

## The Case for Predation Management for Improving Deer Survival

### By Gerry Lavigne

White-tailed deer populations in Maine crashed following two brutally hard winters in 2008 and 2009. The decline in deer numbers was particularly severe in the northern half of the state, where deer populations had already been dropping for 3 decades. To address the deer problem, the Department of Inland Fisheries and Wildlife (DIFW) is implementing a comprehensive plan to improve deer survival that is intended to address all forms of deer mortality ([www.mefishwildlife.com](http://www.mefishwildlife.com); Maine's Game Plan for Deer). And that includes addressing the negative impacts of coyote predation on deer survival.

The arrival of Eastern coyotes in Maine since the 1960's has created an added mortality burden on deer. Statewide, coyotes remove about 10% of the deer population annually. By the early 1980s, DIFW was already well aware that deer mortality was too high and unsustainable. At the time, the most promising approach was to reduce hunting mortality to offset higher natural losses, including coyote predation. DIFW initially shortened our either-sex hunting seasons in the western mountains area (1980 to 1982). This was followed by bucks-only hunting and a limited number of either-sex hunting days in various zones within Maine during 1983 to 1985. From 1986 to the present, they have used any-deer permits issued to a limited number of hunters in each of 29 or 30 wildlife management districts comprising Maine. This has enabled the Department to control doe harvests as needed to achieve population objectives.

During the past three decades, hunters have borne the brunt of offsetting higher natural losses among deer. On average, hunters in deer-friendly central and southern Maine have had their doe and fawn harvests cut by at least one-third, compared to pre-coyote times. In eastern and northern Maine, antlerless deer hunting is no longer allowed during most years. And at best, doe harvests are but a tiny fraction of what had formerly been sustainable.

From a deer management perspective, there really are two Maines. In central and southern Maine, overall deer mortality is lower, fawn survival is higher, and deer populations are more resilient to changes in mortality, as when the occasional severe winter occurs. In this region, deer populations consistently respond to deliberate changes in the hunter harvest of does and fawns. Deer populations vary greatly depending on hunting access, but range from 10 to 20 per square mile where deer are adequately hunted.

In the northern half of the state, overall deer mortality is consistently higher, given the normally severe wintering conditions that prevail. In contrast with the south, fawn survival appears to be consistently lower, which greatly limits the ability of the herd to grow. To date, complete cessation of hunting opportunity for antlerless deer, at best, has only slowed the rate of decline of northern Maine deer populations.

Although essential to prevent complete loss of deer populations, the DIFW's sole reliance upon manipulation of hunter harvests in the north has been insufficient to allow deer populations to increase. Currently, northern and eastern Maine deer populations are less than one deer per square mile in many areas. During the pre-coyote, pre-spruce budworm era, deer density in the northern half of Maine commonly exceeded 10 to 20 deer per square mile. Moving northern and eastern Maine deer populations onto a positive trajectory will require a

sharp reduction of non-hunting mortality. Clearly, predation management needs to be implemented, along with wintering habitat management and hunter management.

The precipitous decline of Maine's white-tailed deer population has been accompanied by a proportionate loss of hunting opportunity and the economic benefits that hunting and wildlife watching bring to rural economies in the state. Over the past three decades, deer harvests have been curtailed by several hundred thousand deer to offset higher natural losses.

After decades of lost opportunity, hunters and non-hunters alike are wondering if deer losses can be lessened by controlling coyote abundance. Why should coyote populations be allowed to remain at their peak, if these densities negatively impact deer population recovery? If wildlife agencies manage other species of wildlife to offset negative consequences, why not actively manage coyote populations? Many wildlife biologists and others believe that Eastern coyote populations cannot be successfully managed at lower densities. The truth is that no one really knows. It has never been attempted here in the Northeast, at least on a large scale.

The concept of reducing coyote populations over large areas using properly-timed applications of foothold trapping and hunting is being advocated by DIFW and The Sportsman's Alliance of Maine. As the effort gets off the ground, it may prove to be an interesting experiment!

For a long time now, hunters have had to accommodate a competing deer predator. Perhaps now this competition can be diminished somewhat. Eastern coyotes are a valuable, but underutilized renewable furbearer resource. In addition, coyotes are challenging to hunt, and a growing number of hunters are pursuing them. Increased hunting and trapping pressure prior to winter may temporarily reduce coyote abundance. As a result, a diminished presence of coyotes on the winter landscape may allow deer populations in the northern half of the state to become sustainable and economically viable again, for the people who work and recreate there. Time will tell.