EFFECTIVE RABIES CONTROL: A REVIEW OF THE PENNSYLVANIA RABIES PREVENTION AND CONTROL IN DOMESTIC ANIMALS AND WILDLIFE ACT IN COMPARISON WITH RABIES LAWS OF OTHER STATES

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APRIL 2009

PREPARED AS AN ACADEMIC REQUIREMENT FOR THE AGRICULTURAL LAW COURSE AT THE PENNSYLVANIA STATE UNIVERSITY’S DICKINSON SCHOOL OF LAW

SPRING SEMESTER 2009

The work product contained in this paper is entirely that of the student author.
Introduction

Rabies is a virus capable of reaching epidemic proportions among mammals. It is extremely important to control the spread of rabies between countries and states. In the United States, this responsibility belongs to the United States Department of Agriculture and individual state departments of agriculture and health. Each of the United States has enacted its own rabies laws that are classified as agriculture and public health laws, depending on the state. Each state aims to control the spread of rabies within its borders so that the virus will not extend beyond its borders. In the state of Pennsylvania, rabies control is classified as ‘Agriculture’ and falls under the Rabies Prevention and Control in Domestic Animals and Wildlife Act. The Act requires that the Pennsylvania Department of Agriculture contribute to the national goal of rabies eradication.

This paper will analyze the importance of rabies control as a topic in agriculture within the United States, and particularly within Pennsylvania. A focus will be placed on the nationally supported oral rabies vaccine (ORV) program as a method of rabies control. Additionally, this paper will examine the language of the Pennsylvania Rabies Act and address its role in promoting rabies control efforts in the state. Finally, this paper will compare the language of the Act to language in other states’ rabies laws and determine whether the Pennsylvania Act should be amended. While the Pennsylvania Rabies Act is effective in promoting rabies control, it has potential to be even more effective with amendments that mirror the language of other states’ rabies laws.

I. Rabies: An Overview

The United States Department of Agriculture and individual state departments of agriculture, as well as some state departments of health, are responsible for making efforts to
control the spread of rabies in the United States. Rabies is a virus that affects agriculture and specifically, domestic and wild animals. The main incentive of a governing body to control the spread of rabies is to prevent domestic animals, in particular, from becoming infected. If such domestic animals like household dogs and cats become infected, they will easily expose humans to rabies and the virus could then become an epidemic among humans. Thus, it is in the best interest of the national and state departments of agriculture and health to keep the spread of rabies under control. To understand the importance of controlling the spread of rabies, it is necessary to analyze the rabies virus itself, and its effects on health. Such an analysis will shed light on the severity of the disease and the importance of preventing its spread in the United States and between states.

Rabies is a viral infection that can affect any mammal, and is usually deadly when contracted. The virus is found in the saliva and brain matter of an infected animal1 and is spread through the saliva to other animals. The virus is spread when saliva enters the body of an animal through a bite or broken skin, after which the virus incubates for a period of time and manifests as symptoms.2 In addition to spreading through saliva, there have also been accounts of the virus spreading not through contact with the skin, but through respiration of air. This has occurred when infected saliva has gotten into the air in caves heavily populated with infected bats, and humans have entered those caves.3 For the most part, however, the virus spreads through saliva and accounts of it spreading through respiration of air are very rare.

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2 Id. at §4.

3 Penn State Hershey Medical Center College of Medicine, *Health and Disease Information: Rabies*, http://www.hmc.psu.edu/healthinfo/r/rabies.htm. The virus can be spread not only when an animal or human is bitten or breaths infected air, but also when an animal or human is licked by an infected animal around an open wound or mucous membranes such as the eyes, nose, or mouth.
When saliva enters the body, the virus travels during the incubation period from the wound to the brain through the peripheral nervous system, and then the central nervous system, where it causes swelling and inflammation.\(^4\) The virus eventually travels into the salivary glands whereby it may be transmitted to new hosts.\(^5\) Symptoms of the virus do not result until the brain is affected by swelling and inflammation. A symptom of the virus in animals often includes the reversal of an animal’s normal behavior patterns. For example, raccoons and bats, which are normally nocturnal, may come out in the day. Likewise, a dog that is normally aggressive may become shy and timid.\(^6\) Other symptoms of the virus in animals include: “extreme irritability and aggressiveness, constant growling and barking, attacking and biting anything that moves, dilated pupils, craving food, disorientation, no fear, restlessness, roaming, seizures, trembling and lack of muscle coordination.”\(^7\) Final symptoms that may occur in animals before death include: production of excessive amounts of saliva, or “foaming at the mouth,” loss of ability to chew and swallow or walk normally, and paralysis in the lower jaw and extremities that results in a coma.\(^8\) Humans that come across wild animals in which rabies is very likely to be present often recognize some of these symptoms, like drooling and excitability.

Symptoms of the rabies virus in humans typically begin to appear within 30 to 50 days after the person has been infected and the incubation period has passed.\(^9\) Symptoms in humans include “muscle pain, headache, fever, nausea and vomiting, diarrhea, and restlessness,” as well

\(^4\) Proebsting, J.D., supra note 1, at §6.

\(^5\) Id.

\(^6\) Id. at §8.

\(^7\) Id.

\(^8\) Id.

\(^9\) Penn State Hershey Medical Center College of Medicine, supra note 3.
as “uncontrollable excitement, loss of muscle control and other bodily functions, muscle spasms or paralysis, agitation and irritability, depression and confusion.”10 Symptoms in humans also include difficulty to swallow and drink, painful spasms of the throat and voice box, production of excessive amounts of saliva, and a coma that results in death.11

Symptoms of the virus in animals do not take effect until the incubation period has passed, which ranges from a few days to several years, with the average incubation period being one to three months.12 The incubation period depends on the location of the bite on the victim’s body. The incubation period will be longer if the animal bite and entry of saliva is further from the bite-victim’s brain. For example, if a human receives a bite to the foot the incubation period will likely be longer than if the human receives a bite to the hand. The incubation period also depends on the age of the bite-victim and the state of his or her immune system and health, the variant of the virus, and the amount of the virus that has been transmitted through the bite.13

A. Treatment for Rabies

Rabies is almost always fatal when symptoms of the virus appear and no treatment is given.14 Victims usually die from respiratory failure within seven days after symptoms begin to appear. In fact, there have only been six cases reported of human survival from clinical rabies and each of these cases did actually involve some form of treatment.15 However, there is no known treatment for people with symptoms of the virus that is consistently successful in

10 Id.
11 Id.
12 Proebsting, J.D., supra note 1, at §6.
13 Id.
14 Id. at §1.
15 Id. at §7.
reducing fatalities. The only consistently effective treatment available is preventative, and for people who suspect or know that they have been bitten by a rabid animal, but do not yet experience symptoms. This type of treatment is called post-exposure prophylaxis, or secondary prophylaxis, and involves the administration of the rabies vaccine immediately after a bite has occurred. The treatment is a combination of rabies vaccine and RIG (Rabies Immune Globulin). The goal is to prevent the development and worsening of the disease in the bite-victim. If an immunization is given to a bite-victim within two days of the bite, the likelihood of survival increases significantly. To date, every person in the United States that has been given the immunization promptly has avoided contracting the virus.

In addition, rabies may also be treated by pre-exposure vaccination, or primary prophylaxis, to prevent the development of the virus. Vaccinations of domestic dogs and cats are considered primary prophylaxis, because they are done before an animal has been bitten, with the interest of preventing the animal from contracting rabies.

The incentive that a governing body has to reduce the prevalence of rabies within its boundaries arises not only from the desire to preserve the health and safety of its citizens, but also from the desire to avoid using resources and incurring unnecessary costs. The fewer cases of rabies that exist within specified boundaries, the fewer resources a government will have to expend to keep the disease under control. In addition, the post-exposure treatment of rabies is

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16 Id. at §16.
17 Id. at §19.
18 Id.
19 Id.
20 Id.
21 Id. at §18.
very expensive for bite-victims\textsuperscript{22} and also physically painful, although the modern method of giving an injection in the arm is less painful than the older method of injecting into the abdominal muscle.\textsuperscript{23} Currently, a bite-victim must receive one dose of rabies immune globulin immediately after receiving a bite and then four doses of the rabies vaccination given on the third, seventh, fourteenth, and twenty-eight days after the first vaccination has been given.\textsuperscript{24}

B. Rabies: National and Worldwide

Human fatalities due to rabies are not nearly as prevalent in the United States as in other countries and in the last century, there have been far fewer human deaths from rabies in the United States. The number of human deaths from rabies declined from 100 per year or more to an average of one or two per year.\textsuperscript{25} This contrasts significantly with approximately 50,000 people who die every year from rabies in other countries. “More than 90 percent of all human deaths from rabies occur in Asia, Africa, and South America.”\textsuperscript{26} The reason that this contrast exists in the numbers of deaths from rabies is that more-developed, industrialized countries like the United States have resources to minimize the spread of the virus. For example, the United States government makes efforts to control the spread of rabies through its ORV (oral rabies vaccine) program, in which rabies vaccine baits are placed in areas populated by wild animals. The rabies vaccine is expensive, so less-developed countries in Asia, Africa, and South America do not have the same capability as the United States to administer the rabies vaccine through a

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  \item \textsuperscript{22} 3PA. STAT. ANN. §455.2(b) (West 2009)
  \item \textsuperscript{23} Id. at §19.
  \item \textsuperscript{24} Penn State Hershey Medical Center College of Medicine, supra.
  \item \textsuperscript{25} Proebsting, J.D., supra, at §1.
  \item \textsuperscript{26} Id. at §5.
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program like ORV.\textsuperscript{27} Furthermore, industrialized countries like the United States also have sufficient resources to vaccine injections to domestic animals through rabies clinics in particular states, which is free to owners of domestic animals.\textsuperscript{28}

However, even with the lower number of human fatalities due to rabies in the United States, there remains a population of wild animals infected with the virus that poses a threat to Americans, as well as a continuous risk of epidemic. Ninety-three percent of rabies cases that are reported in the United States result from the population of wild animals, and specifically, raccoons, skunks and bats.\textsuperscript{29} Other species of wild animals in which the virus has been seen include foxes, wolves and coyotes.\textsuperscript{30} In contrast, for example in 2001, less than seven percent of rabies cases result from infection of domestic animals including dogs, cats, cattle, swine, horses, sheep and goats.\textsuperscript{31} Among these, cats are most commonly diagnosed with rabies. Contrastingly, outside of the United States, dogs are most commonly diagnosed with rabies.\textsuperscript{32} It remains a priority of the United States Department of Agriculture to control the spread of rabies particularly among wildlife in the United States.

C. Rabies in Pennsylvania: The United States Department of Agriculture

Cooperative Rabies Management Program National Reports for Pennsylvania

\textsuperscript{27} Id.

\textsuperscript{28} Id.

\textsuperscript{29} Id.

\textsuperscript{30} Id.

\textsuperscript{31} Id.

The State of Pennsylvania, as part of the United States, has an interest in rabies control. In fact, the prevalence of rabies in Pennsylvania increased greatly, particularly in the 1980s, with more cases confirmed. For example, 450 cases were confirmed in the state in 1985 whereas only 16 cases were confirmed in 1979. Additionally, according to §455.2 of the Pennsylvania Rabies Prevention and Control in Domestic Animals and Wildlife Act, the disease has entered more of the state’s counties. Rabies cases were reported in almost half of the counties in the state in 1985 whereas only nine counties reported cases of the disease in 1981. The presence of rabies in Pennsylvania is most prevalent in raccoons and the first reported case of the disease in the state was the raccoon variant of the disease. By 1995, all 67 Pennsylvania counties were confirming large numbers of cases and each year since 1995, the state has confirmed more than 350 cases of rabies. Other species of wild animals majorly affected by rabies in Pennsylvania include skunks, coyotes, gray foxes, red foxes, and bobcats.

In spite of these numbers, however, the United States Department of Agriculture Cooperative Rabies Management Program National Reports for Pennsylvania suggest that the numbers of confirmed cases have decreased since the 1980s. The numbers of confirmed cases are based only on animals that are identified through the Pennsylvania Department of Agriculture’s Oral Rabies Vaccine (ORV) program, however, and there are potentially large

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34 3PA. STAT. ANN. Title 3 P.S. §455.2(a) (West 2009)


36 Id.

37 Id. at 92.
numbers of positive cases that are never identified and recorded. This is mainly due to the rural geography of a large part of Pennsylvania, which is comprised of heavily wooded areas in which humans may rarely come into contact with animals infected with rabies. Thus, it is difficult to gain a completely accurate understanding of the prevalence of rabies in Pennsylvania at any one time. It is also notable that the Pennsylvania Department of Agriculture keeps its own records of confirmed rabies cases each year, engaging in rabies control efforts aside from the nationally administered ORV program. The ORV program is part of the U.S. Department of Agriculture Cooperative Rabies Management Program. The Pennsylvania Department of Agriculture has kept records of the confirmed cases of rabies in the state since 1944. These recorded numbers of confirmed cases are in addition to those cases recorded in the ORV program, recorded in the U.S. Department of Agriculture Cooperative Rabies Management Program National Reports for Pennsylvania.

The Pennsylvania Department of Agriculture has kept record of all of the confirmed rabies cases in the state, in both domestic and wild animals, since 1944. Up until the 1970s, confirmed cases of rabies were mostly in domestic animals rather than wild animals, and most notably between 1944 and 1950, the majority of confirmed cases were in domestic dogs.\footnote{38 Kristin Herman, \textit{supra} note 33.} In contrast, confirmed cases of rabies are now mostly in wild animals. For example, 370 of the 426 confirmed cases in 2008 were in wild animals.\footnote{39 Id.} The numbers of confirmed cases recorded by the Department exceed those confirmed cases recorded in the U.S. Department of Agriculture Cooperative Rabies Management Program National Reports for Pennsylvania because the Pennsylvania Department of Agriculture records confirmed cases based on rabies testing outside
of the ORV program, through the other sources of testing required by the Rabies Prevention and Control in Domestic Animals and Wildlife Act of Pennsylvania.

With this said, the United States Department of Agriculture makes efforts to establish and record the numbers of confirmed cases of rabies that arise in the state each year through the ORV program specifically. For example, the Department determined that in 2004, 462 wild animals were tested for rabies and 29 tested positive for the disease.\textsuperscript{40} Of the 462 animals tested, 411 were raccoons.\textsuperscript{41} Furthermore, the Department determined that in 2006, 2,712 wild animals were tested for rabies and 76 tested positive for the disease.\textsuperscript{42} The highest number of infected animals was found in Westmoreland County and the next highest number was found in Somerset County, with both counties located in Western Pennsylvania.\textsuperscript{43} The Department determined most recently that in 2007, 3,269 wild animals were tested for rabies and 85 tested positive for the disease.\textsuperscript{44} The highest number of infected animals was found again in Westmoreland County and the next highest number was found in Allegheny County, with both counties located again in Western Pennsylvania.\textsuperscript{45} Interestingly, all of the animals that tested positive that were not bats had the raccoon variant of rabies. The numbers show that there have been fluctuations in the numbers of confirmed cases in the state since 2001 when the Department began its testing program in Pennsylvania and advanced rabies control efforts.

\textsuperscript{40} Cooperative Rabies Management Program National Report 2004, United States Department of Agriculture Animal and Plant Health Inspection Service, 70.

\textsuperscript{41} Id.


\textsuperscript{43} Id.

\textsuperscript{44} Cooperative Rabies Management Program National Report 2007, supra note 35, at 92.

\textsuperscript{45} Id.
The animals that were tested and included in the numbers identified by the Department in its annual reports for Pennsylvania were collected by Wildlife Services in several ways. One way that the animals were collected was through state residents who reported that they had observed wild animals that displayed symptoms of rabies. These residents directed Wildlife Services to the animals. Another way that animals were collected for testing was through nuisance wildlife control officers who obtained wild animals exhibiting symptoms of rabies. Another way that animals were collected was by euthanizing raccoons, specifically, that had bite marks on them or exhibited symptoms of rabies when they were trapped. The final way that animals were collected for testing was through surveys of wild animals killed on roads that were in condition to be tested for rabies.46

II. Rabies Control

The United States Department of Agriculture has made efforts through its ORV Rabies Management Program to record the numbers of confirmed cases of rabies in Pennsylvania each year, thereby keeping record of the prevalence of rabies in the state to the extent that the ORV program is accurate. These efforts are shared in part by the Pennsylvania Department of Agriculture, which carries out the national ORV program within the borders of Pennsylvania. The U.S. Department of Agriculture explicitly states in its 2007 Report for Pennsylvania, “The Pennsylvania ORV program is integral to national planning efforts to contain raccoon rabies and explore strategies to eliminate this unique variant of the virus.”47 The U.S. Department of Agriculture supports state programs like the Pennsylvania ORV program by working

46 Id. at 91.

cooperatively with local, state, and federal governments, universities and other partners to address rabies control. The Department provides wildlife management leadership through Wildlife Services and also provides federal funding. Additionally, the Department’s Wildlife Services partners with the following six agencies to support the ORV program in Pennsylvania: the Pennsylvania Department of Agriculture, the Pennsylvania Game Commission, Erie County Health Department, Allegheny Health Department and the Centers for Disease Control and Prevention.48

While the Rabies Management Program National Reports for Pennsylvania are currently only available through 2007, the rabies control efforts were continued in 2008 and are currently underway in the state. The ORV program has been running in Pennsylvania each year since the fall of 2001. It started with the goal of preventing the raccoon variant of rabies from spreading into eastern Ohio from Western Pennsylvania, and particularly, the Appalachian Ridge.49 The density of the woodlands encompassing the Appalachian Ridge creates an ideal environment for populations of wild animals to live and breed. Raccoons are among such wild animals found in large populations in the Appalachian Ridge area.

In the fall of 2001, 138,602 baits were hand distributed within two counties in the northwest corner of Pennsylvania. Later, in 2002 and 2003, baits were distributed over a larger area in eighteen western counties of the state.50 More recently, in 2007, 1,220,340 baits were distributed over fourteen western counties of the state, still with the goal of targeting the


50 Id.
Appalachian Ridge area. The number of baits distributed between the start of the Pennsylvania ARV program in 2001 and 2007 totals 9,157,640.

The baits are comprised of the rabies vaccine contained in sachets coated with fishmeal, to attract animals. They are distributed by Wildlife Services’ trained employees by foot through hand baiting and are also dropped from low-flying planes in heavily-wooded areas. The baits tend to be distributed by foot in areas that are heavily populated by humans and distributed by air in very rural areas. When a wild animal like a raccoon comes across a sachet and punctures it, the pink-colored vaccine is released into its mouth and there is a strong likelihood that the animal will swallow enough of the vaccine to avoid contracting the rabies virus. The actual vaccine contains a small, non-infective portion of the rabies virus which does not pose an immediate health risk to humans or pets.

A. The Rabies Prevention and Control in Domestic Animals and Wildlife Act of Pennsylvania

The Pennsylvania ORV program is supported by the United States Department of Agriculture but explicitly called for, or required, by state legislation. Specifically, the Rabies Prevention and Control in Domestic Animals and Wildlife Act of Pennsylvania under Title 3, Chapter 7A of Pennsylvania Statutes provides that Pennsylvania has a duty to control the spread of the rabies virus. The Act was signed into law by former Governor Dick Thornburgh on

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52 Id.
54 Id. at 1.
The Act provides that “It is the intent of the General Assembly to provide a comprehensive rabies control program involving research, prevention and education which will protect the citizens of this Commonwealth from an unnecessary and harmful rabies epidemic.”\textsuperscript{56} In addition, the Act provides that “The department, in cooperation with the Pennsylvania Game Commission and the Department of Health, shall establish a Statewide system for the prevention and control of rabies in both wild and domestic animals. The system will encompass both a comprehensive research program aimed at ending the rabies epidemic in the wild and a rabies control program which includes standardized procedures to follow in this Commonwealth.”\textsuperscript{57}

Specifically, the Act provides that “The department (Department of Agriculture of the Commonwealth) shall develop, administer and enter into a contract with Wistar Institute for a comprehensive multiyear wildlife vaccine research program, which may include, but not be limited to, the following: (1) The identification of an appropriate wildlife vaccine; (2) The development of effective bait attractants for wildlife in the field…(4) The identification and development of a distribution system for the dissemination of the bait in rural and urban environment.”\textsuperscript{58} The language of this section suggests that the Pennsylvania legislature intended for the Pennsylvania ORV program to shape the future of rabies control in the state and that the Department of Agriculture has a duty to carry out the ORV program, as well as to make other efforts toward rabies control. The Wistar Institute developed the rabies vaccine used for distribution in the baits in Pennsylvania.\textsuperscript{59}

\textsuperscript{55} Kristin Herman, Rabies, Pennsylvania Department of Agriculture: Pennsylvania Veterinary Laboratory, http://www.agriculture.state.pa.us/agriculture/cwp/view.asp?q=127956

\textsuperscript{56} 3PA. STAT. ANN. §455.3 (West 2009)

\textsuperscript{57} 3PA. STAT. ANN. §455.5 (West 2009)

\textsuperscript{58} 3PA. STAT. ANN. §455.10(a) (West 2009)

\textsuperscript{59}
In addition to requiring that rabies control efforts be made through the ORV program, the Act suggests that the Pennsylvania Department of Agriculture has a duty to control the spread of rabies through testing. The Act provides that “All testing and other necessary or appropriate rabies control conducted upon rabid or suspected rabid animals appropriate to protect human life and safety shall be conducted free of charge at State laboratories or other facilities designated by the secretary.”

Testing is a different approach to rabies control than vaccination and the ORV program because it deals with rabid animals or animals suspected of having rabies, rather than animals that are at risk of contracting the virus, that have not yet been affected. Testing and vaccination through the ORV program are linked because part of the goal of the ORV program is to identify animals with rabies, or positive cases, through testing. As discussed earlier, the Cooperative Rabies Management Program National Reports for Pennsylvania keep track of the numbers of confirmed, positive cases of rabies in Pennsylvania each year since 2001. By recording the numbers of confirmed cases of rabies, the U.S. and Pennsylvania Departments of Agriculture can decipher whether the ORV program is effective from year to year. Testing is also done in Pennsylvania independently of the ORV program, however, as an effort to ensure that the rabies virus is identified when it is present in an animal or group of animals.

The Rabies Prevention and Control in Domestic Animals and Wildlife Act also encourages rabies control by requiring that owners of dogs and cats over the age of three months vaccinate their pets against rabies. Specifically, the Act provides that “Every person living in

59 The Wistar Institute, Annual Report, June 2007, 8. The Wistar Institute was the first independent biomedical research facility in the United States and was started in 1892 by prominent Philadelphia physician, Casper Wistar. The Institute remains an independent and nonprofit facility and is located in West Philadelphia. Scientists at the Institute produce the rabies vaccine used in the bait distribution system. The same scientists are currently working on developing an improved rabies vaccine specifically for developing countries, where thousands of children die from the virus each year.

60 3PA. STAT. ANN. §455.7 (West 2009)
this Commonwealth, owning or keeping a dog or cat over three months of age, shall cause that
dog or cat to be vaccinated against rabies. Rabies vaccine shall be administered by a licensed
veterinarian or under the supervision of a licensed veterinarian. The Commonwealth shall
recognize the three-year rabies vaccine as the vaccine to be used...” 61 Furthermore, the Act also
requires that owners of state-licensed private or breeding kennels administer the rabies vaccine to
animals in an approved manner. 62 When a veterinarian vaccinates a dog or cat against rabies, he
or she is required to issue a vaccination certificate and tag, which is provided by the
manufacturer of the vaccine to the owner of the animal. 63 The Act provides that these
requirements will be enforced by the Commonwealth and in particular, it provides that “It shall
be the duty of every police officer or State dog warden or the designated municipal animal
control officer to issue a citation to every person who owns a dog or cat which is not vaccinated
pursuant to subsection (a) or (b).” 64

There are several Pennsylvania cases that exemplify the enforcement of the Act, and
particularly the enforcement of §455.8, requiring vaccination, certificate and tag. One such case is Commonwealth of Pennsylvania v. Lopez, 908 A.2d 991 (2006), in which defendant Barbara
Jean Lopez failed to produce rabies vaccination certificates for twenty-nine dogs living in
kennels at her residence. 65 Roland Yochum discovered this when he went to defendant Lopez’s
residence to determine if the kennel license previously issued for her property had been renewed

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61 3PA. STAT. ANN. §455.8(a) (West 2009)
62 3PA. STAT. ANN. §455.8(b) (West 2009)
63 3PA. STAT. ANN. §455.8(c) (West 2009)
64 3PA. STAT. ANN. §455.8(d) (West 2009)
or if the property no longer needed a license. Yochum was employed by the Department of Agriculture, Bureau of Dog Law, as a Dog Warden primarily in Crawford County, and had been appointed to determine whether defendant’s kennel license had been renewed. He discovered that defendant Lopez had thirty-four dogs at her residence but did not have rabies vaccination certificates for twenty-nine of them. Defendant Lopez contended that Section 8 of the Rabies Act does not apply and that kennel laws apply instead to the dogs at issue. The Lopez court held that Lopez violated §455.8 of the Rabies Act.

Other Pennsylvania cases in which §455.8 has been enforced have involved dog attacks on state residents. One such case is Commonwealth of Pennsylvania v. Beam, 923. A.2d 414 (2007), in which a copy machine repairman, Paul Bixler, went to defendant Troy Allen Beam’s residence to repair a copy machine. Defendant Beam let Bixler into the house to fix the machine and when Bixler had finished and went to leave the house, Defendant Beam’s three dogs attacked Bixler. The dogs continued to bite Bixler until Beam came out of his house and stopped them. Bixler went to a hospital for treatment and the Department of Health notified the dog warden, Donald Newman of the incident. Newman was unable to contact Defendant Beam or get access to his property in order to quarantine the dogs, so Newman explained to Bixler that the Department was unable to determine whether Beam’s dogs had been vaccinated

\[\text{\textsuperscript{66 Id. at 992.}}\]
\[\text{\textsuperscript{67 Id.}}\]
\[\text{\textsuperscript{68 Id. at 993.}}\]
\[\text{\textsuperscript{69 Id. at 992.}}\]
\[\text{\textsuperscript{71 Id.}}\]
against rabies before the attack occurred. As a result, Bixler received a series of rabies shots as a precautionary measure to reduce the risk of contracting the virus. Defendant Beam eventually showed Warden Newman certificates of rabies vaccination for the dogs and the court was satisfied that defendant Beam had not violated §455.8 of the Act. The court did recognize, however, that Bixler had been inconvenienced because he had to receive the rabies shots. Nonetheless, the court reversed Beam’s sentence of two fines of $25.00 each that was imposed pursuant to his convictions under §455.8.

Another Pennsylvania case in which §455.8 has been enforced in connection with a dog attack is Commonwealth of Pennsylvania v. Seyler, 929, A.2d 262 (2007). In Seyler, a neighbor and relative of defendant Gretta Seyler was attacked by two adult pit bulls on her own property. The dogs belonged to defendant Seyler, and attacked the neighbor, Robin Seyler, after she motioned to defendant on her property. This occurred when Robin Seyler witnessed the pit bulls attacking a smaller dog on defendant Seyler’s property. Robin Seyler called out to defendant Seyler to ask if she needed help with the situation. At that point, the pit bulls ran over to Robin Seyler’s property and attacked her. She went to the hospital and received treatment for injuries that she received from the dogs. Defendant Seyler failed to provide any paperwork to prove

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72 Id. at 416.
73 Id. at 417.
74 Id. at 418.
76 Id.
77 Id.
that she had vaccinated her dogs against rabies and the Seyler court determined that she was in
violation of §455.8 of the Act. The court ordered defendant Seyler to pay fines and costs.78

In addition to the ORV programs, testing, and the vaccination requirements for dogs and
cats under §455.8, the Pennsylvania Rabies Act aids in the fulfillment of these requirements by
supporting antirabies clinics. The Act states that “The department shall assist in the
establishment of low-cost antirabies clinics. These clinics shall be offered at locations and on
dates as appropriate. The department shall establish vaccination procedures for cats and dogs to
be used at the clinics. In assisting in the establishment of antirabies clinics, the department shall
cooperate with local veterinarians and other local organizations.”79 Furthermore, the Act
requires that the Department educate citizens about rabies, and it provides that “The department
shall have the following powers and duties: (4) Institute an intensive public education campaign
on rabies through newspapers, radio and television announcements.”80

Finally, the Act encourages rabies control by administering penalties to people who
violate any part of the Act. The outcome of the Seyler case is an example of this. In addition to
§455.8(d), the Act provides in that “A person who violates any provision of this act commits a
summary offense and shall, upon conviction, be sentenced to pay a fine not exceeding $300 for
each violation. Each day of violation shall constitute a separate offense.”81 The Act also
encourages rabies control by suggesting that fines paid by violators will go directly to the
employers of police officers and dog wardens that identify people to fine. “If a prosecution
pursuant to this act is initiated by a local police officer or designated animal control officer, all

78 Id.
79 3PA. STAT. ANN. §455.9 (West 2009)
80 3PA. STAT. ANN. §455.6(4) (West 2009)
81 3PA. STAT. ANN. §455.11 (West 2009)
fines forfeited, recognizances and other forfeitures imposed, lost or forfeited under this act shall be payable to the political subdivision which employs such local police officer or designated animal control officer.” 82 A local police officer or dog warden, in addition to the normal incentives for performing his or her job well, may feel an incentive to fine people who, for example, have failed to vaccinate their dogs and cats. This is because the fines will be paid “to the political subdivision which employs such local police officer or designated animal control officer.” 83 A local police officer or dog warden may consider the benefits to his or her employer, albeit small benefits, if he or she identifies violations of the Act in a given community.

In summary, the Act encourages rabies control efforts by requiring the following measures to be taken under the authority of the Pennsylvania Department of Agriculture: the Pennsylvania ORV program, which is part of the overall national ORV program, testing, mandatory vaccinations of dogs and cats over three months of age and certificates of vaccination for the animals, antirabies clinics, education of citizens about rabies, and enforcement through penalties and citations for violating the Act.

While the Act is the main legislation enacted by Pennsylvania concerning rabies control, the Pennsylvania Dog Law also contains provisions relating to rabies. The current Dog Law was enacted on December 7, 1982 and is included under Title 3, Chapter 8 ‘Dogs and Cats’ of Pennsylvania Statutes. The Dog Law contains similar provisions to those in the Rabies Act. For example, the Dog Law suggests that “For each dog in a kennel, a permanent record shall be kept and made readily available for inspection. The record shall contain all of the following

82 3PA. STAT. ANN. §455.12 (West 2009)

83 Id.
information:…(ii) The date of the last rabies vaccination…”\textsuperscript{84} Another provision suggests that “Rabies vaccinations may only be administered by or under the supervision of a veterinarian.”\textsuperscript{85} The Dog Law also makes reference to the Rabies Act and provides that “The secretary may revoke or refuse to issue a kennel license, dealer license or out-of-state dealer license for any one or more of the following reasons: (9) the person holding or applying for a license has acted or is acting in concert with a person who has violated the act of December 15, 1986 known as the ‘Rabies Prevention and Control in Domestic Animals and Wildlife Act.’\textsuperscript{86} Finally, the Dog Law makes reference to the Rabies Act again when it, states that “It shall be a violation of this act to transport into this Commonwealth…without a certificate of health prepared by a licensed doctor of veterinary medicine…All dogs must have been vaccinated for rabies in accordance with the act of December 15, 1986 known as the ‘Rabies Prevention and Control in Domestic Animals and Wildlife Act.’”\textsuperscript{87} Thus, Pennsylvania covers rabies control legislation in its Rabies Act and Dog Law, which both fall under ‘Agriculture.’ Other states have different provisions which are not all contained within ‘Agriculture.’

B. A Comparison of the Pennsylvania Rabies Act to Other States’ Laws Enacted in Response to Rabies

Rabies control in the United States on a national level requires participation by every state, including Pennsylvania. This is especially so considering that rabies spreads easily from state to state and has done before. The U.S. Department of Agriculture has specifically targeted states on the eastern side of the country to fund and support for its ORV program and bait

\textsuperscript{84} 3PA. STAT. ANN. §459-207(h)(15) (West 2009)
\textsuperscript{85} 3PA. STAT. ANN. §459-207(i)(7) (West 2009)
\textsuperscript{86} 3PA. STAT. ANN. §459-211(a) (West 2009)
\textsuperscript{87} 3PA. STAT. ANN. §459-214 (West 2009)
distribution. This is because the raccoon variant of rabies is only found in the eastern United States and is the most prevalent variant of rabies in the country. The Department’s goal is to prevent the raccoon variant of rabies from spreading westward and the Department does this by requiring that the states stretching from Maine to Alabama be included in its ORV program.88 These states are Maine, New Hampshire, Vermont, Massachusetts, New York, Pennsylvania, New Jersey, Ohio, Maryland, Virginia, West Virginia, North Carolina, Tennessee, Georgia, Alabama, and Florida.89 A number of these states have part of the Appalachian Ridge running through them, which is a prime area for raccoon inhabitance, as mentioned before. The Department targets fewer western states for the ORV program, two of which are Texas and Arizona, and the Department’s goal in targeting these states is to hinder the spread of the canine variant of rabies in coyotes and gray foxes specifically, not the raccoon variant of rabies.90

(1) Provisions of Other States’ Rabies Laws

The U.S. Department of Agriculture requires that the state departments of agriculture and health of the states involved in the ORV program carry out the goals of the program, as the Pennsylvania Department of Agriculture is required to do. While the Pennsylvania Rabies Act explicitly requires that an ORV program be in place in Pennsylvania, other states involved in the program have different laws regarding rabies. New York is a state with its own laws regarding rabies control, which is also included in the U.S. Department’s ORV program, like Pennsylvania. New York is similar to Pennsylvania because it aims to prevent the westward spread of the raccoon variant of rabies. Instead of being contained only within ‘Agriculture,’ New York’s

88 USDA Wildlife Services, supra note 53.


90 USDA Wildlife Services, supra note 53.
rabies laws are part of New York public health law under ‘Control of Acute Communicable Diseases,’ New York environmental conservation law under ‘Fish and Wildlife,’ and New York agriculture and markets law under ‘Indemnification for Rabies.’ These three areas define rabies control in New York and measures that must be taken to control the virus.

Title IV under Chapter 24 of the New York public health law provides that “Every dog, cat and domesticated ferret shall be actively immunized against rabies in accordance with regulations promulgated by the commissioner. Every dog, cat and domesticated ferret shall have all initial vaccinations administered no later than four months after birth. Every dog, cat and domesticated ferret shall have a second vaccination within one year of the first…The veterinarian immunizing or supervising any person authorized by law to immunize such animal shall provide the owner with a certificate of immunization…” 91 Furthermore, the New York public health law states that the owner of a domestic animal will be subject to a fine up to 200 dollars each time he or she violates §2141(1). 92 Additionally, the New York public health law provides that “The county health authority is responsible for the services and expenses necessary for the suppression of human rabies. Suppression of human rabies shall include, but not be limited to:…(b) making arrangements for appropriate disposition of the animals involved, including confinement and observation, quarantines, vaccination boosters, or euthanasia and testing…(f) operation of rabies vaccination clinics free of charge for dogs, cats and domesticated ferrets owned by persons with local residence.” 93 It is clear that the New York laws regarding rabies have similar provisions as the Pennsylvania Rabies Act because they require rabies testing, vaccination, fines for owners who violate the provisions, and operation of rabies

91 N.Y. PUBLIC HEALTH LAW §2141(1) (McKinney 2009)
92 N.Y. PUBLIC HEALTH LAW §2141(4) (McKinney 2009)
93 N.Y. PUBLIC HEALTH LAW §2145(1) (McKinney 2009)
vaccination clinics. Unlike in the Pennsylvania Rabies Act, however, the New York rabies laws do not require “The development of effective bait attractants for wildlife in the field” or “The identification and development of a distribution system for the dissemination of the bait in rural and urban environment.”

Another state that borders Pennsylvania, which is also included in the ORV program, is Ohio. Ohio includes provisions for rabies control in relation to dogs under Title XI ‘Agriculture’ Chapter 955 ‘Dogs.’ Ohio is similar to both New York and Pennsylvania in this way. Ohio provides that “Whenever...rabies is prevalent, the director of health, the board, or those persons shall declare a quarantine of all dogs in the health district or in a part of it. During the quarantine, the owner, keeper, or harbore of any dog shall keep it confined on the premises of the owner, keeper, or harbore, except that a dog may be permitted to leave the premises...if it is under leash or under the control of a responsible person. The quarantine order shall be considered an emergency and need not be published.” Ohio also provides that “The quarantine period for a dog that has bitten any person shall be ten days or another period that the board of health for the district in which the bite occurred determines is necessary to observe the dog for rabies.” The violation of a rabies quarantine order is explicitly prohibited whereby Ohio states “No person shall violate a rabies quarantine order issued under section 955.26 of the Revised Code.”

Ohio also provides in relation to a quarantine of dogs that “No person who has killed a dog that has bitten any person in order to prevent further injury or death or if the dog is diseased

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94 3PA. STAT. ANN. §455.10(a) (West 2009)
95 OHIO REV. CODE ANN. §955.26 (West 2009)
96 OHIO REV. CODE ANN. §955.261(B) (West 2009)
97 OHIO REV. CODE ANN. §955.39 (West 2009)
or seriously injured shall fail to do both of the following: (a) Immediately after the killing of the
dog, notify the board of health for the district in which the bite occurred of the facts relative to
the bite and the killing; (b) Hold the body of the dog until that board of health claims it to
perform tests for rabies.”98 In relation to these provisions, Ohio provides that “Upon the receipt
of a notification pursuant to division (A)(3) of this section that a dog that has bitten any person
has been killed, the board of health for the district in which the bite occurred shall claim the body
of the dog from its killer and then perform tests on the body for rabies.”99

Ohio’s rabies laws do not cover as many areas of rabies control as the Pennsylvania and
New York laws. For example, where the Pennsylvania Rabies Act and New York rabies laws
require in-state rabies testing, vaccination, fines for owners who violate the provisions, and the
operation of rabies vaccination clinics, Ohio only requires quarantine of dogs when a rabies
outbreak occurs, under §955.26, and testing by the board of health of dogs that are suspected of
infection. At the same time, Ohio is similar to New York because it does not explicitly require
by statute that the state participate in the ORV program. There is no language similar to
Pennsylvania’s Rabies Act requiring “The development of effective bait attractants for wildlife
in the field” or “The identification and development of a distribution system for the
dissemination of the bait in rural and urban environment.”100 Rather than initiating use of the
ORV program through legislation, the Ohio Department of Health initiated the ‘Rabies Task
Force’ in conjunction with the U.S. Department of Agriculture. The Director of the Ohio

98 OHIO REV. CODE ANN. §955.261(A)(3) (West 2009)
99 OHIO REV. CODE ANN. §955.261(C)(2) (West 2009)
100 3PA. STAT. ANN. §455.10(a) (West 2009)
Department of Health authorized the use of the program in the state and it is directed by the Ohio Department of Health State Public Health Veterinarian.\(^{101}\)

Another state that borders Pennsylvania, which is also included in the ORV program, is New Jersey. New Jersey includes provisions for rabies control under Title 4 ‘Agriculture and Domestic Animals,’ and Title 26 ‘Health and Vital Statistics.’ The majority of the New Jersey laws relating to rabies control are specifically under Title 26, Chapter 4 ‘Communicable Diseases,’ Article 7 ‘Rabies and Control of Dogs.’ Article 7 is often referred to as New Jersey’s Rabies Act. New Jersey includes many provisions for rabies control, but is similar to New York and Ohio because it does not explicitly require by statute that the state participate in the ORV program. There is no language similar to Pennsylvania’s Rabies Act requiring “The development of effective bait attractants for wildlife in the field” or “The identification and development of a distribution system for the dissemination of the bait in rural and urban environment.”\(^{102}\) The trend among state legislatures is, therefore, not to include provisions requiring the implementation of programs like ORV.

(2) Effectiveness of the Pennsylvania Act in Comparison to Other States’ Rabies Laws

The main reason to examine state rabies laws and determine whether they require implementation of the ORV program within each state is because the program has been largely successful in rabies control. It would benefit a state to expressly require that the program be carried out within its borders. While the numbers of confirmed cases of rabies recorded by the Pennsylvania Department of Agriculture have fluctuated since 2001, the ORV program has still


\(^{102}\) 3PA. STAT. ANN. §455.10(a) (West 2009)
contributed to a reduction in confirmed cases. Even though the program is relatively new, and started in Pennsylvania specifically in 2001, it has made a difference in rabies control especially in the last five years. Agriculture Secretary Dennis Wolfe stated that “Controlling the spread of rabies in wild animals is essential to human and domestic animal health. The [ORV] vaccination program has been an effective tool in minimizing the spread of rabies and it has reduced the number of reported cases by nearly sixty percent over the past five years.” The program has proven to be effective outside of Pennsylvania as well. For example, in south Texas the canine variant of rabies has been eliminated since the start of the ORV program. Other states including Pennsylvania use this success as an example of how effective the ORV program may be if it is continued. Eradication of the rabies virus in the United States is an attainable goal through the program.

Having determined that the ORV program is very effective, it follows that it would benefit a state to expressly require in its laws that the program be carried out within its borders. If a state expressly requires that the ORV or similar program be supported, the chances of the ORV program continuing are greater than if the state does not include an express requirement in its rabies laws. The U.S. Department of Agriculture may eventually determine that the rabies virus is largely under control in the United States and that there is no longer a need for the ORV program. As long as the Department supports the program in certain states, it will have to fund the program, and it will likely not want to continue this longer than it has to. However, the nature of the rabies virus is such that it spreads very rapidly and may exist on a macro level, as it does in many other countries. If state legislation requires that an ORV or similar program

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103 Nicole L. C. Bucher, supra note 48.

104 USDA Wildlife Services, supra note 53, at 1.
remain in place, the whole United States will continue to benefit from the positive effects of
greater rabies control. This is, at least, unless the statutes are amended to eliminate language
such as that included in the Pennsylvania Rabies Act.

Even with this said, the express provision in the Pennsylvania Rabies Act that requires
that the ORV program be carried out in Pennsylvania is currently unnecessary. As mentioned
before, some of the other states targeted by the U.S. Department of Agriculture for the program
do not contain similar provisions in their rabies laws and do not require “The development of
effective bait attractants for wildlife in the field” or “The identification and development of a
distribution system for the dissemination of the bait in rural and urban environment.”\textsuperscript{105} While
the lack of express provisions in the laws does not currently pose a problem, it would be useful
for all states to expressly require that the current ORV program, or a similar program, be
implemented. This is so the U.S. Department of Agriculture and individual state departments of
agriculture will continue to support the highly effective program.

In light of this, Pennsylvania is ahead of the other states because it already includes an
express requirement in its Rabies Act for the ORV program. Furthermore, the Pennsylvania
Rabies Act requires that a broad range of rabies control efforts exist in the state. These include
testing, mandatory vaccinations of dogs and cats over three months of age and certificates of
vaccination for the animals, antirabies clinics, education of citizens about rabies, and
enforcement through penalties and citations for violating the Act. The state appears to be ahead
of Ohio in particular, which only requires quarantine of dogs when a rabies outbreak occurs and
testing by the board of health of dogs that are suspected of infection. In spite of being ahead in

\textsuperscript{105} 3PA. STAT. ANN. §455.10(a) (West 2009)
some ways, Pennsylvania is still behind with its Rabies Act and should be amended to include language that mirrors other states’ rabies laws.

(3) Suggestions for Improvement of the Pennsylvania Rabies Act through Amendments

One way in which the Pennsylvania Rabies Act can be improved is through its provision for rabies education. The Act provides that “The department shall have the following powers and duties: (4) Institute an intensive public education campaign on rabies through newspapers, radio and television announcements.” 106 It is very important to educate state residents about the nature of rabies and its associated risks, and is described as one of the most effective weapons against the disease. 107 The Act recognizes in §455.6(4) that education is important, but the Act does not provide details of how the Department should educate its residents beyond “an intensive public education campaign” that involves newspapers, radio and television announcements.

The language of the Pennsylvania Rabies Act should be amended so that it becomes similar to that of New Jersey’s Rabies Act. New Jersey’s approach to rabies education for its residents includes the distribution of a circular about rabies. The circular is intended to reach people who are able to obtain a dog license, so that they are aware of rabies and what it looks like. “The state department shall prepare a circular containing a description of the symptoms, the methods of transmission, the treatment, and the preventative measures to be taken against the spread of rabies, and, upon application, shall provide sufficient copies of the circular for distribution. The circulars shall be furnished to the person empowered under the law to license dogs, and if there is no provision for such person within the jurisdiction of the local board of

106 3PA. STAT. ANN. §455.6(4) (West 2009)

health, the local board is empowered to act. Such person or board shall apply to the state department for a sufficient number of such circulars, and shall, at the time of licensing, furnish a copy of the circular to each person who may obtain a dog license.”  New Jersey sets out a specific method for teaching state residents about the symptoms of rabies, methods of transmission, treatment, and preventative measures that can be taken to prevent the spread of rabies. Pennsylvania would likely benefit from amending the provision in its Act for education so that the language is more specific about ways to educate its residents.

In addition, New Jersey contains a provision in its Rabies Act that provides for ‘free Pasteur treatment’: “Each local board may furnish without charge the Pasteur109 treatment for any indigent person, residing within its jurisdiction, who has been bitten by an animal known or suspected to be affected by rabies. Any expense thus incurred shall be provided for by the governing body having charge of the finances of the municipality in which the indigent person resides in the same manner as the regular funds of the board are provided for.”  The Pennsylvania Act lacks a provision similar to the one here. While this particular provision may not aim to prevent the spread of rabies, it provides a way of reducing human fatalities from the virus through post-exposure prophylaxis. The rabies vaccine is very expensive and this provision allows all residents of a state to have access to treatment. Pennsylvania has overlooked such a provision in its own Act and it may be improved with an amendment that adds similar language.

108 N.J. STAT. ANN. §26:4-88 (West 2009)

109 Pasteur treatment refers to the rabies vaccine. Louis Pasteur was a French chemist and microbiologist credited with developing the first rabies vaccine in the 1800s. Francois Jacob, The Pasteur Institute, April 6, 1998, http://nobelprize.org/nobel_prizes/medicine/articles/jacob/index.html.

110 N.J. STAT. ANN. §26:4-89 (West 2009)
In contrast, however, Pennsylvania includes a provision in its Act requiring support of low-cost antirabies clinics in the state: “The department shall assist in the establishment of low-cost antirabies clinics. These clinics shall be offered at locations and on dates as appropriate. The department shall establish vaccination procedures for cats and dogs to be used at the clinics. In assisting in the establishment of antirabies clinics, the department shall cooperate with local veterinarians and other local organizations.” New Jersey’s Rabies Act does not include such a provision in aid of dog and cat owners who could not otherwise afford rabies vaccinations for their pets. The existence of antirabies clinics contributes to the goal of preventing the spread of rabies. Pennsylvania is ahead of New Jersey in this regard, even though Pennsylvania does not have a provision for free post-exposure prophylaxis.

The Pennsylvania Act may also be improved through an amendment that requires the declaration of a rabies alert when there is a rabies outbreak in certain areas of the state. New York includes language in its rabies laws providing that “Whenever the commissioner confirms an outbreak of the disease rabies in terrestrial animals in any county or the vicinity thereof, the commissioner shall declare a rabies alert for that area…It shall be the duty of the health officials to immediately and annually thereafter publish a notice of the existence of the disease…in a newspaper generally circulated within the county or local health district, or to post notices in several conspicuous places, or both.” Similarly, Ohio also has a provision in its rabies laws that requires an alert, or declaration of a quarantine for dogs when rabies is prevalent in an area of the state. Pennsylvania would benefit by amending its Rabies Act to include similar language. Pennsylvania lacks any such language and could prevent more animals and humans from being bitten by infected animals through an alert system.

111 3PA. STAT. ANN. §455.9 (West 2009)
112 N.Y. PUBLIC HEALTH LAW §2142 (McKinney 2009)
Overall, the Pennsylvania Rabies Act is effective and leads other states by expressly requiring that the Pennsylvania Department of Agriculture support the national ORV program, which has proven to be highly effective for rabies control. However, at the same time the Act has potential to be even more effective with amendments that mirror the language of other states’ rabies laws.