

Comprehensive Deer Management Evaluation Update – February 2016



Vermont's white-tailed deer population is in line with statewide deer population goals established in the 2010-2020 Big Game Management Plan, and arguably as healthy as it has been in the past 70 years. Additionally, general satisfaction of Vermont deer hunters was relatively high (68%) in the 2014 Responsive Management Inc. (Duda) survey. The challenge of deer management in Vermont is to maintain a healthy, sustainable deer population while simultaneously meeting the various expectations and interests of hunters.



Phase I Review

In early 2013, the department, in collaboration with the Board, embarked on a comprehensive review of all Vermont deer hunting regulations and potential hunting opportunities. This initiative was partly due to the Board and department receiving a variety of petitions to change current hunting seasons and regulations (including petitions for a longer archery season, special flintlock season, early muzzleloader hunting, reduced bag limits, and alterations to the antler point restriction).

During phase I, the department and Board hosted several public involvement activities, including an online survey, seven public meetings/hearings, the creation of three volunteer working groups comprised of Vermont deer hunters, two lengthy input meetings from Board members, and a scientifically valid survey that sampled 1,217 hunters who hunted deer in Vermont in 2013.



During the same period, department staff began an analysis of the current antler point restriction (APR). These studies are on-going but preliminary analyses raised some concerns regarding antler development in Vermont's older bucks.

OUTCOMES:

In April 2015, the Board approved a set of regulation changes and agreed to a three-year evaluation of the effects of those changes along with further evaluation of remaining issues.

Regulation Changes:

- Archery season expanded by 5 days in late October.
- Legalized use of crossbows for hunters 50 years of age or older.
- Reduced archery and muzzleloader season bag limits from 3 to 2 (annual limit remains at 3).
- Prohibited use of natural urine-based deer lures.

Three-year Study (Phase II):

- Monitor the effects of the regulation changes on the Vermont deer harvest.
- Continue to evaluate options for an early muzzleloader season.
- Evaluate options for further changes to the season structure.
- Further evaluation of the current APR and other buck age structure management options.
- Evaluate potential effects of changes to annual and season bag limits.
- Research and evaluate options for regulating deer drives.

Phase II – Strategies to Address Remaining Issues

Hunting Season Structure & Timing

Issues:

- **Early Muzzleloader Season:** Opportunities for, and potential impacts of, establishing an early, antlerless-only, muzzleloader season will be further evaluated.
- **Timing of Seasons:** Changing the length and/or timing of the current hunting seasons could increase hunting opportunity and hunter satisfaction, and improve the department's ability to manage deer. Some of these changes were discussed during phase I of this evaluation (including lengthening archery season), but additional opportunities may still exist.
- **Crossbow Liberalization:** Opportunities for, and potential impacts of, further liberalization of crossbow use will be evaluated. Crossbow liberalization has the potential to increase hunting opportunity – including recruiting new hunters and increasing participation among older hunters – but may also increase the archery harvest.
- **Evaluate Antlerless Harvest Options:** Options for increasing antlerless harvest in certain WMUs and better distributing antlerless harvest among different hunters (i.e., archery, youth, rifle, muzzleloader) will be evaluated. This could include changes to season structure, bag limits, and licenses/permits.
- **Monitor Breeding Chronology:** Conception dates determined from winter road-kills will be monitored to assess potential impacts of harvest timing on breeding chronology. This could have direct implications for season timing, but will also inform our understanding of potential genetic selection related to the current APR.

Strategies:

- **Monitor Crossbow Hunter Success:** The number of hunters using crossbows will be determined via a question during the purchase or reprint of an archery license. Success rate can then be determined from harvest reports based on “implement of harvest.”
- **Monitor Archery Season Harvest:** The daily and total archery season harvest will be monitored to determine any effects of a longer season.

Deer Drives

Issues:

- **Regulating Deer Drives:** Some people have expressed interest in the department restricting deer drives. This is not a biological concern, but may affect access to open land (i.e., posting) and the non-hunting public's perception of hunters and hunting.

Strategies:

- **Research Other State Regulations:** Regulations pertaining to deer drives in other states will be evaluated in order to develop potential options for Vermont.

Phase II – Progress

- **Collect Additional Biological Data:** In 2015, the department increased the number of biological reporting stations during the rifle season from 8 to 23. This resulted in department staff examining 20% of the rifle season harvest (1,348 bucks). The department also asked all successful rifle season hunters to submit a tooth from their deer. This resulted in an additional 2,672 teeth (51% of non-biochecked deer). Age results are pending.
- **Locate Additional Pre-APR Data:** Most deer project archives have been searched. No additional pre-APR data have been located.
- **Monitor Crossbow Hunter Success:** A question has been added during purchase/reprint of a license with archery tags asking whether the hunter intends to use a crossbow. This should provide a reasonable estimate of the number of archery hunters using crossbows.

Timeline

WINTER/SPRING 2017

Interim Progress Report to Board

- Preliminary analysis of additional age/antler data
- Analyses using additional pre-APR data
- Breeding chronology assessment
- Deer drive regulation options

WINTER/SPRING 2018

Final Recommendations to Board

Buck Age Structure Management and Antler Point Restrictions

Issues:

- **Antler Development:** Initial evaluation of the antler point restriction (APR) raised concerns related to antler development. Specifically, the proportion of yearling bucks with spike antlers may have increased, and bucks ≥ 3 years old may have fewer antler points (i.e., smaller antlers) than prior to the APR. Additional data on age and antler development are needed to further evaluate these concerns.
- **Buck Age Structure:** The current APR has shifted the majority of harvest pressure from yearlings to older bucks. While this resulted in more 2 year old bucks in the population and the harvest, it is not clear how it affected the number of bucks 3 years old or older. Since relatively few mature bucks are harvested, sample size has been insufficient to assess this issue. Additional age data are needed to further evaluate this concern.
- **Locate/Consider Additional Pre-APR Data:** Deer project archives (paper) will be searched for additional pre-APR data, specifically antler measurements associated with cementum ages. Analyses will also be conducted using tooth replacement and wear ages. While less reliable than cementum ages, particularly for older deer, error associated with tooth replacement and wear ages should be consistent over time.
- **Assess Regional Impact of APR:** Additional data on harvest age structure should allow for assessment of buck age structure at the regional and/or wildlife management unit (WMU) level. This could provide additional insight into the effects of the APR and the utility of buck age structure management (BASM) in different parts of the state.
- **Evaluate Other Buck Age Structure Management Options:** Additional buck age structure management (BASM) strategies will be evaluated for their potential to achieve goals and their impact on hunting opportunity. This will include changes to bag limits and season lengths as well as other options.

Strategies:

- **Collect Additional Biological Data:** The department will increase the number of biological reporting stations during the youth and rifle seasons in order to collect additional data on age structure and antler development. Voluntary submission of deer teeth by hunters will supplement these age data, and antler measurements from bucks ≥ 3 years old will provide additional data on antler development.

STRATEGIES	2016												2017												2018				
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M
Increase Biological Data Collection	█												█												█				
Evaluate Other Pre-APR Data	█												█												█				
Evaluate Other BASM Options	█												█												█				
Assess Regional Effects of APR	█												█												█				
Monitor Crossbow Participation/Success	█												█												█				
Evaluate Further Crossbow Liberalization	█												█												█				
Monitor Longer Archery Season	█												█												█				
Evaluate Antlerless Harvest Options	█												█												█				
Monitor Breeding Chronology	█												█												█				
Evaluate Deer Drive Regulation	█												█												█				
Inform/Involve Hunters (deer hearings)	█												█												█				

