



## **When Honey Bees Hit the Road: The Role of Federal, State, and Local Laws in Regulating Honey Bee Transportation**

**A White Paper of the University of Oregon School of Law**

**Environmental and Natural Resources Law Center**

**Food Resiliency Project**

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## About this Paper

This white paper was created through the University of Oregon Environmental and Natural Resources Law (ENR) Center’s Food Resiliency Project, an interdisciplinary research project focused on probing key law and policy issues to ensure resilient, sustainable food systems.

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## About the Food Resiliency Project

The Food Resiliency Project is one of seven theme-based, interdisciplinary research projects administered by the University of Oregon ENR Center. The Project is led by faculty leaders Michael Fakhri and Mary Wood. The Food Resiliency Project addresses key environmental and policy issues relating to all stages of the food system, including production, transportation, packaging, and consumption. These issues are examined through both a local and a transnational perspective. Local resilience to natural disaster and climate change is a key theme driving communities to develop self-sufficiency in their food systems.

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## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>I. INTRODUCTION.....</b>	<b>2</b>
A. SCOPE OF THE PROBLEM .....	2
B. REPORT METHODOLOGY AND SCOPE .....	4
C. SUMMARY OF PRIOR LEGAL ANALYSIS.....	5
D. THE LIMITATIONS OF REGULATING BEES AS COMMODITIES.....	7
<b>II. REGULATORY FRAMEWORK.....</b>	<b>8</b>
A. FEDERAL REGULATION OF HONEY BEES.....	8
1. <i>The USDA and APHIS Regulation of Honey Bee Commodities</i> .....	9
2. <i>Regulation by Shipping Companies</i> .....	12
3. <i>Federally Funded Surveys, Research, and Educational Programs</i> .....	13
B. STATE OVERVIEW .....	16
C. RELATIONSHIP BETWEEN STATES & MUNICIPALITIES .....	19
D. ENFORCEMENT ISSUES .....	20
<b>III. SELECTED STATE AND LOCAL BEEKEEPING MODELS.....</b>	<b>22</b>
A. EXAMPLES OF STATE REGULATORY FRAMEWORKS.....	22
1. <i>Hawaii</i> .....	22
2. <i>Georgia</i> .....	23
3. <i>New York</i> .....	25
4. <i>Delaware</i> .....	25
5. <i>New Jersey</i> .....	26
B. BRITISH COLUMBIA, CANADA.....	27
C. THE PROBLEM WITH STATE-TO-STATE INCONSISTENCIES .....	28
D. INNOVATIVE MODELS OF BEEKEEPING THAT PROMOTE BEE HEALTH AND SUPPORT NATIVE POLLINATORS.....	30
<b>IV. CONCLUSION .....</b>	<b>33</b>
<b>CONSIDERATIONS FOR FURTHER INVESTIGATION AND OUTREACH.....</b>	<b>34</b>
<b>APPENDIX A: STATE APIARY AND BEEKEEPING LAWS - SELECT PROVISIONS .....</b>	<b>36</b>
<b>APPENDIX B: CITATIONS TO STATE BEEKEEPING LAWS .....</b>	<b>43</b>
<b>APPENDIX C: GLOSSARY OF BEEKEEPING TERMS .....</b>	<b>48</b>
<b>APPENDIX D: GRAND COUNTY ORDINANCE 531 .....</b>	<b>50</b>

## Executive Summary

Each year, millions of honey bees travel thousands of miles—not on their wings but via the highway or a postal service. Beekeepers frequently source new queens in mailed packages that are sent from across the country. Commercial beekeepers transport bees and hives in tightly packed trucks that are driven throughout a multi-state region to start new colonies or provide pollination services. Devastating bee diseases and pests, which can weaken or kill entire colonies, may be unwittingly transported with the bees. This problem raises the questions of what actions are necessary to preserve bee health, and who is responsible for identifying, implementing, and enforcing these practices. The answer is that federal, state, and local laws each play a role in the regulation of beekeeping. While the federal government regulates bee imports *into* the United States, individual states bear primary responsibility for establishing and enforcing the interstate and intrastate controls for hive health and bee transport.

This report analyzes the regulatory framework governing bees that are purchased and shipped between states and communities. Some of the most rigorous—

and most anemic—regulatory efforts to control the associated risks are identified. It turns out that a few states have created and maintained well-funded and integrated programs of inspections and transportation controls. Most states, however, lack robust controls, funding, and enforcement in their apiary laws. Some states do not regulate beekeeping at all.

Due to the gaps and inconsistencies in regulation, more responsibility is placed on individual beekeepers, university extension programs, and beekeeping associations to prevent the spread of disease and pests and maintain healthy colonies. This report therefore also highlights actions by some beekeeping associations and communities to promote beekeeping best practices, small scale backyard beekeeping, and natural beekeeping opportunities. Finally, the report raises questions for further investigation including the role of pollinator health laws that many states are enacting, and consideration of best practices in other countries.

## I. Introduction

At the national and state level, honey bees are regulated primarily as agricultural commodities. The United States Department of Agriculture (USDA), the Animal and Plant Health Inspection Service (APHIS), and related agencies view the health and effectiveness of bee colonies through the lens of pollinators for agricultural crops and as producers of honey. This regulation of honey bees as commodities frames, and constrains, how beekeeping is regulated and managed. As a result, the role of bees in maintaining the overall health of ecosystems and as pollinators for native plants, backyard gardens, and cottage honey operations is often overlooked. Of particular concern is the inconsistent web of federal, state, and local regulations which can open the door to the spread of devastating bee diseases and pests.

## A. Scope of the Problem

There are about 4,000 species of bees native to North America. During the 17<sup>th</sup> Century, European settlers introduced the Western European honey bee (*Apis mellifera*) to this country.<sup>1</sup> Since their introduction, honey bees have become naturalized and developed numerous subspecies.<sup>2</sup> More recently, (since the 1950's) some bee colonies have become "Africanized" by interbreeding with a subspecies of African honey bee, which can be more aggressive towards humans.

Since 2006, the sudden and devastating loss of worker bees from colonies has been documented across the country.<sup>3</sup> This phenomenon, described as colony collapse disorder (CCD), has driven researchers, commercial beekeepers, and backyard apiarists to identify possible causes of CCD and develop improved management techniques focused on colony health. It is increasingly likely that there is no single cause of CCD, but rather multiple factors act synergistically to overwhelm colonies.<sup>4</sup>

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<sup>1</sup> There are several species of imported honey bees, with the most dominant species originating from Germany. *See e.g. The Different Types of Honey Bees*, BEESOURCE, <https://beesource.com/resources/usda/the-different-types-of-honey-bees/> (last visited Apr. 17, 2019).

<sup>2</sup> *European Honey Bee*, UNIVERSITY OF FLORIDA INSTITUTE OF FOOD & AGRIC. SCI.,

[http://entnemdept.ufl.edu/creatures/MISC/BEES/euro\\_honey\\_bee.htm](http://entnemdept.ufl.edu/creatures/MISC/BEES/euro_honey_bee.htm) (last visited Apr. 17, 2019).

<sup>3</sup> Emily Knobbe, *Honeybees and the Law: Protecting Our Pollinators*, 30 J. ENVTL. L. & LITIG. 219, 220–21 (2015).

<sup>4</sup> *Honey Bees*, USDA ANIMAL & PLANT HEALTH INSPECTION SERVICE (Mar. 14, 2019), <https://www.aphis.usda.gov/aphis/ourfocus/planthealth/plant-pest-and-disease-programs/honey-bees/>

Since 2009, the USDA/APHIS has conducted an annual survey of bee pests and disease and issued the National Honey Bee Pests and Diseases Survey Report.<sup>5</sup> Honey bees are susceptible to a wide range of viral, fungal, and bacterial infections including, but not limited to Deformed Wing Virus, chalk brood, *Nosema*, European foulbrood, and American foulbrood. Common pests include tracheal mites, small hive beetles (a honey bee pest from Africa), and *Varroa* mites (a honey bee parasite from Asia).<sup>6</sup> Both honey bees and native pollinators also must cope with the effects of climate change including changes in temperature, timing of plant pollination, available habitat, and new pests and pathogens.<sup>7</sup> There has also been increasing attention to the role of pesticides (e.g. neonicotinoids) in bee die-offs.<sup>8</sup> Honey bees purchased for commercial or private use face added stress and hardship when transported long distances.<sup>9</sup>

Some states have regulations mandating hive registration, inspections, and certifications of health for colonies and bee products prior to transport. Other states, however, have vague or no requirements

covering inspections and controlling the spread of disease and pests. Numerous states have rescinded their registration requirements and/or made registration voluntary. States such as Oregon and Colorado have eliminated funding for inspections. See Appendix A “*State Apiary and Beekeeping Laws: Select Provisions.*” Even in states with strong regulatory language, enforcement and proper implementation are challenging due to inadequate funding for these programs. Queen bees are often purchased in relatively inexpensive “packages” from commercial sellers who combine a queen with drones from separate colonies into a mailed or shipped package to the buyer.<sup>10</sup> Breeding and selling queens is a major (and growing) industry, and a quick internet search will turn up many options. These bees can be transported hundreds, or thousands of miles before arriving at their destination, and are subject to the stress of a new environment, temperature changes, and adaptation to bees from a different colony. As a result, there is no guarantee transported bees will be healthy, efficient pollinators in their new

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[hereinafter APHIS Honey Bees]; *European Honey Bee*, *supra* note 2.

<sup>5</sup> APHIS Honey Bees, *supra* note 4.

<sup>6</sup> *European Honey Bee*, *supra* note 2.

<sup>7</sup> *Pollinator Research Action Plan*, THE WHITE HOUSE POLLINATOR TASK FORCE (May 19, 2015), [https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/pollinator\\_research\\_action\\_plan](https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/pollinator_research_action_plan)

[2015.pdf](#) [hereinafter *Pollinator Research Action Plan*].

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

<sup>10</sup> See, e.g., *Where to Get Bees*, BEE BUILT, <https://beebuilt.com/pages/where-to-get-bees> (last visited April 17, 2019).

environment. Dr. Larry Connor explains the cause of queen failure:

Because the queen placed into a package of bees is not the mother of the bees in the package, there is a strong sense of queen replacement by these new colonies. Nucleus colonies, on the other hand, usually have had the queen in place for three to five weeks before they are delivered to the customer, and the bees and workers are better adjusted to each other.

<sup>11</sup>

While nucleus colonies have a higher success rate, they are more expensive and still subject to issues related to the transportation of stress and potential to spread new diseases cross country.<sup>12</sup>

Large scale commercial beekeepers often employ routine pesticide applications to kill mites and other pests because the risk of the spread of disease and pests are increased when hives are densely located or packed into trucks for transportation all over the country. In recent years, there has also been a rising trend throughout the country in hobby beekeeping.<sup>13</sup> Beekeepers of all types

can unknowingly contribute to the spread of disease and pests if they lack the knowledge and experience to carefully manage their colonies.<sup>14</sup> Given their different focus and access to financial and management resources, it is important to consider whether small-scale beekeeping is, or should be, regulated in the same way as commercial beekeeping. This query raises questions surrounding beekeeping best practices, how to address the rise in hobby beekeeping, and how to strengthen state and local regulations to promote healthy colonies.

## B. Report Methodology and Scope

This report outlines the federal role and then takes a deeper look at how states have addressed beekeeping, with a particular focus on whether, and to what extent, states address disease control, the transportation of packaged bees, and apiary registration and inspection programs. Because this is a complex topic, the appendices to this report include supplemental information and

commercial activity. However some hobby beekeepers do extract honey or comb products from their hives.

<sup>14</sup> Matt Robinson, *Catch the Buzz – Rearing Honey Bees Responsibly Requires Education and Careful Management to Help Stop the Spread of Disease*, BEE CULTURE (March 20, 2019), <https://www.beeculture.com/catch-the-buzz-rearing-honey-bees-responsibly-requires-education-and-careful-management-to-help-stop-the-spread-of-disease/>.

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<sup>11</sup> Larry Conner, *Dear Queen Buyer: 7 Rules for Queen Buyers to Remember*, BEE CULTURE (Aug. 23, 2016), <https://www.beeculture.com/dear-queen-buyer/>.

<sup>12</sup> Nucleus colonies are small colonies derived from larger colonies and reared or sold for the purpose of starting new colonies. See BEE BUILT, *supra* note 10; and Appendix C to this report.

<sup>13</sup> Hobby beekeeping, also known as urban or backyard beekeeping, is typically small in scale and refers to beekeeping as a recreational, non-

references. A summary of state beekeeping statutes is included in Appendix A, “*State Apiary and Beekeeping Laws: Select Provisions.*” Legal citations to each state’s beekeeping laws are found in Appendix B, “*State List of Beekeeping Laws.*” A glossary of beekeeping and apiary regulatory terms is provided in Appendix C.

It should be noted that regulation and rulemaking are dynamic processes, so both the content, and citations for these sources are subject to change at any time. In addition to the more formal regulatory processes, we also found that many state agencies and university extension programs issue informal guidance that can refine or even alter the stated regulatory rules. County and local ordinances can further regulate beekeeping, and this report includes illustrative examples. Appendix D provides an example of a local ordinance from Grand County, Utah. However, a comprehensive look at local ordinances and informal agency guidance is beyond the scope of this report.

### C. Summary of Prior Legal Analysis

The depth of law review articles and other prior legal analysis of interstate honey

bee transportation is shallow. However, several articles provided helpful insight and important background information in developing the structure of this report. As early as 1980, legal analysts identified inconsistencies as well as some patterns in state-level regulation of bee transport.<sup>15</sup> A.S. Michael was the USDA Assistant Chief, Apiculture Research Branch, Entomology Research Division, Agricultural Research Service explained:

[T]here is a lack of uniformity in State bee laws and regulations, but considerable agreement on specific points of law. Most States require registration of apiaries, permits for movement of bees and equipment interstate, certificates of inspection, right of entry of the inspector, movable-frame hives, quarantine of diseased apiaries, notification of the owner upon finding disease, prohibition of sale or transfer of diseased material, and use of penalties in the form of fines or jail or both.<sup>16</sup>

Michael’s research included a survey, similar to the one compiled as the basis for this report, examining bee hive related regulations across all fifty states as of 1977.<sup>17</sup> While relevant laws and

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<sup>15</sup> A.S. Michael, *Federal and State Bee Laws and Regulations*, 335 BEEKEEPING IN THE UNITED STATES AGRICULTURAL HANDBOOK 161 (1980).

<sup>16</sup> *Id.*

<sup>17</sup> A table summarizing Michael’s 1977 findings is available at <https://www.beesource.com/wordpress/wp-content/uploads/table11.gif>.

regulations have certainly evolved since 1977 (becoming more tightly regulated in some states and deregulated in others), this earlier article is notable because it highlighted the historic inconsistencies in state regulation of bee transportation.<sup>18</sup> Readers can compare Michael’s findings to the more recent information in this report to see some trends in deregulation and the ongoing problems with inconsistent regulation state-to-state. The issues arising from these inconsistencies are now multiplied by the failure of state laws to adapt to the relatively recent spike of interest in hobby beekeeping.<sup>19</sup>

Another law review article from the 1980s discussed how interstate transportation of bee hives became such a common practice and the resulting challenges.<sup>20</sup> Honeybees are not only one of the most proficient pollinators found in nature, they are also more easily transportable than other pollinator species.<sup>21</sup> Particular agricultural enterprises, such as almond orchards in California, require imports of pollinators in order to ensure the

success of the crop.<sup>22</sup> “[O]ver half of the honeybee colonies in the United States are trucked to California to meet the demand for almond pollination. From California, the beekeepers transport their bees in different directions to meet pollination demands throughout the United States.”<sup>23</sup> This has advanced concerns surrounding the movement of mites and other diseases harming bee populations across state lines.<sup>24</sup> It has also altered modern commercial beekeeping practices and led to increased application of chemical antibiotics and pesticides in an attempt to reduce such diseases.<sup>25</sup>

Lastly, an article published in the *Journal of Environmental Law & Litigation* emphasized the gaps between scientific understanding of honeybee colonies and the legal framework that regulates them.<sup>26</sup> The article also describes the suspected causes and risk factors associated with colony collapse disorder. These factors include pathogens, parasites, management stressors, and environmental stressors including pesticides.<sup>27</sup> Regarding the stress of

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<sup>18</sup> See Michael, *supra* note 15.

<sup>19</sup> Sam Weber & Laura Fong, *Why urban beekeeping is a rising trend in major cities*, PBS NEWS HOUR (Sept. 4, 2016, 3:25 PM), <https://www.pbs.org/newshour/show/urban-beekeeping-rising-trend-major-cities>.

<sup>20</sup> Kathryn A. Peters, *Disappearing Bees and the Explosion of Urban Agriculture Inspire Urbanites to Keep Honeybees: Why City Leaders Should Care and*

*What They Should Do About It*, 17 DRAKE J. AGRIC. L. 597 (1980).

<sup>21</sup> *Id.* at 605.

<sup>22</sup> *Id.* at 607–08.

<sup>23</sup> *Id.*

<sup>24</sup> *Id.* at 608–09.

<sup>25</sup> *Id.*

<sup>26</sup> Knobbe, *supra* note 3, at 220–21.

<sup>27</sup> *Id.* at 221–234.

transporting bees for pollination services, author Emily Knobbe explains:

Hives are packed onto trucks and driven around the country. A bump on the road could cause structural damage to the inside of a hive, and any perceived threat could send a whole hive of bees into panic. Traveling also makes them susceptible to toxins and pathogens from all over the country, and the close packing of the hives make transmission of disease from hive to hive much more likely. Stress from travel further decreases a hive's ability to combat pests and disease.<sup>28</sup>

Despite the known risks from interstate sale and transport of honey bees, there has been relatively little funding or regulatory attention to preventing the potential spread of devastating diseases and pests that could contribute to future colony losses.

#### D. The Limitations of Regulating Bees as Commodities

At both the federal and state levels, honey bees are regulated as agricultural

commodities due to their valuable contributions to large-scale honey production and the pollination of many commercial agricultural crops.<sup>29</sup> Unlike other agricultural products such as grains, fruits, and livestock, bees provide a unique service—pollination. As such, they are integral to the survival of agricultural crops, backyard gardens, and the natural environment. With public concern over colony collapse rising, there has been a correlating increase in media attention and advocacy around the plight of bees and other pollinators. Beekeeping (both honey bee and native species) is experiencing rapid growth in urban areas.

There is broad recognition that the health and survival of humans is reliant on the ability of honey bees to pollinate crops, gardens, and natural habitats. As a result, there has been a spike in local and state pollinator health initiatives including state statutes that limit the use of pesticides, establish pesticide notification systems, and incentivize habitat protection for farmers and other landowners. A 2019 study found that thirty-six states legislatures passed 109 pollinator-relevant polices during the period

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<sup>28</sup> *Id.* at 227.

<sup>29</sup> *European Honey Bee*, *supra* note 2.

“Bees pollinate more that 30% of the food we eat, and in the United States it is estimated that bees pollinate up to \$15 billion worth of crops each year.

In addition to providing pollination services, honey bees also produce other products that people use including honey, pollen, wax, royal jelly, and propolis.” *Id.*

from 2000 to 2017.<sup>30</sup> This study notes that “[i]n the absence of comprehensive national legislation, subnational assemblies are authoring insect pollinator laws worthy of attention as policy innovations. . . State legislatures reflect the values, opinions, and desires of the populations they represent and require interactions among rural and urban representatives.”<sup>31</sup>

Scientists have recognized that managing bees for the pollination services they provide is not the same as management and policy measures that promote native pollinator species diversity.<sup>32</sup> In recent years there have been both individual and community investments in creating habitat for bees as an ecological and moral imperative.<sup>33</sup> Natural beekeeping and progressive local ordinances that address the ecological rules of bees are further discussed in the last section of this report.

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<sup>30</sup> Damon Hall & Rebecca Steiner, *Insect Pollinator Conservation Policy Innovations: Lessons for Lawmakers*, 93 ENVTL. SCI. & POL’Y 118–28 (2019), [https://reader.elsevier.com/reader/sd/pii/S1462901118311389?token=00B175D9D27FD3C97193E201C38744ACC423626C1F624BCBD20DE4F2AE0D4F70AA1A9120D2FF6C62FDF3889E92218D79\\_](https://reader.elsevier.com/reader/sd/pii/S1462901118311389?token=00B175D9D27FD3C97193E201C38744ACC423626C1F624BCBD20DE4F2AE0D4F70AA1A9120D2FF6C62FDF3889E92218D79_)

<sup>31</sup> *Id.*

<sup>32</sup> Deepa Senapathi et al., *Pollinator Conservation – the difference between managing for pollination services and preserving pollinator diversity*, 12 CURRENT OPINION IN INSECT SCI. 93, 95 (2015),

## II. Regulatory Framework

### A. Federal Regulation of Honey Bees

The federal role in regulating beekeeping is focused on bees’ commodity value and promoting and protecting commercial honey production and large-scale pollination of agricultural crops. The scope of the USDA’s regulations covering imports of bees and bee products from other countries includes identifying authorized exporting countries and establishing controls to prevent the unintended spread of disease, pests, and undesirable bee species that could decimate domestic and native pollinator species.<sup>34</sup> In addition, the federal government supports surveys, research, and educational programs with the goal of improving honey bee genetics, colony health, and productivity. With the exception of Hawaii, the USDA’s regulations do not cover interstate or intrastate transportation of bees or the associated risk of disease.<sup>35</sup> Nor does the federal government require inspection or permits for bee transport

<https://reader.elsevier.com/reader/sd/pii/S2214574515001650?token=4E9468C97915E3C3C409807DF5BE8D948D0AABC8D2EC7CD10D04EF0A41983CBD7D100E56F764C15A4716EAC6A218C2A3>.

<sup>33</sup> *Id.* at 95–97.

<sup>34</sup> 7 C.F.R. § 322 (2019).

<sup>35</sup> 7 C.F.R. §§ 319–22 (2019). *See also*, [https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/sa\\_bees/ct\\_regulated\\_organism\\_soil\\_permits](https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/sa_bees/ct_regulated_organism_soil_permits).

within the continental United States.<sup>36</sup>

Primary responsibility for regulating bee transport therefore falls on individual states and local governments. As discussed in later sections, the patchwork of state regulations makes controlling the spread of disease and pests difficult, especially when bees are routinely shipped, mailed, and moved long distance via ground and air transport.

### *1. The USDA and APHIS Regulation of Honey Bee Commodities*

Bees and bee products are categorized as agricultural commodities, which can be broadly described as the products of farming and ranching. Agricultural commodities are more specifically defined by the USDA as:

An unprocessed product of farms, ranches, nurseries, and forests and natural and man-made bodies of water, that the independent producer has cultivated, raised, or harvested with legal access rights. Agricultural commodities include plant and animal products and their by-products, such as crops, forestry products, hydroponics, nursery stock, aquaculture, meat, on-farm

generated manure, and fish and seafood products. Agricultural commodities do not include horses or other animals raised or sold as pets, such as cats, dogs, and ferrets.<sup>37</sup>

While the agricultural product of bees is honey, bees are also integral to healthy ecosystems and food chains. Honey bees are among nature's most productive pollinators, and are recognized as vitally important to the survival and health of agricultural crops, backyard gardens, and native plant species.

With the passage of the Honeybee Act of 1922, (7 USC § 281-286), Congress took the first steps to substantially limit importing live honey bees into the United States from most countries.<sup>38</sup> The initial concern covered by this legislation was the Tracheal mite, but today the Act helps to prevent the importation of the Varroa mite, other harmful pests, and exotic (Africanized) bee species. The Honeybee Act was amended in 1947, 1962, 1976, and most recently in 1994. It now regulates bees at all stages of development, as well as bee semen and germplasm. The 2004 amendments allowed imported bees and germplasm from

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<sup>36</sup> 7 C.F.R. § 322.2 (2019): "The following regions of the United States are considered pest-free areas for Varroa mite, tracheal mite, small hive beetle, and African honeybee: Hawaii. . . .In order to prevent the introduction of [the above pests] . . . interstate

movement of honeybees into those areas is prohibited."

<sup>37</sup> 7 C.F.R. § 4284.902 (2019).

<sup>38</sup> 7 U.S.C. § 281-286 (2018).

Australia and New Zealand, amended import controls to align with international standards, and prohibited interstate movement and importation of honeybees into Hawaii.

The Honeybee Act also authorizes the USDA to work in cooperation with other countries to suppress and control the spread of African or Brazilian bees. The main provision authorizes the Secretary of Agriculture to:

[P]rohibit or restrict the importation or entry of honeybees and honeybee semen into or through the United States in order to prevent the introduction and spread of diseases and parasites harmful to honeybees, the introduction of genetically undesirable germplasm of honeybees, or the introduction and spread of undesirable species or subspecies of honeybees and the semen of honeybees.<sup>39</sup>

The USDA has delegated much of its regulatory authority to the Animal and Plant Health Inspection Service (APHIS) to oversee imports and the control of disease and pests associated with international trade

in bees and bee products. APHIS regulations prohibit importation except as expressly allowed.<sup>40</sup>

Honeybees now are approved for import from Canada, Australia, and New Zealand with export certificates and permits. In addition, germplasm from those countries as well as Bermuda, France, Great Britain, and Sweden is allowed, primarily for research purposes.<sup>41</sup> International imports into the United States of other bee products or from foreign countries are considered “Restricted Organisms.” Imports of restricted organisms are only allowed for research purposes, and are subject to additional permitting and inspection requirements.<sup>42</sup> Under the Honeybee Act and APHIS regulations, a Plant Protection and Quarantine (PPQ) permit is the mechanism for regulating international imports of honey bees to prevent the entry of diseases, parasites, and undesirable subspecies of bees.<sup>43</sup> APHIS’s permit review process includes consultation with the importing state.

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<sup>39</sup> 7 U.S.C. § 281(a) (2018).

<sup>40</sup> 7 C.F.R. §§ 319–22 (2019).

<sup>41</sup> *Honey Bees & Other Bees*, USDA ANIMAL & PLANT INSPECTION SERVICE, [https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/sa\\_bees/ct\\_regulated\\_organism\\_soil\\_permits](https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/sa_bees/ct_regulated_organism_soil_permits) (last visited Apr. 17, 2019).

<sup>42</sup> 7 C.F.R. §§ 322.13–21 (2019).

<sup>43</sup>

[https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/sa\\_bees/ct\\_plant\\_protection\\_honeybee\\_acts](https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/sa_bees/ct_plant_protection_honeybee_acts) (last visited April 2019).

APHIS export certificate requirements at 7 CFR §322.6 provide model language that may be helpful for states to adopt for interstate and intrastate transport. The APHIS rules incorporate international standards, which in many instances are stronger than the inter-state importation rules in many states. First, the regulations require inspection within ten days of export from the source country as well as verification of the source location. Importantly, the certificate must identify any diseases, parasites, or undesirable species or subspecies in the source hive, and mandates that the shipment be rejected if the inspection finds a disease or pest of concern:

*Adult honeybees.*

(1) For adult honeybees, the export certificate must:

- (i) Certify that the hives from which the honeybees in the shipment were derived were individually inspected by an official of the regulatory agency no more than 10 days prior to export;
- (ii) Identify any diseases, parasites, or undesirable species or subspecies of honeybee found in the hive during that pre-export inspection; and
- (iii) Certify that the bees in the shipment were produced in the exporting region and

are the offspring of bees or semen also produced in the exporting region.

(2) If the export certificate identifies a bee disease or parasite of concern to the United States, including, but not limited to, Thai sacbrood virus, *Tropilaelaps clareae*, and *Euvarroa sinhai*, or an undesirable species or subspecies of honeybee, including, but not limited to, the Cape honeybee (*Apis mellifera capensis*) and the Oriental honeybee (*Apis cerana*), as occurring in the hive from which the shipment was derived, we will refuse the shipment's entry into the United States.<sup>44</sup>

Similar provisions apply to bee germ plasma imports into the United States. APHIS regulations also establish designated ports of entry where the agency inspectors are available.<sup>45</sup>

Bee producers are also included in the federal Farm Bill. Commercial beekeepers rely on the Farm Bill to protect the economic value of their apiaries. The Agricultural Improvement Act of 2018 (the 2018 Farm Bill), for example, provides financial assistance via the Emergency Assistance for Livestock, Honey Bees, and

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<sup>44</sup> 7 C.F.R. § 322.6 (2019). The requirement for inspection within 10 days is derived from international standards set out by the Office International des Epizooties' (OIE) Hygiene and Disease Security Procedures in Apiaries. See also

Federal Register notice on adopt of these rules, <https://www.federalregister.gov/documents/2004/10/21/04-23416/bees-and-related-articles>.

<sup>45</sup> 7 C.F.R. § 322.11 (2019).

Farm-raised Fish (ELAP) program to honeybee producers for losses resulting from disease and severe weather conditions.

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## 2. *Regulation by Shipping Companies*

The United States Postal Service (USPS) plays a role in the transportation of bees and preventing the spread of disease and pests by establishing rules for mailing packaged bees via air and ground transport.<sup>47</sup> These rules require adherence to federal and state regulations and identify the type of shipments allowed, package markings required, and environmental requirements to promote bee health.

### Live Bees Mailability Requirements:

a. Honeybees and queen honeybees are acceptable for shipping within the *continental U.S. and must be free of disease, as required under federal and state regulations* (emphasis added). The following additional conditions apply:

b. *Honeybees.* Honeybees are acceptable only via surface transportation, and must bear special handling fees, in addition to regular postage.

c. *Honeybees.* Honeybees are acceptable only via surface transportation, and must bear special handling fees, in addition to regular postage. Mailpieces must be plainly marked on the address side with “Live Bees” and “Surface Only” or “Surface Mail Only.”

d. *Queen Honeybees.* *Via air transportation.* Only queen honey bees may be shipped via air transportation. Each queen honeybee shipped via air transportation may be accompanied by up to eight attendant honeybees.

*Via surface transportation.* Queen honeybees shipped via surface transportation must bear special handling fees, in addition to regular postage. All mailpieces containing queen honeybees must be plainly marked on the address side with “Live Queen Bees.”

<sup>47</sup> *Hazardous, Restricted, and Perishable Mail*, UNITED STATES POSTAL SERVICE (June 2018), <https://pe.usps.com/cpim/ftp/pubs/pub52/pub52.pdf>.

By contrast, United Parcel Service (UPS) will only accept live animals for next day delivery. Concerning bees, UPS policies specify the type of packaging allowed and nutrition provided, but do not mention compliance with inspection requirements.<sup>48</sup> FedEx does not accept shipment of live animals, and therefore bees cannot legally be transported via FedEx.

### *3. Federally Funded Surveys, Research, and Educational Programs*

The USDA, along with cooperating federal and state agencies, conducts research, surveys, and education to promote pollinator health. The USDA also promotes educational programs on the importance of bees and pollinators, how to create bee-friendly environments, and best practices for apiaries.<sup>49</sup> Additional major programs and initiatives are described below:

Conservation Reserve Program: The USDA's Farm Service Agency (FSA) runs the Conservation Reserve Program (CRP),

which pays farmers to remove environmentally sensitive land from agricultural production and issues reports on pollinator health.<sup>50</sup> The Pollinator Habitat Initiative (CP-42) of the CRP has provided millions of acres of vital habitat for honey bees and other pollinators. Approved practices focus on growing varieties of native plant species that flower at different times throughout the growing season. Honey bee hives are also allowed on CRP lands with other designations than CP-42. For these lands, planting legumes and wildflowers are recommended.

The CRP pollinator conservation efforts are focused on “enhancing grasslands, wooded areas, wetlands, and crops providing bee forage [that] will likely support the growth, reproduction, and survival of diverse wild bee communities and the success of managed honey bees in areas dominated by intensive agriculture.”<sup>51</sup> However, the sustainability of such efforts is highly variable. Researchers associated with the Pollinator Initiative have issued a report

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<sup>48</sup> *Shipping Live Animals*, UPS, <https://www.ups.com/us/en/help-center/packaging-and-supplies/special-care-shipments/animals.page> (last visited Apr. 17, 2019).

<sup>49</sup> *Hill Buzzing with Pollinator Success*, USDA MARKETING AND REGULATORY PROGRAMS, <https://www.usda.gov/media/blog/2016/06/23/hill-farm-buzzing-pollinator-success> (last visited April 7, 2019).

<sup>50</sup> *See Pollinators*, USDA FARM SERVICE AGENCY <https://www.fsa.usda.gov/programs-and->

[services/economic-and-policy-analysis/natural-resources-analysis/pollinators/index](https://www.fsa.usda.gov/programs-and-services/economic-and-policy-analysis/natural-resources-analysis/pollinators/index) (last visited Apr. 17, 2019) [hereinafter Farm Service Pollinator Report].

<sup>51</sup> Elaine Evans, *Wild, native bees and managed honey bees benefit from similar agricultural land uses*, 268 AGRIC., ECOSYSTEMS & ENV'T, 162 (Dec. 1, 2018).

on the health of honey bees and other pollinators, the status of land conservation efforts, and evaluation of the CRP's effectiveness across the Great Plains region. Unfortunately, this 2018 report found significant loss of CRP foraging lands to row crops at a level that was detrimental to pollinators.<sup>52</sup> Other federal and state programs promoting habitat for pollinators continue to expand opportunities for supporting species diversity.

Agricultural Research Service: The USDA supports honey bee research through its in-house research arm, the Agricultural Research Service (ARS), and competitive grants administered by the National Institute of Food and Agriculture (NIFA). These federal agencies have acknowledged honey bee health is negatively impacted by a combination of parasites, diseases, poor nutrition, loss of forage habitat and environmental toxins.<sup>53</sup> The ARS sponsors four bee research labs that investigate bee pollination, physiology, pests, diseases, stress, nutrition, and impacts of climate change.<sup>54</sup> For example the USDA's Carl

Hayden Bee Research Center in Tucson, Arizona conducts research to "optimize the health of honey bee colonies" and production of bee pollinated crops.<sup>55</sup> Despite the enormous financial and personnel resources expended on research and surveying threats to honey bees, there is a dearth of research on mitigating the risk of spreading disease and pests specifically caused by the interstate transportation of packaged bees. The primary focus of these labs is pest and disease control and improving methods of breeding and raising commercial bees.

Pollinator Surveys: USDA and APHIS conduct annual pollinator surveys and also fund monitoring efforts by university and private partners. APHIS (in collaboration with the ARS, the University of Maryland, and several state apiarists) has conducted a national survey of honey bee pests and diseases each year since 2009. This comprehensive national survey documents which bee diseases, parasites, or pests of honey bees are present and/or likely absent in the United States. In addition,

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<sup>52</sup> Clint R. V. Otto et al., *Past Role and Future Outlook of the Conservation Reserve Program for Supporting Honey Bees in the Great Plains*, PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES (July 17, 2018), <https://www.pnas.org/content/115/29/7629>; see also Farm Service Pollinator Report, *supra* note 50.

<sup>53</sup> APHIS SURVEY OF HONEY BEE PESTS AND DISEASES, <https://www.aphis.usda.gov/aphis/ourfocus/planthealt>

[h/plant-pest-and-disease-programs/honey-bees/survey](https://www.aphis.usda.gov/aphis/ourfocus/planthealth/plant-pest-and-disease-programs/honey-bees/survey) (last visited April 29, 2019).

<sup>54</sup> USDA-ARS BEE LABS, <https://articles.extension.org/pages/21736/usda-ars-bee-labs> (last visited Apr. 17, 2019).

<sup>55</sup> *Carl Hayden Bee Research Center*, USDA AGRICULTURAL RESEARCH SERVICE, <https://www.ars.usda.gov/pacific-west-area/tucson-az/honey-bee-research> (last visited Apr. 16, 2019).

NIFA funds the Bee Informed Partnership: a collaboration of leading researchers and extension specialists working to better understand the reasons behind honey bee losses. Their efforts include a National Management Survey, building on APHIS' annual survey, by working with beekeepers to track colony losses and other factors associated with CCD.<sup>56</sup>

Natural Resources Conservation Services: The USDA's Natural Resources Conservation Service (NRCS) works with agricultural bee producers across the country on honey bee conservation. The focus of NRCS is on industrialized and large-scale bee production. The NRCS provides education and technical assistance to "implement conservation practices that provide forage for honey bees while enhancing habitat for other pollinators and wildlife and improving the quality of water, air and soil."<sup>57</sup> NRCS also aims to improve and expand existing habitats through planting cover crops, wild flowers and native grasses on farms as part of regular crop rotations. There is also increased

attention on pesticide use on farming operations. NRCS most recently has directed its efforts towards Michigan, Minnesota, Montana, North Dakota, South Dakota and Wisconsin, all of which are top states in agricultural production.

White House Pollinator Health Task Force: In May 2015, the newly created White House Pollinator Health Task Force released a Pollinator Research Action Plan that identified the issues and priorities for the task force.<sup>58</sup> In 2016, the task force issued its Pollinator Partnership Action Plan (PPAP) directing the USDA and other agencies to create a federal strategy to promote the health of honey bees and other pollinators.<sup>59</sup> As a result, the Government Accounting Office published an extensive report in 2016 on the USDA's efforts to address threats to bee populations.<sup>60</sup> This report found that the USDA was not taking sufficient action to coordinate with other agencies (such as the Environmental Protection Agency) or address impacts from agricultural beekeeping on native and wild pollinator populations.<sup>61</sup>

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<sup>56</sup> *Pollinator Partnership Action Plan*, THE WHITE HOUSE POLLINATOR TASK FORCE (June 2016) [https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Blog/PPAP\\_2016.pdf](https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Blog/PPAP_2016.pdf) [hereinafter *Partnership Action Plan*].

<sup>57</sup> *Insects and Pollinators*, USDA NATURAL RESOURCE CONSERVATION SERVICE, <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/nati>

[onal/plantsanimals/pollinate/](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/plantsanimals/pollinate/) (last visited April 16, 2019).

<sup>58</sup> *Pollinator Research Action Plan*, *supra* note 7.

<sup>59</sup> *Partnership Action Plan*, *supra* note 56.

<sup>60</sup> *USDA and EPA Should Take Additional Actions to Address Threats to Bee Populations*, GOVERNMENT ACCOUNTABILITY OFFICE (Feb. 2016), <https://www.gao.gov/assets/680/675111.pdf>.

<sup>61</sup> *Id.*

In summary, federal bee regulations focus on preventing imports of invasive species from other countries and promoting commercial pollination for agribusiness and food security purposes. More recently, federal bee initiatives have begun funding research on controlling mites and other pests, and initiated subsidy programs to support more habitat for pollinators.

## B. State Overview

Much like federal regulations, state laws were established primarily to regulate commercial beekeeping as an agricultural activity for pollination services and honey production. Only a few states have provisions specifically addressing hobby beekeeping. As a result, beekeepers in most states are subject to the same laws whether they have two or two hundred hives. State statutes and administrative rules frequently cover topics such as apiary registration requirements, the state's role in inspecting hives, intra and interstate transportation of bees and hives, zoning requirements, and penalties for violations. However, each state varied remarkably in terms of the scope and detail of provisions, and whether the state preempts or delegates authority for

beekeeping regulation to counties and local government. This state analysis primarily focuses on how states differ regarding registration, inspection, and controls to prevent the spread of disease and pests from the sale of packaged queens. [Appendix A](#) provides a state-by-state summary of the key provisions.

Many states require some form of apiary registration because it allows state authorities to maintain updated statistics on the location, number, and owners of honey bee colonies. In some of these states, registration is mandatory and failure to register bee hives is a fineable misdemeanor.<sup>62</sup> South Dakota law, for example, states “[a]ny person owning, leasing, or possessing bees shall file an application registering the bees and each apiary.”<sup>63</sup> Furthermore, “a person is subject to a civil penalty not to exceed five hundred dollars for each location that the person has failed to register.”<sup>64</sup> In other states, such as Oklahoma, registration is optional.<sup>65</sup> The Oklahoma legislature established “a voluntary registration program” maintained by the state’s Department of Agriculture, Food, and Forestry.<sup>66</sup> Most states have the same registration requirements regardless of

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<sup>62</sup> See, e.g., S.D. CODIFIED LAWS § 38-18-3 (2018). See also, Appendix A for additional examples of mandatory registration.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

<sup>65</sup> See, e.g., OKLA. STAT. tit. 2, § 3-113 (2018).

<sup>66</sup> *Id.*

the number or location of hives that a beekeeper maintains.

Another key component of bee regulation is hive inspection. Inspections are preventative measures aimed at limiting the transfer of apiary disease across state lines. Similar to hive registration requirements, state laws regarding inspection of hives varies widely. Nearly all states have an apiary inspection program outlined in their statutes and regulations.<sup>67</sup> Some of these are voluntary programs, under which inspections are only available by request and occur at the expense of the requesting party.<sup>68</sup> For example, in Michigan, a beekeeper “may apply to the director for an inspection for serious bee diseases likely to prevent the acceptance of the bees or beekeeping equipment in the state or country, and shall acknowledge in the application that person’s obligation to pay full expenses of the inspection.”<sup>69</sup> Contrarily, some state statutes explicitly require inspections for all hives moving in and out of the jurisdiction.<sup>70</sup> In Louisiana, “[n]o bees or used beekeeping equipment shall be moved unless accompanied by a

certificate of inspection by the state entomologist.”<sup>71</sup>

A functional system of registration and inspection can be expensive with paid, trained inspectors, an integrated registration system, and public education programs. Some states charge registration fees, which help support research and/or regulatory inspections and enforcement. In Oregon, owners of five or more hives must register and pay a \$10 fee plus \$.50 per hive annually. The registration fee increases to \$20 after July, which provides an incentive for early registration. Fees that are collected are distributed to the Oregon State University Bee Lab for research and outreach.<sup>72</sup> In New Mexico, the rules for registration are found in state statutes and the administrative regulations. The minimum number of hives requiring registration is either 15 or 25, depending on location. The registration fee is \$3 per hive.<sup>73</sup> Fees are used to administer and enforce the New Mexico Bee Act.<sup>74</sup>

Only a few states provide specific regulatory guidance on the inspection, sale, and transport of packaged queen bees and

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<sup>67</sup> One exception to this is Arizona. The chapter of the Arizona Revised Statutes regarding bees and apiary management has been repealed. ARIZ. REV. STAT. ANN. §§ 3-801–3-807 (repealed 1994).

<sup>68</sup> MICH. COMP. LAWS ANN. § 286.814(1) (West 2018).

<sup>69</sup> *Id.*

<sup>70</sup> *See, e.g.*, LA. STAT. ANN. § 3:2307(A) (2018).

<sup>71</sup> *Id.*

<sup>72</sup> OR. REV. STAT. ANN. § 602.090 (West 2018).

<sup>73</sup> N.M. REV. STAT. § 76-9-1 (West 2019); N.M. CODE R. § 21.27.2.9 (2019).

<sup>74</sup> N.M. REV. STAT. § 76-9-12 (West 2019).

nucleus hives.<sup>75</sup> West Virginia defines packaged bees as “bees shipped in combless packages accompanied by a valid certificate of health from an authorized state or federal agency verifying the absence or presence of any infectious or communicable diseases or parasitic infestations . . . .”<sup>76</sup> New Jersey law also explicitly requires certification for shipments of queen bees in or out of the state.<sup>77</sup> “No package or parcel containing queen bees shall be shipped or delivered from an apiary where queen bees are raised for sale without having attached to it a certificate from the [D]epartment [of Agriculture] . . . .”<sup>78</sup> Another example comes from Ohio, where state law requires annual inspection of queens raised for sale.<sup>79</sup>

The director shall require all queen rearing apiaries to be inspected at least once each year. If the inspection results in the diagnosis of any serious bee disease or indicates the presence of Africanized honey bees, the owner thereof shall not ship, sell, or give away any queen bees until he has controlled

or eradicated the disease or bees to the satisfaction of the director.<sup>80</sup>

Even with the increased popularity of beekeeping in urban areas in recent years, relatively few states distinguish between commercial and hobby beekeeping. Only a handful of states such as Oregon<sup>81</sup> and Wyoming<sup>82</sup> recognize small-scale beekeeping in their state statutes. Idaho accounts for the size and scale of beekeeping operations by exempting hobby beekeepers from commercial beekeeping registration requirements.<sup>83</sup> Oregon and South Dakota regulations contain several further distinctions between commercial and hobby beekeepers.<sup>84</sup> Oregon’s statute directs the Oregon State University Extension Service to “establish by written policy best practices for beekeeping within residential areas.”<sup>85</sup> In South Dakota, the Department of Agriculture has designated specific sampling procedures for hives based on the size of the apiary. “If an apiary has less than 50 colonies, a composite sample

<sup>75</sup> See, e.g., N.J. STAT. ANN. § 4:6-14 (West 2018); OHIO REV. CODE ANN. § 909.08 (West 2018).

<sup>76</sup> W. VA. CODE § 19-13-2 (14) (West 2018).

<sup>77</sup> N.J. STAT. ANN. § 4:6-14 (West 2018).

<sup>78</sup> *Id.*

<sup>79</sup> OHIO REV. CODE ANN. § 909.08 (West 2018).

<sup>80</sup> *Id.*

<sup>81</sup> OR. REV. STAT. ANN. § 602.090 (West 2018); OR. ADMIN. RULE 603-055-0100 (2019).

<sup>82</sup> WYO. STAT. ANN. §§ 11-7-131(xi), 11-7-205 (2019) (defining “hobbyist beekeeper” as a person who owns a total of not more than five hives).

<sup>83</sup> IDAHO CODE ANN. § 22-2510(1) (West 2018) (defining commercial beekeeper as “a person engaged in the management of honey bees for their products and for pollination services.”).

<sup>84</sup> See, e.g., OR. REV. STAT. ANN. § 602.035 (West 2018); S.D. ADMIN. R. 12:41:04:04(3) (2019).

<sup>85</sup> OR. REV. STAT. ANN. § 602.035 (West 2018); Andony Melathopoulos, et. al., RESIDENTIAL BEEKEEPING: BEST PRACTICES IN NUISANCE-FREE BEEKEEPING IN OREGON, Oregon State University Extension <https://catalog.extension.oregonstate.edu/em9186/html>.

shall be collected from a minimum of 5 colonies or from all colonies when the apiary has fewer than 5 colonies.”<sup>86</sup> A number of other states have expanded public education programs for hobby beekeepers. For example, West Virginia’s best practices guide is geared toward both commercial and hobby beekeepers.<sup>87</sup>

### C. Relationship Between States & Municipalities

There is significant interplay between state laws and municipal regulation of beekeeping. For beekeepers and bee advocates who seek to change or improve regulatory standards, it is imperative to understand where the authority lies for regulating honey bees in their state. Some states have specifically delegated the responsibility of inspecting hives to county level inspectors. For example, in Utah, a “county executive upon the petition of five or more persons who raise bees within the respective county shall, with the approval of the commissioner, appoint a qualified person to act as a bee inspector within the county.”

<sup>88</sup> Other states, such as New Jersey, claim

exclusive authority and preempt local regulation of beekeeping.

States also can issue temporary rules to control disease and pest outbreaks. Many state statutes providing for inspections and disease containment grant authority to issue quarantines to isolate specific regions known to be infested or otherwise high risk. In response to an outbreak of Varroa mite, Iowa issued temporary quarantine rules to prohibit the import of bee colonies from specific states and counties.<sup>89</sup> This rule (which expired in 2001) prohibited transportation into Iowa of bees originating in the states of Florida, Georgia, New Jersey, North Carolina, Ohio, Pennsylvania, South Carolina and the counties of Faribault, Freeborn, Mower and Steele in Minnesota.<sup>90</sup>

Overall, advocates for bee health must be aware of relevant legal frameworks at both the municipal and state levels. While most states do not regulate intrastate transportation and sale of bees, there are a few exceptions. For example, Illinois law requires inspection certificates for hives transported between counties.<sup>91</sup>

Furthermore, the lack of consensus between

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<sup>86</sup> S.D. ADMIN. R. 12:41:04:04(3) (2019).

<sup>87</sup> *Guide to Beekeeping in West Virginia*, WEST VIRGINIA DEPT. OF AGRICULTURE, <https://agriculture.wv.gov/divisions/comm/Documents/Publications%20Print/Beekeeping%20in%20West%20Virginia.pdf> (last visited Apr. 16, 2019).

<sup>88</sup> See, e.g., UTAH CODE ANN. § 4-11-105 (West 2018).

<sup>89</sup> IOWA ADMIN. CODE r. 21-22.10(160) (repealed 2001).

<sup>90</sup> *Id.*

<sup>91</sup> 510 ILL. COMP. STAT. ANN. 20/2b-1(b) (West 2018).

states regarding the most effective strategies for managing bee transportation creates legal and logistical gaps that allow for the spread of known dangerous pests like Varroa mites and associated deformed wing virus.<sup>92</sup> There are also relatively new pests spreading in countries including the United States such as small hive beetles that infest bee colonies.<sup>93</sup> Even assuming a good faith effort on the part of bee dealers to comply with all applicable state laws and regulations when transporting hives, inconsistent policy between jurisdictions has led to the inadvertent introduction of harmful diseases in corners of the country where they were never previously located.

#### D. Enforcement Issues

While hive registration and inspections are key tools for promoting the health of a state's bee population, the laws requiring such practices are inadequately enforced in many jurisdictions.<sup>94</sup> Efforts to protect pollinator populations simply do not receive sufficient funding or political

attention to ensure proper enforcement of these laws.<sup>95</sup> Unfortunately, many states including Arizona, Colorado, New York, and Oregon, have abandoned or substantially weakened regulatory efforts. In contrast, a number of states (e.g. Alabama, California, Delaware, Rhode Island, and Washington) actively enforce registration of all apiaries.<sup>96</sup> Even the most robust regulatory systems have inherent limitations due to the practice of shipping bees cross-country without adequate mechanisms in place to ensure that packages are certified and free of diseases and pests.

In practice, compliance with registration requirements is inconsistent due to inadequate public education, intentional noncompliance by beekeepers, and insufficient funding and personnel for regulatory enforcement. Commercial beekeepers have more incentives to register their hives than hobby beekeepers. Registration is required to be eligible for federal insurance programs and for state-mandated inspections needed to transport their hives for pollination services or for

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<sup>92</sup> Darryl Fears, *Scientists say humans certainly caused the spread of the virus that's killing honeybees*, THE WASHINGTON POST (Feb. 5, 2016), [https://www.washingtonpost.com/news/science/wp/2016/02/05/scientists-say-humans-certainly-caused-the-spread-of-the-virus-thats-killing-honeybees/?utm\\_term=.655b4f62ceeb](https://www.washingtonpost.com/news/science/wp/2016/02/05/scientists-say-humans-certainly-caused-the-spread-of-the-virus-thats-killing-honeybees/?utm_term=.655b4f62ceeb).

<sup>93</sup> Elizabeth McMillan, *Nova Scotia beekeepers concerned about spread of beetle infestation*, CBC NEWS (Apr. 3, 2016, 6:11 PM),

<https://www.cbc.ca/news/canada/nova-scotia/beekeepers-inspecting-small-hive-beetle-1.3518745>.

<sup>94</sup> Telephone Interview with Ramesh Sagili, Associate Professor of Apiculture, Oregon State University (Jan. 26, 2019).

<sup>95</sup> *Id.*

<sup>96</sup> See *infra* State Beekeeping Laws Chart, Appendix A.

interstate sale of bees and honey.<sup>97</sup> Tracking compliance of hobby beekeepers is more difficult due to the dispersed nature of residential bee yards and the potential for these beekeepers to be unaware of beekeeping requirements or wary of government interference with their activities.

States have taken different approaches toward enforcement. The Alabama Apiary Protection Unit (AAPU) reports 600 registered colonies but estimates that there could be over 1700 apiaries in the state. AAPU is focusing on increased outreach to improve compliance with registration requirements.<sup>98</sup> Other states purport to regulate bee transport, but do not designate a specific agency to ensure the law's enforcement. The onus is on beekeepers to request inspections when needed. In states such as Oregon, even when beekeepers seek inspections, they are often unable to find a qualified inspector due to lack of funding or trained personnel to conduct checks and provide certification of

hive health.<sup>99</sup> In Michigan, the regulations expressly put the responsibility on beekeepers who “can bring bees across state lines *into* Michigan from any other state without any inspections or paperwork. It is the beekeepers’ responsibility to ensure that the bees that they are purchasing or transporting are in good health and are free from disease.”<sup>100</sup>

A few statutes do identify funding for state programs promoting healthy beekeeping.<sup>101</sup> The Kentucky legislature established a beekeeping fund within the State Treasury that is administered by the Kentucky Department of Agriculture.<sup>102</sup> The fund “shall be used to help improve, promote, protect, and support the beekeeping industry in Kentucky, particularly relative to small beekeepers.”<sup>103</sup> In Florida, the Highway Patrol is charged with ensuring bee hives coming into the state have certificates of inspection.<sup>104</sup>

Pennsylvania tightened its registration requirements in 1994, and now requires mandatory registration

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<sup>97</sup> Sagili, *supra* note 94; *see also* Telephone Interview with Harry Vanderpool, Commercial Beekeeper & Former President of the Oregon State Beekeepers Association (Jan. 31, 2019).

<sup>98</sup> *Apiary Protection Unit*, ALABAMA DEPT. OF AGRICULTURE & INDUSTRIES, <http://agi.alabama.gov/divisions/plant-health/apiary-protection-unit> (last visited Apr. 16, 2019).

<sup>99</sup> Vanderpool, *supra* note 97.

<sup>100</sup> *Michigan Beekeeping Rules and Regulations*, MICHIGAN STATE UNIVERSITY POLLINATOR INITIATIVE,

<https://pollinators.msu.edu/resources/beekeepers/michigan-beekeeping-rules-and-regulations/> (last visited Apr. 16, 2019).

<sup>101</sup> *See, e.g.*, KY. REV. STAT. ANN. § 252.185 (West 2018).

<sup>102</sup> *Id.*

<sup>103</sup> *Id.*

<sup>104</sup> FLA. STAT. ANN. § 586.11(4) (West 2018) providing that “It shall be the duty of the sheriffs and officers of the Florida Highway Patrol to enforce the provisions relating to the movement of bees and used beekeeping equipment into the state . . . .”

approximately every two years. By law, the Secretary of the Pennsylvania Department of Agriculture must appoint a chief apiary inspector to facilitate all apiary inspections and to appoint additional inspectors as necessary.<sup>105</sup> The statute also requires that queen apiaries (producers and sellers of queen bees) must be inspected twice each summer and that bee imports require certification.<sup>106</sup> However, in practice, priority is on inspecting reports of American Foulbrood, and otherwise conducting inspections throughout Pennsylvania “when possible.”<sup>107</sup> Regarding enforcement, the Pennsylvania Bee Law enumerates a range of misdemeanor penalties, civil penalties, and injunctions.<sup>108</sup>

### III. Selected State and Local Beekeeping Models

#### A. Examples of State Regulatory Frameworks

As previously discussed, states have significant latitude regarding regulation of

beekeeping and apiaries. The following section examines in more detail at selected states and their approaches to controlling the spread of disease and pests caused by transportation of bees across state lines, with a focus on packaged bees, nuclei, and queens.

#### 1. Hawaii

Hawaii is the leading state for queen bee exports because its tropical climate allows for year-round bee breeding. Hawaii also has strict import rules and low rates of honey bee diseases. According to the Hawaii Apiary Program’s 2012 estimates, Hawaii exports \$10 million a year in queen bees, supplying about 25% of the queen bees in the US and 75% in Canada.<sup>109</sup> Hawaii is also exceptionally protective of its bee industry and is the only state covered by the USDA’s APHIS inspection program. Bee imports have been prohibited since 1908 and

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<sup>105</sup> 3 PA. STAT. AND CONS. STAT. ANN. § 2103 (2018).

<sup>106</sup> Pennsylvania’s Administrative Code generally requires notification of bee shipments to the Department of Agriculture within 10 days of the arrival of bees, hives, combs, appliances and equipment. The rules specifically exempt packaged bee imports from the notification process, if accompanied by a valid certificate issued by the originating state. *Id.* § 2111 (2018).

<sup>107</sup> *Apiary and Pollinator Services*, PENNSYLVANIA DEPT. OF AGRICULTURE, [https://www.agriculture.pa.gov/Plants\\_Land\\_Water/PlantIndustry/Entomology/Apiary/Pages/default.aspx](https://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/Apiary/Pages/default.aspx) (last visited Apr. 16, 2019).

<sup>108</sup> 3 PA. STAT. AND CONS. STAT. ANN. § § 2113–2117.

<sup>109</sup> *Program Info*, HAWAII PLANT INDUSTRY DIVISION, <http://hdoa.hawaii.gov/pi/program-info/> (last visited Apr. 16, 2019).

violations are subject to felony charges and fines of up to \$200,000.<sup>110</sup>

Hawaii also has strong intrastate limits on bee transportation. Varroa mites are only found on the islands of Hawaii & Oahu. Shipment of queens is prohibited from these Varroa positive islands to Varroa negative islands (Maui, Lanai's, Molokai, & Kauai). All queen breeders shipping between islands must be inspected and certified by the Hawaii Department of Agriculture's Apiary Program every ninety days.<sup>111</sup> Unlike other states with minimal inspection programs, Hawaii's program is relatively robust due to the concerns around the many invasive species on the island. The Hawaii Plant Industry Division strongly recommends local sourcing of bees (e.g. intra-island) because it is illegal in most cases to transport bees from other islands or outside the state.

Despite these regulatory controls and relatively strong enforcement, problems remain with Hawaii's system. Hawaii does not require registration or inspection of beekeeping outside of queen production businesses. This regulatory gap likely

increases risks posed by poor beekeeping methods and illegal imports. For example, small hive beetles were unintentionally introduced to Hawaii and have now spread to the islands of Hawaii, Oahu, Maui, and most recently, Kauai.<sup>112</sup> Additionally, Hawaiian bees are frequently exported via air to beekeepers located throughout the mainland United States. These bees can be both weakened by the long-distance transportation and ill equipped to adapt to very different climates from the tropical conditions in which they were bred.

## 2. Georgia

Georgia is another leading queen producer due to the state's investment in the agricultural development of beekeeping and the temperate climate, which facilitates nearly year-round pollination and production of honey. Accordingly, Georgia has set regulatory standards to protect and promote its role as a major exporter of bees. While Georgia's state statute regarding beekeeping and import/export requirements is relatively general, the promulgated rules provide more details.<sup>113</sup> The Georgia Department of

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<sup>110</sup> *Frequently Asked Questions*, HAWAII PLANT INDUSTRY DIVISION, <http://hdoa.hawaii.gov/pi/bee-faqs/> (last visited Apr. 16, 2019).

<sup>111</sup> *Program Info*, *supra* note 109.

<sup>112</sup> *Beehive Pest Found Kauai*, HAWAII DEPT. OF AGRICULTURE,

<http://hdoa.hawaii.gov/chair/news/beehive-pest-found-kauai/> (last visited Apr. 14, 2019).

<sup>113</sup> GA. COMP. R. & REGS. r. 40-4-1. The Georgia Department of Agriculture partners with University of Georgia's Honey Bee Program for beekeeping education, pollinator protection, integrated pest management and reduced pesticide use as well as developing best practices for all types of beekeepers.

Agriculture rules require businesses that sell queens, nuclei, and packaged bees to be licensed, inspected by the agency's Plant Protection Division, certified as apparently free of disease, and to pay a \$50 fee (formerly \$25 under the state statute).<sup>114</sup> The rules also require that colonies from which queens and packaged bees originate be treated at least seven days prior to shipment with a pesticide approved by the EPA and the Georgia Department of Agriculture for controlling *varroa destructor* (Varroa mites). Certificates are issued for one year but can be withdrawn following evidence of disease. While Georgia heavily regulates queen apiaries, licenses or inspections are not required for other types of beekeepers (such as hobbyists, commercial pollinators, and honey producers).<sup>115</sup>

Georgia's packaged bee import rules are less stringent than for exports. Queens and packaged bees shipped into Georgia must include a certificate from the originating state verifying that the apiaries were inspected within one year of the date of shipment and treated with a Varroa mite pesticide at least seven days prior to shipment.<sup>116</sup> This one-year inspection

window is longer than inspection windows in many other states, and leaves open the opportunity for diseases or pests to develop in the originating colony. The pesticide application rule only protects against Varroa mites and is at odds with beekeepers and communities that might choose less toxic beekeeping methods rather than frequent application of miticides.

Interestingly, Georgia seems to have tighter rules for colonies that are transported into the state in hives or on comb for pollination services. The Georgia Department of Agriculture's rules require that bees brought in from other states include a permit detailing the number of colonies to be moved, the originating state, each state and county the colonies have been located in during the previous two years, and the bees' destination. Bees must have certificates of inspection within ninety days showing that they are free of disease or providing evidence of treatment with pesticides to control *varroa destructor*. In terms of intrastate transportation, resident Georgia beekeepers may move honey bees on comb or in hives without restriction, as long as the bees were not initially brought

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*Honey Bee Program*, THE UNIVERSITY OF GEORGIA HONEY BEE PROGRAM, <http://bees.caes.uga.edu/about-us.html> (last visited Apr. 16, 2019).

<sup>114</sup> GA. COMP. R. & REGS. r. 40-4-.01-02.

<sup>115</sup> *Id.* at r. 40-4-.02.

<sup>116</sup> *Id.* at r. 40-4-.03.

into the state in violation of relevant regulations.<sup>117</sup>

### 3. New York

New York is a mix of decentralized regulation and state-wide guidance.<sup>118</sup> The state repealed its mandatory registration requirements in 2010, yet it still requires inspections of apiaries and regulates imports of packaged bees, colonies, used combs, and live bees. Inspection must be conducted within the past sixty days of shipment.<sup>119</sup> Cornell University provides state-wide guidance and protocols for inspections. A bill was proposed in 2018 to reinstate mandatory registration, but it was met with resistance from both hobby and commercial beekeepers and was not implemented. Because the state law explicitly authorizes each New York City borough to regulate bees, municipalities have adopted a range of approaches.<sup>120</sup> For example New York City's urban homesteading movement now includes beekeeping, and while apiaries must be registered, they are allowed in residential areas. Ithaca and Geneva

currently prohibit beekeeping, while other boroughs do not address beekeeping.

### 4. Delaware

Unlike other states that have rolled back regulations, Delaware has recently increased resources for registration, inspection, and bee imports. Its beekeeping statute establishes the office of State Apiarist and sets out responsibilities for research, education, establishing a network of inspectors, and creating a registration system. Annual inspections are required for all hives including queen rearing apiaries.<sup>121</sup> Regarding imports, Delaware requires that all imports of queens, combless packages, and nucleus colonies must have a valid inspection certificate from the state of origin confirming the apiary is free of disease, mites, and Africanized bees.<sup>122</sup> Transport of bees into the state (*e.g.* for pollination) is prohibited, except in cases where the Delaware Department of Agriculture issues an entry permit including an inspection certificate:

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<sup>117</sup> *Id.* at r. 40-4-.04. Violations of these importation rules can lead to destruction of the hive colony or other procedures prescribed by the Commission as “adequate to protect the beekeeping industry in the State of Georgia.” *Id.* at r. 40-4-.08

<sup>118</sup> N.Y. AGRIC. & MKTS. LAW § 169-d (2019).

<sup>119</sup> N.Y. AGRIC. & MKTS. LAW § 175 (2019); *Honey Bee Inspection & Certification*, NEW YORK DEPT. OF AGRICULTURE & MARKETS,

[https://www.agriculture.ny.gov/PI/apiary\\_inspection.html](https://www.agriculture.ny.gov/PI/apiary_inspection.html) (last visited Apr. 15, 2019).

<sup>120</sup> *Beekeeping*, CORNELL SMALL FARMS PROGRAM, <http://smallfarms.cornell.edu/2017/05/02/32-beekeeping/> (last visited Apr. 15, 2019).

<sup>121</sup> DEL. CODE ANN. tit. 3, §§7501–7513 (West 2010).

<sup>122</sup> *Id.* § 7513.

Before a person may ship or transport into the State any colony of bees, or used beekeeping equipment, the person shall request an entry permit . . . from an authorized inspector of the state of origin that includes the following information:  
(1) A statement that the colonies or used beekeeping equipment is free of all diseases, mites and Africanized honeybees, based on an inspection within the preceding 60 days.<sup>123</sup>

The permit must also indicate the shipper's identity and the location of the apiary sites where the bees will be kept. Delaware is also notable because it creates an affirmative duty for beekeepers to notify the state if they become aware of the "existence or the suspected existence of any bee disease, mite or Africanized honeybee in such person's own or any other apiary in the State."<sup>124</sup> Together these provisions allow the state apiarist to keep track of the apiaries within the state, monitor colony health, and be alerted to potential disease or pests outbreaks.

### 5. *New Jersey*

New Jersey has taken a centralized state-wide approach to both promoting and

monitoring beekeeping.<sup>125</sup> It regulates a broad range of activities including mandatory registration and beekeeping and related activities for "pollination, reproduction and sale of honey bees, or the production of honey and other apiary products from honey bees."<sup>126</sup> The state also provides for enforcement at the municipal level and directs the New Jersey Department of Agriculture to establish standards for best practices of beekeeping in order to aid monitoring and enforcement.<sup>127</sup>

New Jersey law tightly controls and monitors commercial queen production and shipments coming in and out of the state.<sup>128</sup> In 2015, new regulations and administrative rules significantly increased oversight of commercial apiaries, queen apiaries, and shipments of queens and packaged bees. The state now requires certification and inspection for sellers of queen bees and packages twice each summer. The state also requires sellers and shippers of packaged bees to provide "a list, including consignee's name and address, of all queen or package shipments to New Jersey or to New Jersey residents during the preceding year."<sup>129</sup>

New Jersey is one of the few states to adopt regulations specifically addressing

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<sup>123</sup> *Id.* § 7510(b).

<sup>124</sup> *Id.* § 7506.

<sup>125</sup> N.J. REV STAT. § 4:6-24 (2015).

<sup>126</sup> *Id.*

<sup>127</sup> *Id.* § 4:6-24.2(b)(2).

<sup>128</sup> *Id.* § 4:6-14.

<sup>129</sup> *Id.* §§ 4:6-5–4:6-15; N.J. ADMIN. CODE § 2:24-2.3.

the rise in residential and hobby beekeeping. In 2017, the state proposed new administrative rules that would require all beekeepers to register their hives and delegated enforcement to authorized municipalities. These draft regulations also directed the Department of Agriculture to set standards for beekeeping in residential areas.<sup>130</sup> Colony density would be limited in residentially zoned properties to as few as three hive boxes and new urban setback standards would be enforced. Following substantial organized opposition to these regulations from hobby beekeepers and the New Jersey Beekeepers Association, the agency initially pulled back the proposed rules. Opposition focused on the potential to discourage or prevent residential beekeeping, which would arguably violate Right to Farm laws.<sup>131</sup> The agency responded to these comments with revised regulatory proposals, however substantial opposition remained.<sup>132</sup> At a final hearing March 27, 2019, the State Board of Agriculture adopted the new regulations. Whether there are adequate resources and public support to ensure compliance remains

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<sup>130</sup> N.J. REV STAT. § 4:6-24 (2015).

<sup>131</sup> *See e.g. Michelle Brunetti Post, Beekeepers stung by state's proposed new regulations*, PRESS OF ATLANTIC CITY (Jan. 16, 2018), <https://www.pressofatlanticcity.com/business/beekeepers-stung-by-state-s-proposed-new->

unclear, but the explicit regulatory intent is promising.

There are some additional protections for bees and beekeepers in New Jersey. Apiaries are now part of its Right to Farm Bill for commercial pollination, which shields commercial beekeepers from nuisance claims and promotes opportunities for beekeeping on agricultural lands.<sup>133</sup> New Jersey has also added protections and incentives for people to provide hives for native bees. Since 2015, the state law sets a civil penalty of up to \$500 for destruction of man-made native bee hives, which are defined as bee species native to the state.<sup>134</sup>

## B. British Columbia, Canada

Since 1990, the Canadian province of British Columbia has implemented an innovative program to create thirteen bee districts aimed at minimizing the spread of diseases and reducing the incidence of Varroa mite infestations. One major threat for British Columbia was large commercial beekeeping operations based in California. Such operations brought colonies north to pollinate blueberry fields near the Canada-United States border. British Columbia

regulations/article\_16becdea-0a60-516a-b628-5cdd06ace19e.html.

<sup>132</sup> N.J. ADMIN. CODE § 2:24-1.1 (2019).

<sup>133</sup> N.J. REV STAT. § 4:1C-3.1 (2015).

<sup>134</sup> *Id.* § 4:6-23.

allows relatively free movement of bees within each of the bee districts but requires inspections and permits for transportation between districts or from outside the province.<sup>135</sup> The goal of this regulatory framework is to more tightly regulate bee transportation and to insulate districts that were free of the Varroa mite from districts with infestations. This allows for better containment of outbreaks, better identification of problem areas, and more efficient treatment. To support these efforts, British Columbia inspection standards establish tolerance levels and sampling methods. Inspection must be made thirty days prior to transport, must demonstrate that the bees have less than 1% incidence of Varroa mite, and must show that no samples tested positive for foulbrood.<sup>136</sup>

### C. The Problem with State-to-State Inconsistencies

Given the variation in regulatory approaches, it is not surprising that neighboring states often have dramatically different requirements for controlling the spread of disease and pests. The problem is exasperated due to limited state funding and lax enforcement, which shifts the responsibility for monitoring, reporting, and

preventing bee diseases and pest infestations to individual beekeepers. The interplay between California and Oregon is an instructive example.

California is a major hub for commercial pollination and bee imports due to vast almond groves and other crops with high density pollination needs. In the last few years, California has increased efforts to register all hives, monitor them for pesticide exposure, and regulate commercial bee transports in and out of the state. Crop pollinators are in high demand and attract beekeepers from Oregon to Florida. California's Department of Agriculture recognizes that it must be proactive to prevent accidental infestations, expansion of pest populations and new diseases. California's apiary laws, which apply to all beekeepers, prohibit importation

. . . into the state any comb, bees on comb, queen bees, package bees, bee semen, or any used hive or used appliance, unless each separate load, lot, or shipment is accompanied by a valid certificate prescribed by this article, and filed in a form and in the manner as set forth by the director, and unless the certificate is delivered to the commissioner of the county of destination or to the director, if there is no

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<sup>135</sup> British Columbia Animal Health Regulations, B.C. Reg. 3/2015 (Can.).

<sup>136</sup> *Id.*

commissioner in the county, within 72 hours after the arrival of the load, lot, or shipment.<sup>137</sup>

Efforts to reduce hive exposure to agricultural pesticides focus on registration and notification of pesticide applicators and beekeepers. Serious violations may incur civil penalties of up to \$1,000 per violation.<sup>138</sup> In 2018, California also began its new *Bee Where* initiative to educate beekeepers, improve compliance, and facilitate use of its online registration and notification system.<sup>139</sup> California also will escalate violations of apiary laws from infractions to unlawful acts beginning in January 2020.

In contrast, Oregon ended its apiary inspection program during the late 1980's and does not currently require inspections, does not appoint a state apiarist, and does not have a system for certification or inspection for beekeepers buying or selling bees across state lines.<sup>140</sup> Oregon, like many states, established a more robust inspection program in the 1930's in response to a devastating outbreak of American foulbrood among honey bee colonies.<sup>141</sup> However with deregulation, beekeepers in Oregon

now can purchase queens, packaged bees, and colonies from out of state without any certificate of health.

In Oregon, the burden is on beekeepers to be vigilant in monitoring their hives and to be aware of the serious risks from packaged bees and transportation for pollination purposes. Varroa mites are the major known threat to honey bees and are reported in all states. Commercial beekeepers regularly treat their colonies with miticides. However, this focus on Varroa mites does not provide preventative measures for other types of diseases and pests which are more prevalent in other states and have not yet become well established in Oregon such as Africanized bee strains and fire ant. For example, small hive beetle infestations, which have not historically been pervasive threats on the west coast, now present a significant risk for becoming more prevalent and reaching levels that are harmful to honey bee operations in Oregon.<sup>142</sup>

Oregon's lack of an inspection program puts Oregon commercial beekeepers at odds with California's inspection and hive-health certification

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<sup>137</sup> CAL. AGRIC. CODE § 29120 (West 2019).

<sup>138</sup> CAL. AGRIC. CODE § 29313 (West 2018).

<sup>139</sup> California's new Bee Where program is intended as a collaboration between beekeepers, pesticide applicators, and crop managers. BEE WHERE,

<https://beewherecalifornia.com/> (last visited Apr. 15, 2019).

<sup>140</sup> Vanderpool, *supra* note 97.

<sup>141</sup> Sagili, *supra*, note 94.

<sup>142</sup> Sagili, *supra* note 94.

requirements for bees transported in hives to California. Hives trucked from Oregon into California for commercial pollination cannot be pre-inspected or certified in Oregon. At the California border, beekeepers receive a quarantine notice from the California Department of Food & Agriculture stating the “apiary shipment may not be offloaded until authorized by a county agricultural commissioner’s office. No health certificate presented.” This notice also identifies the apiary owner and final destination of the bees. The apiary owner must notify a county inspector for the destination location prior to unloading hives. California inspectors then conduct inspections on a sample of the trucked colonies, but do not provide comprehensive inspections.<sup>143</sup>

Oregon’s limited regulatory framework provides considerable freedom to buy, sell, and keep bees. However, there is a correlating risk, due to the lack of an inspection program, of introducing new pests to the Pacific Northwest (*e.g.* small hive beetles or Africanized bees) spreading from the Southeast.<sup>144</sup> Educated commercial beekeepers who follow best practices for managing their hives are aware of these risks and concerns. They conduct their own inspections and treatments to protect their bees and to prevent the spread of disease and

pests. Hobby beekeepers might be unaware of the risks and ill-equipped to proactively protect their hives from invasive pests and diseases when purchasing bees by mail.

#### D. Innovative Models of Beekeeping that Promote Bee Health and Support Native Pollinators

While most existing state-wide regulations focus on the commercial, human-centered benefit of bees, there are also emerging grassroots efforts based on the intrinsic synergistic role pollinators play in maintaining a healthy and sustainable ecosystem. Bees also have long held symbolic and spiritual significance for many people. These beekeepers and advocates for bee health acknowledge that native bees and domestic bee colonies are well adapted to function with minimal human interference. There is correlating rise in interest in urban homesteading, right to farm initiatives, and promotion of natural beekeeping methods.

The Xerces Society collaborates with scientists and citizens to advocate on behalf of native and endangered bees as well as domestic honey bees. It works with farmers, gardeners, land managers, agency staff, and others to create habitats for bees, other pollinators, and beneficial insects. The

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<sup>143</sup> Vanderpool, *supra* note 97.

<sup>144</sup> Sagili, *supra* note 94.

Xerces Society also oversees the Bee City USA program and Bee Better certifications for farmers and businesses to recognize efforts to protect pollinator habitats and native bee populations.<sup>145</sup>

Natural bee keeping (also known as Darwinian, or holistic beekeeping) centers on matching honeybee management practices with the natural biology of honeybee colonies. Tom Seeley, the Horace White Professor in Biology (Department of Neurobiology and Behavior) at Cornell University, is a leading researcher and advocate for Darwinian beekeeping as an approach that promotes conditions for natural disease resistance in colonies, and swarming as an accepted behavior.<sup>146</sup> Seeley and fellow beekeeping advocates convened the 2016 Bee Audacious Conference, bringing together more than one hundred experts and practitioners to discuss evidence-based ideas for supporting honey bees and other pollinators. The conference report, *Audacious Visions for the Future of Bees, Beekeeping and Pollination* identifies best management practices including:

- Smaller colony sizes closer to that of average wild colonies;
- More space between apiaries, fewer colonies per apiary, and more distance between colonies within apiaries;
- Use of local queens, selected and reared for local conditions;
- Reduced swarm control and capturing swarms to initiate new colonies and replace colonies that have died;
- Chemical-free disease or pest management, allowing for natural selection in bee populations.<sup>147</sup>

Local bee sourcing is especially promising because locally raised bees are already adapted to the surrounding environment.<sup>148</sup> Furthermore, bees collected from swarming or nearby breeders are not subjected to the same level of environmental stress as bees transported long distance in packages.

Municipal governments and beekeeping associations can also implement many of these recommendations for holistic hive care. For example, in Camas,

<https://www.naturalbeekeepingtrust.org/darwinian-beekeeping> (2017).

<sup>147</sup> Mark L. Winston & Nicole Armost, *Audacious Visions for the Future of Bees, Beekeeping and Pollination*, BEE AUDACIOUS CONFERENCE REPORT, 8 (Dec. 11, 2016), <http://beeaudacious.com/outputs/final-report/>.

<sup>148</sup> *Id.*, at 33.

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<sup>145</sup> *Pollinator Conservation Program Digest – January 2019*, XERCES SOCIETY, <https://xerces.org/2019/01/28/pollinator-digest-jan2019/> (last visited Apr. 15, 2019)

<sup>146</sup> Thomas Seeley, *Darwinian Beekeeping, and Evolutionary Approach*, NATURAL BEE KEEPING TRUST

Washington, the Preservation Beekeeping Council worked with local lawmakers to adopt a progressive bee-centered municipal code. The 2018 Beekeeping Code specifically requires local sourcing of bees, provides expansive options for hive bodies, and prohibits use of harmful pesticides:

Hive, apiary management requirements

1. All hives shall comply with Revised Code of Washington (RCW) 15.60.
2. Beekeepers shall maintain an adequate supply of water on their property.
3. Bees should be housed in an appropriate hive body that offers good insulation and protection from weather and predators.
4. Beekeepers must source their bees locally (within a one hundred mile area). Local bees may be transferred as nucleus hives or from swarms. Package bees from out-of-area are prohibited.
5. Yard and garden products containing neonicotinoids or glycol phosphates (Roundup) should not be used in bee yards. Bee-safe and/or organic products are recommended.

<sup>149</sup> CAMAS, WASH. MUNICIPAL CODE, Ordinance 18-013, § I (2018).

6. Do not destroy or kill honeybees and bumble bees. Bee swarms and bee hives may be safely removed and relocated by contacting a local beekeeper.

149

Some beekeeping associations promote local sourcing of bees because of the increased health and decreased stress to the bees. For example, the Puget Sound Beekeepers Association (PSBA) has facilitated local sourcing of bees by creating partnerships with local, authorized suppliers of packaged bees, queens, and nucleus hives to its members. PSBA reviews applications to select those who will be promoted as sponsors and have access to members. A percentage of sales goes back to PSBA. This type of local effort both educates and expands options for beekeepers.<sup>150</sup>

Utah's Grand County in Utah passed a local ordinance amending its land use code in 2015. This community has taken action to promote local beekeeping and prevent risks from commercially transported bees that may contaminate local populations of honey bees and native pollinators. The new county ordinance No. 531 specifies that keeping honey bees is a permitted use in designated zoning areas. Importantly, it also

<sup>150</sup> PUGET SOUND BEEKEEPERS ASSOCIATION, [pugetsoundbees.org](http://pugetsoundbees.org) (last visited April 14, 2019).

prohibits migratory beekeeping (non-local commercial hives for pollination services).<sup>151</sup>

A local newspaper reported that the purpose behind the ban on migratory and large-scale beekeeping was to curb potential transmission of diseases and other stressors on local bee populations (both domestic and native).<sup>152</sup> The article includes an interview with a local bee inspector, Jerry Shue, who was a major proponent of the ordinance. Shue explains that Grand County's local bee population is very healthy due to its geographic isolation and lack of agricultural commercial pollination. When bees are packed tightly into trucks and transported from place to place then into isolated areas such as Grand County, they can potentially contaminate local colonies from diseases and pests along their journey. This migratory commercial beekeeping also endangers hive health because the bees are fed high fructose corn syrup, antibiotics and synthetic pollen to allow them to pollinate much longer than they would naturally.<sup>153</sup>

## IV. Conclusion

At the regulatory level, the vast majority of beekeeping laws and efforts to regulate the importation of bees remain steadfastly focused on honey bees raised for commercial purposes, namely agricultural pollination or honey production. There is a serious disconnect between these commodity regulations for beekeeping and the rise in state-level pollinator protection efforts, which reflect a more eco-centric perspective. A 2015 opinion paper published in *Current Opinions in Insect Science* explains this dynamic as it relates to native bees and promoting species diversity in pollinators:

Systems to actively deliver sustainable conservation for both pollinators and pollination services are presently lacking. Although farmers increasingly recognize the benefits of pollination services, national and regional government policy designed to support pollinator diversity provides limited incentives for them to support pollinators that do not provide services.<sup>154</sup>

As beekeeping expands to include hobby beekeepers, natural beekeeping

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<sup>151</sup> Grand County Ordinance 531 (2015) (amending the Grand County Land Use Code Section 3.2.5), See Appendix D.

<sup>152</sup> Rudy Herndon, *County restricts migratory beekeepers*, MOAB SUN NEWS (June 4, 2015).

<sup>153</sup> *Id.*

<sup>154</sup> Deepa Senapathi, *supra* note 32, at 98.

management, urban homesteaders, and progressive ecologically-minded commercial beekeepers, will the regulatory framework adapt to accommodate this broader understanding of the synergy between bees and their environment? It is a question worth considering as laws and regulations adapt to community needs and understandings. The current state and local regulatory framework for beekeeping requires further adaptation to emerging needs.

## Considerations for Further Investigation and Outreach

- *Develop State-specific tool kits for beekeepers to promote local ordinances and guidance for hobby beekeeping.* Information about best practices and what is already working in local communities is difficult to access. In addition, each state has a unique regulatory framework and balance between state control and delegated authority to local municipalities. As a result, options for progressive regulations and guidance vary greatly. Initiatives such as the Xerces Society's Bee City Program recognize the expansion of backyard

beekeeping and the role that local communities play in pollinator health. Additional opportunities exist to work with beekeeping associations and extension programs to create options for local communities that want to promote hobby beekeeping. These innovations may include components of urban homesteading and natural beekeeping practices. In addition, beekeeping codes, which currently prioritize Langstroth-type removable frame hives, could be expanded to allow hive types that both enable inspection and promote natural behavior and colony health.

- *Develop recommendations to expand the scope of pollinator health laws to include beekeeping best practices that promote hive health.* Many states have passed pollinator health laws in recent years. These efforts tend to focus on expanding habitats for native pollinators and reducing use and exposure to harmful pesticides. They often do not address beekeeping management practices, integrated pest management, the honey bee trade, or bee transportation. As states expand pollinator protection efforts, there is

the potential to address beekeeping methods and create state-wide guidance and regulations to promote best practices for commercial and hobby beekeepers. Components might include bee sourcing, improved monitoring, and educational outreach to beekeepers.

- *Review of International Standards and Other Countries' Beekeeping Laws and Practices.* International import guidance does not seem to identify best practices from other countries that may improve beekeeping in the United States. Other countries have officially recognized the value of holistic hive health, local bee sourcing, and a range of hive types. For example, in Slovenia, beekeeping is deeply engrained in many communities and colony collapse is extremely rare. The Slovenian federal government has assigned conservation status to honey bees and regulates the bee trade and expanded education efforts to prevent the spread of bee diseases and pests.

## Appendix A: State Apiary and Beekeeping Laws - Select Provisions

**March 2019**

*The information provided below is subject to change and may be modified by administrative rules, state guidelines, and changes in the law or practice in each state. This chart is to be used for general information purposes, is not warranted, and should not be considered a legal determination.*

State	Apiary Registration Requirements	General Colony Inspections	Inspection of Queen Bee Apiaries Located in the State	Certification of Packaged Bees and Queen Imports	Penalties for Noncompliance
Alabama	Annual registration and fees are required.	Inspections are authorized when threat of disease or pests exists, but are not otherwise required.	Not addressed in statute.	Honeybees must be on combless packages and accompanied by a certificate of health from an authorized official in the originating state.	Fines of \$100 per hive for moving bees with combs into the state. Failure to register or other violations of the Act are subject to a fine of \$25 to \$500.
Alaska	Registration is required when taking ownership of bees or transporting them into the state.	Agricultural division will inspect as many combless packages, apiaries, bees, hives, colonies, appliances, and equipment as reasonably necessary to prevent the introduction, establishment, or spread of bee diseases.	Not addressed in statute.	Honeybees must be in combless packages and accompanied by a certificate of health from an authorized official in the originating state.	Violations are Class B misdemeanors.
Arizona	Beekeeping law was repealed in 1994.				
Arkansas	Registration is required when taking ownership of bees or transporting them into the state.	Inspections are authorized where known problems exist or certificates are requested. Transport inspections can be conducted upon request. However, agency website notes that inspectors are short staffed.	Inspections are authorized where bees are raised for sale.	Bees moved into or within the state must have certification of inspection indicating where hives will be located and certifying that the bees are from hives apparently free of dangerous contagious or infectious disease.	Not addressed in statute.
California	Annual registration is required for all hives and a registration fee of \$10 is charged for 10 or more hives.	County inspectors are responsible for managing registration and inspections as needed, including imports into the state and where concerns about disease outbreak arise.	Not addressed in statute.	Each load of packaged and transported bees must be accompanied by a certificate of health signed by a qualified inspector. Certificate must identify the owner and shipper, amount of bees, originating apiary's location, and last inspection date.	Violations are unlawful. Infractions of these regulations are subject to penalties from \$100 to \$1,000
Colorado	Statewide Registration program defunded in 1990, but allows for local licensing and registration requirements.	In the mid-1980s, the legislature ended funding for inspections and the program became self-funding through registration fees. When the state ended its registration program in 1990, that also ended funding for	Statute provides for inspection for certification purposes as required by other states. Inspections are paid for by the apiary owner, because state discontinued funding for apiary inspections.	Not addressed in statute.	None specified.

State	Apiary Registration Requirements	General Colony Inspections	Inspection of Queen Bee Apiaries Located in the State	Certification of Packaged Bees and Queen Imports	Penalties for Noncompliance
Connecticut	Annual registration is required for all apiary owners. There is no fee.	Inspections are conducted when deemed necessary by the state entomologist.	Not addressed in statute.	Colonies and packaged bees must be accompanied by a certificate of good health issued by an authorized inspector. Parties receiving a shipment must also ensure there is a certificate or notify state apiary inspector and hold the shipment. If shipment is found to have disease it will be returned to originating source or quarantined and treated.	Fine of \$5 for failure to register. \$50 fine for violations of transportation and certificate requirements.
Delaware	All hives must be registered within 10 days of acquiring bees.	Inspections are conducted by a qualified inspector as approved by the state. Inspections of every hive are required annually or more frequently upon written request. Beekeepers have an affirmative duty to notify the State Apiarist if they are aware of any hive that has bee disease, mites, or Africanized bees.	Queen apiaries must be inspected at least once a year.	All shipments or transportation of bees into, or within the state, (including queens, combless packages and nucleus colonies) must be inspected and shown to be in good health. Imports from out of state must include a written certificate of health based on an inspection from within last 60 days.	Violations of orders and quarantines are subject to civil fines of \$100 to \$1,000 per occurrence. Violators have a right to notice and hearing prior to collection of fines.
Florida	Annual registration and fee are required.	The registration application must include certification that hives have been inspected within past 12 months by a state-authorized inspector. Certified beekeepers cannot inspect their own apiaries.	Not addressed in statute.	Honey bees on combless packages must have a certificate of inspection from the originating state indicating the source hive was inspected annually during active seasons.	The state has exclusive authority to regulate, inspect, and manage honey bee colonies. Enforcement of provisions relating to movement of bees is the responsibility of the State Highway Patrol. Violations are misdemeanors with penalties of up to \$100 per day.
Georgia	Beekeepers commercially selling bees, queens, or nuclei must be licensed. Other beekeepers are exempt.	Inspections are authorized when a threat of disease or pests exists, but are not otherwise required.	Queen apiaries must be inspected at least once a year.	Shipments must be treated with pesticide at least 7 days prior to sending/receiving packaged bees. Shipments must also have a certificate of health based on an inspection from within last year.	Violations are misdemeanors subject to fines of up to \$500 and 6 months in jail.
Hawaii	Registration of apiaries is voluntary.	Inspection is not required unless exporting bees.	Inspection and certification are required for queen breeders and must be renewed every 90 days.	Imports of bees and bee products are prohibited from other states or countries. Interstate shipments are tightly regulated. Only certified queen bee breeders can export bees to the mainland or Oahu.	Illegal importation of bees into the state are subject to a \$200,000 fine and prison time.
Idaho	Annual registration and fees are required for commercial beekeepers engaged in beekeeping for their products or pollination services.	Inspections are authorized when a threat of disease or pests exists, but are not otherwise required.	Not addressed in statute.	Not addressed in statute.	Violations are misdemeanors subject to fines between \$100 and \$1,000. Violators have a right to notice and hearing prior to collection of fines.
Illinois	Annual registration is required for all beekeepers.	Inspections are authorized when a threat of disease or pests exists, but are not otherwise required. Free inspections are available as a service to beekeepers.	Not addressed in statute.	Inspection certificates are required for transportation of packaged bees into the state and for shipment between counties. The certificate must be issued by an authorized inspector and indicate that apiary is in compliance with state law.	An administrative order may impose penalties of \$50 to \$100 for violations of the law.

State	Apiary Registration Requirements	General Colony Inspections	Inspection of Queen Bee Apiaries Located in the State	Certification of Packaged Bees and Queen Imports	Penalties for Noncompliance
Indiana	Not addressed in statute.	Inspections are authorized to determine if a pest or disease is present, but is not required. It is prohibited to move an "element of beekeeping" that is infected with a disease or pest without a permit.	Not addressed in statute.	Shipments into the state requires a permit from Indiana's regulatory division and must be accompanied by a certificate of inspection from the originating state indicating the queen apiary was inspected within the past 60 days.	Violations of the act can result in a civil penalty of up to \$500 per day.
Iowa	Statute does not require registration. State administrative code provides for voluntary participation in "Fieldwatch" program to prevent pesticide exposure.	Inspections are authorized when a threat of disease or pests exists, but are not otherwise required.	Not addressed in statute.	An entry permit is required to move a colony, package, or used equipment with combs into Iowa <i>except</i> for packaged bees sent by the United States Postal Service.	Violations of the statute are misdemeanors.
Kansas	Beekeeping Law was repealed in 2002.				
Kentucky	Registration is voluntary as part of a pollinator protection program.	Inspections are authorized and available upon request or when a threat of disease or pests exists, but are not otherwise required.	Not addressed in statute.	Statute does not require certification, but the state may promulgate rules on certification.	Failure to comply with the Commissioner's rules and regulations is a violation of the statute.
Louisiana	Annual registration is required upon taking ownership or prior to bringing bees into the state.	Certificate of inspection by state entomologist is required prior to moving bees or used equipment <i>within</i> the state.	General inspections are not required by statute. However, licenses and certificates of inspection are required to sell bees.	Requires Class A Permit and certificate of inspection from the originating state's entomologist indicating that the colony has been visually inspected within the past 60 days and is apparently free of disease and pests.	Violations are subject to an administrative order imposing fines of up to \$500 per violation after a hearing on the violation.
Maine	Annual registration and fees are required.	Inspections are authorized to regulate honeybee diseases or parasites of an infectious or contagious nature.	The state department provides inspections of nucleus colonies upon request.	Honeybees or used honeybee equipment shipped or moved into the state must be accompanied by a permit issued by the Maine Department of Agriculture, Conservation and Forestry. The Department requires an import notification form and health certificate from the state of origin.	Not addressed in statute.
Maryland	Annual registration is required for all beekeepers. Registration forms ask for source of bees purchased from out of	Statute directs the Secretary of Agriculture to conduct inspections.	Not addressed in statute.	A valid certificate of inspection issued by an authorized inspector in the originating state is required to ship bees into the state.	Violations are misdemeanors.
Massachusetts	Registration is voluntary.	Inspections are authorized to determine if a pest or disease is present, but these are not mandatory. Inspections for bee exports are available upon request.	Not addressed in statute.	A valid certificate of inspection and health issued by an authorized inspector in the originating state is required. Packaged bees also must have a permit from the Massachusetts Bureau of Plant Industries.	Fines for violations of agricultural laws can be issued, ranging from \$10 to \$100.
Michigan	Not required by statute and there is no state run registration system.	Inspections are not required. Inspections may be requested and paid for by an apiary owner.	Not addressed in statute.	No inspection required to import bees.	Not addressed in statute.

State	Apiary Registration Requirements	General Colony Inspections	Inspection of Queen Bee Apiaries Located in the State	Certification of Packaged Bees and Queen Imports	Penalties for Noncompliance
Minnesota	Apiary laws were generally rescinded in 1951. No registration requirement.	Inspections are not required, but may be requested and paid for by an apiary owner.	Not addressed in statute.	Not addressed in statute.	Not addressed in statute.
Mississippi	Registration is voluntary.	Inspections are not required, but may be requested and paid for by an apiary owner.	Not addressed in statute.	Permits are required prior to moving bees into the state. Shipments into the state must include a certificate of inspection and health from an authorized inspector in originating state.	Not addressed in statute.
Missouri	Not required by statute. "Driftwatch" pesticide program is voluntary.	Inspections are not required, but may be requested and paid for by an apiary owner.	Not addressed in statute.	A permit is required to move bees into the state.	Not addressed in statute.
Montana	Registration required for more than 5 hives. Registration is voluntary for fewer hives (hobby beekeeping exemption).	Inspections are authorized for any reason.	Not addressed in statute.	Bees brought into the state must have a Montana Certificate of Health or certification from the originating state indicating the bees are free of disease and	Violations result in civil penalties of \$500 to \$10,000. Administrative rules set out specific violations and applicable fines.
Nebraska	Registration is now voluntary. Previous mandatory registration and inspection requirements were rescinded.	Inspections are not required, but may be requested and paid for by an apiary owner.	Not addressed in statute.	State has the authority to inspect vehicles transporting bees, but inspection is not required.	Administrative hearings are authorized with potential Class C misdemeanors and penalties.
Nevada	Not addressed in statute.	Inspections are authorized, but not required.	Not addressed in statute.	Certificate of health and inspection within prior 60 days is required. Shipments without certificates may be held or destroyed.	Civil penalties of up to \$500 per violation can be issued.
New Hampshire	Registration is voluntary.	Inspections are authorized as necessary. Inspections can be requested and paid for by an apiary owner. The state prepares an annual report on apiary health and distribution of beekeeping.	Inspections can be requested by queen producers before export to other states.	Shipments into the state must include a certificate of health issued by an authorized inspector from the originating state based on inspection within the past 30 days.	Violations of administrative rules and statutory provisions are misdemeanors and subject to civil fines up to \$1,000 per violation. In some cases, repeated violations are a felony.
New Jersey	Registration is required.	Statute provides for investigation of apiaries and potential bee disease.	Queen apiaries are regulated and must be inspected twice a year.	Shipment of queens and packaged bees into the state require valid certification from issuing state or be immediately reported for inspection.	Fines and penalties can be assessed up to \$1,000 per violation. Commercial apiaries are protected by a Right to Farm bill.
New Mexico	Registration is required for commercial apiaries, which are defined as operations with more than 15, or more than 25 hives depending on location.	Statute requires beekeepers to file an annual inspection certificate request to the state. However, it is unclear if this provision is still in effect or who conducts these inspections.	Not addressed in statute.	Statute exempts packaged bees from import certificate requirements that apply to commercial beekeepers moving bees into the state.	Violations are a misdemeanor.

State	Apiary Registration Requirements	General Colony Inspections	Inspection of Queen Bee Apiaries Located in the State	Certification of Packaged Bees and Queen Imports	Penalties for Noncompliance
New York	Registration is voluntary. Mandatory registration was rescinded in 2010 and the state's inspection program has been underfunded. Some cities (including New York City) require registration and/or inspection.	Colony inspections are authorized, but not required.	Not addressed in statute.	Bees moved into the state, including packaged bees, must either have a certificate of health from the originating state based on an inspection within the past 60 days or a permit from the New York Commissioner. Intrastate movement of bees is also regulated.	Each violation is subject to civil penalties of \$50 to \$400.
North Carolina	Registration is voluntary and recommended so that beekeepers receive notification of nearby pesticide applications.	Inspections are authorized and funded. Statewide and regional inspectors provide inspection services.	Permits and inspections are required before selling queen bees and nucleus colonies.	A valid certificate of inspection is required from the originating state as well as an application indicating colony location and number of bees. Statute does not otherwise specifically address packaged bees.	Not addressed in statute.
North Dakota	All beekeepers must be licensed by the state, provide identification on their hives, and give notice to the State of colony locations.	Inspections are authorized at the request of the beekeeper for the purpose of issuing a certificate of inspection. A fee may be assessed.	Beekeepers requiring a certificate of inspection (e.g. for queen sales) may request one.	Not addressed in the statute.	Violations are a Class A misdemeanors with fines of up to \$5,000 per incident.
Ohio	Annual registration of all hives is required.	State and county inspectors maintain public records and maps indicating location of inspections and occurrences of bee diseases and pests.	Annual inspections are required for bees raised for sale or gifts. Inspectors issue a one-year certificate of inspection.	Bees brought into the state must be accompanied by a certificate of inspection and an inspection report issued within the past 30 days. Alternatively the Ohio Department of Agriculture can complete an inspection.	Violations are misdemeanors.
Oklahoma	Registration is voluntary.	Inspections are not required, but are authorized at the request of the beekeeper or as authorities deem necessary.	A person may not sell bees unless they are free of disease and pests. However, inspection is not mandated by statute.	Prohibits <i>intrastate</i> transportation of bees unless free of disease and pests. Requires certificate of inspection for bees and equipment brought into the	Violations of inspection orders are unlawful.
Oregon	Registration is required for 5 or more hives.	Statute authorizes, but does not require inspections	Not addressed in statute.	Not addressed in statute.	Violations are Class B misdemeanors.
Pennsylvania	Registration is required.	Statute provides for a Chief Inspector along with authorized inspectors. Established goal of inspecting 50% of hives every 2 years.	Agency rules provide for inspection of queen apiaries twice each summer.	All packages and hives brought into the state must have a certificate of inspection/health issued by an authorized inspector within the last 30 days.	Violations are subject to fines of up to \$1,000 and repeated violations are third degree misdemeanors.
Rhode Island	Registration is required.	Statute and rules require the state inspector to act to prevent spread of diseases and pests. A statewide sample of colonies is inspected each year. In addition, beekeepers can request an inspection. A certificate of health may be issued, which is valid for 90 days.	Inspections can be requested by queen producers for export to other states.	Packaged bees must have a valid certificate of health from the originating state based on an inspection within the past 15 days.	Violations are misdemeanors subject to fines of up to \$1,000.

State	Apiary Registration Requirements	General Colony Inspections	Inspection of Queen Bee Apiaries Located in the State	Certification of Packaged Bees and Queen Imports	Penalties for Noncompliance
South Carolina	Not addressed in statute.	Inspections are authorized, but not required.	Not addressed in statute.	Bees shipped or moved into the state must have a valid certificate of health issued by the originating state based on an actual inspection within the past 60 days.	Violations are misdemeanors and subject to a fine of up to \$500 and up to 6 months in jail.
South Dakota	Annual registration and fee are required for all hives including hobby beekeepers (5 or fewer apiaries).	Inspections are authorized and implemented by the state's Apiary Inspection Program. Administrative rules provide for annual inspections of apiaries. Commercial hives must be 3 miles apart to reduce the risk of spreading disease.	Inspections are authorized if requested by a beekeeper to obtain a certificate for export for bees.	Queens, nucleus colonies, and other bees brought into the state require an entry permit and certificate of health from the originating state.	Violations are misdemeanors.
Tennessee	Every apiary must be registered and registration must be renewed every 3 years.	The State Apiarist is directed to create rules for inspection. Local inspections are also authorized. Beekeepers have an affirmative duty to inform the State Apiarist of dangerous pests and diseases. The state will also certify beekeepers that demonstrate skill and experience in managing of diseases and pests as inspectors for their hives.	Not addressed in the statute.	Statute regulates bees brought into the state on beehives or empty brood comb. These imports require an entry permit and certificate of health issued by the originating state within 30 days of transport.	Violations are subject to fines of up to \$500. In addition, it is unlawful to provide false or misleading information pertaining to the enforcement of this law.
Texas	Statute authorizes registration requirements. It is unclear whether registration is currently required.	Statute has extensive provisions for inspectors and also creates the State Apiary Inspection Service. In addition, beekeepers have an affirmative duty to report pests and diseases in their colonies.	Bees sold within the state must be certified as free of diseases and pests based on an inspection within the past 12 months.	Packaged bees are not regulated. Other intrastate and interstate bee transportation currently requires permits and certifications of inspection.	Violations are Class C misdemeanors.
Utah	Annual registration and fees are required.	Inspections are authorized and the State Apiarist may appoint county inspectors, who are paid by the counties.	County inspectors may inspect each queen apiary twice per summer.	Packaged and other bees brought into the state must have a certificate of health issued by an authorized inspector in the originating state based on inspection during the current production	Certain violations are unlawful, including failing to register or knowingly selling bees/equipment contaminated with terminal pathogens.
Vermont	Annual registration and fees are required.	Inspections are authorized, but not required for general beekeeping. Beekeepers have an affirmative duty to report serious diseases in bee colonies.	Queen apiaries must be inspected twice per summer.	Bees brought into the state must have a valid certificate of health based on inspection from the originating state within the past 10 months.	Violations are subject to fines of up to \$500 per offense.
Virginia	Statute authorizes registration. The state advises voluntary registration in partnership with its "Fieldwatch" program, which is designed to prevent pesticide exposure.	State apiarist may establish an inspection program. Citizens are required to immediately notify the State Apiarist if they become aware of bee disease in an apiary.	Statute requires inspections of queen apiaries at least once each summer by the State Apiarist or their designee. If beekeepers discover bee diseases or pests in a colony, they are prohibited from shipping bees until they receive a certificate of health.	Queens and packaged honey bees brought into the state must be accompanied by a certificate of health issued by the originating state.	Violations are Class 1 misdemeanors.

State	Apiary Registration Requirements	General Colony Inspections	Inspection of Queen Bee Apiaries Located in the State	Certification of Packaged Bees and Queen Imports	Penalties for Noncompliance
Washington	Annual registration and fees are required.	Not addressed in statute.	Not addressed in statute.	Not addressed in statute.	Administrative code provides for penalties of up to \$1,000 for failure to register an apiary.
West Virginia	Annual registration is required.	Inspections are authorized and state inspectors must inspect all colonies in the state, as practicable.	Queen apiaries must be inspected each summer.	Packaged bees must be accompanied by a valid certificate of health from the originating state.	Criminal and civil penalties are authorized with fines of up to \$1,000 per incident.
Wisconsin	Not addressed in statute.	Inspections are authorized and voluntary.	Not addressed in statute.	Anyone shipping bees into the state must submit an import form and a certificate of health indicating that the bees are from an apiary which is free of regulated diseases and pests.	Violations are subject to civil and criminal penalties of up to \$10,000 and possible imprisonment.
Wyoming	Annual registration is required. Different registration requirements apply for commercial bees, hobby bees (5 or fewer hives), and bees for other purposes.	Inspections are authorized. It is illegal to conceal bee diseases.	Not addressed in statute.	Packaged bees are authorized, but must be shipped in combless packages without honey.	Violations are misdemeanors subject to fines of up to \$500 per offense and possible imprisonment for up to 6 months.

## Appendix B: Citations to State Beekeeping Laws <sup>155</sup>

### ALASKA

ALA. CODE §§ 2-14-1–2-14-10 (2018).

ALASKA STAT. ANN. §§ 03.47.020–03.47.040 (West 2018).

ALASKA STAT. ANN. § 44.81.350(2) (West 2018).

ALASKA ADMIN. CODE tit. 11, §§ 35.010–35.030 (2019).

### ARIZONA

ARIZ. REV. STAT. ANN. § 3-341 (2019).

ARK. CODE ANN. §§ 2-22-106–2-22-111 (West 2019).

### CALIFORNIA

CAL. AGRIC. CODE §§ 29004–29201 (West 2019).

### COLORADO

COLO. REV. STAT. ANN. §§ 35-25-102–35-25-108 (West 2019).

COLO. CODE REGS. § 1203-4 (2019).

CONN. GEN. STAT. ANN. §§ 22-89–22-90 (West 2019).

### DELAWARE

DEL. CODE ANN. tit. 3, §§ 7501–7511 (West 2019).

### FLORIDA

FLA. STAT. ANN. §§ 586.02–586.11 (West 2018).

### GEORGIA

GA. CODE ANN. § 2-7-92 (West 2019).

GA. CODE ANN. §§ 2-14-40–2-14-46 (West 2019).

### HAWAII

HAW. REV. STAT. ANN. § 149A-2 (West 2018).

HAW. CODE R. § 4-71-6 (2018).

### IDAHO

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<sup>155</sup> Note that some states may have additional administrative rules and policies which are not cited here.

IDAHO CODE ANN. §§ 22-2502–22-2510 (West 2019).

Illinois

510 ILL. COMP. STAT. ANN. 20/1–20/2 (West 2019).

INDIANA

IND. CODE ANN. §§ 14-8-2-8–14-24-8-4 (West 2018).

IOWA

IOWA CODE ANN. §§ 160.1–160.5 (West 2019).

IOWA ADMIN. CODE r. 21-22.10(160) (2019).

KANSAS

KAN. STAT. ANN. §§ 2-2113–2-2118 (West 2018).

KENTUCKY

KY. REV. STAT. ANN. §§ 252.170–252.200 (West 2018).

LOUISIANA

LA. STAT. ANN. §§ 3:2302–3:2307 (2018).

MAINE

ME. REV. STAT. ANN. tit. 7, §§ 2701–2801 (2017).

01-001-270 ME. CODE R. § II (2018).

MARYLAND

MD. CODE ANN., AGRIC. §§ 5-501–5-505 (West 2018).

MASSACHUSETTS

MASS. GEN. LAWS ANN. ch. 128, § 32–36 (West 2018).

330 MASS. CODE REGS. 8.01–8.06 (2019).

MICHIGAN

MICH. COMP. LAWS ANN. §§ 286.801–286.814 (West 2018).

MINN. STAT. ANN. §§ 17.445(1)–(3) (West 2018).

MISSISSIPPI

MISS. CODE ANN. §§ 69-25-101–69-25-105 (West 2019).

2-1 MISS. CODE R. § 3:06(100)(4) (2018).

2-1 MISS. CODE R. §§ 3:06(101)–(102) (2018).

MISSOURI

MO. ANN. STAT. §§ 264.021–264.061 (West 2018).

MONTANA

MONT. CODE ANN. §§ 80-6-101(2)–(15) (West 2019).

MONT. CODE ANN. § 80-6-114(1) (West 2019).

MONT. CODE ANN. §§ 80-6-201–80-6-203 (West 2019).

MONT. ADMIN. R. 4.12.111 (2019).

NEBRASKA

NEB. REV. STAT. ANN. §§ 81-2, 165–167 (West 2019).

NEVADA

NEV. REV. STAT. ANN. §§ 552.0858–552.230 (West 2019).

NEW HAMPSHIRE

N.H. REV. STAT. ANN. §§ 429:11–429:13 (2018).

N.H. CODE ADMIN. R. ANN. AGR. 1801.01–1806.01 (2019).

NEW JERSEY

N.J. STAT. ANN. §§ 4:6-14–4:6-24 (West 2019).

N.J. STAT. ANN. § 4:1C-3.1 (West 2019).

N.J. ADMIN. CODE §§ 2:24-2.2–2:24-2.3 (2019).

NEW MEXICO

N.M. STAT. ANN. §§ 76-9-1–76-9-13 (West 2019).

N.M. CODE R. § 21.27.2 (2019).

NEW YORK

N.Y. AGRIC. & MKTS. LAW §§ 173–75 (McKinney 2019).

NORTH CAROLINA

N.C. GEN. STAT. ANN. §§ 106-634–106-654 (2018).

2 N.C. ADMIN. CODE 48A.0246 (2019).

NORTH DAKOTA

N.D. CENT. CODE ANN. §§ 4.1-16-01–4.1-16-18 (West 2018).

OHIO

OHIO REV. CODE ANN. §§ 909.01–909.99 (West 2019).

OHIO ADMIN. CODE 901:5-55-01–901:5-55-08 (2019).

OKLAHOMA

OKLA. STAT. tit. 2, §§ 3-100–3-121 (2018).

OKLA. ADMIN. CODE §§ 35:30-38-1–35:30-38-12 (2019).

OKLA. ADMIN. CODE § 35:2-3-26 (2019).

OREGON

OR. REV. STAT. §§ 602.010–602.090 (2019).

OR. ADMIN. R. 603-055-0100 (2019).

Pennsylvania

3 PA. STAT. AND CONS. STAT. ANN. §§ 2101–2117 (2018).

7 PA. CODE §§ 117.1–117.4 (2019).

Rhode Island

4 R.I. GEN. LAWS ANN. §§ 4-12-1–4-12-17 (West 2018).

2 R.I. GEN. LAWS ANN. § 2-23-4 (West 2018).

SOUTH CAROLINA

S.C. CODE ANN. §§ 46-37-05–46-37-50 (2018).

SOUTH DAKOTA

S.D. CODIFIED LAWS §§ 38-18-1–38-18-37 (2019).

TENNESSEE

TENN. CODE ANN. §§ 44-15-101–44-15-125 (West 2018).

TEXAS

TEX. AGRIC. CODE ANN. §§ 131.001–131.123 (West 2017).

4 TEX. ADMIN. CODE §§ 71.1–71.53 (2019).

UTAH

UTAH CODE ANN. §§ 4-11-101–4-11-115 (West 2018).

UTAH ADMIN. CODE r. 68-1 (2019).

VERMONT

Vt. STAT. ANN. tit. 6, §§ 3021–3035 (West 2018).

VA. CODE ANN. §§ 3.2-4400–3.2-4416 (West 2018).

WASHINGTON

WASH. REV. CODE §§ 15.60.005–15.60.055 (2019).

WASH. REV. CODE § 82.04.213 (2019).

WASH. ADMIN. CODE §§ 16-602-025– 16-602-050 (2018).

CAMAS, WASH., CODE § 6.10 (2018).

WEST VIRGINIA

W. VA. CODE §§ 19-13-1–19-13-12 (2018).

WISCONSIN

Wis. STAT. §§ 94.76–94.761 (2018).

Wis. ADMIN. CODE ATCP § 21.13 (2019).

WYOMING

WYO. STAT. ANN. §§ 11-7-130–11-7-302 (West 2019).

## Appendix C: Glossary of Beekeeping Terms

**APHIS:** Animal and Plant Health Inspection Service—an agency of the United States Department of Agriculture.

**Apiary or Bee Yard:** A location where a colony or colonies of bees are kept, typically honey bees.

**Beekeeping or Apiculture:** The human management and maintenance of bee colonies, commonly in man-made hives. Most such bees are honey bees in the genus *Apis*, but other honey-producing bees are also kept.

**Colony:** Honey bees are social insects that live in colonies that consist of a single queen, hundreds of male drones and 20,000 to 80,000 female worker bees. Each honey bee colony also consists of developing eggs, larvae and pupae.

**Colony Collapse Disorder:** A term used to describe the mass disappearance of worker honey bees from the hive. The result is a breakdown of the colony and insufficient workers are present to maintain the colony. The potential causes include disease, pests, pesticide exposure, and climate conditions.

**Commercial Beekeeping (also known as apiculture):** The maintenance and sale of honeybees and commodity products including beeswax, honey and other edible bee products. Commercial beekeepers frequently have large numbers of colonies and multiple bee yards. Honey is the most valuable commodity sold by beekeepers and honey-producer beekeepers try to maintain maximum-strength colonies of bees in areas with dense nectar sources. Commercial beekeepers also provide agricultural crop pollination services by trucking large numbers of hives throughout a region to provide pollination for crops and orchards.

**Delegated Authority:** When a higher body of government (e.g. federal or state) specifically provides in law for a lower level of government to have authority to implement or enforce a law.

**Hive:** The protective nest or structure for a colony of bees. Wild honey bees live in nests or hives located in trees or under ledges. Domestic honey bee hives are commonly man-made boxes or structures for raising bees and honey collection. Langstroth hives are common box-type hives with removable frames used by commercial beekeepers and many hobby beekeepers. Other types of hives that more closely mimic natural conditions include skep, woven, and hollow log hives.

**Hobby Beekeeping:** Hobby beekeeping, also known as urban, residential, or backyard beekeeping, is the practice of keeping honey bee colonies as a recreational activity for non-commercial purposes. These beekeepers typically work or own only a few hives. Their main attraction is an interest in ecology and natural science or cottage honey production.

**Natural Beekeeping (also known as Darwinian and holistic beekeeping):** There is no universal definition, but the term generally refers to honey bee stewardship that relies on the natural biology of the colony and allows bees to self-regulate their hives with little (or no) human

intervention. Natural beekeepers address pests, disease, and potential starvation issues without relying on synthetic pesticides, antibiotic drugs, or the regular use of an artificial diet.

**Nucleus Colonies:** Small colonies derived from larger colonies and reared or sold for the purpose of starting new colonies.

**Preemption:** When a higher level of government removes regulatory power from a lower level of government. Federal preemption is based on the Supremacy Clause of the U.S. Constitution and allows the federal government sole authority to regulate imports of bees and bee products from other countries. States can also adopt laws that preempt counties and municipalities from regulating or adopting conflicting honey bee or beekeeping regulations.

**Queen Breeders:** Specialist beekeepers who raise queen bees for other beekeepers who want to start new operations or expand their farms. The breeders maintain select stock with superior qualities and tend to raise their bees in geographic regions with early springs.

## Appendix D: Grand County Ordinance 531

### Appendix D

#### **ORDINANCE 531 2015**

##### **LAND USE CODE AMENDMENT APICULTURE PROTECTION**

**WHEREAS**, the Grand County Council (County Council) adopted the Grand County General Plan Update (General Plan Update) on February 7, 2012 with Resolution No. 2976;

**WHEREAS**, the County Council adopted the Grand County Land Use Code (LUC) on January 4, 1999 with Ordinance No. 299 and amended February 19, 2008 with Ordinance No. 468 for the purpose of regulating land use, subdivision, and development in Grand County in accordance with the General Plan;

**WHEREAS**, the purpose of the Amendment is to provide protection of the local bee populations by preventing migratory commercial bee keepers from bringing their hives into the County, south of Interstate-70, for overwintering or pollination services;

**WHEREAS**, the Planning Commission reviewed the Amendment in a public hearing April 22, 2015 and forwarded a favorable recommendation;

**WHEREAS**, on May 19, 2015 the Council held a duly noticed public hearing for purposes of obtaining and considering public input regarding the Amendment;

**WHEREAS**, the Council heard and considered all evidence and testimony presented with respect to the Amendment and has determined, subsequent to said public hearing that the adoption of this Amendment is in the best interests of the citizens of Grand County, Utah.

**NOW, THEREFORE, BE IT ORDAINED BY THE COUNTY COUNCIL OF GRAND COUNTY, UTAH** that the *Grand County Land Use Code* is hereby amended by repealing and re-enacting *Section 3.2.5.*, to read as follows:

#### **Section 3.2.5 Other Use Standards**

##### **A. Animal Raising**

The keeping of domestic, agricultural animals and livestock shall be considered a permitted use, provided that no more than 4 animal units (as defined in Article 10) per acre shall be allowed on parcels with more than one-half acre and less than 5 acres. These standards shall not be applicable to parcels larger than 5 acres.

##### **B. Apiculture**

1. The keeping of honey bees shall be considered a permitted use in accordance with Sections 3.2.5(B)(2) and 3.2.5(B)(3).
2. Migratory beekeeping operations of any size, south of Interstate-70, either permanent or temporary, will be prohibited.
3. No parcel of land, South of Interstate-70, shall have in excess of 25 established bee colonies at any given time.

##### **C. Barn, Stable, Coop, Animal Shed**

Barns, stable, coops, animal sheds or similar structures shall comply with the following standards:

1. A setback shall be maintained of at least 100 feet from existing dwellings, 20 feet from any open waterway; and
2. Surface drainage from such structures shall not be permitted to drain into a natural stream or into a drainage way that drains into a natural stream.

**BE IT FINALLY ORDAINED BY THE COUNTY COUNCIL** that LUC Article 10, Definitions is hereby amended by the adoption of the following definitions