

Vermont Fish and Wildlife Board
April 27th, 2022 Meeting Minutes

The Vermont Fish and Wildlife Board held a meeting beginning at 5:00 pm on Wednesday, April 27, 2022, National Life Conference Room in Montpelier. A recording of the meeting can be made available by the Department of Fish and Wildlife upon request.

Board Members Present: Brad Ferland (Board Chair); Brian Bailey; Michael Bancroft; Michael Kolsun; David Robillard; Martin Van Buren; Jay Sweeny; Jamie Dragon and David Deen. Board Members present virtually: N/A

Department Staff Present: Commissioner, Christopher Herrick; Wildlife Director, Mark Scott; Lt. Sean Fowler; General Counsel, Catherine Gjessing; Director of Outreach, Alison Thomas; Staff Assistant, Charlee Drury. **Staff present virtually:** Col. Jason Batchelder, Law Enforcement Director; Nick Fortin, Deer Project Leader; Fisheries Director, Eric Palmer; Dr. Katy Gieder, Biometrician and Research Manager.

Members of the Public (virtual): Marian Guihan (homeowner on Nichols Pond) and Kurt Behrens from the Nichols Pond Association. Lynn Lavine regarding deer density.

Members of the Public (in person):

Members of the Public Call-in: 1 call in number

Agenda Items:

- 1) Approval of Previous Meeting Minutes,
 - April 6, 2022
- 2) Public Comments (Limited to 2 minutes per speaker)
 - Marian Guihan
 - Kurt Behrens
 - Lynn Lavine
- 3) 2022 Antlerless Harvest and Youth Deer Season Proposal
 - Mark Scott and Nick Fortin
- 4) Petition Acknowledgement and Discussion
 - Petition to amend fishing regulations on Nichols Pond
- 6) Commissioner's Update
- 7) Roundtable Discussion

The meeting was called to order at 5:00 PM

Approval of Previous Meeting Minutes

Motion: Brian Bailey moved to approve the minutes from April 6, 2022 meeting. Martin Van Buren seconded the motion.

Discussion: None.

Vote: 9 yes votes to approve the previous meeting minutes as amended:

Petition Acknowledgement and Discussion- Public Comments (2 minutes per speaker)

Kurt Behrens, Nichols Pond Association (virtual)- Kurt submitted the petition to amend Nicoles Pond fishing regulations on behalf of the Nichols Pond Association. Reference petition. Kurt advises that there is no winter access to Nichols Pond as the only road in is not plowed in the winter. He goes on to say that most of the camps are seasonal camps and are shut down for the winter, allowing people to access the pond using private property. Kurt asks that Nichols Pond fishing regulations be amended. Reference petition.

Marian Guihan (virtual)- Speaks on behalf of the petition submitted to amend fishing regulations on Nichols Pond, stating that her private property became an access point to Nicols Pond for ice fishing due to the lack of public access to the pond in the winter months. The water was newly opened for ice fishing with the new 2022 fishing regulation changes.

Board member David Robillard asks how many people belong to the association. Kurt says there are a dozen camps on the lake and all camps are involved in submitting this petition. Kurt says the ice isn't safe for accessing at the dam end due to moving water. The road is maintained by property owners. There is no public land around the pond, privately owned. Kurt mentions vandalism being an issue at camps in the past and that this road and area is known by local police. Board member David Deen asks why they came to F&W for fishing regulation changes vs. DEC for surface water use changes? Kurt replies that they came to F&W because of the new fishing regulation change which opened this pond in the winter for ice fishing. Board member Jay Sweeny asks if there had been vandalism problems prior to this change? Kurt replies yes, that there have always been problems on this road and at this pond. Jay mentions that changing fishing regulations won't solve the vandalism issues and that the vandalism issues are not actually the fishermen per say. He asks if there were any break-ins this winter during the opening of the ice fishing season. Kurt says no, there were no break-ins this winter but he thinks it will become a problem. Board member Brad Ferland mentions this being the first year of open fishing to this pond and that signage and guidance to access could and should be better next year. Kurt says some homeowners have put up signs. Board member Jamie Dragon mentions that having the presence of people fishing on the water in the winter months might cut down on vandalism in that area while camps are closed. She also mentions access at the dam is an unsafe option.

General Counsel, Catherine Gjessing asks the board to hear the recommendation from the department before making a decision. She asks Fish Division Director, Eric Palmer to give recommendation from the department on this issue. Brad mentions that there are other bodies of water in this situation. Jay says we need more information from other situations to address how we handle this, he goes on to say that restricting state waters is not going to solve this problem. Eric Palmer offers to come back to the board with a department recommendation on this issue, highlighting that this is a public waterbody, although we don't have guaranteed public access to the water. He adds that F&W does stock this water because it has had public access in the summer. Eric continues and suggests that with winter access issue, we need time to talk to the local warden, the Hardwick Electric Company and allow us time to review in the next 2 months.

Jay Sweeny makes a motion to accept the petition and to give the agency time to formulate a response. Brian Bailey seconds the motion. Forward petition to dept for review. Vote: 9/0 accepted.

Brad speaks to Kurt and says that F&W will review options and come back to the board as soon as possible with a path forward on this issue.

2022 Antlerless Harvest and Youth Deer Season Proposal

Deer Project Leader, Nick Fortin provided a PowerPoint presentation on Vermont's deer herd with an overview of proposal numbers and how we reach these totals.

Nick references recommendation. Some WMUs had more than 50% yearling bucks in the 2021 harvest. Nick reviewed some of the deer population models used by the department – reconstruction, sex-age-kill, DOEPOP. DOEPOP model is used to project forward. Density objectives. Nick mentions that we are predicting a slight decline in deer numbers due to recent antlerless harvests. Objective in most WMUs is to stabilize deer numbers where they are at. Some WMUs still need deer numbers reduced.

David asks if we go into year 3 with 50% yearlings will we continue with this? Nick says yes, if it stays at 50% we would need to address, cross that bridge when we get there, looking at age data we should be ok. Mark addresses and asks Nick to speak on buck age structure goals, and public interest. We need less than 50% yearling bucks in the harvest to ensure we meet buck age structure goals. Brad asks if they have a way of determining the total population even though you have over 50% yearling bucks harvested one year and 45% another year. Nick says one or 2 years of 50% is ok. Brad says he understands but we can't control what a hunter takes for a deer so if they choose to take a yearling buck. David R. references compounding factor, people will shoot what's on the landscape.

David Deen, public interest concern, he wants a definition of public interest as we use this phrase a lot in our studies. Does public interest include the maple sugar business who are having deer

damage who would like less deer? Nick says yes, that we survey all Vermonters (public interest) not just hunters, asking if they'd like to see more or less deer. Nick mentions that we can't manage deer in an entire WMU based on small areas that have too many deer. We have to follow a goal for the larger WMU not sections within the WMU. David Deen asks expectations for number of permits being issued in WMU O. Michael Kolson asks about access for hunters in Champlain valley and is this an issue that coincides with these numbers due to lack of access? Nick says land access could use more outreach but there is room to give out more permits this year, we cut back in previous years. Access is an issue everywhere.

Brad said we did seem to leave a lot of permits left on the table last year, is there a decline in license sales? Nick says no, just not enough hunters interested in hunting doe.

Michael asks if objective density should be less than 10 for the rest of the state? If we don't see the numbers do we do something different or accept the metrics as is? Nick replies that we should not accept the metrics as they are, but we should see improvements if we can hold populations at goals. WMU E is different from other areas because it has hard winters but good summer habitat due to logging. If we can hold populations at goal, and health is still poor, we will rethink population objectives. If this is the case we will adjust objectives.

Jay Sweeny makes a motion for preliminary approval of the antlerless harvest and youth season recommendation given by the department. Seconded by Michael Kolsun.

David Deen asks if a motion can be amended to add more permits to a WMU in his area, WMU O? Nick says he is comfortable with issuing more permits in O, in increments of 100 permits, but would not support adding 1000. David withdrew motion to amend, pending public comment on the recommendation.

Motions and Vote Outcomes: Jay Sweeny makes motion to preliminary approval of the recommendation as presented by the Department. Michael Kolsun seconds motion. Board unanimously accepts the proposal.

Commissioner's Update

Commissioner Herrick updates the board on Bills that have been in front of the state house.

Meeting Adjourned at 7:52 PM

February 1, 2022

To: Vermont Fish & Wildlife Department

Attn: Christopher Herrick – Commissioner

Cc: Brian Bailey – Washington County board member

From: Kurt Behrens –Nichols Pond Association President

Subject: Petition for Rule Change

Gentlemen,

I am writing this letter on behalf of the Nichols Pond Association Inc. to respectfully ask you to consider a small change to the fishing regulations as they pertain to Nichols Pond in Woodbury, Vermont. Specifically, we would like to add: *“Only open to fishing from second Saturday in April to Oct. 31”*. We believe this rule is justified for the following reasons:

- 1.) There is no suitable public access in winter.** There is a private road to the dam on Nichols Pond that is available to fishermen in summer months, but it is gated and unplowed in winter.
- 2.) Seasonal camps are vulnerable in winter.** The only way to access the ice is by crossing private camp-owners property. There are no property owners occupying their camps in winter except for brief welfare checks on their properties. Nichols Pond has a history of partying, vandalism, break-ins and thefts. No property on the pond has been spared. The property owners believe that inviting the general public to come to the pond for any reason in the winter when our camps are most vulnerable needlessly endangers our properties.
- 3.) Conservation of the trout population.** Nichols Pond is a small body of water and overfishing Lake Trout can easily be done. Ice fishing lends itself to long periods of fishing on the bottom where Lake Trout feed on dead fish and pursue Smelt. Lake Trout must compete with the invasion of Smallmouth Bass as well. East Long Pond is in a similar position and has recently experienced a decline in its Trout population even before ice fishing was allowed.
- 4.) The ice is unsafe for fishermen.** There are underwater springs in some locations of the Nichols Pond which create and hide thin ice. And the only logical access for fishermen is at the dam spillway where the ice is unpredictable. We know VT Fish & Wildlife tries to

warn ice fishermen to stay away from specific areas of lakes known to have unsafe ice. So inviting them to ice fish a lake where the only obvious access point is known to have unsafe ice seems imprudent.

Since January 1st, 2022, when Nichols Pond became open to ice fishing, we have already experienced an ice fisherman pulling a shanty with an ATV across private land without the owner's permission, vehicles blocking the turn-around area near the gate, and trash being left behind.

Please grant our request for this winter fishing rule change on Nichols Pond. We thank you in advance for the board's consideration and look forward to your response.

Sincerely,

Kurt Behrens

Nichols Pond Association

behrenskurt@gmail.com

(802) 254-3303

2022 Antlerless Harvest and Youth Season Recommendation

to the
Vermont Fish and Wildlife Board



Vermont Fish and Wildlife Department
Agency of Natural Resources
1 National Life Drive, Davis 2
Montpelier, VT 05620-3208
802-828-1000

Summary of Key Points

- Recent antlerless harvests have been sufficient to stabilize or reduce deer numbers in most WMUs despite a relatively easy winter in 2022.
- Yearling antler beam diameters, fawn weights, and other physical condition metrics are below optimal levels in many areas, indicating that deer numbers have exceeded the level their habitat can support long-term.
- Deer populations in 5 WMUs are projected to be above their respective population objectives in 2022. The recommended antlerless harvest is intended to reduce deer populations in these WMUs.
- Populations in all other WMUs will be close to their respective population objectives and the recommended antlerless harvest is intended to stabilize populations and provide additional harvest opportunities.
- The recommended permit allocations are expected to result in the harvest of 3,107 antlerless deer during the antlerless (early muzzleloader) and December muzzleloader seasons. This would result in an estimated total harvest from all seasons of approximately 7,121 antlerless deer.

Executive Summary

The Vermont Fish and Wildlife Department estimates there will be approximately 128,000 white-tailed deer on the Vermont landscape prior to the start of the 2022 deer hunting seasons. This represents a decrease of 2 percent from the retrospective 2021 pre-hunt estimate. Deer populations in 5 Wildlife Management Units (WMU) are expected to be above their respective density objectives established in the *2020-2030 Big Game Management Plan*. The remaining 16 WMUs will have deer densities close to their respective density objectives. Deer are not evenly distributed across Vermont. As a result, harvest management strategies that account for regional differences in deer density are essential to the health and proper management of Vermont's deer herd.

For deer to be healthy and productive, deer populations must be kept below the carrying capacity of the habitat through the regulated harvest of antlerless deer. Biological information collected annually by the Department, including reproductive data, fawn and yearling body weights, and yearling antler size, indicate that deer populations have exceeded the level the habitat can support long-term in some parts of Vermont. Deer populations must be reduced or maintained below the limits of their habitat or physical condition will continue to decline, habitat damage will increase, and populations will become unstable and susceptible to substantial winter mortality.

The winter of 2022 was relatively easy for deer throughout most of Vermont. However, increased antlerless harvests in recent years have reduced deer numbers, or limited deer population growth, in many areas. Increased antlerless harvest will need to continue in order to reduce deer densities in those WMUs that remain above objective and to stabilize populations in other WMUs at their current level.

To achieve established density objectives, the Department recommends the harvest of 7,121 antlerless deer during the 2022 hunting seasons. The Department recommends that antlerless harvest be authorized during the archery and youth/novice seasons in all WMUs. After accounting for expected archery and youth/novice season harvests, the Department recommends that 3,107 antlerless deer be harvested, by permit, during the antlerless-only muzzleloader season in late October and the December muzzleloader season. Achieving this harvest requires the issuance of 19,400 WMU-specific antlerless permits distributed among 19 of Vermont's 21 WMUs (3 percent fewer permits than the 20,000 allotted in 2021).

Deer harvest patterns changed substantially in 2020 due to the COVID-19 pandemic and new hunting regulations, which created significant uncertainty when predicting the 2021 harvest. As a result, the 2021 antlerless harvest recommendation cautiously predicted high archery antlerless harvest and very high antlerless permit fill rates. However, archery antlerless harvest decreased considerably from 2020, and muzzleloader antlerless permit fill rates were similar to those observed before the new regulations. As a result, the Department is more confident in predicting the antlerless harvest in 2022.

Four public hearings were held March 21, 23, 24 and 26, 2022 to gather hunters' comments on the deer herd. A summary of comments on the status of the deer herd is provided in Appendix B. Two additional public hearings will be held May 10 and 12, 2022.

2021 Muzzleloader Antlerless Harvest Recommendation

Pursuant to 10 V.S.A. §§4081, 4082 and 4084, and Appendix Chapter 1 §2c, hereafter is the Department's 2022 antlerless harvest and youth season recommendation. Based on population estimates, a harvest of 7,121 antlerless deer is recommended during the 2022 hunting seasons. This includes 4,014 antlerless deer harvested during the archery, youth, and novice seasons, and 3,107 antlerless deer harvested, by permit, during the antlerless (October muzzleloader) and December muzzleloader seasons. Adult females are typically 84 percent of the total antlerless deer harvest, so harvesting this number of antlerless deer would yield approximately 5,947 adult does.

Population Status

The 2021 deer hunting seasons saw a buck harvest 7 percent lower than the previous 3-year average (see *2021 Vermont White-tailed Deer Harvest Report* for more information). Four WMUs had retrospective population estimates in 2021 that exceeded their respective population objectives established in the *2020-2030 Big Game Management Plan*. The winter of 2022 was relatively easy for deer in most of the state; however, increased antlerless harvests in recent years are expected to stabilize deer numbers in most areas and reduce deer numbers in a few WMUs.

Winter Severity 2021

The Department has long recognized the influence that winter weather can have on Vermont's deer herd and has been collecting winter severity data since 1970. Between December 1 and April 15, volunteers record one winter severity index (WSI) point for each day with at least 18 inches of snow on the ground, and one point for each day the temperature reaches 0°F or below. These data have proven useful to describe deer population dynamics; however, how well deer survive winter depends largely on three factors: 1) body condition of deer as winter begins, 2) availability of quality deer wintering habitats, and 3) the timing of snow in the fall and snowmelt in spring. Snow cover that remains late into spring can cause significant negative impacts by delaying spring green up and, consequently, reducing fawn survival.

The winter of 2022 was relatively easy for deer, with a state-wide average WSI of 27 points (Figure 1). This was well below the 30-year median of 38. Some WMUs in western Vermont and the northern Green Mountains had WSIs close to their long-term average (Figure 2), but most of the state experienced an easier-than-normal winter. In all areas, most WSI points were due to low temperatures rather than deep snow. While low temperatures require deer to burn additional energy, the lack of deep snow across much of the state for much of the winter allowed deer to utilize habitats outside of traditional wintering areas and access the best available foods. Abundant mast crops in 2021 also allowed deer in most areas to enter winter in good condition. As a result, overwinter mortality was minimal.

Population Health

Biological information collected annually by the Department, including reproductive data, fawn and yearling body weights, and yearling antler size, indicate that deer populations have exceeded the level the habitat can support long-term in some parts of Vermont (Figure 3, see Appendix A for individual WMU information). In many cases, this does not appear to be a new problem. Instead, this appears to be a subtle but chronic problem that may have occurred for decades in some areas. Declines in measures like yearling antler beam diameter have been slow (Figure 3); therefore, it takes many years of data to separate the trend from normal annual variation.

Health concerns are most pronounced in central Vermont but are evident in many parts of the state (see Appendix A for more detail). In most cases, the Department believes the primary driver of declines in physical condition was not a recent increase in deer abundance, but rather a slow, steady decline in the quality of deer habitat. Deer abundance has been relatively stable during the past 15 years, and, arguably, the past 30 years. However, Vermont's forests are aging and the amount of young forest (less than 20 years old), which provides critical forage for deer, is declining. Other factors, including hunter access to private land, proliferation of invasive plants, and climate change are also important, and make the problem and any solutions more complex. The simple result, however, is that the habitat cannot support the number of deer it used to, and it is likely that carrying capacity will continue to decline. Deer populations must be reduced below the limits of their habitat or physical condition will continue to decline, habitat damage will increase, and populations will become unstable and susceptible to substantial winter mortality.

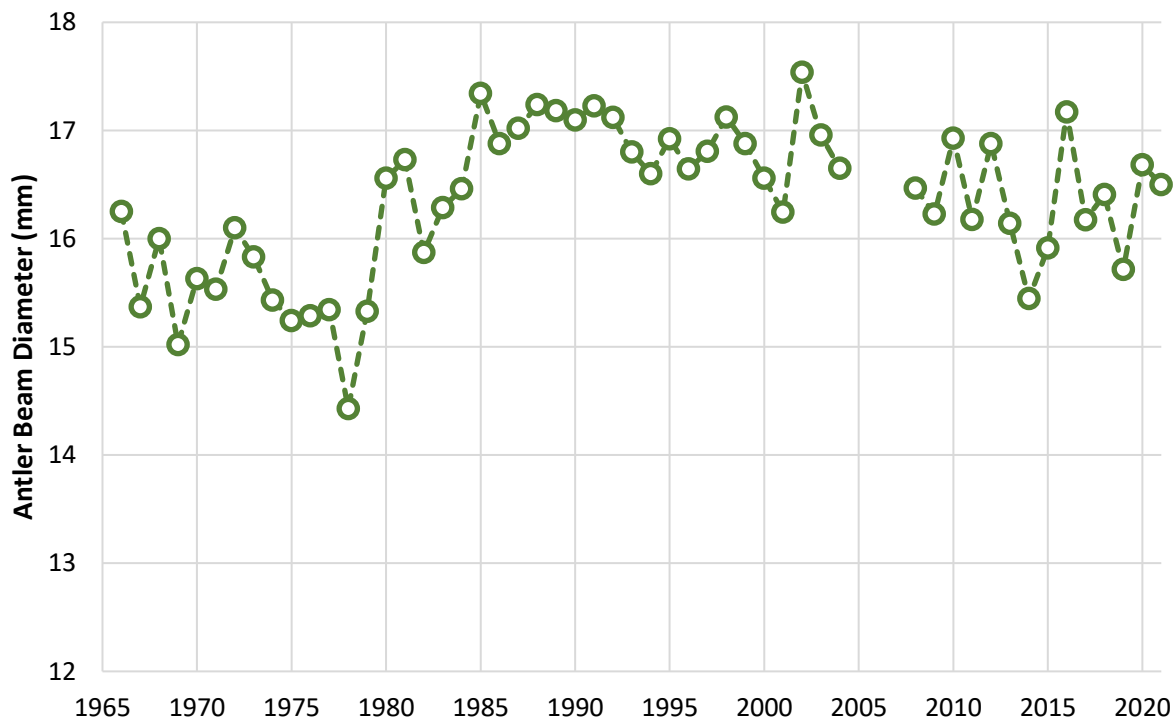


Figure 3. Antler beam diameter of yearling bucks in Vermont, 1965–2021. Data are from deer examined at biological check stations.

Population Projections and Management Objectives

Although the winter of 2022 was relatively easy for deer in most areas, increased antlerless harvests in recent years will result in minimal population growth in most areas, and population reductions in a few WMUs. Importantly, deer densities remain above population objectives in several WMUs and recent management efforts are only beginning to reduce some of those populations. To provide healthy habitats and thereby keep deer healthy and productive, deer densities must be kept at established objectives (Figure 5). Maintaining a healthy deer herd is the best way to mitigate the potential effects of winter weather and provide a stable population over the long term.

Based on analysis of herd demographic data, hunter effort and sighting rate data, 2021 and 2022 winter severity information, and 2021 estimated deer populations at the WMU level, the Department expects the statewide deer population to decrease 2 percent from the 2021 retrospective estimate of 130,500 deer to approximately 128,000 deer (Figure 4). Importantly, 5 WMUs will have deer densities that exceed their respective population objectives, and the Department's intent is to reduce deer densities in those areas (Figures 5 and 6). Other WMUs will have deer densities that are within 2 deer per square mile of their population objective and the intent is to stabilize those populations at or near their current level.

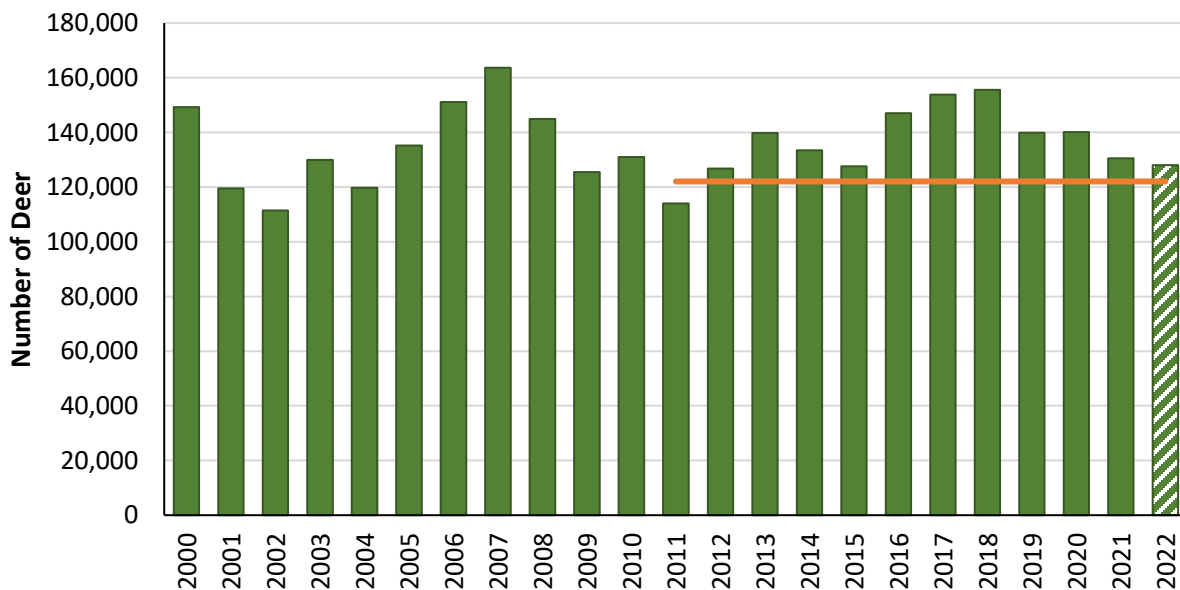


Figure 4. Statewide pre-hunt deer population estimates, 2000–2022. Population estimates are based on VT-DOEPOP, Sex-Age-Kill, Reconstruction, MARK-removal, and roadkill-based modeling. The horizontal orange line represents the sum of WMU-specific population objectives established in the 2020–2030 *Big Game Management Plan*.

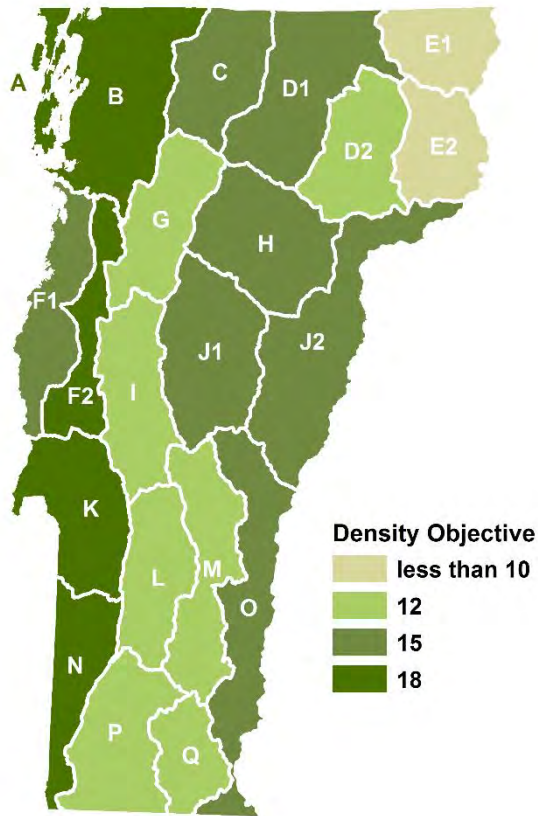


Figure 5. Deer density objectives by wildlife management unit. Deer densities are deer per square mile of habitat.

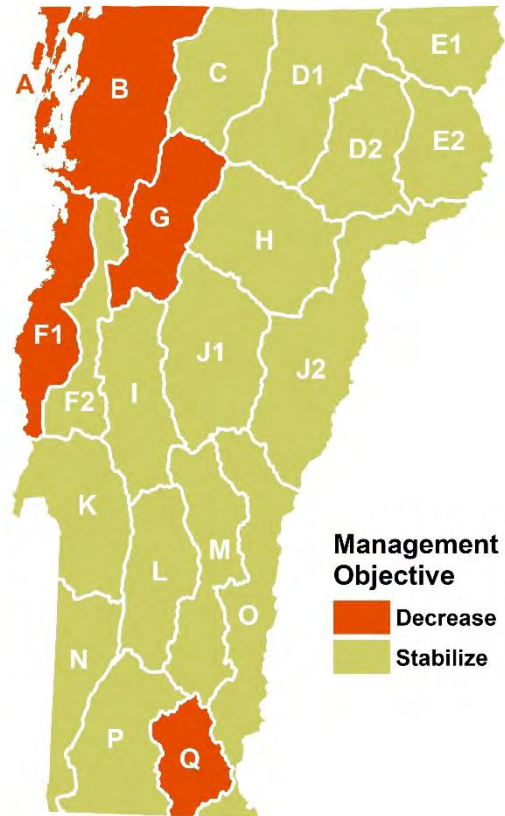


Figure 6. Desired change in the deer population, by wildlife management unit, to reach density objectives.

Expected Changes in Harvest Patterns

Deer harvest patterns changed substantially in 2020 due to the COVID-19 pandemic and new hunting regulations, which created challenges for predicting the 2021 harvest. As a result, the 2021 antlerless harvest recommendation cautiously predicted high archery antlerless harvest and very high antlerless permit fill rates. However, archery antlerless harvest decreased considerably from 2020, and the muzzleloader antlerless permit fill rate was similar to fill rates observed before the new regulations.

It appears the increase in the archery harvest in 2020 was primarily due to people having more time to hunt due to the pandemic. The 2021 archery harvest provides a better basis for what should be expected in future years, and is consistent with what the Department expected due to the new regulations. As a result, the Department is more confident in predicting the archery harvest this coming fall.

Antlerless permit fill rates have not increased as expected following the addition of the 4-day, antlerless-only muzzleloader season in October. Fill rates increased slightly in 2020, but returned to pre-pandemic and pre-regulation-change levels in 2021. Therefore, the Department is confident that fill rates in 2022 will be similar to those observed in past years, and will return to using the previous 5-year average as the predicted fill rate for each WMU.

Antlerless Harvest and Buck Age Structure Management

Antlerless harvests are an important tool for managing buck age structure and the overall buck hunting experience. The 2018 Big Game Survey found that 74% of Vermont hunters are interested in managing for older, larger deer. Further, the most important drivers of hunter satisfaction, after “just going deer hunting,” were “harvesting an older, larger-antlered buck” and “the amount of buck sign in the woods.” Providing additional antlerless harvest opportunities helps to reduce hunting pressure on bucks, allowing more bucks to survive to older ages. Increased antlerless harvests are also necessary to achieve a more balanced buck-to-doe ratio. Perhaps most importantly, a healthy deer population produces healthier, larger-antlered, larger-bodied bucks.

Ultimately, the Department would like to maintain the buck population at its current level. It may seem counterintuitive that this can be done with fewer does in the population, but age structure and birth rate data clearly indicate that it is possible. When does are in better physical condition they give birth to more fawns, and, more importantly, are able to raise more of those fawns to adulthood. This means that fewer, healthier does can recruit more deer into the population than a larger number of less-healthy does on over-browsed habitat. If the physical condition of deer can be improved, recruitment of fawns to adulthood will improve. Since half of fawns are male, this would allow the buck population to remain at its current level, or even increase, despite fewer does on the landscape.

Antlerless Harvest Recommendation

Archery Season

The Department believes it is appropriate to have all WMUs open to the taking of antlerless deer during the 2021 archery season. Antlerless harvest in archery season is a key component in deer population management in Vermont. Archery hunters tend to distribute their hunting effort and, as a result, harvest in areas with higher deer numbers. Therefore, archery harvest has a low impact in areas with fewer deer. Importantly, archery harvest allows hunters to better regulate local deer herds in areas with high deer densities, particularly areas where firearm hunting is limited.

Youth and Novice Season

The Department is strongly committed to recruiting new hunters into Vermont’s deer hunting heritage. Based on this commitment and the importance of harvesting an adequate number of female deer each year, the Department recommends that the youth and novice season bag limit be one deer of either sex in all WMUs. This will provide these hunters additional opportunity to harvest a deer and the opportunity to help properly manage Vermont’s deer herd. The Department also recommends that hunters during this season be able to take any buck, regardless of antler characteristics. It is critical that spike-antlered bucks be taken during this season so the Department can track their prevalence in the population (for population modeling) and obtain important biological information (e.g., weight, antler measurements) from this portion of the yearling buck population. This is the primary reason Department biologists examine deer during this season each year. This will have no impact on buck age structure management in WMUs that still have an antler restriction, as the buck harvest during this season is less than 10 percent (5 percent in 2021) of the overall buck harvest.

Antlerless Permits

Antlerless permits are recommended for 19 of the state’s 21 WMUs in 2021. These permits may be filled during the early antlerless-only muzzleloader season in late October or during the December muzzleloader season. The Department recommends that a total of 19,400 antlerless permits be issued (3 percent fewer than the 20,000 approved for distribution in 2021). An increase in antlerless permits is recommended in 3 WMUs, and a decrease in antlerless permits is recommended for 5 WMUs (Figure 7). These recommendations are intended to move populations toward WMU-specific deer density and physical condition objectives established in the *2020-2030 Big Game Management Plan* (see Appendix A for additional detail). This permit allocation is expected to result in the harvest of an additional 3,107 antlerless deer above those harvested during the archery and youth/novice seasons. Harvesting this number of antlerless deer should yield approximately 2,641 adult female deer (85 percent of muzzleloader antlerless deer are adult does).

The total recommended antlerless harvest is slightly higher than the harvest achieved in 2021, with most of the increase coming from WMUs in the Champlain Valley where deer populations remain well above objectives. This recommendation continues to take advantage of new hunting regulations to achieve the higher antlerless harvests that are necessary to achieve WMU-specific deer density and physical condition objectives. Harvests are intended to maintain populations near their current level, or to reduce populations toward density objectives over several years, not all at once. Relatively high antlerless harvests will continue to be necessary in the future to maintain populations at desired densities, particularly when winters are mild and as deer condition and fawn recruitment rates improve.

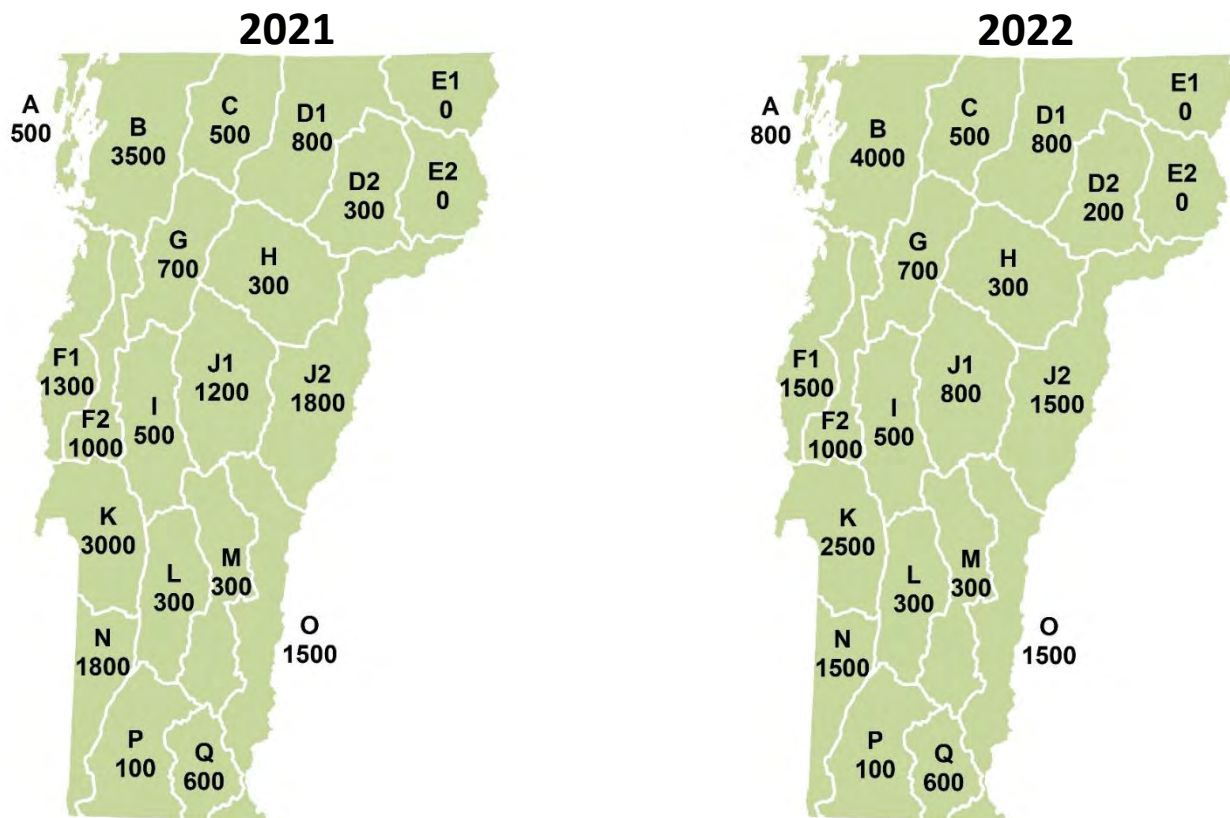


Figure 7. Antlerless permit allocations by wildlife management unit for 2021 and 2022 (proposed).

Table 1. Estimated deer densities, predicted antlerless deer harvest during the 2022 archery, youth/novice, and muzzleloader seasons, and actual 2021 antlerless harvest by wildlife management unit.

WMU	Deer per mi ²			Early Antlerless		Muzzleloader Antlerless			2022 Total Antlerless	2021 Recommended & (Actual) Antlerless		% Change from 2021 Actual	% of Doe Population Harvested
	Objective	2021	2022	Archery	Youth/ Novice	Permits	Fill Rate	Harvest					
A	18	34	32	151	24	800	15%	119	294	308	(258)	+14%	23%
B	18	24	22	606	128	4000	16%	626	1360	1857	(1301)	+5%	17%
C	15	16	17	204	48	500	24%	119	372	461	(357)	+4%	10%
D1	15	18	17	283	97	800	25%	197	577	850	(532)	+8%	10%
D2	12	11	12	111	26	200	20%	39	175	300	(180)	-3%	7%
E1	<10	6	7	9	3	0		0	12	39	(11)	+8%	1%
E2	<10	6	7	14	0	0		0	14	21	(13)	+8%	1%
F1	15	18	18	150	30	1500	14%	212	392	577	(342)	+15%	11%
F2	18	19	19	127	33	1000	14%	141	301	479	(270)	+12%	10%
G	12	14	15	111	10	700	18%	123	244	389	(207)	+18%	7%
H	15	15	14	228	44	300	19%	56	328	501	(324)	+1%	7%
I	12	12	12	67	12	500	16%	82	162	309	(147)	+10%	5%
J1	15	16	16	231	41	800	19%	153	425	771	(428)	-1%	8%
J2	15	16	15	281	67	1500	18%	275	624	1031	(631)	-1%	9%
K	18	20	20	173	55	2500	14%	356	584	997	(553)	+6%	11%
L	12	11	12	46	10	300	18%	54	110	158	(91)	+20%	4%
M	12	11	12	48	12	300	16%	49	108	160	(94)	+15%	3%
N	18	20	20	110	28	1500	13%	197	335	540	(323)	+4%	9%
O	15	15	14	211	24	1500	15%	218	453	571	(441)	+3%	10%
P	12	10	11	67	11	100	15%	15	92	146	(86)	+7%	3%
Q	12	14	15	84	2	600	12%	73	159	195	(135)	+18%	8%
STATE				3310	705	19400	16%	3107	7121	10660	(6725)	+6%	9%

Table 2. Muzzleloader antlerless permit history by WMU, 2012–2021, and recommended permit allocation for 2022. Numbers in parentheses are the number actually distributed.

WMU	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
A	650	900	900	900	1100	1100 (843)	1100 (720)	1100 (939)	1000	500	800
B	3600	3400	3800	3350	5500	5500	5500	5500	4500	3500	4000
C	0	400	400	100	350	700	800	300	500	500	500
D1^a	250	450	850	100	300	500	1200	500	1000	800	800
D2^a	0	100	0	0	100	300	800	300	500	300	200
E1^a	0	0	0	0	0	0	0	0	0	0	0
E2^a	0	0	0	0	0	0	0	0	0	0	0
F1	525	250	175	0	200	1200 (917)	1000 (900)	1000	1000	1300	1500
F2	575	450	275	0	700	1500 (1297)	1300	1300	1300	1000	1000
G	0	100	200	100	300	300	300	300	700	700	700
H^b	300	150	550	100	750	900	1100	400	300	300	300
I	0	50	0	0	0	300	300	300	500	500	500
J1	400	100	150	0	300	750	1200	800	1500	1200	800
J2^c	1150	950	1000	400	1500	1750	2500	2000	2000	1800	1500
K^d	2000	3900	5000 (4403)	2250	4100 (3569)	4100 (2505)	4000 (2446)	4000 (2440)	3000	3000 (2795)	2500
L	0	100	0	0	0	300	300	300	300	300	300
M^e	0	0	0	0	200	300	300	300	300	300	300
N	1975	2100	3000 (2123)	1850	2100 (1835)	2100 (1588)	2000 (1487)	2000 (1462)	2000	1800 (1642)	1500
O^f	750	750	750	500	1200	2000	2600 (2300)	2000	2000	1500	1500
P	0	0	0	0	0	0	0	0	100	100	100
Q^a	250	200	0	0	250	900 (692)	700 (604)	600	500	600	600
STATE	12425	14350	17050 (15576)	9650	18950 (18254)	24500 (21442)	27000 (24057)	23000 (20741)	23000	20000 (19637)	19400

^a WMU boundary changed in 2014.

^b Permit totals prior to 2014 are for former WMU H1.

^c Permit totals prior to 2014 are for former WMUs H2 and J2.

^d Permit totals prior to 2014 are for former WMUs K1 and K2.

^e Permit totals prior to 2014 are for former WMUs M1 and O1.

^f Permit totals prior to 2014 are for former WMUs M2 and O2. A portion of WMU Q was also added to this unit in 2014.

Table 3. Muzzleloader antlerless permit fill rate by WMU, 2012–2021.

WMU	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
A	11%	10%	11%	9%	10%	12%	19%	13%	17%	14%
B	13%	13%	14%	12%	15%	13%	19%	14%	18%	15%
C		26%	22%	20%	29%	19%	33%	24%	23%	20%
D1*	22%	26%	22%	10%	25%	28%	29%	24%	23%	19%
D2*		21%			18%	18%	21%	21%	20%	17%
E1*										
E2*										
F1	13%	12%	13%		15%	11%	16%	13%	17%	13%
F2	15%	13%	12%		14%	11%	19%	12%	17%	11%
G		35%	16%	7%	20%	16%	28%	14%	17%	12%
H*	20%	18%	19%	12%	16%	17%	20%	18%	21%	18%
I		24%				11%	24%	15%	19%	14%
J1	16%	22%	12%		23%	19%	26%	19%	18%	14%
J2*	16%	22%	22%	16%	20%	16%	23%	17%	21%	16%
K	10%	11%	10%	10%	13%	12%	18%	14%	16%	11%
L		23%				14%	31%	15%	17%	13%
M					18%	15%	24%	13%	17%	13%
N	11%	11%	11%	9%	13%	12%	18%	11%	13%	11%
O*	15%	16%	23%	15%	15%	15%	20%	11%	13%	13%
P									17%	13%
Q*	14%	12%			11%	12%	18%	10%	13%	9%
STATE	15%	18%	16%	11%	15%	14%	21%	14%	17%	14%

*WMU boundary changed in 2014.

Public Meeting Comments

Four public hearings were held March 21, 23, 24, and 29, 2022 to gather comments on the deer herd. Approximately 86 members of the public participated in these hearings. A summary of comments on the status of the deer herd is provided in Appendix B. Two additional public hearings will be held May 10 and 12, 2022.

Appendix A: Population Status and Management Recommendations by WMU

Deer densities, habitat conditions, and winter severity can vary substantially from one part of Vermont to another. Additionally, these factors and the effects of historical deer densities have resulted in deer in some regions being in better physical condition than others. This results in variable deer population dynamics across the state; therefore, deer management prescriptions are made at the WMU level rather than statewide.

The Department is aware that deer densities (and other factors) vary within each WMU, sometimes substantially. Unfortunately, managing deer at a smaller scale than a WMU is not currently feasible given the structure of hunting regulations and the Department's ability to collect enough data. However, hunters generally do a good job of targeting areas of higher deer density within a WMU if they have sufficient access.

Description of data provided for each WMU

Area of deer habitat: Deer habitat is all land that is not developed.

Management Objective: The desired change in the deer population (Increase, Decrease, Stabilize)

Recommended Antlerless Harvest: The total recommended antlerless harvest for 2022 across all seasons. The number of adult does (≥ 1 year old) expected to be harvested as a result (85% of archery and muzzleloader antlerless harvest, 70% of youth/novice antlerless harvest) is also shown, as is the percentage of the WMU's doe population that this would represent.

Deer Density: Estimated pre-hunt deer density over the past 10 years based on retrospective population modelling and the projected density in fall 2022. The density objective established in the *2020-2030 Big Game Management Plan* is represented by a red line in the figure. The shaded green area shows ± 2 deer per square mile – the range in which the management objective will be to stabilize.

Harvest: The total buck and antlerless deer harvests during all seasons during the past 10 years. The proposed antlerless harvest for 2022 is shown by the dotted red line.

Yearling Antler Beam Diameter/Yearling Male Weight/Fawn Weight: These physical condition metrics are from deer examined by biologists at check stations. The average for the most recent 3 years of data is provided. Sample size is shown in parentheses. Minimum acceptable levels for each metric, established in the *2020-2030 Big Game Management Plan*, are also shown.

Adult Birth Rate: The average adult birth rate (fetuses per doe) over the past 5 years based on examinations of incidentally killed deer during February-May. Sample size is shown in parentheses. The minimum acceptable level established in the *2020-2030 Big Game Management Plan* is also shown.

Winter Severity: The median winter severity index in that WMU over the past 30 years and the expected adult doe mortality outside of the hunting seasons based on that winter severity.

Red Numbers: Numbers are red when a metric does not meet the objectives established in the *2020-2030 Big Game Management Plan*.

A

71

mi² deer habitat



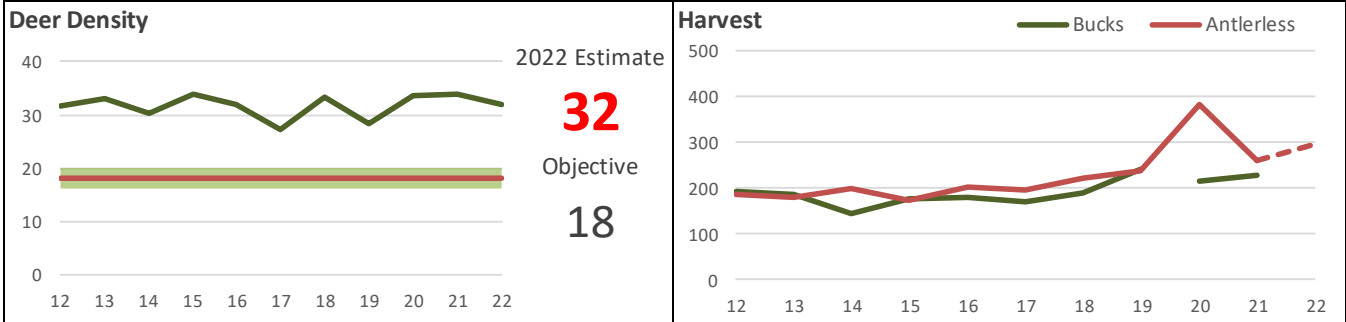
Management Objective

Decrease

Recommended Antlerless Harvest

294 246 Adult Does

23% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
17.2 (6)	123.0 (7)	61.0 (3)	2.00 (3)	20
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
17	118	60	1.60	9%



Wildlife Management Unit A encompasses the Champlain Islands (Grand Isle County). Winters here are among the least severe anywhere in Vermont and the habitat is relatively productive due to an abundance of agriculture. Despite high population density, physical condition of deer in this region remains good, presumably due to the abundance of agricultural habitat.

The abundant agriculture and other open land results in only 46% of the habitat being forested. This means the estimated density of 32 deer per square mile of habitat equates to 70 deer per square mile of forest. This density of deer is having significant impacts on forest ecosystems. The health of these ecosystems is the primary management concern in this region.

The archery antlerless harvest has increased in this WMU under the new regulations. The 2022 antlerless harvest recommendation is a bit higher than the 2021 harvest and should be sufficient to reduce deer numbers over time.

Limited hunter access to private land is a significant management challenge in this WMU.

B

616

mi² deer habitat



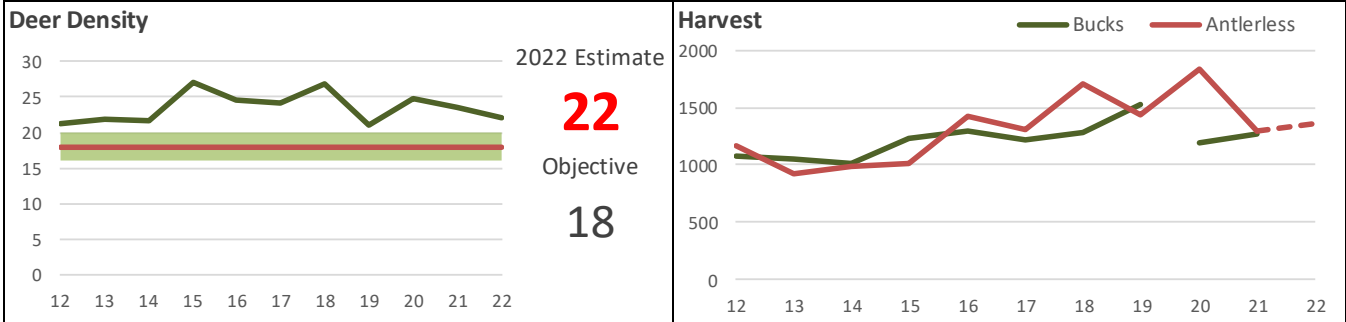
Management Objective

Decrease

Recommended Antlerless Harvest

1360 1137 Adult Does

17% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
16.1 (84)	119.2 (87)	59.4 (34)	1.80 (31)	32
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
17	118	60	1.60	11%



Wildlife Management Unit B encompasses the Champlain Valley north of the Winooski River. Severe winters are rare in this region and the habitat is relatively productive, with an ideal mix of forest and fields.

Physical condition of deer in this region is mediocre considering the quality of the habitat, indicating that deer densities have exceeded the level that the habitat can support long-term. This is further supported by widespread and often substantial evidence of deer impacts to forest ecosystems. It appears that recent increases in antlerless harvest may have stopped physical condition from declining, but have been insufficient to allow for improvement.

Deer density in this WMU has been above management objective for many years, but antlerless harvests achieved in 2018 and 2020 appear to have begun reducing the population. The recommended antlerless harvest in 2022 is similar to the 2021 harvest. Although still intended to reduce the population, it is reflective of a lower population estimate and potentially declining population trend.

Limited hunter access to private land is a significant management challenge in this WMU.

C

386

mi² deer habitat



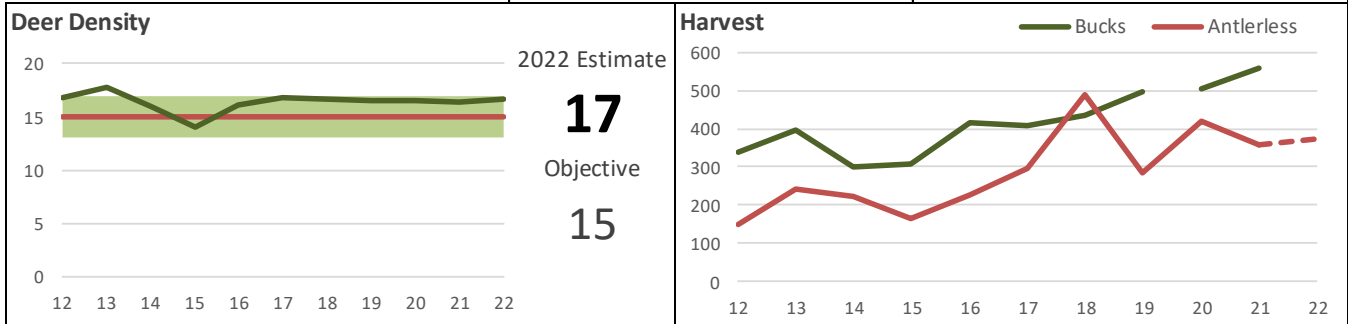
Management Objective

Stabilize

Recommended Antlerless Harvest

372 309 Adult Does

10% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
17.0 (20)	117.9 (20)	59.2 (28)	1.64 (11)	39
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
17	118	60	1.60	12%



Wildlife Management Unit C encompasses the northernmost portion of the Green Mountains, from Johnson to the Canadian border. The westernmost portion of the WMU consists of lower elevation farmland similar to WMU B and has notably higher deer densities than higher elevation portions of the WMU.

Physical condition of deer in this WMU is mediocre and suggests that density has been near or slightly above the level the habitat can support for many years. This is presumably driven primarily by higher density in the western portion of the WMU and/or declining habitat quality in the more heavily forested areas.

Deer density has remained relatively stable in this WMU over the past 10 years, and importantly has been above the current objective of 15 deer/mi² (albeit only slightly) since 2016. The higher antlerless harvests achieved in 2018 and 2020 should help to reduce the deer population slightly and maintain it near the objective. The 2022 recommended antlerless harvest is similar to the harvest achieved in 2021 and should help nudge the population closer to the objective.

D1

570

mi² deer habitat



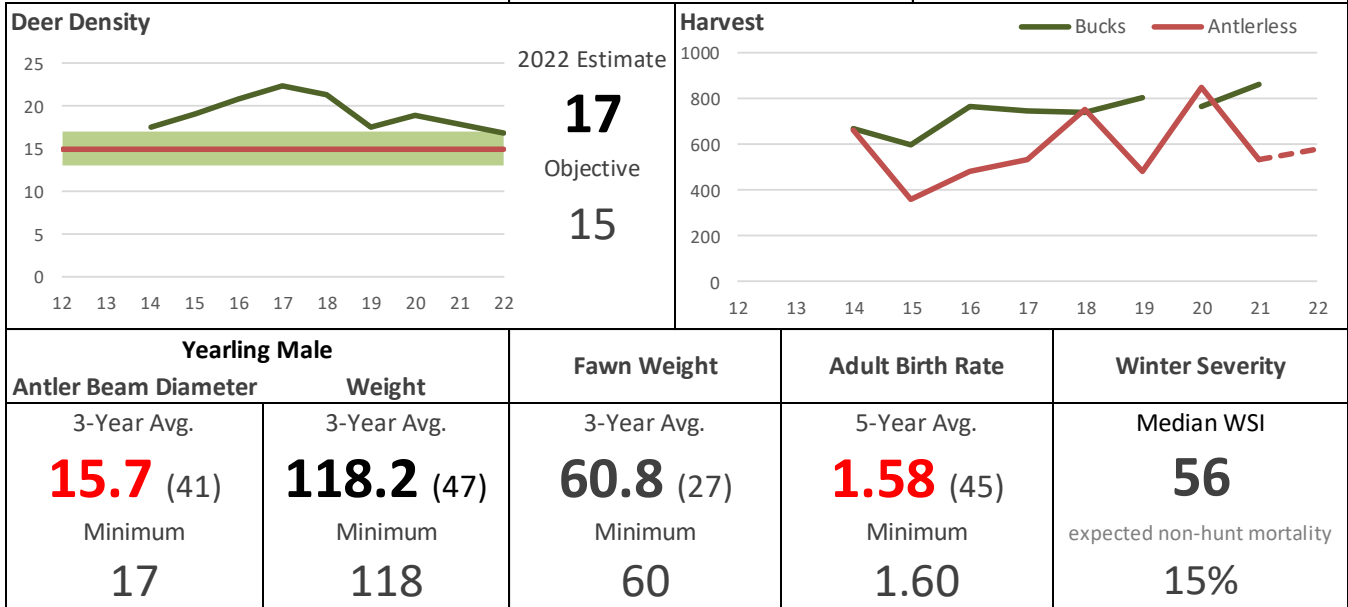
Management Objective

Stabilize

Recommended Antlerless Harvest

577 476 Adult Does

10% of doe population



Wildlife Management Unit D1 is in the northern Vermont piedmont biophysical region. Deer habitat in this WMU is fairly productive, with a mix of forest and fields. Winters in this region tend to be more severe than much of the rest of the state, which limits the density of deer that can be supported long term.

Physical condition of deer in this WMU has been stable near the minimum acceptable levels. This is concerning, particularly given the amount of agriculture and general quality of habitat and suggests the population has been overabundant for many years.

Recent higher antlerless harvests should help reduce deer density in this WMU, and a similar harvest is recommended in 2022. Antlerless harvests will need to continue at this level, if not higher, regardless of winter severity, until deer density reaches the objective and physical condition improves.

D2

387

mi² deer habitat



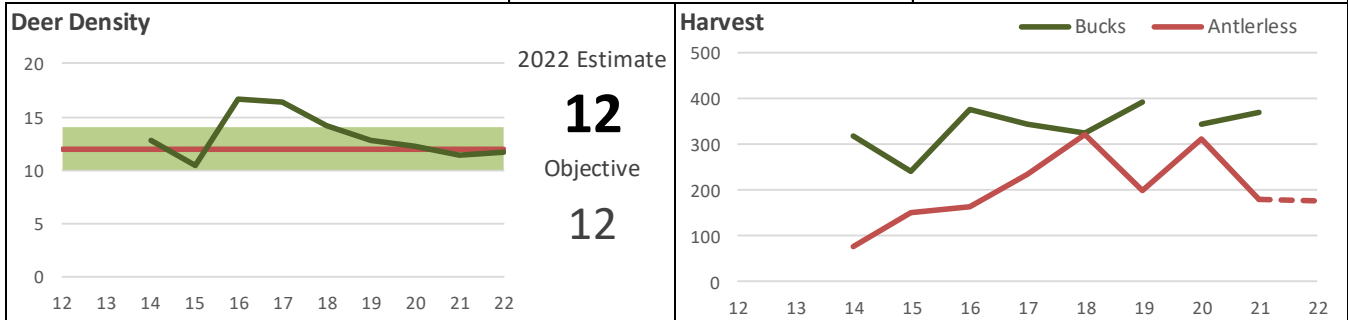
Management Objective

Stabilize

Recommended Antlerless Harvest

175 145 Adult Does

7% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
17.7 (11)	126.9 (12)	59.8 (12)	1.71 (21)	63
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
17	118	60	1.60	16%



Wildlife Management Unit D2 is located in the Northeast Kingdom. Higher elevation portions of the unit are heavily forested while lower elevations, particularly along the Passumpsic river valley, include more open land and agriculture. As a result, deer density is higher in lower elevation areas in the southeastern part of the unit.

Winters in this WMU are often severe, which limits deer density, particularly in the higher elevation areas, and helps keep deer in good physical condition. However, several of the lower elevation towns (e.g., Burke, Lyndon, St. Johnsbury) have seen record or near-record harvests in recent years, suggesting the deer population in this part of the WMU is growing.

The antlerless harvest recommendation is intended to maintain the population at 12 deer/mi². Most antlerless harvest, particularly during the archery season, tends to be concentrated in the lower elevation, higher density parts of the WMU. The Department will also be considering an expanded archery zone around St. Johnsbury to further increase antlerless harvests in this area where complaints about deer damage to gardens and landscaping are common.

E

648

mi² deer habitat



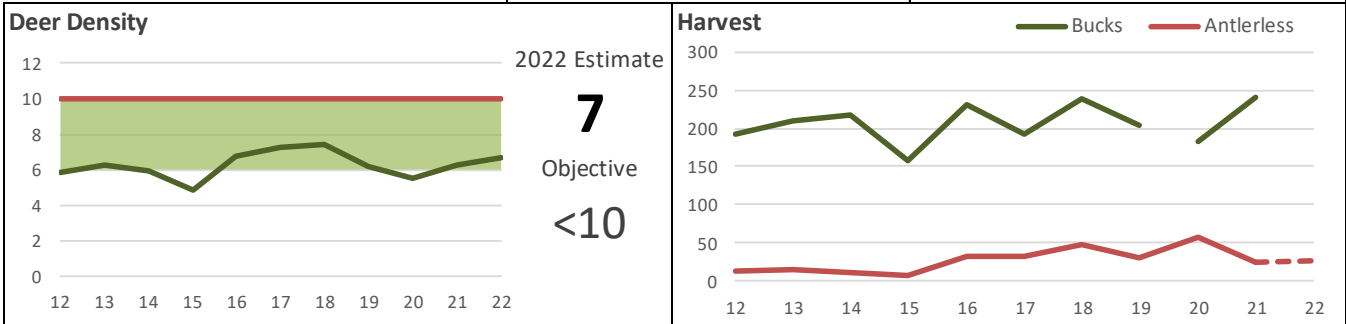
Management Objective

Stabilize

Recommended Antlerless Harvest

26 21 Adult Does

1% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
19.3 (4)	123.3 (4)	66.3 (3)	1.80 (10)	70
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
17	118	60	1.60	17%



Wildlife Management Units E1 and E2 are located in the northeast corner of Vermont in the northeast highlands biophysical region. This region regularly experiences severe winters which limit deer density.

These WMUs are heavily forested, but young forest is abundant due to widespread commercial timber harvesting. As a result, summer deer habitat is relatively high quality. It is the quantity and quality of winter habitat, specifically mature softwood cover, that limits deer abundance in this region.

Additionally, deer in this region must coexist with a relatively abundant moose population. Because they largely compete for the same resources at certain times of year, the densities of both species must be considered in management decisions. The current density objective in these WMUs considers both the relationship between deer and moose and the limited quantity and quality of current deer winter habitat. Maintaining deer density below 10/mi² helps minimize the risk of brainworm infection in moose and allows deer winter habitats to improve.

Deer density remains well below the 10/mi² threshold and has been relatively stable over the past 10 years. The current antlerless recommendation provides additional harvest opportunity to archery and youth/novice hunters and will have no effect on the population.

F1

316

mi² deer habitat



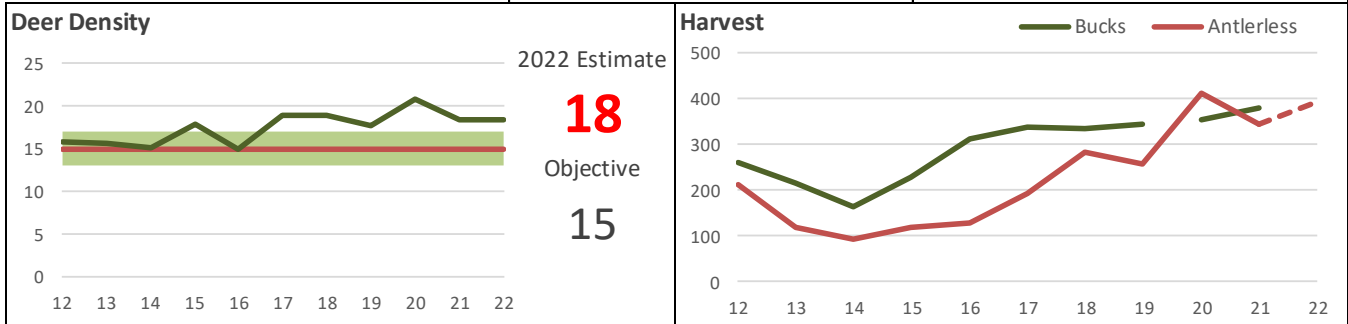
Management Objective

Decrease

Recommended Antlerless Harvest

392 329 Adult Does

11% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
17.8 (20)	121.4 (20)	63.7 (12)	1.78 (18)	20
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
17	118	60	1.60	9%



Wildlife Management Unit F1 is in the southern Champlain Valley, from Burlington south through the heavily agricultural regions of Addison County. Winters are relatively easy for deer in this part of Vermont and the abundance of agriculture results in excellent deer habitat. This is reflected in the physical condition of the deer, which is consistently among the best in the state.

The abundance of agriculture and otherwise open land results in only 33% of this WMU being forested. The current density of 18 deer/mi² of habitat therefore equates to 54 deer/mi² of forest. These high densities have caused widespread and significant impacts to forest ecosystems, including many of the uncommon natural communities that are found in this region.

Deer density has increased steadily over the past 7 years, with many towns having record or near-record harvests each year. The recent increases in antlerless harvest may have helped to slow this increase, and possibly stabilize the population, but harvests have been insufficient to reduce deer density toward the objective. The recommended antlerless harvest represents an increase over the harvest achieved in 2021. Consistently higher antlerless harvests will be necessary to reduce the population and maintain it at the objective level.

Limited hunter access to private land is a significant management challenge in this WMU.

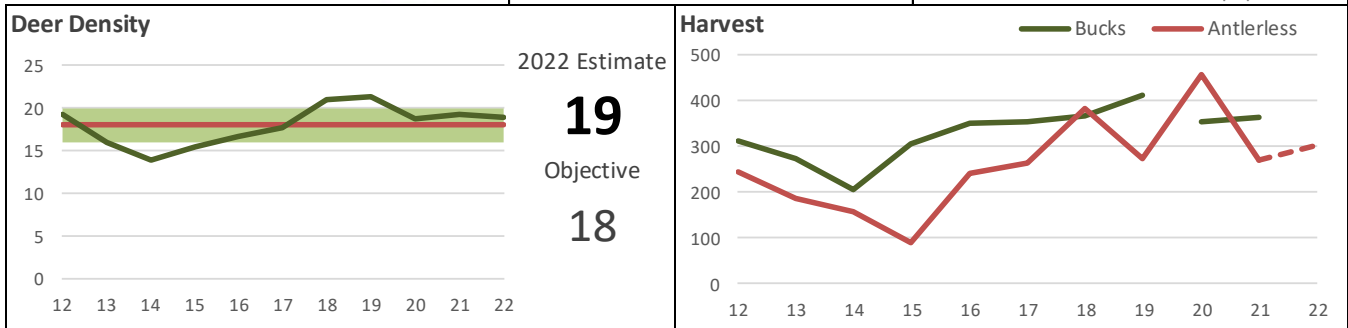
F2

268

mi² deer habitat



Management Objective Stabilize	Recommended Antlerless Harvest 301 251 Adult Does <small>10% of doe population</small>
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Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
15.5 (25)	117.9 (26)	60.8 (9)	1.85 (13)	21
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
17	118	60	1.60	10%



Wildlife Management Unit F2 is located in the southern Champlain Valley in the foothills of the Green Mountains. Winters here are relatively easy for deer and the habitat is generally good with a mix of forest and field.

Considering the prevalence of agriculture and mild winters, the poor condition of yearling bucks is particularly concerning. This suggests that deer density has exceeded the level the habitat can support. Indeed, deer impacts to forest ecosystems are common in this WMU.

Many towns in this WMU have experienced record or near record harvests in the past few years. However, recent increases in the antlerless harvest appear to have stabilized the population near the objective.

The current antlerless harvest recommendation is similar to the harvest achieved in 2021, and will be necessary to maintain the population near the objective level.

Limited hunter access to private land is a significant management challenge in this WMU.

G

388

mi² deer habitat



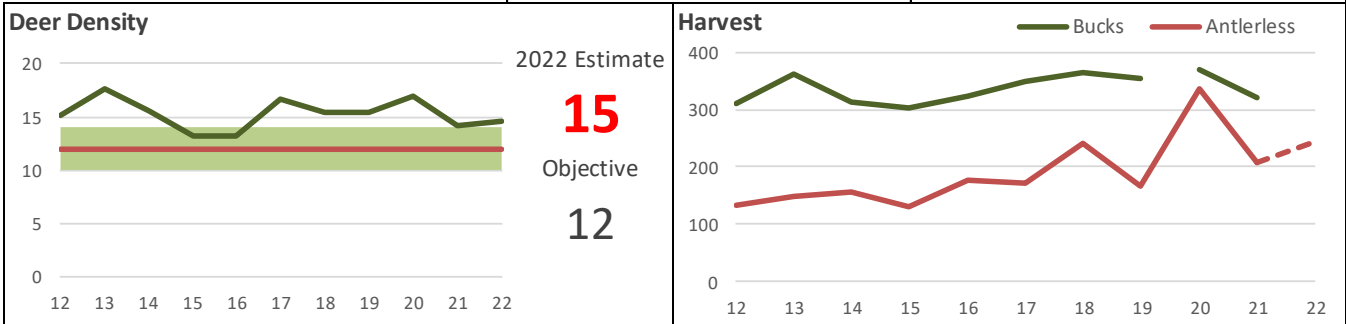
Management Objective

Decrease

Recommended Antlerless Harvest

244 206 Adult Does

7% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
17.0 (10)	115.3 (11)	65.0 (3)	1.44 (18)	27
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
16.5	115	60	1.60	10%



Wildlife Management Unit G is in the northern Green Mountains from the Appalachian Gap (Rte 17) north to Johnson. This area is heavily forested and mountainous, and includes both Camel’s Hump and Mount Mansfield. Deer habitat is very poor due to the unproductive mountain terrain and very limited young forest habitat. Winters here can occasionally be severe, but are often more moderate at lower elevations where deer typically spend the winter.

Deer density in this unit is low at higher elevations, but moderate to high at lower elevations, particularly on the western edge of the unit. Physical condition of deer has been below optimal levels for many years, although it is slightly above minimum thresholds currently. This indicates that density has exceeded what the habitat can support, likely for many years, and was the primary basis for setting the current population objective in this unit at 12 deer/mi².

Past antlerless harvests have had no apparent effect on the deer population in this WMU. The recommended antlerless harvest in 2022 is slightly higher than the harvest achieved in 2021. Higher antlerless harvests will be necessary until the population is reduced to the objective and physical condition is consistently improved.

H

518

mi² deer habitat



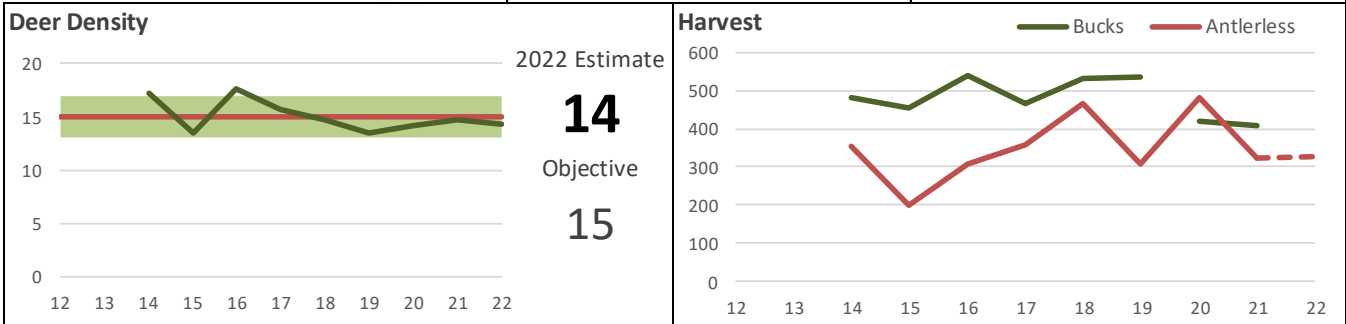
Management Objective

Stabilize

Recommended Antlerless Harvest

328 272 Adult Does

7% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
15.7 (17)	115.8 (17)	57.9 (21)	1.50 (28)	49
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
16	115	60	1.60	14%



Wildlife Management Unit H is located in north-central Vermont, from Stowe east to Groton and Barre-Montpelier north to Hardwick. Habitat quality for deer varies considerably in this unit, and that is reflected in local deer densities. Lower elevation areas closer to Montpelier and Barre have more agriculture and open land and easier winters, resulting in relatively high deer density. The remainder of the WMU is higher elevation (including the Worcester and Groton ranges) and heavily forested. Winters are more severe in these areas and habitat quality is generally poor. As a result, deer density is lower.

Physical condition of deer in this WMU is generally mediocre, although trends in yearling antler beam diameter and weight are encouraging. The current overall density of deer in this WMU should be sustainable;

however, it will be important to achieve and maintain higher antlerless harvests in the Barre-Montpelier area where deer are overabundant. The Department will be considering an expanded archery zone to address this concern.

Most of the antlerless harvest in this WMU occurs during archery season and is heavily concentrated closer to Barre and Montpelier. This is a highly desirable harvest distribution, and the recommendation for 2022 is to maintain the same harvest level achieved in 2021.



424

mi² deer habitat



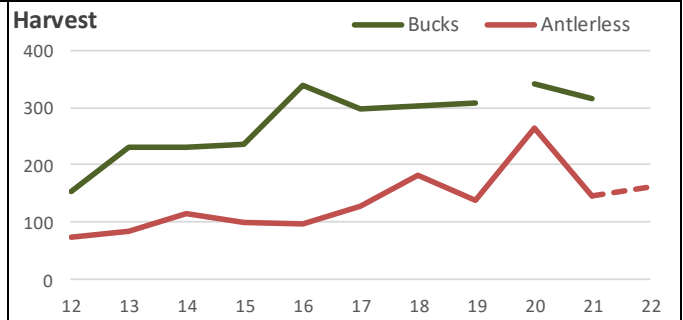
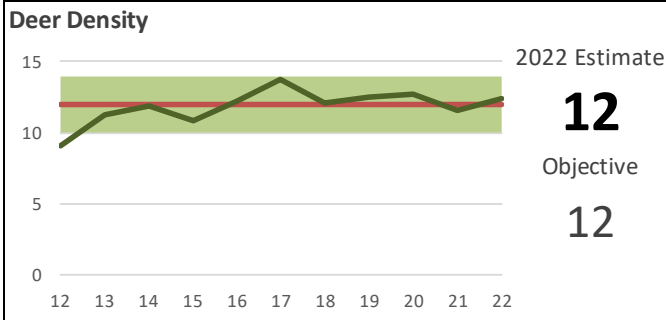
Management Objective

Stabilize

Recommended Antlerless Harvest

162 136 Adult Does

5% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
16.8 (3)	120.3 (3)	53.0 (2)	1.40 (11)	24
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
16.5	115	60	1.60	10%



Wildlife Management Unit I is located in the central Green Mountains, from Route 4 in Killington north to the Appalachian Gap (Rte. 17). Deer habitat is generally poor due to the unproductive mountain terrain and very limited young forest habitat. Winters here can occasionally be severe but are often more moderate at lower elevations where deer typically spend the winter.

Deer density in this unit is low at higher elevations, but can be moderate to high at lower elevations, particularly on the western edge of the unit. The birth rate and fawn weights are concerning, but sample sizes are limited. It appears that higher antlerless harvests since 2017 have helped to stabilize the population at the objective of 12 deer/mi².

The recommendation for 2022 is to continue with that harvest level to maintain current deer numbers and provide additional harvest opportunity.

J1

528

mi² deer habitat



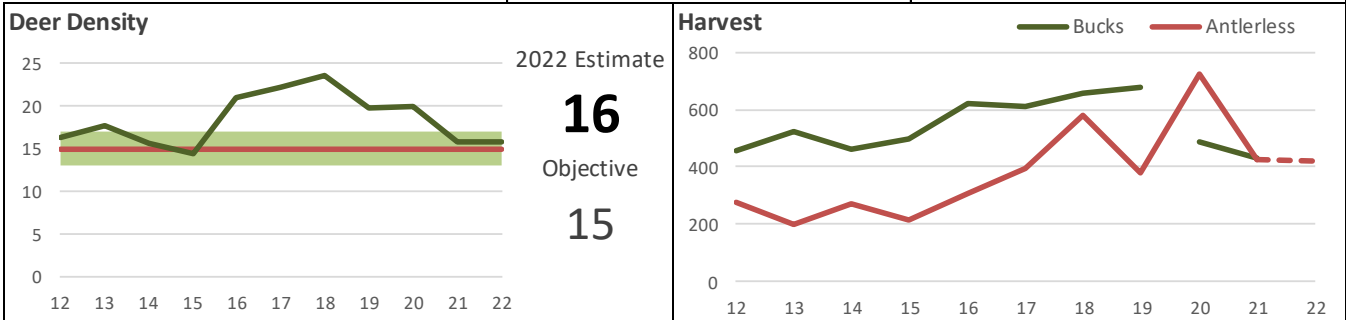
Management Objective

Stabilize

Recommended Antlerless Harvest

425 355 Adult Does

8% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
14.0 (7)	110.7 (9)	58.1 (11)	1.59 (32)	33
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
16	115	60	1.60	11%



Wildlife Management Unit J1 is located in central Vermont. It encompasses the area from route 100 east to route 110 in Tunbridge and Chelsea, and from route 2 south to Bethel. Habitat quality for deer varies considerably in this unit, and that is reflected in local deer densities. Eastern parts of the WMU are hilly with an almost ideal mix of forest and field resulting in relatively high deer density. Conversely, the western half of the WMU is more mountainous and heavily forested. Habitat quality is poorer and, as a result, deer density is lower.

Physical condition of deer in this WMU is poor. This is presumably related to declining habitat quality and historical overabundance of deer, as these metrics have been low for many years. Clearly, deer density in this unit has exceeded the level the habitat can support long-term. To improve the health of deer in this WMU, deer density must be reduced and maintained at the objective level.

Recent higher antlerless harvests and the moderately severe winter of 2019 have reduced the population in recent years. The recommended antlerless harvest in 2022 is the same as the harvest achieved in 2021. This level of harvest will be necessary to maintain the population near the objective level, particularly when winters are mild.

It will also be important to increase antlerless harvest in the Barre-Montpelier area where deer are overabundant and conflicts are more likely. The Department will be considering an expanded archery zone to address this concern.

J2

705

mi² deer habitat



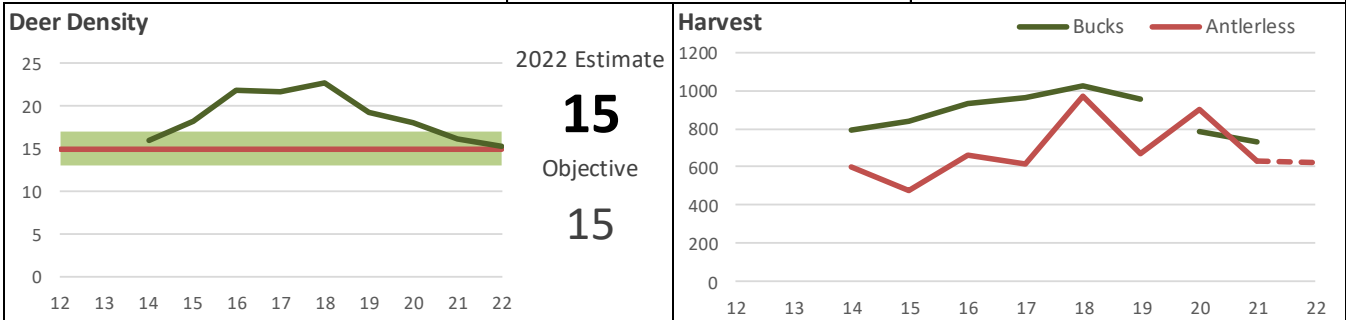
Management Objective

Stabilize

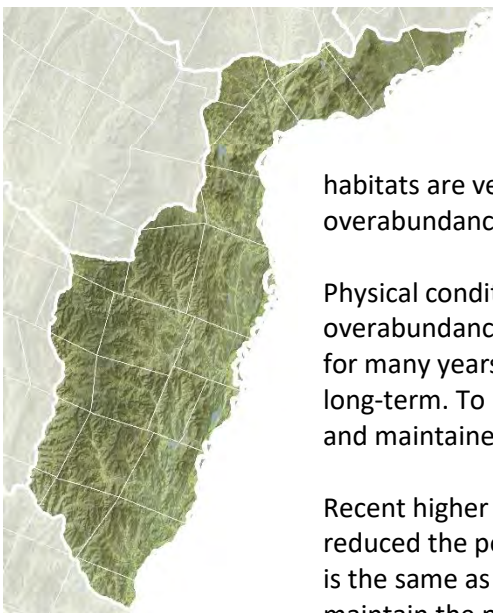
Recommended Antlerless Harvest

624 520 Adult Does

9% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
14.7 (21)	108.6 (22)	57.4 (23)	1.51 (39)	42
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
16	115	60	1.60	13%



Wildlife Management Unit J2 encompasses the Connecticut River Valley from Lunenburg to White River Junction. Winters can occasionally be severe but are typically moderate to easy. The habitat contains a desirable mix of forest and field but forest habitats are very poor quality due to a lack of young forest and historical overabundance of deer and resultant chronic overbrowsing.

Physical condition of deer in this WMU is poor. This is presumably related to historical overabundance of deer and declining habitat quality, as these metrics have been low for many years. Clearly, deer density has exceeded the level the habitat can support long-term. To improve the health of deer in this WMU, deer density must be reduced and maintained at the objective level.

Recent higher antlerless harvests and the moderately severe winter of 2019 have reduced the population in recent years. The recommended antlerless harvest in 2022 is the same as the harvest achieved in 2021. This level of harvest will be necessary to maintain the population near the objective level, particularly when winters are mild.

K

438

mi² deer habitat



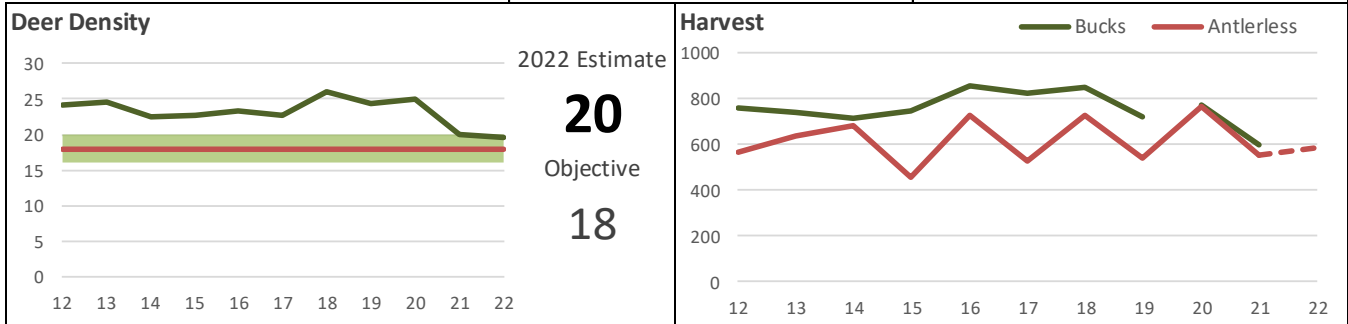
Management Objective

Stabilize

Recommended Antlerless Harvest

584 488 Adult Does

11% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
16.4 (25)	114.1 (32)	63.3 (9)	1.62 (29)	17
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
16.5	115	60	1.60	9%



Wildlife Management Unit K is located in the Western Foothills biophysical region, encompassing areas west of US Route 7 from Brandon south through Rutland to Danby. This region has relatively easy winters and habitat with a good mix of forest and field. Importantly, oak is abundant and widespread and is an important factor in maintaining mediocre physical condition of deer despite chronic overabundance.

Deer browse damage to forest regeneration is ubiquitous throughout the WMU and has been occurring for decades in many areas. Chronic overabundance of deer has significantly impacted forest ecosystems and contributed to the proliferation of invasive species.

Epizootic Hemorrhagic Disease outbreaks in Castleton and West Haven had notable impacts on local deer populations in 2021, and may have contributed to the apparent decline in the WMU's population. However, those towns represent only 14% of the WMU, so EHD-related impacts would likely reduce the overall WMU population by less than 5%.

Antlerless harvests have been generally consistent over the past 10 years (despite Department efforts to increase harvest), and it is not clear why the population appeared to decline in 2021. Regardless, the 2022 density estimate is closer to the objective of 18 deer/mi², and so the recommended antlerless harvest is considerably lower than recent recommended harvests (which were more than 900 antlerless deer), and near the lower end of recent achieved harvest levels. This level of harvest will continue to be necessary to maintain deer numbers near the objective level.

Limited hunter access to private land is a significant management challenge in this WMU.

L**365**mi² deer habitat

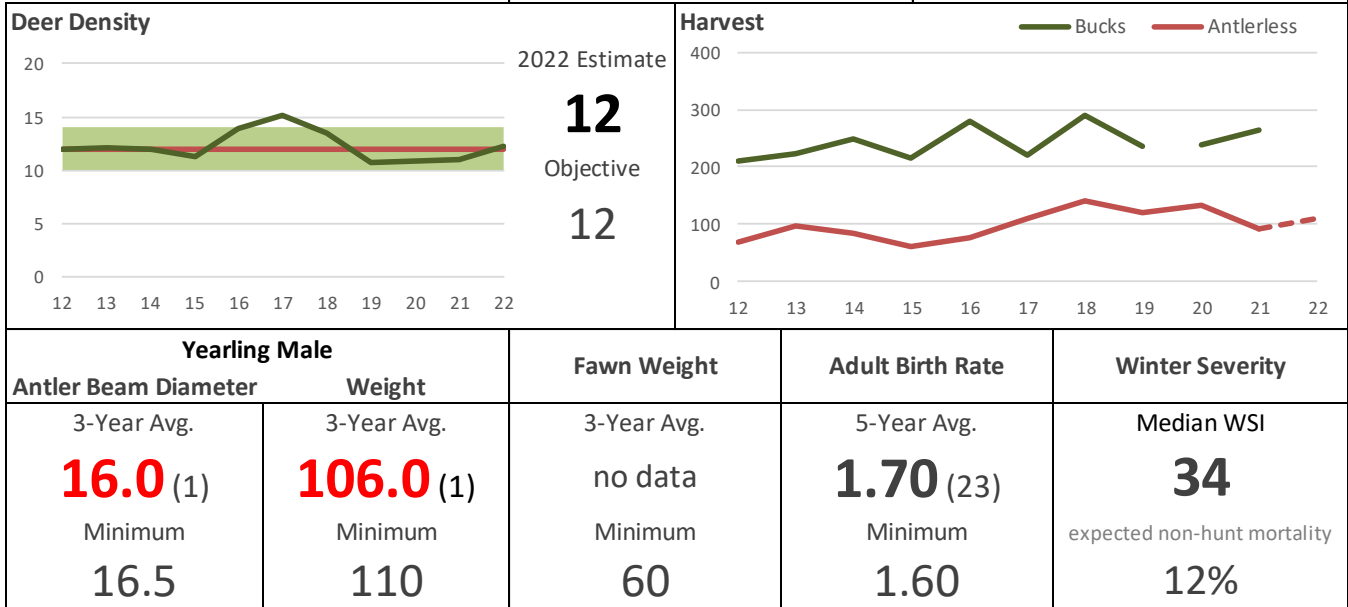
Management Objective

Stabilize

Recommended Antlerless Harvest

110 92 Adult Does

4% of doe population



Wildlife Management Unit L is located in the southern Green Mountains, from US Route 4 in Killington south to route 30 in Winhall. Deer habitat is generally poor due to the unproductive mountain terrain and very limited young forest habitat. Winters here can occasionally be severe but are often more moderate at lower elevations where deer typically spend the winter.

Deer density in this unit is low at higher elevations, but can be moderate to high at lower elevations on the western edge of the unit, particularly closer to Rutland.

Yearling antler beam diameter and weight are both below desired levels, but sample sizes have been limited. Importantly, the population has not grown over the past 10 years despite very limited antlerless harvests. This suggests that habitat quality is the primary factor limiting deer density in this WMU.

The recommended antlerless harvest is intended to maintain the population at its current level. It is similar to recent antlerless harvests and will provide reasonable antlerless harvest opportunities and help address higher deer densities along the western edge of the unit without impacting overall deer numbers.

M

451

mi² deer habitat



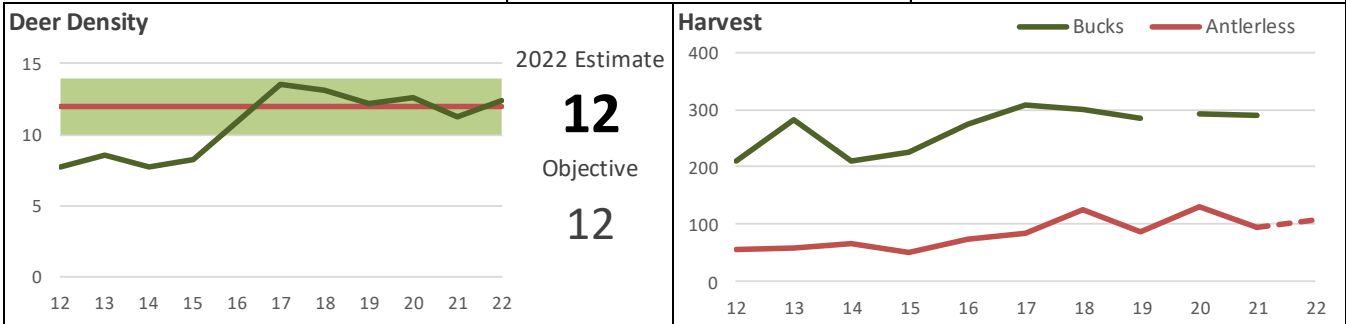
Management Objective

Stabilize

Recommended Antlerless Harvest

108 90 Adult Does

3% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
16.9 (4)	112.8 (4)	62.0 (1)	1.58 (26)	48
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
16.5	110	60	1.60	14%



Wildlife Management Unit M is located in the eastern foothills biophysical region from Stockbridge south to Townshend. Deer habitat is generally poor due to the heavily forested, unproductive mountain terrain and limited young forest. Winters here can occasionally be severe but are often more moderate at lower elevations where deer typically spend the winter.

Deer density in this unit is variable, but generally low.

Physical condition metrics are near minimum levels, but sample sizes have been very low. Physical condition of deer is not currently concerning, and the current density of deer should be sustainable. The population increased in 2016 and 2017 following exceptionally easy winters but has otherwise been stable for many years despite very minimal antlerless harvests. This, and the current physical condition of the deer, suggests that habitat is the primary factor limiting deer density.

The recommended antlerless harvest is intended to maintain the population at its current level. It is similar to recent antlerless harvests and will provide additional antlerless harvest opportunities with little or no effect on the population.

N

323

mi² deer habitat



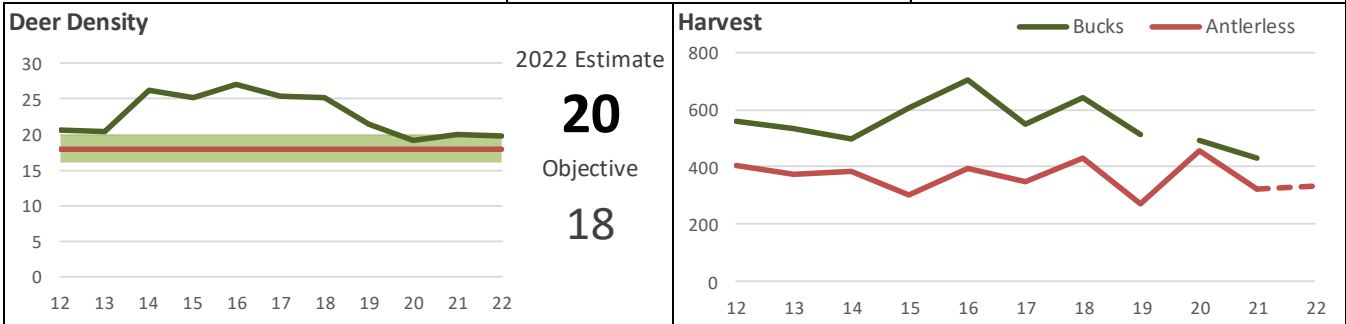
Management Objective

Stabilize

Recommended Antlerless Harvest

335 281 Adult Does

9% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
16.4 (32)	111 (33)	61.7 (15)	1.60 (48)	16
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
16.5	110	60	1.60	9%



Wildlife Management Unit N is in the southwest corner of Vermont, including parts of the Taconic Mountains and Vermont Valley biophysical regions. This region has easy winters, productive soils, and habitat with a good mix of forest and field.

Deer browse damage to forest regeneration is ubiquitous and has been occurring for decades in most areas. Chronic overabundance of deer has significantly impacted forest ecosystems and contributed to the proliferation of invasive species. Importantly, oak is abundant and widespread and is likely an important factor in maintaining physical condition at mediocre levels.

Physical condition of deer is concerning, particularly given the productivity of the soils and abundance of oak. Presumably, this is related to chronic overabundance and declining amounts of young forest. Deer densities must be reduced in this region to improve the health of the deer and the forest ecosystems.

The deer population in this region appears to have declined in recent years. It is unlikely that this is due to recent antlerless harvests, as harvest levels have been consistent for many years (despite Department efforts to increase them). The recommended harvest is similar to that achieved in recent years and will be necessary to maintain the population close to the objective.

Limited hunter access to private land is a significant management challenge in this WMU.

O

548

mi² deer habitat



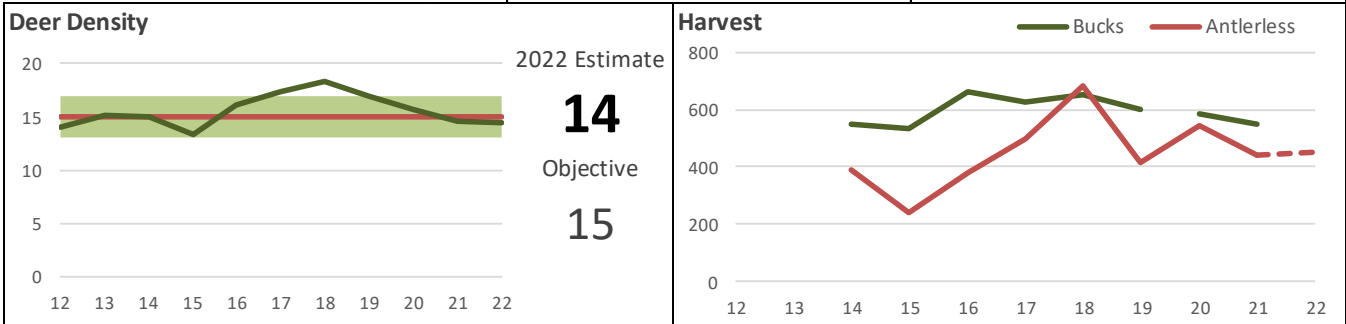
Management Objective

Stabilize

Recommended Antlerless Harvest

453 382 Adult Does

10% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
15.6 (16)	109.1 (18)	52.0 (5)	1.72 (29)	26
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
16	110	60	1.60	10%



Wildlife Management Unit O encompasses the Connecticut River Valley from White River Junction south to Massachusetts. Winters here are relatively easy for deer and the habitat contains a good mix of forest and field.

Deer browse damage to forest regeneration is common throughout the WMU and has been occurring for decades in many areas. Chronic overabundance of deer has significantly impacted forest ecosystems and contributed to the proliferation of invasive species. This, combined with declining amounts of young forest, has contributed to the generally poor quality of forest habitats. Physical condition of deer is mediocre, hovering near minimum acceptable levels. This provides additional evidence that deer densities have been at or above the level the habitat can support for many years.

Recent antlerless harvests have helped stabilize deer density and will need to continue until physical condition of deer improves. The recommended antlerless harvest is similar to that achieved in 2021.

Deer density does vary within this unit due to both habitat quality and hunter access to private land. Limited hunter access to private land is a substantial management challenge.

P

455

mi² deer habitat



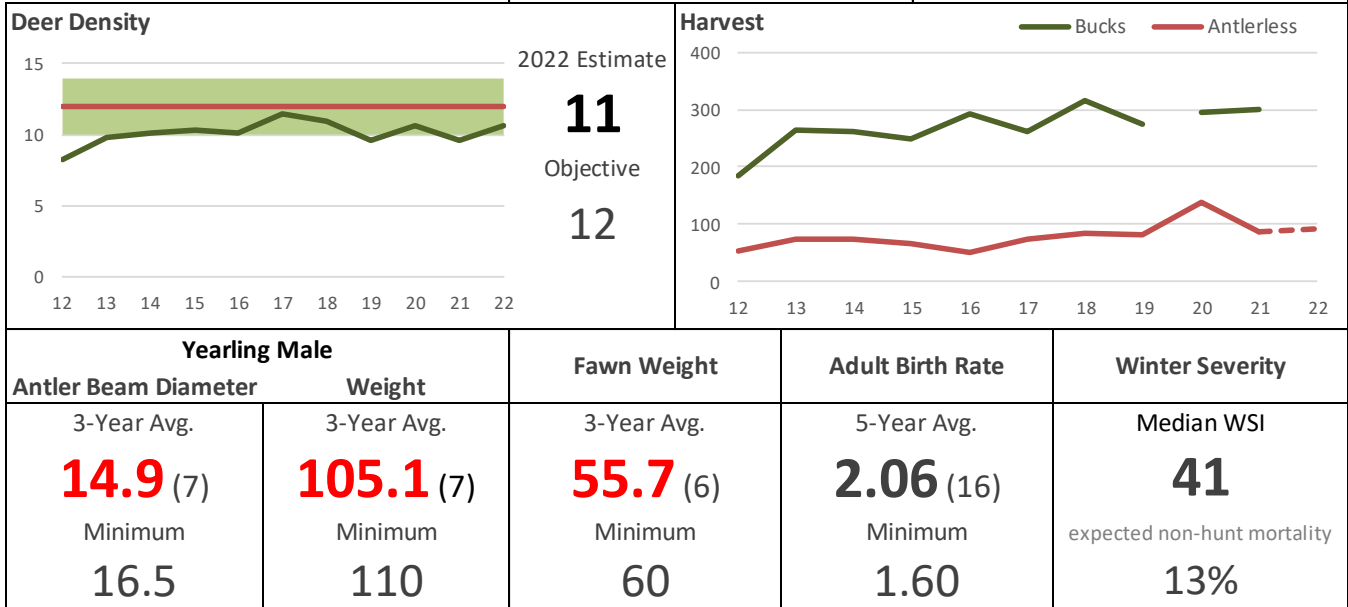
Management Objective

Stabilize

Recommended Antlerless Harvest

92 77 Adult Does

3% of doe population



Wildlife Management Unit P is in the southern Green Mountains, from the Massachusetts border north to Winhall. This high elevation, mountainous, heavily forested unit contains some of the poorest quality deer habitat in the state. Winters are often severe, particularly at higher elevations. However, many deer can migrate to lower elevation areas along the southern and western edge of the unit where winters are much more moderate.

Physical condition of deer in this unit is moderately concerning, but small sample sizes limit inference from these data. However, deer density has remained around 10 deer/mi² over the past 10 years despite very minimal antlerless harvest, suggesting that deer are limited by habitat quality.

A lower density objective may be appropriate in this WMU, but deer impacts to forest ecosystems are uncommon and the Department is hopeful that increased timber harvesting on National Forest lands will improve habitat quality and allow for some population growth.

Deer harvests have been steadily increasing near Bennington and in towns along the Massachusetts border. Some of these towns have had near-record harvests in recent years. Given this trend, the Department would like to continue issuing a small number of antlerless permits in this WMU. Most antlerless permits are likely to go to landowners, which will increase the likelihood that deer are harvested from areas of higher deer density.

Q

233

mi² deer habitat



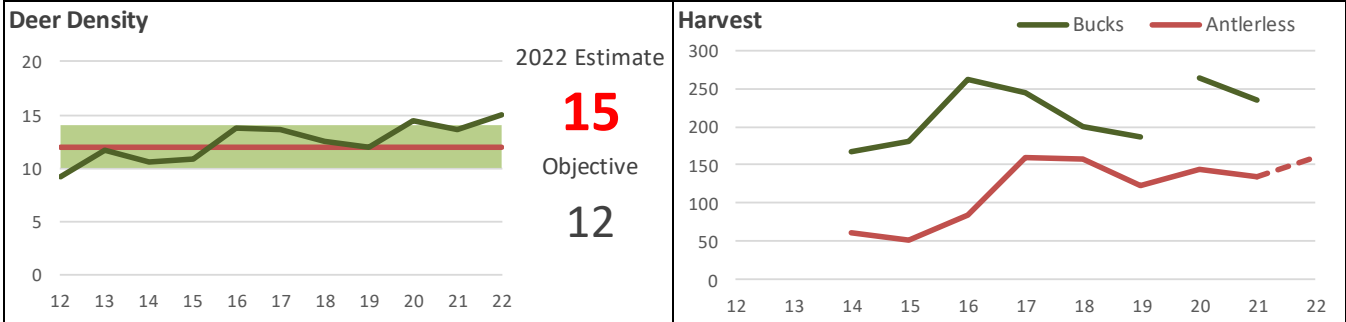
Management Objective

Decrease

Recommended Antlerless Harvest

159 135 Adult Does

8% of doe population



Yearling Male		Fawn Weight	Adult Birth Rate	Winter Severity
Antler Beam Diameter	Weight			
3-Year Avg.	3-Year Avg.	3-Year Avg.	5-Year Avg.	Median WSI
16.0 (2)	97.0 (2)	<i>no data</i>	1.40 (16)	23
Minimum	Minimum	Minimum	Minimum	expected non-hunt mortality
16.5	110	60	1.60	10%



Wildlife Management Unit Q is located in the eastern foothills biophysical region from Massachusetts north to Townshend. Habitat quality is relatively poor in this small, heavily forested WMU, primarily due to a lack of young forest habitat. Winters here are relatively easy for deer. Generally, deer density is highest near Brattleboro and lower to the north and west as elevation increases.

Physical condition metrics are currently below minimum acceptable levels, but samples sizes have been very low which limits inference from these data.

The deer population appears to be slowly increasing. The recommended antlerless harvest maintains the higher harvest levels achieved in recent years and is intended to reduce, or at least stabilize, the deer population.

Evidence of deer damage to forest ecosystems is common near Brattleboro. Unfortunately, deer harvest is limited by the town’s firearm discharge ordinance. As a result, the Department will be considering an expanded archery zone to reduce deer impacts in this area.