

The Case Against Shortening the Season on Coyotes in Maine

by Gerry Lavigne, Wildlife Consultant for the Sportsman's Alliance of Maine (SAM)

**Anti-Hunting Advocates Have Introduced Legislation That Would Cut Our Coyote Hunting Season by More than Fifty Percent.
Here's Why This Would Be Bad Policy for Maine**



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Gerry Lavigne is a wildlife biologist who first encountered coyotes in 1972 while conducting his MS research in western Maine. He served as DIFW's deer research and management leader from 1975 to 2005. From 2006 to the present, Gerry consulted for SAM primarily dealing with deer recovery and predation issues. He has been an avid coyote hunter for the past 25 years.

Introduction

Maine has a 51-year tradition of allowing a year-round hunting season on coyotes. In 1972, the Maine Legislature promulgated a statute allowing hunters to take an unlimited number of coyotes in daylight from January 1 to December 31, except on Sundays. Legislative intent was not merely to provide a sporting opportunity, but rather to empower hunters to address the negative impacts of coyote predation on deer survival, livestock depredation, and loss of household pets.

In 1983, The Legislature established a night hunting season on coyotes to provide a more efficient means of achieving coyote harvests. In 1988, 2009, and 2011 the night hunting season was expanded to its current length (Dec 16 to Aug 31).

It is important to note that the Legislature currently has the public's support for our current coyote hunting and trapping framework. In 2018, Maine residents were polled on their attitudes about coyotes, as part of the most recent update of the Department of Inland Fisheries and Wildlife's (DIFW) Furbearer Management Plan. Polling was conducted scientifically by an independent firm. More residents believed that coyote populations were too high than too low. More residents believed that coyotes were dangerous or a nuisance than not. When asked to rank 10 furbearing species on a scale of 0 (least beneficial) to 10 (most beneficial), Maine residents ranked coyotes the lowest of all furbearers. Seventy percent of Maine residents support a coyote management program, even if it meant an increase in deer and turkeys. Finally, it should be noted that those who oppose the killing of coyotes represent a small minority of Maine residents (less than 1 in 5).

DIFW has been using strategic planning to manage game and furbearer species since the early 1970s. Plans are typically updated every 5 to 10 years. During all this time, DIFW has set an objective to increase coyote harvests to address deer, livestock and pet losses to coyote predation. In 1979, the Maine Legislature reinforced that objective by requiring DIFW to implement a coyote control program in addition to allowing liberal hunting and trapping seasons.

Recently, a bill (LD 814) has been introduced into the 131st Maine Legislature, which would close the hunting season on coyotes from April 1 to September 30. If enacted, this legislation will hamper the Department's ability to limit coyote populations while exacerbating deer losses, livestock depredations and attacks on pets.

Of the 50 states, 45 others offer year-round hunting seasons on coyotes in addition to Maine. Seems there is a reason for that fact.

Historical Perspectives

When the gray wolf disappeared from Maine in the late 1800s, man became the only predator capable of impacting deer populations. Bobcats were present and thriving throughout this era, but this predator exerted only limited impact on deer populations. For three quarters of a century both the deer and the hunters who pursued them had it pretty good. Freed of the limiting effects of wolf predation, deer populations increased and expanded into northern Maine, coincident with logging in the north woods. Deer thrived in Maine's settled towns and agricultural areas during this era as well. Occasionally, a string of severe winters caused deer populations to plummet temporarily, but they were typically able to recover when more favorable winters returned.

During this era, deer populations occasionally erupted, causing over browsing and winter starvation. However, most such events occurred where hunting was prohibited (e.g., Moosehorn National Wildlife Refuge, and Acadia National Park), or where hunting access was too limited (e.g., roadless portions of interior northern Maine).

Prior to 1983, deer hunting regulations were rather basic in Maine. Each licensed hunter could kill one deer per year, and that deer could be an antlered buck, or a doe, or a fawn (i.e., either sex hunting). Prior to 1900, Maine had outlawed multiple limits on deer, as well as night hunting, use of dogs,

provisioning of camps, etc. During this era, regulation of the deer harvest, when considered desirable, was accomplished by altering the length of the deer season.

In the several decades following wolf extirpation, both deer populations and hunter numbers increased in Maine. Deer harvests also increased apace. With the influx of WW 2 veterans in the late 1940s and 1950's Maine experienced what many old timers remember as "the heyday" of deer hunting in our state. During the 1950's deer harvests averaged around 38,000 statewide, with peak harvests exceeding 41,000 occurring in 1951 and 1959. Hunter success rates hovered around 20% or higher, particularly in Maine's northwoods. Mature bucks comprised 30% or more of the total deer harvest, a sure sign that hunters were not overharvesting deer. As deer harvests rose, deer hunting provided a much-needed economic boost to rural Maine towns.

Overall, hunters did a creditable job as the primary predator on Maine's deer population after the demise of the wolf. Deer populations were largely kept within the carrying capacity of the habitat, harvested deer provided a sustainable and much appreciated meat supply to Maine families, and deer hunting contributed to the state's overall economy. Unfortunately, this was all about to change beginning in the early 1960s.

Another Deer Predator Arrives

The Eastern coyote (*Canis latrans*) is not indigenous to Maine. Coyotes from the Western US and Canada began expanding their range eastward a century ago, when continental US populations of gray wolves were at an historic low point. Along the way, these coyotes evidently interbred with remnant populations of gray wolves in the Great Lakes area. Consequently, Eastern coyotes are slightly larger than their western counterparts, they hunt in packs to a greater degree, and they are capable of preying on adult deer.

Coyote-like canines were sporadically noticed in Maine beginning in the 1930s. During these early years, some coyotes may have interbred with feral domestic dogs. By the mid-1960s coyotes were more frequently encountered, particularly in western Maine. By the late 1970s, coyote populations had become permanently established throughout Maine.

During the late 1960s hunters, woods workers, biologists, game wardens and foresters began noticing deer killed by coyotes. As coyote populations spread and stabilized, deer losses to coyote predation became more widespread. These incidents, as well as increased livestock and pet losses provided the impetus for Legislative action and the establishment of the year-round hunting season on coyotes.

Deer populations and deer harvests began to decline about the time coyotes became established in Maine. In addition to the arrival of another deer predator, Maine winters became more severe between 1962 and 1980. Maine's most severe winter during modern times occurred in 1971. At the same time, hunter numbers were on the rise, as the baby boom generation entered the deer woods. The number of deer hunters in Maine peaked in the early 1980s. Throughout this time either-sex deer regulations were still in effect, limiting the Department's ability to reverse the decline in deer numbers. To make matters worse, a major outbreak of the spruce budworm ravaged Maine's coniferous forests between 1975 and 1985, resulting in a serious reduction of deer wintering habitat quality in the northern 2/3 of the state.

By the early 1980s, Maine's deer population had reached its lowest point during modern times. Low deer populations were not restricted to northern Maine. Central and southern Maine counties were impacted as well. For example, annual spring deer surveys conducted in 4 York County towns revealed a population of only 5 deer per sq. mi., a small fraction of the present deer population. Other Department deer surveys in central and southern Maine yielded similar results.

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Coyote Impacts on Deer

Some anti-hunting advocates want you to believe that coyotes only kill weak, injured, or diseased deer. They are telling you a half truth. Although Eastern coyotes readily prey on disadvantaged deer, they can take down healthy individuals as well. While serving as DIFW's deer biologist, I led a study of deer which had been killed by coyotes during the winters of 1978 to 1989. We examined 863 coyote-killed deer collected throughout Maine during mild to severe winters. More than half of the deer killed were in good physical condition when killed. All age classes and sexes were vulnerable, and the number of healthy deer succumbing to coyote predation increased in deep snow or on glare ice. Because so many healthy deer had been killed, deer losses to coyotes during winter were additive to hunting mortality. The arrival of coyotes into Maine was akin to having another either-sex hunting season on deer. Though less well documented, coyotes hunt and sometimes kill healthy adult deer during the snow-free months as well.

Other research has shown that overall winter losses are dependent on the number of coyotes hunting a given deer wintering area, and that the total number of deer dying is higher when coyotes are present than when they are absent, regardless of the severity of the winter. Clearly, if winter deer losses are to be minimized, coyote density in these areas must be managed.

In a report to the Maine Legislature in 1995, I estimated that 22,000 deer are killed by coyotes annually in Maine. Coyote predation was the second leading cause of mortality on adult deer, accounting for 30% of annual deer mortality.

And that does not include early fawn losses. There is no question that coyotes compete with hunters for available deer. And as coyote populations increase, hunter harvests necessarily must decrease.

There is another category of deer mortality that largely goes unnoticed, but which is crucial to deer population management. Deer fawns are highly vulnerable to predation during their first few months. Each summer, predators ranging in size from black bears to bobcat, red fox, and fishers target deer fawns. Recent studies around the northeastern US and Canada confirm that coyotes also take a significant toll on newborn fawns. A study of denning coyotes in Downeast Maine in the 1980s revealed that deer fawns were an important component of their diet. So too were the remains of adult deer.

DIFW uses an index that allows them to estimate early mortality of fawns. Data derived from this index shows that early fawn mortality has increased since coyotes became established in Maine. In addition, these fawn losses are consistently higher in the northern 2/3 of Maine than elsewhere. Low fawn recruitment will prevent a deer population from growing even if most adult deer are protected from hunting and predation. With rare exceptions, early fawn losses in Maine depend on the number of predators present. They all add to total fawn mortality. Reduction of the number of bears and/or coyotes present in an area during late spring will reduce overall fawn losses and favor deer population growth. The reverse is also true.

Deer Management in the Coyote Era

Reversing declining deer populations became DIFW's priority beginning in the early 1980s. The challenge was to improve deer survival where two efficient predators (man and coyotes) were competing for deer and an additional fawn predator (coyotes) was hampering population recovery. Management focused on three interrelated efforts: improving deer wintering habitat, controlling hunting mortality, and increasing coyote harvests. Failure to address any one of these efforts would invite failure to restore deer populations.

High quality deer wintering areas can reduce starvation and predation losses during severe winters. Maintaining an adequate amount of wintering habitat has been a priority for DIFW since the late 1950s. Strategies used to accomplish this goal have varied over the years, and the spruce budworm outbreak dealt the program a serious blow. DIFW remains committed to increasing deer wintering habitat in the northern 2/3 of Maine- a subject for another article.

By 1980, it was evident that overall losses of female deer were too high, given ongoing coyote predation and diminished fawn recruitment. Maine's long tradition of either-sex deer hunting was no longer sustainable, because

the number of doe deer harvested could not readily be controlled. After experimenting with shortened either-sex seasons (1980 to 1982), and bucks-only seasons (1983 to 1985), DIFW implemented doe hunting by permit from 1986 to 2022. Under the permit system, biologists set a doe quota to accomplish specific management objectives in various parts of Maine. Then DIFW issued the requisite number of permits needed to achieve doe quotas.

Since 1986, antlerless deer harvests have been lower than harvests would have been under an either-sex hunting system. During this era, hunters throughout Maine have forgone some of their doe hunting opportunity to compensate for coyote predation losses. Over the past 36 years, doe harvests have all but ceased in the northern 2/3 of Maine, as DIFW sought to mitigate predation losses.

Increasing the harvest of coyotes became a primary goal of DIFW's strategic plans beginning in 1975 (plans are generally updated at 5 or ten year intervals). In 1979, the Maine Legislature directed DIFW to initiate a coyote control program. This program continues to this day, although methods and strategies have varied over the years. Since

2011, DIFW has implemented an integrated predation management effort that seeks to reduce coyote density in more than fifty key deer wintering areas, from October to late winter in the northern 2/3 of the state. Coyotes are removed by paid agents and volunteers who use foothold traps (when legal), calling, baiting, and hounds, as directed by DIFW's regional biologists.

Recognizing the need to improve the success of coyote hunters, the Legislature authorized coyote hunting at night over bait and by calling.

Initially (1983), night hunting of coyotes was restricted to January and February. Subsequent legislation (1985, 1988, 2009, and 2011) led to the current night hunting season (December 16 to August 31). To legally hunt coyotes at night, hunters must purchase a permit from DIFW. Sales of night hunting permits have exceeded 8,000 for many years.

Effectiveness of Coyote Management

It is difficult to know with certainty whether Maine's coyote hunting and trapping program is improving deer survival. Deer are currently thriving in central and southern Maine, but deer populations continue to struggle elsewhere. While it is tempting to attribute DIFW's success at restoring deer populations in the southern 1/3 of the state solely to the antlerless deer permit system and mild winters, one cannot rule out impacts of hunting and trapping on that region's coyote populations.

The majority of Maine's coyote and deer hunters live in central and southern Maine. The registered kill of coyotes, primarily by trapping, is highest there. And the greatest number of coyotes taken incidentally during deer and turkey seasons, and by calling, baiting, and hounding occurs where most hunters reside, i.e., in Maine's more populous counties. At current levels of hunting and trapping pressure in central and southern Maine, coyote populations are probably being managed below their biological maximum during most years. This, in turn, contributes to favorable survival rates for deer during winter, and at fawning time. Current levels of coyote hunting and trapping in central and southern Maine are partially responsible for the thriving deer populations and high deer harvests.

DIFW has recently re-vamped its antlerless permit system. This has led to record antlerless deer harvests in 2022, and for the first time in decades, DIFW biologists achieved their harvest quotas in central and southern Maine. I have

Interest in coyote hunting has grown over the past two decades. Most coyote hunters tend to be motivated by a desire to improve deer survival in their area. Technological improvements and more affordable pricing for hunting gear (e.g., trail cameras, night vision hunting scopes, and predator calls) all reflect growing interest in coyote hunting in Maine and nationally. Private hunting organizations have sprung up in Maine to encourage increased coyote harvest. Two prominent ones in northern Maine sponsor privately-funded coyote contests during fall and winter. Another maintains a web-based presence to encourage coyote hunting. The Sportsman's Alliance of Maine (SAM) has promoted coyote hunting and trapping among its 7,000+ members and in the Legislature since 2007. Forty percent of SAM's membership pursue coyotes in one form or another.

every confidence this re-vamped antlerless deer permit system can be successfully used to tamp down locally abundant deer populations in this part of Maine. There is no need to encourage higher coyote populations to take the place of deer hunters to bring deer populations down to more socially tolerable levels.

In the northern 2/3 of Maine, current hunting and trapping pressure on coyotes may be spread too thin to materially improve deer survival over such a large area. Moreover, severe winters are more common there, and a thriving bear population contributes to chronically low fawn recruitment. Removals of coyotes in the 50+ deer wintering areas which DIFW's control agents operate may improve deer survival in that local area. But the program may be too limited to impact deer survival over 18,000 sq. mi. Similarly, the additional coyote harvest generated where coyote contests occur does reduce predation pressure on wintering deer in the localized areas where individual hunters operate. But again, hunting and trapping pressure is spotty across large areas of the eastern, western mountain, and northern regions of Maine. In this area, coyote populations are more likely to be regulated by available prey (deer, beaver and snowshoe hare) than by human-caused mortality. Deer populations in the northern 2/3 of Maine would benefit from higher harvests of coyotes and bears, particularly during spring just prior to deer fawning season.

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Impacts of Shortening the Hunting Season on Coyotes

If enacted, LD 814 would prohibit coyote hunting from April 1 to September 30. This represents a curtailment of 50% for daytime hunting and 60% for the night hunting season on coyotes.

Coyotes are easily tolled in by turkey hunters in the spring. Many turkey hunters take coyotes incidentally during May, just prior to fawning season for deer. LD 814 would end these coyote harvests.

Hunting coyotes with hounds is arguably the most efficient means we use to take coyotes in Maine. Spring and summer are a popular time to hunt coyotes with hounds, as travel is unimpeded by snow. This is also a popular time to train hounds on coyotes. Few houndsmen pursue coyotes during the fall, when other game seasons are in progress. As a result, LD 814 would restrict most hounding of coyotes to the winter months.

Spring and summer are a popular time to take coyotes by calling, especially during the nighttime. Since night hunting of coyotes is prohibited during the fall, coyote hunters who use calling would be restricted to the winter months only.

Relative to the winter months, few hunters hunt over bait during spring and summer. However, those who do (myself included) are often successful at taking adult coyotes which are supporting dependent pups.

Coyote harvests during spring and summer can impact coyote demographics to a greater degree than harvests during fall and winter. Coyotes whelp during April, and pups remain dependent on adults until August. Removal of one or both adults would reduce survival of their litter as well. Coyote removals during April, May and June would also reduce the number of coyotes targeting deer fawns.

If LD 814 passes, survival of adult and pup coyotes will increase, leading to higher coyote populations throughout Maine. This in turn, would lead to increased losses of small livestock and pets. Higher density of coyotes during early summer would result in lower survival of deer fawns, increased losses of adult deer during winter, and ultimately lower deer harvests.

Proponents of LD 814 may argue that the loss of half of our coyote hunting season could be compensated by increased hunting effort during winter. This will not happen. Although there may be more coyotes around, it is difficult to imagine hunters spending twice as much time afield calling, hunting over bait, or hounding in the dead of winter. Try it sometime. Besides, coyote removals during winter are too late to offset the increase in early fawn losses that will surely occur if spring and summer coyote hunting is banned. And don't expect coyote trappers to take up the slack. The number of coyotes trapped in Maine has more to do with the price of coyote pelts in the fur trade than the relative abundance of coyotes in the field. The anti-hunters who have brought LD 814 to the Legislature know all this. They want fewer coyotes killed by man, and they want coyotes to determine their own population size.

In the 2018 furbearer survey, 14% to 30% of landowners reported experiencing a problem caused by coyotes (the higher percentage was in southern Maine). If LD 814 passes, these conflicts involving livestock and pet losses will inevitably increase. There is evidence that consistent hunting pressure keeps coyotes wary of humans, while the absence of hunting activity emboldens them. Closing the coyote season from April through September may lead to more numerous and more severe coyote conflicts. DIFW's current coyote plan calls for minimizing coyote-human conflicts. Passage of LD 814 ensures that DIFW will not meet this goal.

Coyotes are susceptible to several infectious diseases, including mange, distemper and rabies. The incidence of these diseases increases as coyote populations increase. In addition, when coyote populations reach their biological maximum, the incidence of intraspecific mortality (killing of dependent pups, lethal fighting, and cannibalism) become more common due to social intolerance among coyotes competing for a territory and available food. Passage of LD 814 will increase the likelihood that coyote populations will become less healthy. Another goal in DIFW's coyote plan seeks to "maintain healthy abundant coyote populations". Passage of LD 814 ensures that coyote populations will become overabundant and markedly less healthy.

Deer in central and southern Maine are currently thriving. Yet, if LD 814 passes, expect to see these populations decline. Increased coyote populations will have their greatest impact on the survival of newborn fawns in early summer, which will lead to lower populations of adult deer over time. This impact is subtle, and little-seen, but it can impact deer populations even where winters are favorable for deer survival. Lower deer recruitment in the face of increasing coyote populations have been scientifically documented throughout the range of Eastern coyotes over the past 30 years.

Deer in the northern 2/3 of Maine are already in a tenuous situation. Deer populations are at an all-time low, the farther north you go. Antlerless deer harvests are all but non-existent and have been that way for 40 years. Yet predation by coyotes remains unrelenting. Recent research by DIFW confirms earlier data: coyote predation is the highest cause of mortality among deer in northern Maine. An increase in coyote populations at this time, because of passage of LD 814, could lead to the disappearance of white-tailed deer from large portions of northern Maine.

LD 814 also threatens to diminish the effectiveness of DIFW's multimillion dollar program to purchase and manage deer wintering areas just getting underway because of recent (2021) legislation. Effective predation management is essential to deer survival in their wintering habitat. Passage of LD 814 would lead to diminished fawn survival, lower deer populations entering winter, and increased predation by an elevated coyote population.

Proponents of LD 814 have told you that a more

abundant coyote population could lead to lower incidence of Lyme Disease in Maine, as they prey on both mice and deer, the primary hosts of the ticks which cause Lyme and related diseases. This outcome is unlikely. Mice are not a primary food of coyotes, as they prefer larger prey. Red and gray fox rely on mice for a greater part of their annual diet. Coyotes tend to displace fox from their core area, and this exclusion

of fox increases as coyotes become more abundant. While it is true that a growing coyote population may reduce deer abundance, research in Maine has shown that deer need to be nearly extirpated from an area before there is any chance of reducing the incidence of Lyme ticks. Don't count on LD 814 to solve or even ameliorate Maine's Lyme disease problem.

Fiscal Note

There is a fiscal note associated with the passage of LD 814. Increased conflicts with livestock and pets will cause an increased expenditure among Maine residents for veterinary care, replacement of killed animals, and loss of farm revenue. DIFW will be spending more personnel time dealing with these complaints, and they will pass additional costs for remediation of coyote damage onto farmers and landowners who would pay for the hiring of private coyote control agents.

Because hunters and coyotes compete for available deer,

increased predation on deer will necessitate a reduction in allowable harvest to hunters. Accordingly, there will be a proportional reduction in the hunting economy, reduced revenue from the sale of antlerless deer permits, and a reduction in funding for DIFW's deer wintering area purchase and management program. LD 814 would shift more venison into coyote mouths; fewer deer would be available to feed Maine families.

Conclusions

Passage of LD 814 reverses Legislative intent during the past 50 years in that it prevents DIFW from protecting deer, minimizing conflicts with people, and achieving sustainable deer harvests. It is important to remember that the Maine Legislature's intent has consistently been that coyote hunting in Maine is more about predation management than sport hunting.

LD 814 would be a step in the wrong direction for Maine. Gutting the current season on coyotes by 50 to 60% would lead to higher coyote populations, increased conflicts with people, lower deer survival (particularly among newborn

fawns), lower deer harvests, and a loss of hunting-related economic activity.

Proponents of LD 814 may tell you they are acting solely to end what they portray as the cruel practice of killing coyotes with dependent young. In reality, they are working to end all hunting and trapping of coyotes in Maine. They have stated this ultimate objective repeatedly during DIFW's coyote planning meetings in 2021 and 2022. LD 814 is merely a convenient first step.

LD 814 should be soundly defeated.



An adult male coyote warily scans the author's hunting shack for human activity. If LD 814 passes, Maine coyotes may lose their fear of people and become more aggressive. Photo by Gerry Lavigne.



Coyotes taken during the winter of 2016 in Alton, Lagrange and Orneville Twp. The ultimate goal of some coyote advocates is to end all coyote hunting and trapping in Maine. Photo by Gerry Lavigne.

Some of the following photos and sketches depict predation in a graphic manner. Viewer discretion is advised.

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Nature Can Appear Cruel at Times



In June of 2013, a hiker walking a woods trail in Jonesport, ME encountered a coyote presumably transporting the remains of this newborn deer fawn to its den. Passage of LD 814 will lead to increased fawn losses throughout Maine. Photo by C. Bartlett



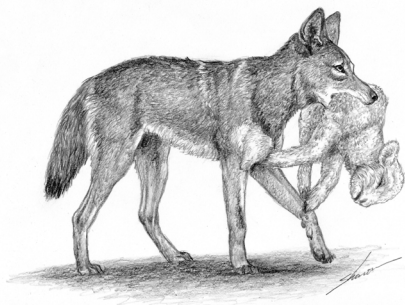
Early Deer Season. Sketch by Sharon Davis. Reprinted with permission.



Dead deer don't bleed. This healthy buck was run onto glare ice and fed upon by coyotes while still alive. Dave Tobey photo.



Coyote in advanced stages of mange. Infectious diseases like mange, distemper and rabies become more commonplace in overabundant coyote populations. Photo by Gerry Lavigne .



Lambing time. Expect more livestock and pet losses if summer hunting of coyotes is banned. Sketch by Sharon Davis. Reprinted with permission.



In the late 1990s, coyotes drove 37 deer onto the ice and killed them along one stretch of the St Croix River in Washington County, ME. Instances of surplus killing are common when deer are hampered by deep snow or glare ice. Photo courtesy of V Paul Reynolds.