



Infectious Disease Epidemiology Report

Animal Rabies, Maine – 2014



Background

Rabies is a viral disease of the central nervous system that is almost always fatal. It is carried by wildlife and occasionally by unvaccinated domestic animals. Rabies is primarily transmitted to humans and other animals through a bite. It can also be transmitted by a scratch or when the infected animal's saliva or neural tissue gets into a person's eyes, nose, mouth, or an open wound. Rabies can be prevented by vaccinating pets, livestock, and persons with high risk jobs (e.g. veterinarians); by avoiding exposures to wild animals; and by seeking medical care after an exposure. This report summarizes surveillance data on animal rabies for 2014.

Methods

Maine Center for Disease Control and Prevention (Maine CDC) monitors the incidence of animal rabies through mandatory reporting by animal and human health professionals. Maine's Health and Environmental Testing Laboratory (HETL) tests for rabies in animals that expose a human or domestic animal. Lab-confirmed animal rabies cases are investigated to determine the need for rabies control measures. When exposure to a rabid animal is reported, Maine CDC works with healthcare providers, game wardens, animal control officers, and veterinarians to recommend rabies control measures. Maine CDC monitors the administration of human rabies post-exposure prophylaxis (PEP).

United States Department of Agriculture Animal and Plant Health and Inspection Service (USDA APHIS) Wildlife Services performs enhanced surveillance for rabies in northern Maine in animals that did not expose a human or domestic animal. These animals are tested by USDA and positive specimens are confirmed by U.S. CDC. Both HETL and USDA data are included in this report.

Results

Among the 607 animals that were tested in 2014, 440 were tested at HETL and 167 were tested at USDA. Forty-three (7.1%) animals, all from HETL, tested positive for rabies. Rabid animals identified this year included raccoons, skunks, foxes, bats, cats, cow, and woodchuck (Table 1). USDA APHIS Wildlife Services' enhanced surveillance did not detect any rabies-positive animals in 2014.

Table 1: Animals tested for rabies at HETL and USDA - Maine, 2014

| Species | Tested | | Positive | |
|--------------|------------|---|-----------|------------|
| | # | % | # | % |
| Bat | 151 | | 4 | 2.6 |
| Bobcat | 1 | | 0 | 0 |
| Cat | 88 | | 2 | 2.3 |
| Cow | 6 | | 1 | 16.7 |
| Coyote | 4 | | 0 | 0 |
| Dog | 62 | | 0 | 0 |
| Fox | 27 | | 8 | 29.6 |
| Goat | 1 | | 0 | 0 |
| Horse | 1 | | 0 | 0 |
| Mole | 1 | | 0 | 0 |
| Muskrat | 6 | | 0 | 0 |
| Opossum | 2 | | 0 | 0 |
| Pig | 1 | | 0 | 0 |
| Porcupine | 1 | | 0 | 0 |
| Rabbit | 3 | | 0 | 0 |
| Raccoon | 161 | | 14 | 8.7 |
| Rat | 1 | | 0 | 0 |
| Sheep | 2 | | 0 | 0 |
| Skunk | 68 | | 13 | 19.1 |
| Squirrel | 3 | | 0 | 0 |
| Weasel | 1 | | 0 | 0 |
| Woodchuck | 16 | | 1 | 6.3 |
| Total | 607 | | 43 | 7.1 |

Although there were no rabid domestic animals last year, in 2014 two stray cats and one cow tested positive for rabies. It's the law to vaccinate cats, even indoor cats, and dogs in Maine. The number of animals tested in 2014 increased by 5% since 2013, but the number of rabid animals declined by 16%. This is most likely due to the cyclical nature of rabies. Figure 1 shows the trend in animal rabies cases since the Eastern raccoon rabies strain entered Maine in 1994.

Twelve counties reported rabid animals with human or domestic animal exposures in 2014 (Figure 2). Aroostook, Hancock, Lincoln, and Piscataquis counties did not have any reports of rabies in 2014. Despite a statewide decline, Androscoggin County and Washington County surpassed their five year medians. Washington County reported six rabid animals in 2014. All were typed by U.S. CDC as Eastern raccoon variant, which is expected for this region. Historically, Washington County has low rabies incidence. Cross-border notification was made to New Brunswick through collaboration with USDA APHIS Wildlife Services.

Animal Rabies – Maine, 2014

Figure 1: Rabid animals by year - Maine, 1994-2014

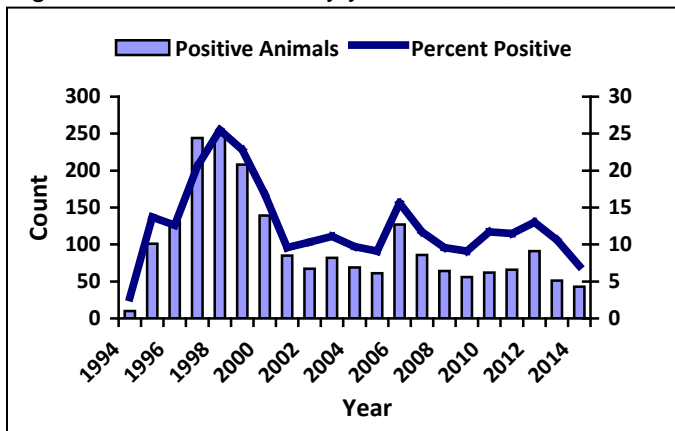
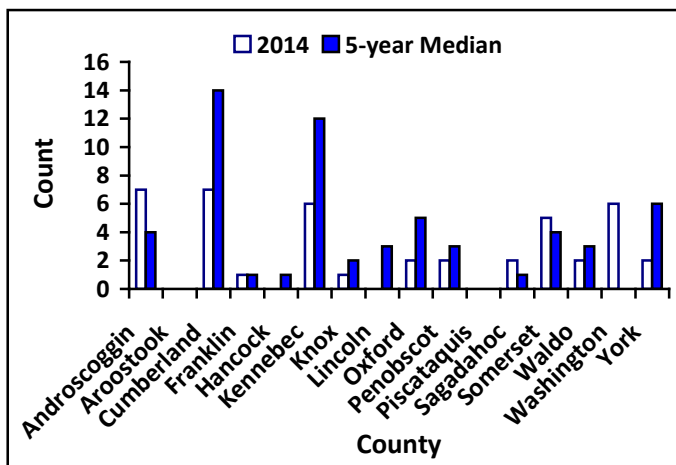


Figure 2: Rabid animals by county - Maine, 2014



Rabies Post-Exposure Prophylaxis (PEP)

In 2014, Maine CDC recommended rabies PEP for 73 persons. This is 10% fewer than in 2013. Twenty (27%) of these recommendations were due to an exposure to a confirmed rabid animal. The remaining 53 (73%) were due to an animal exposure in which the animal was not available for confinement and observation or testing, and rabies could not be ruled out. Many (27%) of the animals that were not available were bats.

Rabies Consultations

Maine CDC routinely gets requests for information and consultations related to rabies. Maine CDC is contacted most frequently about rabies between May and September. Maine CDC provided approximately 1,070 rabies consultations in 2014. Many (9%) of these consultations occurred after regular business hours. The majority of rabies consults in 2014 were with members of the public,

healthcare providers, and animal health partners (Veterinarians, Animal Control Officers, and Game Wardens).

Discussion

Animal rabies is endemic in Maine. Increasing public knowledge about the risks of rabies associated with wild animals, including bats, and stray or unknown domestic animals, is important to prevent future exposures. Recognition, prompt assessment, and management of potential rabies exposures are all important aspects of human and domestic animal rabies prevention in Maine.

Exposures of concern include:

- Bite (e.g., penetration of skin by teeth);
- Saliva contact with mucous membranes or exposed tissues (eyes, nose, mouth, or open wound);
- Physical contact with a bat where a bite cannot be ruled out; and
- A bat discovered in a room with a person who is unable to determine if physical contact may have occurred.

Epidemiologists are available to assess animal exposures and provide guidance on the need for rabies PEP. Rabies PEP is recommended to prevent human rabies after an exposure if the animal tests positive for rabies or is unavailable for confinement and observation or testing.

Despite the statewide decline in animal rabies cases in 2014, rabies cases increased in new areas demonstrating that the risk of animal and human rabies remains. The number of rabies-positive animals only reflects those that were involved in an exposure and available for testing, and may not be representative of the true incidence of animal rabies in Maine.

Human and animal rabies is reportable immediately by telephone to the Maine CDC's 24-hour disease reporting and consultation line at 1-800-821-5821. Rabies PEP is reportable to Maine CDC within 48 hours of administration.

For more information:

- www.mainepublichealth.gov/rabies
- www.cdc.gov/rabies