

THE HISTORY AND CURRENT STATUS
OF MOOSE IN NEW YORK

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Abstract: Moose (*Alces alces*) occurred in New York during the Pleistocene and the aboriginal periods, but were extirpated by 1861. Small scale restoration efforts, all unsuccessful, were undertaken between 1878 and 1902. From 1935 to 1980, 15-21 moose immigrated to New York, none of which were observed more than 13 months after their initial sighting. Approximately six moose entered New York in 1980, and records of observations have been collected since then. Five calves have been reported and four bulls have been found dead, three from illegal shooting. Necropsies of the four revealed no evidence of brain worm (*Parelaphostrongylus tenuis*) infection. In 1985 an estimated 11 moose resided in New York and two were radio collared. Moose presence will continue to be monitored.

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HISTORICAL SUMMARY

Moose have long been a component of New York's fauna, as evidenced by a Pleistocene record from Saratoga County (Fischer 1955). Archaeological records provide further evidence. A dagger and a comb made of moose bone were recovered in Cayuga County, and combs have also been found in Monroe and Onondaga (Ritchie 1969). Bone fragments have been recovered in Schuyler (Ritchie 1969) and Schoharie (Ritchie and Funk 1973) Counties. Although bone fragments are usually considered to be local in origin, bone implements may not have originated in the area where

they were found.

It is generally assumed that northern New York was the state's primary historical moose range; however, some records suggest moose may have inhabited other areas of the state at the time of European settlement. Grant (1894) stated that during early settlement, moose inhabited the Catskill Mountains in southeastern New York. Munro (1809) referred to deer (*Odocoileus virginianus*), moose, and elk (*Cervus canadensis*) in central and western New York. However, as moose remains are infrequently found at archaeological sites compared to those of white-tailed deer and elk (Grayson 1974), it seems likely that moose were rare outside northern New York.

Dekay (1842) described moose as numerous in the unsettled, rugged regions of northern New York. While summarizing a three week trip through Franklin, Essex and Hamilton Counties in 1841, he recorded that no moose were shot but tracks "were almost daily visible". However, as settlement increased moose declined, and were extirpated by 1861 (Grant 1894).

Private restoration efforts began in 1878 when a small number of moose were released in Essex County (Colvin 1888, in Severinghaus and Jackson 1970). Ten were released at the Nehasane Preserve, Hamilton County, in 1894 and 1895, and "a few" were released in Franklin County in 1903 (Bump 1940). There is no indication that any survived longer than a few years after release. New York State released 12 animals in 1902 (Wish 1902), but the release was considered a failure by 1909 (Barnham 1909).

PRESENT POPULATIONS AND MOVEMENTS

Severinghaus and Jackson (1970), Severinghaus (1971), and notes on file at the Department of Environmental Conservation (DEC) indicate that 15-21 moose immigrated to New York between 1935 and 1980. Of these, five were shot, two emigrated elsewhere, and the fate of the others is unknown. The mean time between first and last report of any moose was approximately three months; the longest period was at most 13 months.

Regular occupation by moose began in 1980, and DEC has since monitored moose numbers and movements. Reports of moose are collected and screened for accuracy and the number of moose in New York is estimated annually based on these reports.

A total of 491 moose sightings were recorded between June 1980 and April 1986 (Table 1). Initial sightings of some individuals were near Quebec, Ontario and Vermont, suggesting that these regions have contributed to New York's moose population. The frequency of sighting reports of individual moose has varied considerably. One unmarked bull traveled a minimum of 200 km. in 34 days and was reported 24 times by the public. One collared moose traveled 330 km in 119 days and was reported eight times by the public; another traveled 100 km in 105 days and was reported five times.

Estimated minimum numbers of moose in New York have increased from 6 in 1980, to 11 in 1985 (Table 1). Approximately 70% of adult moose have been bulls. Five reliable reports of calves have been received, one in 1982, and two each in 1983 and 1984, although no physical evidence or multiple sightings provided confirmation.

Moose have been sighted in 24 of New York's 62 counties, although most have been in a 47,000 km² area encompassing the 14 northern

Table 1. Summary observations of moose sightings in New York State 1980 to 1985.

YEAR	NUMBER OF REPORTS RECEIVED	ESTIMATED MINIMUM NUMBER OF ANIMALS				TOTAL	MORTALITIES
		BULLS	COWS	CALVES			
1980	58	4	2	0	6	2	
1981	53	3	2	0	5	0	
1982	56	3	4	1	8	0	
1983	121	9	4	2	15	1	
1984	113	8	5	2	15	1	
1985	90	7	4	0	11	0	
Totals	491	34	21	5	60	4	

counties. Varying from 30-1500 m. in elevation the margins of this region are a mixture of agricultural and forest lands, while the central portion is the Adirondack Park, a mountainous 24,300 km² mixture of private forest and state forest preserve. It is covered primarily by northern hardwoods, conifers and, to a lesser extent, aspen (*Populus spp.*) (Stout 1958). Adult buck deer harvest averaged .3 bucks per km² of land area in northern New York during 1985 (Anon. 1986) and, based on Free et al (1964), deer densities approximate 3 per km².

Four moose were killed since 1980. One died during relocation, and three were illegally shot. Two of the three persons who shot these moose were successfully prosecuted (maximum penalty \$2000 fine and/or 1 year in jail). Necropsies of the four moose revealed no sign of brain worm infection. However, in 1971, one brainworm was found during the only other necropsy of a New York moose.

Moose in New York may be relocated if they pose danger to life or property. Two such relocations were completed in 1985, and radio transmitters were attached to monitor later movements. One yearling bull, removed from the City of Watertown on October 3, 1985 and released 90 km away, wandered 300 km by January 30, 1986. A second bull, estimated 500 kg in weight, was removed October 17, 1985 from a dairy farm in Lewis Co. after residing there for two months. It was released 50 km away, returned to within 13 km of the farm by November 9, and was observed at the farm on January 21, 1986.

Evidence to date has documented increasing moose immigration to New York and generally increasing numbers, both of which are encouraging for the eventual reestablishment of the moose in this state. The DEC will continue to monitor the numbers and movements of

moose as an aid in directing future management decisions.

REFERENCES

- Anon. 1986. 1985 Deer take by county and town. New York State Department of Environmental Conservation. Mimeo. 4pp.
- BARNHAM, J.S. 1909. Report of the chief game protector for 1909. State of New York Forest Fish and Game Comm. Ann. Rpts. 1907-1908-1909. J.B. Lyon. Albany, N.Y. 407 pp.
- BUMP, G. 1940. The introduction and transportation of game birds and animals into the State of New York. Fifth N. Am. Wildl. Conf. 5:409-420.
- DEKAY, J.E. 1842. Zoology of New York. Vol. 1. Carroli and Cook. Albany, N.Y. 155 pp.
- FREE, S., W.T. HESSELTON, and C.W. SEVERINGHAUS. 1964. The gains and losses in a deer population for five sections of New York State. Proc. N.E. Fish and Wildl. Conf. Hartford Connecticut.
- FISCHER, D.W. 1955. Prehistoric mammals of New York. The N.Y. State Conservationist 9(4):18-22.
- GRANT, M. 1894. The vanishing moose and their extermination in the Adirondacks. Century Mag. 47:345-356.



GRAYSON, D.K. 1974. The riverhaven no. 2 vertebrate fauna: comments on method in faunal analysis and on aspects of the substance potential of prehistoric New York. *Man in the Northeast* 8:23-39.

MUNRO, R. 1804. Description of the Genessee Country in the State of New York. In: O'Callaghan E.B. 1849. The documentary history of the State of New York. vol. 2. Weed Parsons and Co. Albany N.Y. 1211 pp.

RITCHIE, W.A. 1969. The archaeology of New York State. The Natural History Press. Garden City, N.Y. 357 pp.

_____. and R.E. FUNK. 1973. Aboriginal settlement patterns in the northeast. *New York State Museum and Science Memoir #20*. 378 pp.

SEVERINGHAUS, C.W. 1971. Moose in New York State. N.Y. State Dept. of Env. Cons. unpub. rpt. Albany, 3 pp.

_____. and L.W. JACKSON. 1970. Feasibility of stocking moose in the Adirondacks. *N.Y. Fish and Game J.* 17 (1):18-32.

STOUT, N.J. 1958. Atlas of forestry in New York. State Univ. College of For. Bull. No. 41. 95 pp.

WISH, J.D. 1902. Report of the secretary of the commission. Eighth report of the Forest Fish and Game Comm. J.B. Lyon. Albany, N.Y. 456 pp.