTH & SAFETY CODE § 2081 and CAL. HEALTH & SAFETY CODE § 2082 (West 2017)).

A county government may transfer any or all of its mosquito control functions to a mosquito abatement and vector control district and lend any available funds to the district. (CAL. HEALTH & SAFETY CODE § 101285 and CAL. GOV. CODE § 2082 (West 2017)).

California law also allows the creation of pest abatement districts that are created to address a designated pest or pests. (CAL. HEALTH & SAFETY CODE § 2822 (West 2017)) Beyond the pest for which the district is created, pest abatement districts are specifically authorized to abate mosquitos and to establish an emergency mosquito abatement standby charge. (CAL. HEALTH & SAFETY CODE § 2877 and CAL. HEALTH & SAFETY CODE § 23010 (West 2017)) Community services district are also authorized to provide vector and vector-borne disease surveillance, prevention, abatement, and control in the same manner as a mosquito abatement and vector control district. (CAL. GOV. CODE § 61100 (West 2017)).

6. COLORADO

Colorado has a hybrid structure with mosquito control responsibilities divided between the state government and local jurisdictions. At the state level, the department of agriculture is primarily responsible for mosquito control activities. The department has express authority to determine the methods that can be used to control or abate pests. (COLO. REV. STAT. ANN. § 35-5-103 (2017)) The commissioner of agriculture also determines which insects are considered pests, notifies county boards of commissioners of areas of possible infestation, and coordinates activities of other state agencies when land under their control are part of a pest control district. (COLO. REV. STAT. ANN. § 35-5-111 (2017)) This includes express authority to enter any public or private land to eliminate pests. (COLO. REV. STAT. ANN. § 35-5-107 (2) (2017)) Under Colorado law there is an express role for state public health. The Department of Public Health and the Environment has authority to “investigate and control the causes of epidemic and communicable diseases”, where communicable disease includes illnesses transmitted by vectors. (COLO. REV. STAT. ANN. § 15-1.5-102(1) and §25-1.5(1)(a)(IV) (2017)) Under Colorado law, there are express emergency authorities to address mosquito control. With approval of the governor, the commissioner of agriculture may advance funds, subject to reimbursement, for pest control. (COLO. REV. STAT. ANN. § 35-5-103 (2017)).

At the local level, Colorado law expressly provides for establishing pest control districts through a petition and ballot process managed by the county board of commissioners. (COLO. REV. STAT. ANN. 35-5-104 (2017)) Once established, pest control districts are financed by a property tax. (COLO. REV. STAT. ANN. § 35-5-111 (1) (2017)) Pest control districts have broad authority to investigate, eradicate and control mosquitoes, including the authority to enter public or private lands. (COLO. REV. STAT. ANN. § 35-5-107 (2017)) Under Colorado law, there is not an express role for local public health.

Colorado law does have some statewide requirements for private property owners to maintain property to control mosquitoes. Landowners and lessees must undertake actions to prevent and abate pests that have been declared nuisances. (COLO. REV. STAT. ANN. § 35-5-108 (2017) and COLO. REV. STAT. ANN. § 35-5-110 (2017)) In the event a landowner or lessee does not control pests on the land, the county pest control inspector can enter the property to abate the pest. (COLO. REV. STAT. ANN. § 35-5-108(2) (2017)) The board of county commissioners can charge for the cost of the work done and failure to pay can result in a lien. (COLO. REV. STAT. ANN. § 35-5-108(5) and COLO. REV. STAT. ANN. §35-5-108(6)(c) (2017)).

7. CONNECTICUT

Connecticut has a hybrid structure with responsibilities for mosquito control divided between state government and local jurisdictions. At the state level, the department of energy and environmental protection is primarily responsible for mosquito control activities. (CONN. GEN. STAT. § 22a-45b(a) (2017)) The department has authority to issue regulations pertaining to mosquito control, as well as directly abate if necessary. (CONN. GEN. STAT. § 22a-45b(a) (2017) and CONN. GEN. STAT. §22a-30 (2017)). The department also has specific authorities in relation to West Nile Virus (CONN. GEN. STAT. § 22a-45b (2017)). The commissioner of public health must be consulted for activities including survey certain mosquito populations and encouraging public education and outreach. (CONN. GEN. STAT. § 22a-45b(b) (2017) and CONN. GEN. STAT. § 22a-45(b)(d) (2017)) Connecticut law does not include express provisions related to emergency authorities for mosquito control or state funding for mosquito control.

At the local level, Connecticut law does not expressly allow local jurisdictions to create mosquito control entities. Under Connecticut law, there is an express role for local public health. Local public health departments must be consulted in some of the state-led mosquito surveys and public education and outreach. (CONN. GEN. STAT. § 22a-45b(b) (2017) and CONN. GEN. STAT. § 22a-45(b)(d) (2017) In addition, the municipal director of health or local board of health has authority to investigate and abate mosquito breeding sites located near human habitation. (CONN. GEN. STAT. § 19a-213 (2017)).

Connecticut does not have statewide requirements for private property owners to maintain property to control mosquitoes. However, there is a very specific provision that prohibits standing water that “creates a risk of mosquito-borne illness” in municipalities with more than 100,000 people and where there has been a confirmed death from West Nile virus. (CONN. GEN. STAT. § 22a45b(c) (2017)) The commissioner of energy and environmental protection determines whether standing water constitutes a risk in consultation with the commissioner of public health and local health departments. (CONN. GEN. STAT. § 22a45b(c) (2017)) The commissioner of energy and environmental protection may eliminate the standing water, and this work is funded by general appropriations. (CONN. GEN. STAT. § 22a45b(c) (2017)).

8. DELAWARE

Delaware has a centralized structure with mosquito control responsibilities at the state level. At the state level, the Department of Natural Resources and Environmental Control has primary responsibility for mosquito control activities. (DEL. CODE ANN. 16 § 1902 (2017)) The department has broad authority to abate mosquitos, including the right to enter property. (DEL. CODE ANN. 16 § 1902 (a) (2017)) This authority is limited by restrictions set out in appropriations acts and other state laws protecting animals and wildlife. (DEL. CODE ANN. 16 § 1902 (b) (2017) Under Delaware law, there is no express role for local public health.

Delaware law expressly defines mosquito breeding sites as a nuisance. (DEL. CODE ANN. 16 § 1903 (2017)) The department may enter property to abate a nuisance (DEL. CODE ANN. 16 § 1902 (2) and (4) (2017)) after providing the landowner with notice of the nuisance and an opportunity to object (DEL. CODE ANN. 16 § 1904(a) (2017)) The landowner is not responsible for the costs of abatement and if property is damaged, the department must pay for those damages. (DEL. CODE ANN. 16 § 1904(a) (2017)).

9. WASHINGTON, D.C.

Washington, D.C. has a centralized structure with mosquito control responsibilities at the district level. At the District level, the department of energy and environment has “policy authority for vector control.” (D.C. CODE § 8-151.03(B)(IV) (2017)) In addition, the mayor has broad authority to enter and inspect properties for public health nuisances, including mosquito breeding sites. (D.C. CODE § 8-2131.03 (2017) and D.C. CODE § 8-2131.01(5) (2017)) The mayor needs a court order if an occupant objects to the inspection. (D.C. CODE § 8-2131.03) (2017)) The District can order abatement of public health nuisances and undertake mosquito control activities directly in the event that the occupant will not. The mayor may also issue rules related to vector-borne infectious disease control. (D.C. CODE § 8-2131.09 (2017)) Under district law, there is an express role for public health. The Department of Health is responsible for the annual mosquito control and abatement plan, which is submitted to the Washington, D.C. council. (D.C. CODE § 8-2141.01 (2017)) Washington, D.C. has a Vector-Borne Disease Control Fund that is financed through fines, civil penalties, and judgements received from violations from rules relating to vector-control. (D.C. CODE § 8-2131.08 (2017)).

Washington, D.C. has district-wide requirements for private property owners to maintain property to control mosquitoes. DC law expressly prohibits activities, such as improper tire storage and disposal or allowing standing water without taking steps to prevent vector breeding. (D.C. CODE § 8-2131.02 (2017)) The mayor may order a property owner or occupant to abate conditions conducive to vector breeding. (D.C. CODE § 8-2131.05 (2017)) In the event that an owner or occupant fails to comply with the order, the district may directly abate the condition if there is funding to do so or if action is necessary to protect public spaces or human health. (D.C. CODE § 8-2131.06(a) (2017)) If the District incurs costs in abating these nuisances, they can be assessed as a tax against the property. (D.C. CODE § 8-2131.06(b) (2017)).

10. FLORIDA

Florida has a hybrid system with mosquito control responsibilities divided between state government and local jurisdictions. At the state level, the department of agriculture is primarily responsible for mosquito control activities. (FLA. STAT. § 388.011 (2017)) The department's activities include approving the work plans and budgets for local mosquito control activities, rulemaking relevant to mosquito control activities, funding mosquito control, and identifying state-wide priorities. (FLA. STAT. § 388.201 (1) (2017), FLA. STAT. § 388.301 (2017), and FLA. STAT. § 388.361 (2017)) State law also establishes the Florida Coordinating Council on Mosquito Control as a cross-agency and multi-sectoral advisory body. (FLA. STAT. § 388.46 (2017)) Its activities include developing guidelines to resolve jurisdictional disputes about control activities on publicly-owned land, advising the department of agriculture on the research agenda, identifying projects and funding sources for mosquito control, and advising other agencies as appropriate. (FLA. STAT. § 388.46 (2017)) Under Florida law, the state provides funding to mosquito control districts through matching grants. (FLA. STAT. § 388.261 (2) (2017)).

Under Florida law, there is express emergency authorities to address mosquito control. The State Health Officer to declare a threat to public health and Commissioner of Agriculture to declare a threat to animal health if there's an infectious disease spread by mosquitoes. (FLA. STAT. § 388.45 (2017)) In an emergency, the department of agriculture can transfer equipment, materials, and personnel between districts with appropriate notification and permission. (FLA. STAT. § 388.351 (2017)), as well as directly collect, detect, suppress, and control mosquitoes or arthropods that pose a threat. (FLA. STAT. § 388.361 (2017)).

At the local level, Florida law expressly provides for establishing special taxing districts for mosquito control. (FLA. STAT. § 388.021 (1) (2017)) In jurisdictions without special tax districts, the board of county commissioners has the authority over mosquito control. (FLA. STAT § 388.241 (2017)) The county commissioners may delegate mosquito control to a county board of health subject to the same rules and limits of a special taxing district. (FLA. STAT. § 388.251 (2017)) Once established, these districts may levy a tax on real and personal property not to exceed \$1 for every \$100 in assessed value. (FLA. STAT. § 388.221 (1) (2017)) These districts have broad authority to eliminate mosquito populations, including rulemaking if approved by the department of agriculture. (FLA. STAT. § 388.161 (2017)).

Under Florida law, property owners must maintain property to limit standing water or other conditions conducive to mosquito breeding. (FLA. STAT. § 388.291 (2017)) In the event property owners fail to maintain their property in such a manner, the local control authorities "shall serve notice" on the owner

to remediate the conditions. If an owner fails to remediate, the control agency or “any affected citizen” can proceed under the state nuisance statute (FLA. STAT. § 60.05 (2017)).

11. GEORGIA

The structure of mosquito control responsibilities and activities cannot be ascertained. There are no express statutory provisions addressing mosquito control at a state or local level.

12. HAWAII

Hawaii has a centralized structure with mosquito control responsibilities at the state level. At the state level, the Department of Health has primary responsibility for mosquito control activities with broad authority to investigate and abate mosquito water sources. (HAW. REV. STAT. ANN. § 322-1 (West 2017)) The department may also adopt rules pertaining to waters where mosquitos breed (HAW. REV. STAT. ANN. § 321-11 (West 2017)) and enforce the mosquito control requirements surrounding the accumulation of motor vehicle tires. (HAW. REV. STAT. ANN. § 342I-33 (West 2017)).

The department may give notice to a private property owner to abate mosquito larvae at the owner’s expense and if the owner fails to comply, the department may obtain a court order for abatement and recover the abatement expenses. (HAW. REV. STAT. ANN. § 322-2 (West 2017)) When the mosquito larvae are found on public property, the department may give notice to the person in charge of the property to abate the problem and obtain a court order for abatement if there is noncompliance. (HAW. REV. STAT. ANN. § 322-3 (West 2017)) The department may enter property to abate water sources where mosquito larvae exist and, if refused entry, obtain a warrant for such entry and abatement. (HAW. REV. STAT. ANN. § 322-4 (West 2017)).

13. IDAHO

Idaho has a decentralized structure with mosquito control responsibilities at the local level. At the state level, the directors or heads of the state departments of agriculture, fish and game, lands, transportation, water resources, and health and welfare serve as ex officio members of local abatement district boards and provide technical assistance to the local boards. (IDAHO CODE § 39-2803 (2017)).

At the local level, Idaho law expressly provides for establishing abatement districts through a petition and ballot initiative (IDAHO CODE § 39-2801A (2017) and IDAHO CODE § 39-2802 (2017)) County governments may directly administer abatement districts, however the process to establish the district remains the same. (IDAHO CODE § 39-2813 (2017)) Once established, abatement districts are financed by a property tax not to exceed 0.1 percent of the market value of taxable property in the district. (IDAHO CODE § 39-2805 (2017)) Abatement districts have broad authority to abate and control mosquitos including the right to enter property and cooperate with other state, local, private, and federal entities. (IDAHO CODE § 39-2804 (2017)) There is no express role for local public health. Idaho law also provides emergency powers to local government entities, in collaboration with other local and state officials, to address “public health and welfare threats.” (IDAHO CODE § 39-2812 (2017)) With a declared disaster or emergency, the abatement district board may access additional financing through direct appropriations and special tax levies. (IDAHO CODE § 39-2812 (2017))

Idaho law does not expressly require property owners to maintain their property to minimize or eliminate mosquito breeding or populations.

14. ILLINOIS

Illinois has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the Illinois department of Public Health is primarily responsible for mosquito control activities. (410 ILL. COMP. STAT. 95/3 (2017)) The department is responsible activities such as investigating public health threats arising from mosquitoes, providing education, training and outreach on integrated pest management, and conducting surveillance on mosquito populations. (410 ILL. COMP. STAT. 95/3 (2017)) Under Illinois law, the department of public health has express emergency authorities relating to mosquito control. (410 ILL. COMP. STAT. 95/5 (2017)) In an emergency, the department remediate sites that have conditions hazardous to public health or issue an emergency order, such as closing a site, if necessary to address an immediate public health hazard. (410 ILL. COMP. STAT. 95/5 (2017)) If the department incurs costs for remediation, the person responsible for the site must be fined twice the cost of the activities. (410 ILL. COMP. STAT. 95/5 (2017)) Under Illinois law, the department of public health may administer a grant program to address mosquito control with funding from the Used Tire Management Fund. (410 ILL. COMP. STAT. 95/7 (2017)).

At the local level, Illinois law expressly provides for establishing mosquito abatement districts through a petition and ballot process managed by the district courts. (70 ILL. COMP. STAT. 1005/1 (2017)) Once established, mosquito abatement districts are financed by a general tax on property, not to exceed the rate of 0.025 percent. (70 ILL. COMP. STAT. 1005/9 (2017)) Mosquito abatement districts have broad authority to exterminate mosquitoes, subject to limitation and restrictions imposed by municipal or other public authorities and in cooperation with the department of public health. (70 ILL. COMP. STAT. 1005/7 (2017) and 70 ILL. COMP. STAT. 1005/8 (2017)) Under Illinois law, there is an express role for local public health. The local environmental health director or local health departments receive reports of positive results for mosquito-borne diseases of public health significance. (70 ILL. COMP. STAT. 1005/8 (2017))

Illinois does not have express statewide requirements for private property owners to maintain property to control mosquitoes.

15. INDIANA

Indiana has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the department of health had primary responsibility for mosquito control activities. The department can issue rules addressing mosquito control and allocating state funding for abatement activities. (IND. CODE § 16-19-3-4 (b)(4) (2017) and IND. CODE § 16-41-33-7(b) (2017)) Indiana law also call on other state agencies to implement programs supporting vector abatement and coordinate activities with other institutions and the private sector. (IND. CODE § 16-41-33-8 (2017)) Under Indiana law, there is no express emergency authorities to address mosquito control. Under Indiana law, the state can fund mosquito control activities. The state can expressly appropriate funds for vector control but requires matching funds from local jurisdictions. (IND. CODE § 16-41-33-7 (2017)) In addition, local board of health may use state grants for public health for animal and vector control. (IND. CODE § 16-41-10-3 (a) (2017)).

At the local level, Indiana law expressly provides for establishing vector abatement programs within county, city, or joint county-city departments of health by either an ordinance passed by a local governing authority or by a voter-led petition process. (IND. CODE § 16-41-33-3 (2017)) Once established, local governments may levy a property tax not to exceed. \$0.0067 per \$100 of assessed value. (IND. CODE

§ 16-41-33-4 (2017)) The governing body of the local jurisdiction determines the activities of vector abatement programs, with state law identifying a broad and non-exhaustive list of potential duties. (IND. CODE § 16-41-33-6 (2017)) Under Indiana law there is an express role for public health. All vector abatement programs must be managed by a local health officers and housed in a local department of health. (IND. CODE § 16-41-33-3 (2017) and IND. CODE § 16-41-33-5 (2017)).

Indiana does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

16. IOWA

The structure of mosquito control responsibilities cannot be ascertained. There are limited express statutory provisions addressing mosquito control.

17. KANSAS

The structure of mosquito control responsibilities cannot be ascertained. There are limited express statutory provisions addressing mosquito control.

18. KENTUCKY

The structure of mosquito control responsibilities cannot be ascertained. There are limited express statutory provisions addressing mosquito control.

19. LOUISIANA

Louisiana has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the state health officer, acting through the division of public health, is primarily responsible for mosquito control activities. (LA. STAT. ANN. § 40:4.9 (2017)) The health officer is responsible for promulgating rules and regulations to monitor and control vectors. (LA. STAT. ANN. § 40:4.9 (2017)) In addition, The Louisiana Department of Health is responsible for developing a state mosquito control program in collaboration with the Louisiana Advisory Commission on Pesticides (LA. STAT. ANN. § 33:32113.8 (2017)). Under Louisiana law, there are no emergency authorities to address mosquito control or express language to fund mosquito control.

At the local level, Louisiana law expressly provides for establishing mosquito abatement districts by an ordinance adopted by parish governing authority. (LA. STAT. ANN. § 33:7721 (2017)) Once established, mosquito abatement districts are financed by special taxes, which can be assessed as a monthly service charge on water bills. (LA. STAT. ANN. § 33:7726 (2017)) Mosquito abatement districts have broad authority to abate, control, eradicate, and study mosquitoes and can adopt rules and ordinances to fulfill its responsibilities. (LA. STAT. ANN. § 33:7723-7724 (2017)) Under Louisiana law, there is no express role for local public health.

Louisiana does not have express, statewide requirements for private property owners to maintain property to control mosquitoes. However, the city of Monroe, as well as Jefferson and Ouachita Parishes have express statutory permission to require property owners to remediate mosquito breeding sites on their properties. (LA. STAT. ANN. § 33:4770.13 (2017) and LA. STAT. ANN. § 33.1236.51 (2017)).

20. MAINE

Maine has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the department of health and human services is primarily responsible for mosquito control activities. (ME. STAT. 7, §171 (2017)) The department has authority to issue rules, monitor mosquito populations, and coordinate mosquito control activities across state agencies, local jurisdictions, and private landowners. (ME. STAT. 7, § 171, §173 (2017), and ME. STAT. 7, § 176 (2017)) Under Maine law, there are express emergency authorities to address mosquito control. The commissioner of the department of health and human services can declare “mosquito-borne disease public health threats” when evidence “indicates a strong likelihood of human disease outbreak.” (ME. STAT. 22, § 1447 (2017)) In an emergency, the department must collaborate with commissioner of agriculture, conservation, and forestry and local governments to implement a response based on the “lowest-risk, most effective integrated pest management techniques and science-based technology.” (ME. STAT. 7, § 171 (2017) and ME. STAT. 7, § 173 (2017)) Maine law includes express provisions to fund mosquito control activities. The Maine Mosquito Management Fund can receive money from legislative appropriations, as well as other private and government sources, and can be used to make grants to manage mosquito populations. (ME. STAT. 7, §174 (2017)).

At the local level, Maine law expressly provides for establishing mosquito management districts. However, the law does not set out a process to create or grant specific powers or duties to such a district. (ME. STAT. 7, §175 (2017)) Under Maine law, there is not an express role for local public health.

Maine does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

21. MARYLAND

Maryland has a hybrid structure with mosquito control activities divided between the state and local jurisdictions. At the state level, the department of agriculture is primarily responsible for mosquito control activities. The department has broad authority, including the ability to issue orders and pursue court orders to require property owners to control mosquitoes. (MD. CODE ANN., Agric. § 4-401 to 408 (West 2017)) In addition, the secretary for the department of the environment can enter property to investigate environmental nuisances, including mosquito breeding sites, and promulgate rules to address such nuisances. (MD. CODE ANN. Envir., § 1-101 to 104 (West 2017)) Under Maryland law, there is no express role for state public health or express emergency authorities to address mosquito control. Under Maryland law, there is some express language for funding mosquito control. The state may receive money from government sources for mosquito control activities, and costs for mosquito control activities on state-owned land must be appropriated from the general fund. (MD. CODE ANN., AGRIC. § 5-402 (West 2017) and MD. CODE ANN., AGRIC, § 404 (West 2017)).

At the local level, Maryland law does not expressly provide for establishing local mosquito control entities. However, mosquito control districts and local governments may choose to contract with the state for mosquito control and abatement and may appropriate or levy taxes to pay the state for those services. (MD. CODE ANN. AGRIC., § 5-402 (West 2017) and MD. CODE ANN., AGRIC. § 404(a) (West 2017)) Local jurisdictions may also receive funding from the state to conduct mosquito control activities on state-owned land. (MD. CODE ANN. AGRIC., § 5-404 (e) (West 2017)). Under Maryland law, there is a limited, express role for local public health. Local health authorities must cooperate with the secretary

for agriculture for orders to abate mosquito breeding habitats in their jurisdictions. (MD. CODE ANN., AGRIC. § 5-406(a) (West 2017)).

Maryland law does not have express, statewide requirements for private property owners to maintain property to control mosquitoes. However, Maryland law does consider mosquito breeding sites to be nuisances, and both the secretary of agriculture and the secretary of environment have authority to issue abatement notices to address such nuisances. (MD. CODE ANN., AGRIC. § 5-406(a) (West 2017)) and MD. CODE ANN., ENVIR. § 10-202 (West 2017)). If a property owner fails to comply with such an order, the secretary of agriculture may get an injunction, and fine the violator. (MD. CODE ANN., ENVIR. § 5-408 (West 2017)) The secretary of the environment can also file an injunction and fine a violator, as well as directly abate the nuisance. (MD. CODE ANN., ENVIR. § 10-202(c) (West 2017), MD. CODE ANN., ENVIR. § 10-302 (West 2017), and MD. CODE ANN., ENVIR. § 10-203 (d) (West 2017)) The secretary of the environment cannot spend more than \$500 for direct mosquito abatement and can file suit to recover costs from the property owner. (MD. CODE ANN., ENVIR. § 10-203 (d)(2) (West 2017) and MD. CODE ANN., ENVIR. § 10-203 (3) (West 2017)).

22. MASSACHUSETTS

Massachusetts has a hybrid structure for mosquito control activities with responsibilities split between the state and local jurisdictions. At the state level, the reclamation and mosquito control board, comprised of representatives of the department of food and agriculture, the department of environmental protection, and the department of environmental management, is primarily responsible for mosquito control activities. (MASS. GEN. LAWS ch. 252 § 2 (2017)) The board is tasked with mapping and surveying mosquito populations and approving plans for substantial mosquito control activities. (MASS. GEN. LAWS ch. 252 § 3 (2017) and MASS. GEN. LAWS ch. 252 § 5 (2017)) Under Massachusetts law, there is no express emergency authorities to address mosquito control. Under Massachusetts law, there are provisions for state funding for mosquito control. The reclamation and mosquito control board can decide that mosquito control work or activities undertaken by local entities provides public health benefits for the state and can estimate the costs of those activities to be borne by the state. (MASS. GEN. LAWS ch. 252 § 8 (2017)).

At the local level, Massachusetts law expressly provides for establishing local mosquito control entities through two processes. First, reclamation districts may be created through a petition process managed by the state reclamation and mosquito control board. (MASS. GEN. LAWS ch. 252 § 5 (2017)) Second, mosquito control projects or districts may be created under the auspices of the reclamation and mosquito control board through an enabling statute passed by the state government.

Once established, districts can levy assessments on property, and some assessments appear to be collected at the state level, then redistributed back to localities. (MASS. GEN. LAWS ch. 252 § 5A (2017)). Districts are authorized to undertake activities approved by the reclamation and mosquito control board (MASS. GEN. LAWS ch. 252 § 12) Under Massachusetts law, there is a role for local public health. Both local and city boards of health and districts can determine mosquito infestations and breeding sites are public nuisances, and this authority may be delegated to another government agency. (MASS. GEN. LAWS ch. 252 § 5B (2017)).

Massachusetts does not have express, statewide requirements for private property owners to maintain property to control mosquitoes. However, local public health entities may issue a written order

requiring property owners to abate mosquito infestations or breeding sites as a nuisance. (MASS. GEN. LAWS ch. 22 § 5B (2017)) If a property owner fails to do so, the local board of health or the mosquito control district may directly abate the nuisance. (MASS. GEN. LAWS ch. 252 §5B (2017)). There is no express authority to charge the property owner with the costs of the abatement.

23. MICHIGAN

Michigan has a largely decentralized structure for mosquito control with responsibilities for activities at the local level. At the state level, there is no express role for state public health. Under Michigan law there is no express emergency authorities to address mosquito control or express language to fund mosquito control. At the local level, Michigan does not expressly provide for establishing local mosquito control entities statewide. Michigan law does allow home rule cities with populations greater than 600,000 to finance the provisions of certain services, including mosquito control through special assessments. (MICH. COMP. LAWS §117.5i (1) (2017)) Under Michigan law, there is no express role for local public health. Michigan does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

24. MINNESOTA

Minnesota has a hybrid structure, with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the department of agriculture is primarily responsible for mosquito control activities. (MINN. STAT. § 18G.14(13) (2017)) and MINN. STAT. § 18G.02(5) (2017)). In addition, the commissioner of natural resources has certain oversight responsibilities. (MINN. STAT. § 18G.14(14) (2017)). The Minnesota Department of Health is responsible for Zika preparedness and mosquito research and surveillance. (MINN. STAT. § 144.945 (2017) and Minn. Stat. § 144.95 (2017)) Minnesota law does not contain express emergency authorities to address mosquito control. Public health activities related to Zika preparedness and mosquito research may have state funding attached. (MINN. STAT. § 144.945 (2017) and MINN. STAT. § 144.95 (2017)).

At the local level, Minnesota law expressly provides for establishing mosquito abatement boards through either a petition process or resolution by a local governing body. MINN. STAT. § 18G.14(2) (2017)) Once established, mosquito abatement boards may be financed by an annual tax. (MINN. STAT. § 18G.14(10) (2017)) Local abatement boards have broad authority to enter property to inspect and abate mosquitoes and eliminate breeding habitats. (MINN. STAT. § 18G.14(8)(2017)).

Minnesota law also establishes the Metropolitan Mosquito Control Commission, which covers the Twin Cities region. (MINN. STAT. § 472.702 (2017) and MINN. STAT. § 473.121(2)(2017)) This entity has authority to levy a property tax to finance its activities. (MINN. STAT. § 473.711 (2)(a) and (b) (2017)) The Commission can assess an emergency tax if the commissioner of health declares a public health emergency. (MINN. STAT. § 473.711(2)(c)(2017)). Participating counties may levy additional taxes to mosquito control activities, for work carried out by the commission. (MINN. STAT. § 473.711(2)(d) (2017)). The Commission may not enter private property over an owner's objection unless the commission's activities are focused on mosquitoes capable of carrying human disease in a local area of disease outbreak. (MINN. STAT. § 473.704(17)(A)(2017).) Under Minnesota law, there is not an express role for local public health.

Minnesota does not have statewide requirements for private property owners to maintain property to control mosquitoes.

25. MISSISSIPPI

Mississippi has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the State Board of Health may establish programs, including vector control. (MISS. CODE ANN. § 41-3-15(5)(a)(xiii) (2017)). The state health officer serves as an ex officio member of each county mosquito control commission. (MISS. CODE ANN. § 41-27-3 (2017)) In addition, the state health office approves new county mosquito control commissions and their annual plans and provides technical assistance. (MISS. CODE ANN. § 41-27-1 (2017) and MISS. CODE ANN. § 41-27-11 (2017) and MISS. CODE ANN § 41-27-5 (2017)) Under Mississippi law, there are no express emergency authorities to address mosquito control and no express language to fund mosquito control activities.

At the local level, Mississippi law expressly provides for establishing county mosquito control commissions through the county boards of supervisors and with approval of the state health officer. (MISS. CODE ANN. § 41-27-1 (2017)) Once established, districts may receive funds from any source, including the county's general levy, but there is no specific financing mechanism for mosquito control under state law. (MISS. CODE ANN. § 41-27-7 (2017) and MISS. CODE ANN. § 41-27-13 (2017)) County mosquito control commissions have broad authority to eliminate and control mosquito populations, but plans must be approved annually by the state health officer. (MISS. CODE ANN. § 41-27-9 (2017) and MISS. CODE ANN. § 41-27-11 (2017)) Under Mississippi law, there is an express role for local public health. State law states that mosquito control commission authorities do not preempt or supplant powers granted to state or local boards of health. (MISS. CODE ANN. § 41-27-33 (2017)) As described previously, the state board of health may authorize programs for vector control, and duties of local health officials include administering programs and enforcing rules established by the state board of health. (MISS. CODE ANN. § 41-3-15(5)(a)(xiii) (2017) and MISS. CODE ANN. § 41-27-105 (2017))

In addition, Mississippi law allows for the creation of special mosquito commissions to address rice field mosquito populations, which are created through a petition process. (MISS. CODE ANN. § 41-27-103 (2017)) Once established, these districts are financed by a permitting system for rice producers. (MISS. CODE ANN. § 31-27-115 (2017)) These districts have specific authority to investigate and control mosquito populations in rice fields (MISS. CODE ANN. § 41-27-121 (2017)) Local county health officers must serve on the mosquito control commissions established under the provisions for rice field mosquitoes. (MISS. CODE ANN. § 41-27-105 (2017)).

Mississippi does not have express, statewide requirements for private property owners to maintain property to control mosquitoes. However, county mosquito control commissions may undertake activities on private property if a governing body of a county or city enters an order finding that the activities will advance public health with specific facts to support the finding. (MISS. CODE ANN. § 41-27-9 (2017)) The costs of such activities must be covered by the county or municipality that requests them. (MISS. CODE ANN. § 41-27-9 (2017)).

26. MISSOURI

The structure of mosquito control responsibilities cannot be ascertained. There are no express statutory provisions addressing mosquito control.

27. MONTANA

Montana has a decentralized structure with mosquito control activities primarily at the local level. At the state level, Montana law does not expressly designate any state agency with mosquito control responsibilities. Under Montana law, there are no express emergency authorities to address mosquito control and no express language to fund mosquito control.

At the local level, Montana law expressly provides for establishing special districts through direct resolution by governing bodies or voter-driven referendum process (MONT. CODE ANN. § 7-11-1002(3) (2017) and MONT. CODE ANN. § 7-11-1003 (2017)) Once established, districts may be financed by a property tax in an amount equal to the cost of the district's services or programs. (MONT. CODE ANN. § 7-11-1025 (2017)). Special districts have broad authority to fulfill their purposes, including administering local ordinances. (MONT. CODE ANN. § 7-11-1021 (2017)). Mosquito control boards established by a board of county commissioners will have the scope of its authority and duty determined by the county commissioners in a resolution. (MONT. CODE ANN. § 7-1-202 (4) and MONT. CODE ANN. § 7-1-201 (2017)) Under Montana law, there is no express role for local public health.

Montana does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

28. NEBRASKA

Nebraska has a decentralized structure, with mosquito control responsibilities primarily at the local level. Nebraska law does not indicate a state agency with primary responsibility for mosquito control. Under state law there is no express role for state public health, no express emergency authorities, and no specific financing mechanisms for mosquito control.

At the local level, Nebraska law does not provide for establishing local control districts. Cities and counties of the primary class have authority for mosquito control. (NEB. REV. STAT. § 71-2917 (2017)). They can appropriate funding to support mosquito control activities. (NEB. REV. STAT. § 71-2917(2) (2017)).

29. NEVADA

Nevada has a decentralized structure with mosquito control responsibilities primarily at the local level. At the state level, the State Board of Health is responsible for approving regulations issued by local district boards of health to mitigate health hazards, including mosquito control. (NEV. STAT. § 439.479(1) (2017)) Under state law, there is no express emergency authorities to address mosquito control and no express language for funding mosquito control.

At the local level, Nevada law expressly provides for establishing general improvement districts, and mosquito control is one of the permitted activities of these districts. (NEV. STAT. § 318.116(2) (2017)) Districts are created through petition and approval by the board or boards of county commissioners. (NEV. STAT. § 308.030 (2017)) Once established, districts that are formed for mosquito control may level a tax not to exceed \$0.15 per \$100 of assessed value. (NEV. STAT. § 318.118 (2)(a) (2017)) This amount can be increased with approval of the county commissioners or in certain emergencies. (NEV. STAT. § 318.118 (2) (2017)) Districts have broad authority to exterminate and control mosquitoes, including the right to enter property. (NEV. STAT. § 318.118 (1) (2017)) Under Nevada law, there is an express role for

local public health. District health officers can issue orders to abate or exterminate mosquitoes, as well as take most actions allowed by mosquito control districts. (NEV. STAT. § 439.473 (2017)) In addition, with approval of the State Board of Health, local boards of health may adopt and enforce regulations to mitigate health hazards, which include mosquitoes. (NEV. STAT. § 439 (2017) and NEV. STAT. § 479 (2017)).

Nevada does not have express, statewide requirements for private property owners to maintain property to control mosquitoes. However, both general improvement districts and district health officers can issue notices requiring property owners in their jurisdictions to abate mosquitoes. (NEV. STAT. § 318.118 (9) (2017) and NEV. STAT. § 439.473 (2017)). If the property owner fails to do so, mosquito control authorities and the district health officers may remediate the property. (NEV. STAT. § 318.118(9)(b) (2017) and NEV. STAT. § 439.473 (2017)). Costs of remediation may be charged to the property owner. (NEV. STAT. § 318.119 (9)(c) (2017) and NEV. STAT. § 439.477 (1)). In the event of nonpayment, costs must be recovered through a lien. (NEV. STAT. § 318.118 (9) (2017) and NEV. STAT. § 439.477(2) (2017)).

30. NEW HAMPSHIRE

New Hampshire has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the department of health and human services is primarily responsible for mosquito control activities. The commissioner of health and human services determines when mosquitoes create a public health threat, manages the mosquito control fund, and allocates funds for mosquito control in response to a declared public health emergency. (N.H. REV. STAT. ANN. § 141-C:25 (2017), N.H. REV. STAT. ANN § 141-C:24 (2017), N.H. REV. STAT. ANN § 141-C:6 (XXII) (2017)). Additionally, there is a statewide policy to address mosquito control and abatement activities on state-owned land, which is intended to serve as voluntary guidelines for local mosquito control efforts. (N.H. REV. STAT. ANN. § 142-A:3 (2017)) Under New Hampshire law, there are express emergency authorities to address mosquito control. The commissioner of health and human services may determine that a public health threat warrants expedited mosquito control in consultation with CDC and with approval of the governor. (N.H. REV. STAT. ANN. § 141-C:25 (2017)) In an emergency, the state commissioner can authorize expedited activities and provide funding from the mosquito control fund. (N.H. REV. STAT. ANN. § 141-C:25 (2017)). Under New Hampshire law, there is express language to fund mosquito control. First, the state operates a mosquito control fund that provides localities with approved mosquito control plans matching grants for mosquito control in declared public health emergencies. (N.H. REV. STAT. ANN. § 141-C:25 (2017)) Second, until 2010, there was a state mosquito control committee, and while the committee was repealed, one of its remaining duties is providing state aid in the form of matching grants to mosquito control districts and other local entities. (N.H. REV. STAT. ANN. § 430:11 (2017)) However, in the absence of the state committee, it is unclear if these duties remain elsewhere in state government.

At the local level, New Hampshire law expressly provides for establishing mosquito control districts through a petition and election process. (N.H. REV. STAT. ANN. § 430.12 (2017)). Once established, mosquito control districts are financed by general appropriations of the local governing body. (N.H. REV. STAT. ANN. § 430.18 (2017)) Mosquito control districts have authority to control and abate mosquitoes. (N.H. REV. STAT. ANN. § 430:16 (2017)) Under New Hampshire law, there is not an express role for local public health.

New Hampshire does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

31. NEW JERSEY

New Jersey has a hybrid structure with mosquito control structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the ten-member state mosquito control commission has primary responsibility for state activities. (N.J. STAT. ANN. § 26:9-2 (West 2017)) The commission is composed of six members appointed by the governor with advice and consent of the senate and the Commissioners of the Department of Environmental Protection and Department of Health, the Secretary of Agriculture, and the Director of the New Jersey State Agricultural Experiment Station (N.J. STAT. ANN. § 26:9-12.3 (West 2017)). The commission is responsible for recommending policy changes, funding levels, and allocating funding to local jurisdictions, among other activities. (N.J. STAT. ANN. § 26:9-12.6 (West 2017)) The commission can also require private property owners to abate artificially created mosquito breeding nuisances. (N.J. STAT. ANN. § 26:9-12.6 (West 2017)) The Director of the State Experiment Station has specific responsibilities for mapping mosquito breeding areas, approving mosquito control work plans submitted by local jurisdictions, and provide technical assistance and information to local jurisdictions. (N.J. STAT. ANN. § 26:9-2 (West 2017), N.J. STAT. ANN. § 26:9-3 (West 2017), and N.J. STAT. ANN. § 26:9-6 (West 2017)) Under New Jersey law, there is an express role for state public health. The Commissioner of the Department of Health serves on the state mosquito control commission and as an ex officio member of county mosquito control commissions. (N.J. STAT. ANN. § 26:9-12.3 (West 2017) and N.J. STAT. ANN. § 26:9-14 (West 2017)) Under New Jersey law there is no express emergency authorities to address mosquito control. Under New Jersey law, there is no express language to fund mosquito control, but the state mosquito control commission can recommend funding levels and allocations for mosquito control to the legislature. (N.J. STAT. ANN. § 26:9-12.6 (West 2017)).

At the local level, New Jersey law expressly provides for establishing county mosquito control commissions through county governments. (N.J. STAT. ANN. § 26:9-13 (West 2017)) County governments may also elect to provide mosquito control activities directly. (N.J. STAT. ANN. § 26:9-27 (West 2017)) Once established, county mosquito control commissions are financed by tax levies with limits based on the total valuation of the property in the district. (N.J. STAT. ANN. § 26:9-23 (West 2017)) Counties with valuations of less than 25 million cannot levy more than 1 mill; counties with valuations between 25 million and 50 million cannot levy more than .5 mill, and counties with valuations greater than 50 million cannot levy more than .25 mill. (N.J. STAT. ANN. § 26:9-23 (West 2017)) County mosquito control commissions have broad authority to eliminate mosquito breeding and exterminate mosquitoes in their jurisdictions, however work plans must be submitted to and approved by the director of the state experiment station. (N.J. STAT. ANN. § 26:9-21 and N.J. STAT. ANN. § 26:9-22 (West 2017)) Under New Jersey law, there is an express role for local public health. At least three members of county mosquito control commissions must be current or former members of local boards of health. (N.J. STAT. ANN. § 26:9-14 (West 2017)) Additionally, local boards of health may promulgate rules to address nuisances, and mosquito breeding sites are explicitly included in the definition of nuisance. (N.J. STAT. ANN. § 26:3-45 and N.J. STAT. ANN. § 26:3-46 (West 2017)).

New Jersey does have express, statewide requirements for private property owners to maintain property to control mosquitoes. The state prohibits maintaining any water in which mosquitoes are breeding. (N.J. STAT. ANN. § 26:3B-6 (West 2017)) In addition, local boards of health can promulgate and enforce rules in their jurisdictions that require private property owners to abate nuisances, such as

mosquito breeding sites. (N.J. STAT. ANN. § 26:3-46 (West 2017)) There are civil fines attached to a failure to comply with a notice to abate. (N.J. STAT. ANN. § 26:3B-6 (West 2017)) If a property owner fails to take action, the local board of health may directly abate the nuisance. (N.J. STAT. ANN. § 26:3-50 (West 2017)) Costs of remediation may be recovered through civil action. (N.J. STAT. ANN. § 26:3-50 (West 2017)).

32. NEW MEXICO

The structure of mosquito control responsibilities cannot be ascertained. There are limited statutory provisions addressing mosquito control. At the state level, the Department of the Environment and a state-level environmental improvement board are primarily responsible for mosquito control. (N.M. Stat. Ann. § 74-1-3 (2017) and N.M. Stat. Ann. § 74-1-4 (2017)). Both the Department and the board have some authority to promulgate and enforce rules relating to vector control. (N.M. Stat. Ann. § 74-1-3 (2017) and N.M. Stat. Ann. § 74-1-4 (2017)). There is no express role for public health, express emergency powers, or express language to fund mosquito control.

At the local level, New Mexico law does not provide for establishing local mosquito control entities. New Mexico also does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

33. NEW YORK

New York state has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the department of health appears to have primary responsibility for mosquito control. The department is tasked with researching vectors and developing a control program. (N.Y. PUB. HEALTH LAW § 201 (McKinney 2017)) In addition, the state water power and control commission is responsible for implementing certain mosquito control efforts and collecting assessments from benefited residents through utility fees at the request of local jurisdictions. (N.Y. PUB. HEALTH LAW § 1502 (McKinney 2017)) Under New York state law, there is not express emergency authorities to address mosquito control. Under New York state law, there is a state funding mechanism for mosquito control. The state provides matching funds for core public health services, which include “arthropod vector-borne diseases prevention.” (N.Y. PUB. HEALTH LAW § 605 (McKinney 2017) and N.Y. PUB. HEALTH LAW § 602(b) (McKinney 2017)) The state reimburses localities the greater of \$0.65 per capita or \$650,000. (N.Y. PUB. HEALTH LAW § 605 (McKinney 2017)).

At the local level, New York law expressly provides for establishing mosquito control commissions through a petition process managed by a county commission. (N.Y. PUB. HEALTH LAW § 1520 (McKinney 2017)) Once established, commissions are financed by the county appropriations process and must present an annual budget to the county commissioners. (N.Y. PUB. HEALTH LAW § 1528 (McKinney 2017)) There is some language to suggest that districts established under the laws of 1926 may have special taxing authorities, but the scope and financing mechanism is unclear. (N.Y. PUB. HEALTH LAW § 1528 (McKinney 2017)) Mosquito control commissions have broad authority to control mosquitoes, but must notify residents of work through newspapers. (N.Y. PUB. HEALTH LAW § 1525 (McKinney 2017)) Under New York law, there is an express role for local public health. Local boards of health have authority to control mosquitoes. (N.Y. PUB. HEALTH LAW § 1500 (McKinney 2017)).

New York state does have express, statewide requirements for property owners to maintain property to control mosquitoes. Under New York state law, mosquito breeding sites are explicitly declared to be

nuisances. (N.Y. PUB. HEALTH LAW § 1500 (2) (McKinney 2017)) Local boards of health determine whether standing water constitutes a nuisance and can require owners to remediate breeding sites. (N.Y. PUB. HEALTH LAW § 1501 (McKinney 2017)) State law allows local boards of health to reimburse property owners for a portion of the remediation costs if there is a public benefit. (N.Y. PUB. HEALTH LAW § 1501 (2) (McKinney 2017)) If a property owner fails act, local boards of health may directly remediate the property. (N.Y. PUB. HEALTH LAW § 1502 (4) (McKinney 2017)) The property owner's portion of the costs can be recovered through a lien on the property. (N.Y. PUB. HEALTH LAW § 1501 (4) (McKinney 2017)).

34. NORTH CAROLINA

North Carolina has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, while the commissioner of public health is empowered to create mosquito control districts and sanitary districts, the department of environmental quality appears to play a greater role. (N.C. GEN. STAT. § 130A-29 (2)(d) (2017) and N.C. GEN. STAT. § 130A-47 (b) (2017)) The department is responsible for managing the hearing process for proposed mosquito control districts as well as approving mosquito control district plans. (N.C. GEN. STAT. § 130A-353(g) (2017) and N.C. GEN. STAT. §130A-356(a) and (b) (2017)). The Secretary of Health and the Director of the Wildlife Resources Commission each appoint one member of local mosquito control districts. (N.C. GEN. STAT. § 130A-354(a) (2017)) Under North Carolina law, there is no express emergency authorities to address mosquito control and no express language to fund mosquito control.

At the local level, North Carolina law expressly provides for establishing standalone mosquito control districts and sanitary districts, which can undertake mosquito control activities. (N.C. GEN. STAT. § 130A-352 (2017), N.C. GEN. STAT. § 130A-47(a) (2017), and N.C. GEN. STAT. § 130A-55(10) (2017)) Districts are created through a petition and ballot process at the county level, and the petition must be approved by the state department of health before a vote by local voters. (N.C. GEN. STAT. § 130A-353 (2017)) Once established, mosquito control districts may levy a special tax not to exceed \$0.35 per \$100 of assessed value, and sanitary districts may levy taxes on property with no express limit. (N.C. GEN. STAT. § 130A-353(b) (2017) and N.C. GEN. STAT. § 130A-559(3) (2017)) Districts have broad authority to abate and exterminate mosquitoes including entering public and private property to inspect and abate breeding grounds. (N.C. GEN. STAT. § 130A-353(3) (2017) and N.C. GEN. STAT. § 130A-355(4)-(10)(2017)) However, mosquito control districts must submit annual plans to the department for review, and the department may modify those plans. (N.C. GEN. STAT. §130A-356(a) and (b) (2017)) Under North Carolina law, there is no express role for local public health.

North Carolina does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

35. NORTH DAKOTA

North Dakota has a decentralized structure with mosquito control responsibilities primarily at the local level. At the state level, North Dakota law does not designate a state entity or agency with express mosquito control responsibilities. However, the state health council is tasked with approving or denying petitions for vector control districts. (N.D. Cent. Code § 23-24-02 (2017)) Under state law, there are no express emergency authorities to address mosquito control, and there is no express language to fund mosquito control.

At the local level, North Dakota law expressly provides for establishing vector control districts through a petition process. (N.D. CENT. CODE § 23-24-02 (2017)) Petitions must be approved by the state health council. (N.D. CENT. CODE § 23-24-02 (2017)) Once established, vector control districts are financed through county budgets, and the board of county commissioners may levy a property tax for vector control, not to exceed one mill on the dollar. (N.D. CENT. CODE § 23-24-08(10) (2017) and N.D. CENT. CODE § 57-15-26.2 (2017)) Vector control districts have broad authority to inspect and control public health vectors, including authority to enter public and private property. (N.D. CENT. CODE § 23-24-08 (2017)) Under North Dakota law, there is no express role for local public health.

North Dakota does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

36. OHIO

Ohio has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the department of agriculture is primarily responsible for mosquito control activities. (OHIO REV. CODE ANN. § 941.03 (West 2017)) Under Ohio law, there is not an express role for state public health, no express emergency authorities, or specific financing mechanisms for mosquito control in state statutes.

At the local level, Ohio expressly provides for establishing sanitary districts through a petition and hearing process managed by the county court. (OHIO REV. CODE ANN. § 6115.05 (West 2017)) Once established, sanitary districts may be financed by a property tax not to exceed \$0.03 per \$100 of assess value. (OHIO REV. CODE ANN. § 6115.48 (West 2017)) Sanitary districts have broad authority to undertake mosquito control programs, as well as rulemaking authority to eliminate mosquito breeding habitats. (OHIO REV. CODE ANN. § 6115.04 (F) (West 2017) and OHIO REV. CODE ANN. § 6115.24 (West 2017)). Under Ohio law, there is an express role for public health for sanitary districts formed exclusively for mosquito control. (OHIO REV. CODE ANN. § 6115.101 (West 2017)) In these districts, the managing board must include “an employee of a city or general health district,” and the local board of health must appoint a council member for the sanitary district’s advisory council. (OHIO REV. CODE ANN. § 6115.101 (West 2017) and OHIO REV. CODE ANN. § 6115.102(A) (West 2017)).

Ohio does not have statewide requirement for private property owners to maintain property to control mosquitoes. However, sanitary districts have the authority to promulgate and enforce regulations that may prohibit property owners and tenants from constructing or maintaining conditions conducive to mosquito breeding. (OHIO REV. CODE ANN. § 6115.25 (West 2017)) Sanitary districts can require compliance with regulations by notifying property owners or tenants of violations. (OHIO REV. CODE ANN. § 6115.24 (West 2017)) In the event of noncompliance, the sanitary district may enter the property and directly abate the conditions. (OHIO REV. CODE ANN. § 6115.24 (West 2017)) Costs for abatement activities undertaken by a sanitary district may be recovered through a lien on the property. (OHIO REV. CODE ANN. § 6115.24 (West 2017)).

37. OKLAHOMA

The structure of mosquito control responsibilities cannot be ascertained. There are insufficient statutory provisions addressing mosquito control to determine the structure. At the state level, the Oklahoma

State Board of Health has authority to promulgate rules to prevent and control communicable diseases, which expressly includes the regulation of vectors. (OKLA. STAT. tit. 63, § 1-502(a) (2017)). Under state law, there are no express emergency authorities to address mosquito control or express financing mechanisms. At the local level, there is no express authority establishing local mosquito control entities or an express role for local public health. Oklahoma law does not have express statewide requirements for private property owners to maintain property to control mosquitoes.

38. OREGON

Oregon has a hybrid structure, with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the Oregon Health Authority is primarily responsible for mosquito control. (Or. Rev. Stat. § 452.300(2017)) Under Oregon law, there is no express emergency authorities to address mosquito control and the Oregon Health Authority may provide up to \$5,000 in matching funds to local districts to support disease surveillance. (OR. REV. STAT. § 452.300(2) (2017)).

At the local level, Oregon law expressly provides for establishing vector control districts. (OR. REV. STAT. § 452.020 (2017)) Once established, vector control districts may levy a property tax. (OR. REV. STAT. § 452.153(1) (2017)). Vector control districts have broad authority to investigate, control, and eradicate mosquitoes. (OR. REV. STAT. § 452.110 (2017)). Under Oregon law, there is an express role for local public health. All health officers with offices in the vector control district serve as ex officio members of the board and must have an “opportunity to assist in the creation of district plans.” (OR. REV. STAT. § 452.080(5) (2017)).

Oregon does not have statewide requirements for private property owners to maintain property to control mosquitoes.

39. PENNSYLVANIA

Pennsylvania has a hybrid structure for mosquito control, with responsibilities split between the state government and local jurisdictions. At the state level, the Secretary of Agriculture has primary responsibility for mosquito control. The secretary can provide technical assistance to county commissioners and receives annual reports from local mosquito control entities. (16 PA. CONST. STAT. § 2150(a) (2017) and 16 PA. CONST. STAT. § 2152 (2017)) Under Pennsylvania law there are no express emergency authorities to address mosquito control. Under Pennsylvania law, there is express language to fund mosquito control. Pennsylvania grants to local health departments or boards of health for environmental services may be used for vector control. (16 PA. CONST. STAT. §12025 (d) (2017)).

At the local level, Pennsylvania law insect control falls under the public health authorities of the counties, and county commissioners have primary responsibility for mosquito control. (16 PA. CONST. STAT. § 2150(b) (2017)) County commissioners may appropriate funds for mosquito control from property tax revenue, and the amount is capped at ¼ of 1 mill on each dollar of assessed real estate value. (16 PA. CONST. STAT. § 2152 (2017)) County commissioners have broad authority to undertake mosquito control activities, including the right to enter public and private property to eliminate and exterminate mosquitoes and breeding sites. (16 PA. CONST. STAT. § 2150(b) (2017)) County commissioners are restricted from undertaking activities that impact public water supplies. (16 PA. CONST. STAT. § 2151 (2017)) Under Pennsylvania law, there is a role for local public health. Local public

health entities may provide environmental health services, including vector control, and may use state grant funding to do so. (16 PA. CONST. STAT. § 12025(d) (2017)).

Pennsylvania does have express, statewide requirements for private property owners to maintain property to control mosquitoes. Mosquito breeding sites are explicitly declared to be public nuisances, and county commissioners can compel property owners to abate them through a written notice process. (16 PA. CONST. STAT. § 2150(c) (2017)) If a property owner does not comply with the order, the county commissioners can remediate the property. (16 PA. CONST. STAT. § 2150(c) (2017)) Costs of remediation can be charged to the property owner, and in the event of non-payment, the costs can be recovered through municipal liens. (16 PA. CONST. STAT. § 2150(c) (2017)).

40. PUERTO RICO

Puerto Rico has a hybrid structure with mosquito control responsibilities divided between the territorial government and local jurisdictions. At the territorial level, the Department of Health is to develop and approve a territory-wide plan for the eradication of mosquito-borne diseases, coordinate municipal mosquito control efforts, and establish minimum requirements for municipal mosquito plans. (P.R. LAWS ANN. tit. 24 § 495(a)) The department may also provide municipalities with resources and funds to develop and implement the municipal plans. (P.R. LAWS ANN. tit. 24 § 495(b)).

At the local level, municipalities are required to develop and formulate plans for the eradication of mosquito-borne diseases and include cost estimates for implementation and provisions for reporting to the department. (P.R. LAWS ANN. tit. 24 § 496(a)) The municipal plan must be approved by the department. (P.R. LAWS ANN. tit. 24 § 496(b)) A non-recurring fund for the development and implementation of the territorial and municipals plans is also established. (P.R. LAWS ANN. tit. 24 § 497).

41. RHODE ISLAND

Rhode Island has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, Rhode Island law establishes an 11-member Mosquito Abatement Board that can promulgate and enforce rules and regulations for mosquito abatement. (23 R.I. GEN. LAWS § 23-7-3 (2017)) The directors of the department of health and the department of environmental management serve as directors of the Mosquito Abatement Board. (23 R.I. GEN. LAWS § 23-7-3 (2017)) The Board provides information, technical assistance, and oversight to local mosquito abatement districts and programs. (23 R.I. GEN. LAWS § 23-7-3 (2017) and 23 R.I. GEN. LAWS § 23-7-7 (2017)) Localities are specifically prohibited from engaging in mosquito control activities that have not been approved by the board. (23 R.I. GEN. LAWS § 23-7-7 (2017)) In addition, the director of the department of environmental management may enter private and public property to implement the Mosquito Abatement Act. (23 R.I. GEN. LAWS § 23-7-3 (2017)) Although under Rhode Island law there are no express emergency authorities to address mosquito control, the Mosquito Abatement Act specifically does not preempt or prevent the director of health from exercising emergency powers in the event of a public health emergency. (23 R.I. GEN. LAWS § 23-7-15 (2017)) Under Rhode Island law there is express language to fund mosquito control. There is a competitive grant program for mosquito abatement activities. (23 R.I. GEN. LAWS § 23-7-16 (2017)).

At the local level, Rhode Island laws expressly provides for establishing mosquito abatement districts. (23 R.I. GEN. LAWS § 23-7-7 (2017)) There are not express provisions related to financing mosquito

abatement districts. With prior approval of the state Mosquito Abatement Board and a public hearing process, mosquito abatement districts have board authority to eliminate mosquito breeding sites. (23 R.I. GEN. LAWS § 23-7-8 (2017)) Under Rhode Island law there is no express role for local public health.

Rhode Island does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

42. SOUTH CAROLINA

The structure of mosquito control responsibilities cannot be ascertained. There are limited provisions addressing mosquito control in South Carolina law.

43. SOUTH DAKOTA

The structure of mosquito control responsibilities cannot be ascertained. There are limited provisions addressing mosquito control in South Dakota law.

44. TENNESSEE

Tennessee has a decentralized structure with mosquito control activities primarily at the local level. At the state level, Tennessee law does not expressly designate a state agency with responsibility for mosquito control. Under the Pest Control Act, the Department of Agriculture may declare certain “dangerous insect pests” to be public nuisances, but that Act primarily focuses on threats to agriculture rather than human health. (TENN. CODE ANN. § 43-6-106 (8) (2017)).

At the local level, Tennessee law does not expressly provide for establishing local mosquito control entities. There is an express role for local public health. Local health departments may operate programs to prevent vector-borne disease transmission. (TENN. CODE ANN. § 68-2-610 (2017)) In counties with populations greater than 800,000 and a local health department, the governing body of the county may assess a fee, not to exceed \$1 per month for vector control. (TENN. CODE ANN. § 68-2-610 (a) (2017)) The fee is assessed and collected by a utility service provider. (TENN. CODE ANN. § 68-2-610 (a) (2017)).

Tennessee does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

45. TEXAS

Texas has a decentralized structure with mosquito control responsibilities at the local level. At the state level, the executive commissioner of the state department adopt rules and establish standards for the management and control of sanitation and for health protection measures. (TEXAS HEALTH & SAFETY CODE § 341.002 (West 2017)).

At the local level, Texas law expressly provides for establishing mosquito control districts through a petition and ballot initiative. (TEXAS HEALTH & SAFETY CODE § 344.001 (West 2017)) In Harris County, the mosquito control district was merged into the Mosquito and Vector Control Division of Harris County Public Health and is funded through the county's general fund. Mosquito control districts are financed by a property tax not to exceed 25 cents on each \$100 of the taxable value of property in the district. (TEXAS HEALTH & SAFETY CODE § 344.001 (West 2017)) The commissioners court in a county in which a

mosquito control district is established appoints an advisory commission to make recommendations to the county. (TEXAS HEALTH & SAFETY CODE § 344.004 (West 2017)) The county's commissioners court may also appoint and supervise a qualified mosquito control engineer. (TEXAS HEALTH & SAFETY CODE § 344.005 (West 2017)) Two or more mosquito districts may merge upon agreement of the county's commissioners courts. (TEXAS HEALTH & SAFETY CODE § 344.006 (West 2017)).

Under Texas law, mosquitoes and their breeding habitats constitute a public health nuisance (TEXAS HEALTH & SAFETY CODE § 341.011(7) (West 2017)) and the law expressly requires property owners to abate any public health nuisance on their property. (TEXAS HEALTH & SAFETY CODE § 341.012(a) (West 2017)) A local health authority may issue a notice ordering a person to abate a public health nuisance. (TEXAS HEALTH & SAFETY CODE § 341.012(b) (West 2017)) If the public health nuisance is not abated, the local health authority may notify the prosecuting attorney who may then take legal action. (TEXAS HEALTH & SAFETY CODE § 341.012(d) (West 2017)) A municipality, county, or local health authority may, without notice, abate mosquito breeding sites located on abandoned or uninhabited property. (TEXAS HEALTH & SAFETY CODE § 341.019 (West 2017)) A municipal government also has the authority to abate nuisances. (TEXAS LOC. GOV'T CODE § 217.002 (West 2017)) Finally, Texas law requires a person who impounds water for public use to cooperate with the Texas Commission on Environmental Quality and local health departments to control mosquitos. (TEXAS HEALTH & SAFETY CODE § 341.038 (West 2017)).

46. UTAH

Utah has a hybrid structure, with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the Department of Health is responsible for establishing and enforcing sanitation rules, which includes controlling vector-borne diseases and pests. (UTAH CODE ANN. § 26-15-7 (West 2017). The Department must periodically evaluate local health department programs to ensure they meet the minimum statewide standards and provide technical assistance. (UTAH CODE ANN. § 25-15-8 (West 2017)) Under Utah law there are no express emergency authorities to address mosquito control or express language to fund mosquito control.

At the local level, Utah law expressly provides for two processes to establish mosquito control districts. First, a more general law authorizes the creation of local districts to provide a variety of services, including mosquito abatement. (UTAH CODE ANN. § 17B-1-202 (vii) (West 2017)) Second, the Mosquito Abatement District Act specifically governs mosquito abatement districts (UTAH CODE ANN. § 17B-2a-701) In the event of a conflict, the Mosquito Abatement District Act governs, but districts created prior to 2007 do not have to comply with that Act. (UTAH CODE ANN. §17B-2a-701 (West 2017) and UTAH CODE ANN. § 17B-1-115 (West 2017)) In both instances, districts are created through a petition and ballot process or by resolution of the local governing body. (UTAH CODE ANN. § 17B-1-203 (West 2017)) Once established, mosquito abatement districts are financed by a property tax, not to exceed \$0.0004 on the value of real property. (UTAH CODE ANN. § 17B-1-1002(1)(g) (West 2017)). Voters can agree to a higher tax rate if approved through a referendum (UTAH CODE ANN. § 17B-1-2022(2)(j)(i) (West 2017) Mosquito abatement districts have broad authority to exterminate insects, including authority to enter public and private property. (UTAH CODE ANN. §17B-2a-703 (West 2017)) Under Utah law, there is no express role for local public health.

Utah does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

47. VERMONT

Vermont has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the Department of Agriculture, Food, and Markets is primarily responsible for mosquito control. (VT. STAT. ANN. 6 § 1082 (2017)) The Department can survey and research mosquito populations to inform abatement strategies. (VT. STAT. ANN. 6 § 1083 (2017)) Under Vermont law, there is a limited role for state public health. In the event that the Commissioner of Health determines that mosquitoes pose an imminent risk to public health, certain permits for larvicides and pupicides may be issued without a notice and comment process. (VT. STAT. ANN. 6 § 1083 (a)(5) (2017)). Under Vermont law, there are no express emergency authorities addressing mosquito control. Under Vermont law, there is express language to fund mosquito control. Local mosquito control districts may apply to the department of agriculture, food, and markets for grants through the Mosquito Control Grant Program that cover up to 75 percent of approved project costs. (VT. STAT. ANN. 6 § 1085 (2017)).

At the local level, Vermont law expressly provides for establishing mosquito control districts by a committee process managed by legislative branches of municipalities. (VT. STAT. ANN. 24 § 4831 (2017)) There is no specific financing mechanisms for mosquito control districts. Under Vermont law, there is no express role for local public health.

Vermont does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

48. VIRGINIA

Virginia has a hybrid structure, with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the State Board of Health has primary responsibility for mosquito control activities. (VA. CODE ANN. § 32.-247 (2017)) Under Virginia law, there is no express emergency powers to address mosquito control. The State Board of Health is authorized to contribute funds to local mosquito control district up to 25 percent of the amount raised by a mosquito control district or \$10,000, whichever is less. (VA. CODE ANN. § 32.1-195 (2017)).

At the local level, Virginia law expressly provides for establishing local mosquito control districts. (VA. CODE ANN. § 32.1-189 (2017)) Once established, a mosquito control district is financed by a special property tax levied by the governing body of a jurisdiction with a mosquito control district not to exceed \$0.25 per \$100 of assessed value. (VA. CODE ANN. § 32.1-194 (2017)) Mosquito control districts have broad authority to “control and eliminate mosquitoes in the district...subject to private property rights in the areas in which the work of the commission is performed.” (VA. CODE ANN. § 32.1-192 (2017)) Under Virginia law, there is not an express role for local public health.

Virginia does not have statewide requirements for private property owners to maintain property to control mosquitoes.

49. WASHINGTON STATE

Washington state has a hybrid system, with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the secretary of health has primary responsibility for mosquito control activities. (WASH. REV. CODE § 70.22.005-010 (2017)) Under state law, there are no express emergency authorities or specific financing mechanisms to address mosquito control.

At the local level, Washington state law expressly provides for establishing mosquito control districts through a petition and election process managed by county commissioners. (WASH. REV. CODE § 17.28.020 (2017)) Voters determine both whether to establish a mosquito control district and whether to authorize the district to levy property taxes not to exceed \$0.25 per \$1,000 of assessed property value during the election. (WASH. REV. CODE § 17.28.100 (2017)). Mosquito control districts have broad authority to control mosquitoes, including entering property to investigate breeding sites and determine if abatement notices have been fulfilled. (WASH. REV. CODE § 17.28.160 (2017)) Washington state law includes a limited role for local public health. Directors of irrigation and rehabilitation districts may use their funds for mosquito control with approval of the department of social and health services, and these funds may be transferred to a jurisdictional health department. (WASH. REV. CODE § 87.84.061 (2017)).

Washington state does have statewide requirements for private property owners to maintain their property to control mosquitoes. Under Washington state law, mosquito breed sites are explicitly defined as public nuisances, though with a limitation for normal water uses. (WASH. REV. CODE § 17.28.170 (2017)) A mosquito control district may adopt regulations or ordinances defining appropriate mosquito control measures within the district. (WASH. REV. CODE § 17.28.175 (2017)) If a property owner fails to comply with the rules, a mosquito control district can provide the owner with a notice and require abatement. (WASH. REV. CODE § 17.28.185(2017)). In the event of non-compliance, the mosquito control district may directly undertake mosquito control measures. Costs of remediation may be recovered through a lien on the property. (WASH. REV. CODE § 17.28.185 (2017)).

50. WEST VIRGINIA

The structure of mosquito control responsibilities cannot be ascertained. There are limited statutory provisions that address mosquito control in West Virginia.

51. WISCONSIN

Wisconsin has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the department of health is primarily responsible for mosquito control activities. The state epidemiologist for communicable diseases has responsibility over vector-borne disease prevention, surveillance, and control. (WIS. STAT. § 254.41 (2017)) In addition, the department of health has rulemaking authority regarding vector-borne diseases and collaborates with other state entities. (WIS. STAT. § 254.41 (2017)) Under Wisconsin law, there are no express emergency authorities to address mosquito control or express language to fund mosquito control.

At the local level, Wisconsin law expressly provides for establishing mosquito control commissions by a majority vote of county supervisors. (WIS. STAT. § 59.70 (12) (2017)) Once established, mosquito control commissions are financed by contributions from county budgets. (WIS. STAT. § 59.70 (15) (2017)) Commissions have authority to undertake activities to implement mosquito control programs, but they must obtain permission from the owner or a warrant in the event an owner refuses admission to enter private property. (WIS. STAT. § 59.70 (15) (2017)) Under Wisconsin law, there is an express role for local public health. Local board of health are responsible for enforcing the rules promulgated by the state health department, and they can adopt their own regulations and recommend ordinances that address mosquito control. (WIS. STAT. § 254.41 (2017)).

Wisconsin does not have express, statewide requirements for private property owners to maintain property to control mosquitoes.

52. WYOMING

Wyoming has a hybrid structure with mosquito control responsibilities divided between the state and local jurisdictions. At the state level, the department of agriculture is primarily responsible for mosquito control activities. The director of the department of agriculture sits on key boards and committees, such as the allocation committee that allocates state appropriations to county weed and pest control districts, as well as serves as an ex officio member of the Wyoming Weed and Pest Council and provides administrative support to the Emergency Insect Management Program. (WYO. STAT. ANN. § 11-5-106 (West 2017), WYO. STAT. ANN. § 11-5-113 (West 2017), WYO. STAT. ANN. § 11-5-102 (West 2017), and WYO. STAT. ANN. § 11-5-406 (West 2017)) Under Wyoming law, there is limited role for state public health. The Director of the department of public health services sits on the committee for the Emergency Insect Management Program. (WYO. STAT. ANN. § 11-5-401 (West 2017)) Under Wyoming law, there is express emergency authorities to potentially address mosquito control. The director of the department of agriculture may add a weed or a pest to an official list, either statewide or on a county-level, through an emergency declaration, which would allow for prevention and control activities. (WYO. STAT. ANN. § 11-5-102 (West 2017)) Under Wyoming law, there are three state programs that may fund mosquito control activities. First, the statewide allocation committee allocates legislative appropriations based on a funding formula, which requires recipients to contribute at least two-thirds of project costs. (WYO. STAT. ANN. § 11-5-113 (West 2017)) Second, a special management program provides funding for integrated pest management, and while it prioritizes leafy spurge, mosquitoes could be included. (WYO. STAT. ANN. § 11-5-303 (West 2017)) Third, state agencies and political subdivisions can apply to participate in the Emergency Insect Management Program, which requires recipients to contribute at least 50 percent of program costs. (WYO. STAT. ANN. § 11-5-406 (West 2017)).

At the local level, Wyoming law expressly provides for establishing Weed and Pest Control Districts created by county commissioners. (WYO. STAT. ANN. § 11-5-103 (West 2017)) Towns with at least 5,000 residents may also establish municipal Weed and Pest Control Districts. (WYO. STAT. ANN. § 11-5-115 (West 2017)). Once established, districts are financed by a property tax that cannot exceed 1 mill on each dollar of assessed value. (WYO. STAT. ANN. § 11-5-111 (West 2017)) Districts have authority to implement weed and pest control programs and may enter property through “lawful entry procedures.” (WYO. STAT. ANN. § 11-5-109 (West 2017)) Under Wyoming law, there is no express role for local public health.

Wyoming does not have express, statewide requirements for private property owners to maintain property to control mosquitoes. However, the Weed and Pest Control Districts may require property owners to remediate weed or pest infestation by approving a resolution. (WYO. STAT. ANN. § 11-5-109 (West 2017)). Property owners who fail to remediate can be subject to a civil fine (WYO. STAT. ANN. § 11-5-109 (West 2017)) It is unclear whether the Weed and Pest Control District has express authority to remediate in the event of noncompliance. Districts do not appear to be able to recoup costs of remediation efforts outside of the civil fines.

Conclusion

Unsurprisingly, the structure of mosquito control efforts across the states varies, as well as the authorities, available funding mechanisms, abatement mechanisms, and enforcement provisions across the jurisdictions. Recognizing the differences and variations among these aspects can help those who lead and conduct mosquito control efforts and policymakers recognize potential gaps in their state's legal authority for mosquito control. Understanding and addressing these gaps can lead to better control efforts and the reduction and prevention of mosquito-borne diseases.

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