

# 2024 Moose Hunting Season and Management

Approved by the NH Fish and Game Commission in May 2023



## OVERVIEW

Moose hunting is guided by the framework set in the 2016-2025 New Hampshire Game Management Plan. The management strategy is to offer moose hunting opportunity without jeopardizing the long-term viability of the moose population and in accordance with social concern about fewer moose. The 2024 moose hunting season is Saturday, October 19<sup>th</sup> to Sunday, October 27<sup>th</sup>, with 35 either sex permits issued.

**Table 1. Moose permit issuance for 2024 by region and wildlife management unit (WMU).**

	WMU	Either Sex Permits
Ct. Lakes Region	A1	2
	A2	8
North Region	B	7
	C1	3
	C2	5
	D1	3
Southeast Region	L	3
	M	2
Dream Hunt <sup>a</sup>	WMUs with permit issuance	1
Wildlife Heritage Foundation Auction <sup>b</sup>	WMUs with permit issuance	1
<b>TOTAL</b>		<b>35</b>

<sup>a</sup>Permit donated to the Dream Hunt Program, which is for youth with life-threatening illness.

<sup>b</sup>Permit donated to non-profit Wildlife Heritage Foundation of NH for their fundraiser auction.

## MANAGEMENT STRATEGY

The moose hunting framework set in the 2016-2025 New Hampshire Game Management Plan is to manage moose populations at the regional level and allow moose hunting when compatible with two goals:

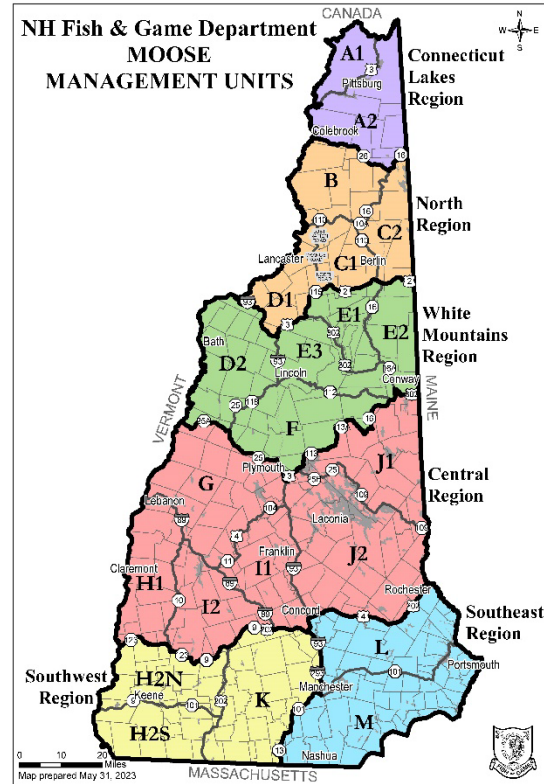
Goal 1: Regionally manage moose populations by balancing and incorporating social, economic, public safety, and ecologic factors, using the best available science.

Goal 2: Maintain a desirable adult sex ratio and adult and yearling weight and minimize winter tick impacts.

To balance these two goals in each management region, there is an “objective”, the desired moose density, and a “cut-off”, the moose density where permit issuance is suspended if moose density is at or below this level. There is no cut-off for the Southeast region due to concern about moose-vehicle collisions. Moose density is calculated from the deer hunter sighting rate of moose.

Moose permit issuance depends on whether the regional moose density is above or below the objective and cut-off.

Moose density in all regions is below the objective level. When the regional moose density is below the objective but above the cut-off, either sex moose hunting permits are issued at a conservative level (1-2% of the population). This light harvest ensures moose hunting will not influence the moose population. Permit issuance is suspended when the moose density is at or below the cut-off level and this addresses social concern about hunting moose when there are fewer moose than in the past.



**Table 2. Regional objective and cut-off levels.**

Region	Objective	Cut-off	Current Level	Harvest Strategy
Ct. Lakes	2.24	1.06	1.44	Light harvest
North	1.28	0.68	0.95	Light harvest
White Mtn.	0.47	0.24	0.17	Permit suspension
Central	0.25	0.20	0.18	Permit suspension
South-west	0.23	0.20	0.16	Permit suspension
South-east	0.10	---	0.05	Light harvest

## POPULATION STATUS

The moose population in New Hampshire has been declining since the early 2000s and the cause for this decline varies throughout the state.

Moose in northern New Hampshire, specifically the Ct. Lakes and North regions, are limited by winter tick parasitism. Research in 2014-2018 with marked moose found high winter tick infestations (30,000-90,000 winter ticks per moose) were causing 50-75% of 10-12 month old calves to die and low reproduction by adult cows (Jones et al. 2019, Ellingwood et al. 2020, and Pekins 2020). Overall, moose were in poor physical condition due to large blood loss to winter ticks in March and April. However, adult cow survival and habitat quality were good, indicating the population could quickly increase if the influence of winter tick parasitism is reduced (Ellingwood et al. 2020, Dunfey-Ball 2017). Monitoring information since 2018 indicates winter ticks are still limiting the moose population and causing moose to be in poor physical condition.

Understanding of moose health in the rest of New Hampshire (White Mountains and south) is limited because research with marked moose has not occurred in these peripheral moose populations. Factors limiting moose in these areas likely include the amount of young forest, and thereby available browse, winter tick parasitism, loss of habitat to development, and brainworm (*Parelaphostrongylus tenuis*) parasitism.

For more information about the status of the moose population, please see the New Hampshire Fish and Game website moose profile page:

<https://www.wildlife.nh.gov/wildlife-and-habitat/species-occurring-nh/moose>

## TIMELINE

The proposed moose hunting season was open to public comment from early March to April 20<sup>th</sup>, 2023 by phone, email, written document, or by attending any of the three public hearings. The season was finalized in late May 2023 and applied to 2023 and 2024 season provided no major changes in moose population status. Public input will gathered again in winter 2025.

## ONGOING RESEARCH

New Hampshire Fish and Game is working with the University of New Hampshire to investigate whether trail cameras and/or drones equipped with thermal sensors are effective tools for measuring moose density and health. Fish and Game is also partnering with the U.S. Geological Service on regional research in Maine, Massachusetts, New Hampshire, and Vermont measuring moose and winter tick abundance. These projects should result in improved data for understanding the moose population size and health statewide within 3-4 years.

## LITERATURE CITED

- Dunfey-Ball, K. R. 2017. Moose density, habitat, and winter tick epizootics in a changing climate. University of New Hampshire. Master of Science thesis.
- Ellingwood, D., P. J. Pekins, H. Jones, and A. R. Musante. 2020. Evaluating moose (*Alces alces*) population response to infestation level of winter ticks (*Dermacentor albipictus*). *Wildlife Biology*.
- Jones, H., P. Pekins, L. Kantar, I. Sidor, D. Ellingwood, A. Lichtenwalner, and M. O'Neal. 2019. Mortality assessment of moose (*Alces alces*) calves during successive years of winter tick (*Dermacentor albipictus*) epizootics in New Hampshire and Maine (USA). *Canadian Journal of Zoology* 97:22–30.
- Pekins, P. J. 2020. Metabolic and population effects of winter tick infestations on moose: Unique evolutionary circumstances? *Frontiers in Ecology and Evolution* 8:1–13.