

## **Fish and Wildlife Board Draft Meeting Minutes**

**Wednesday, May 19, 2021**

The Vermont Fish and Wildlife Board held a meeting beginning at 5:00 p.m. on Wednesday, May 19<sup>th</sup>, 2021 via video conference. The Zoom Meeting ID was: 873 3326 2623.

**Board Members Present:** Tim Biebel (Chair); Brian Bailey; Michael Bancroft; Brad Ferland; David Fielding; Michael Kolsun; Bryan McCarthy; David Robillard; Jay Sweeny; and Marty Van Buren.

**Department of Fish and Wildlife Staff Present:** Louis Porter, Commissioner; Mark Scott, Wildlife Division Director; Eric Palmer, Fish Division Director; Catherine Gjessing, General Counsel; Col. Jason Batchelder, Law Enforcement Director; Bernie Pientka, Fisheries Biologist; Chris Bernier, Turkey Project Leader; Nick Fortin, Deer and Moose Project Leader; Kim Royar, Furbearer Project Leader; John Hall, Information Specialist; and Katy Gieder, Research Coordinator and Biometrician.

**Members of the Public Present:** Paul Noel

### **Agenda:**

- 1) Approval of Previous Meeting Minutes.
  - April 28th, 2021
- 2) Public Comments (Limited to 2 minutes per speaker)
- 3) Fish Regulation Simplification Proposal – Third Board Vote
- 4) Wild Turkey Management Update
- 5) 2021 Antlerless Deer Permits and Youth Season - Final Vote
- 6) Commissioner's Update
- 7) Roundtable Discussion

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The meeting was called to order by the Chair at 5:00 pm

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### **Public Comments**

No members of the public attending the meeting offered comments.

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## **Approval of Previous Meeting Minutes (April 28<sup>th</sup>, 2021)**

Tim Biebel offered an amendment to the minutes to note that Nancy Mathews and Jay Sweeny joined the previous meeting after the approval of the previous meeting minutes. He requested that the minutes be amended to clarify that point.

**Motion:** David Robillard moved to approve the previous meeting minutes as amended by the Chair. Martin Van Buren Seconded the motion.

**Vote:** 10-0 roll call vote to approve the previous meeting minutes as amended.

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## **Fish Regulation Simplification Proposal (Third Vote)**

Fish Division Director Eric Palmer presented to the Board on the final version of the Fish Regulation Simplification Proposal. The Legislative Committee on Administrative Rules (LCAR) did not have any objections or edits to the rule proposal, but the Office of Legislative Council had a suggestion to remove a sentence they felt was redundant, and not necessary. Section 4.4 of the current regulations contains language related to foul hooking of fish, and there was a repeated section which they felt added some potential confusion. The Department is amenable to that change as it will not affect the intent of the rule proposal and fits the general intent of the regulation change, which is simplification. The final proposal as amended and approved is available on the Department website and is attached to these minutes.

**Motion:** David Robillard moved to approve the Fish Regulation Simplification Proposal as amended by the LCAR Legislative Council. Bryan McCarthy seconded the motion

**Vote:** 10-0 roll call vote to approve the proposal.

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## **Wild Turkey Management Update**

Department Biologist and Wild Turkey Project Leader Chris Bernier presented to the Board on the methods and history of wild turkey management in Vermont. The presentation covered topics including turkey habitat in Vermont, the history of hunting seasons statewide, turkey populations and abundance, data collection, and feedback received from the hunting public. The presentation slides are attached to these minutes.

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## **2021 Antlerless Deer, Youth, and Novice Season Proposal (Final Vote)**

Commissioner Porter, Director Scott and Deer Project Leader Nick Fortin recapped the public input process since the previous meeting when Department put forward the season proposal. Since the earlier proposal in April, the Department collected comments at 2 public hearings, as well as

comments received via email and voicemail. All comments from the five virtual deer hearings, those received via email and a phone line set up, we sent to the Board.

The proposal is unchanged from its initial presentation to the Board at the April 28<sup>th</sup> meeting, given no new or additional information was obtained during the public process. Board Members and Department staff discussed deer habitat and habitat management, the impacts of the new deer season regulations that went into effect in 2020, and trends in harvest and license sales. The proposal is available on the Department website and is attached to these minutes.

**Motion:** David Robillard moved to approve the 2021 Antlerless Deer, Youth, and Novice Season Proposal. Jay Sweeny seconded the motion.

**Vote:** 10-0 roll call vote to approve the 2021 Antlerless Deer, Youth, and Novice Season Proposal.

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### **Commissioner's Update**

- Antlerless permits for the 2021 deer season will be available online following the approval of the 2021 antlerless, youth, and novice seasons at tonight's meeting. The deadline to apply for muzzleloader permits will be August 4<sup>th</sup>, all applications will be online.
- The next Board meeting will be June 16<sup>th</sup>. The meeting will cover petitions received by the Board to date in 2021.
- The legislature will likely conclude its work within the next week. The Department had been working with the legislature on a wanton waste bill which is unlikely to advance before the end of the session. There was a draft version of the bill that the Department supported which would have required that animals that are hunted or trapped be retrieved and brought back to a hunter's residence, but ultimately the final draft of the legislation was something that the Department felt added uncertainty about what parts a successful hunter would be required to utilize. This legislation will likely be picked back up in January.

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The meeting was adjourned by the Chair at 6:25pm

# Attachment 1

## APPENDIX 122

TITLE 10 Conservation and Development APPENDIX  
CHAPTER 2. FISH  
Subchapter 2. Seasons, Waters, and Limits

§ 122. Fish Management Regulation.

### **1.0 Authority**

- (a) This rule is adopted pursuant to 10 V.S.A. §4081(b). In adopting this rule, the Fish and Wildlife Board is following the policy established by the General Assembly that the protection, propagation, control, management, and conservation of fish, wildlife and fur-bearing animals in this state is in the interest of the public welfare and that the safeguarding of this valuable resource for the people of the state requires a constant and continual vigilance.
- (b) In accordance with 10 V.S.A. §4082, this rule is designed to maintain the best health, population and utilization levels of Vermont's fisheries.
- (c) In accordance with 10 V.S.A. §4083, this rule establishes open seasons; establishes daily, season, possession limits and size limits; prescribes the manner and means of taking fish; and prescribes the manner of transportation and exportation of fish.

### **2.0 Purpose**

It is the policy of the state that the protection, propagation control, management and conservation of fish, wildlife, and fur-bearing animals in this state is in the interest of the public welfare, and that safeguarding of this valuable resource for the people of the state requires a constant and continual vigilance.

### **3.0 Open-Water Fishing, legal methods of taking fish**

#### **3.1 Definitions**

- (a) Department – Vermont Department of Fish and Wildlife.
- (b) Commissioner –Vermont Department of Fish and Wildlife Commissioner.
- (c) Open-water fishing –Fishing by means of hook and line in hand or attached to a rod or other device in open water. Fishing by casting or trolling baited hooks, artificial flies or lures is considered open-water fishing.
- (d) Baited Hook – A single shank hook with 1, 2 or 3 points which may be baited with natural or artificial bait or both.
- (e) Lure – A man-made device designed to catch only 1 fish at a time, to include a spoon, plug, spinner, bait harness, tandem hook streamer or lead head jig.

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- (f) Fly – A single pointed hook dressed with feathers, hair, thread, tinsel, or any similar material wound on or about the hook to which no hooks, spinners, spoons, or similar devices have been added.
  - (g) Handheld Spear – A manually powered spear used from above the water’s surface.
  - (h) Speargun – A pneumatic or rubber band powered device, with a line not to exceed 20 feet attached to a spear, used from below the water’s surface.
  - (i) Cull Fish – Carp, tench, rudd, shad (alewife and gizzard shad), and goldfish. Additional invasive/exotic fish species may be designated by the Commissioner as “cull fish.”
  - (j) Immediate Control – Such constant control as would enable the angler to respond forthwith to a fish taking their bait, lure or fly promptly and without any delay.
  - (k) Snagging – Snagging shall mean the intentional hooking of a fish in a place other than the inside of the fish's mouth. No person shall pull, jerk or otherwise purposefully and/or repeatedly manipulate a hook, or hooks and line to snag or hook a fish in any method other than to entice a fish into taking, by mouth, a hook, lure or fly. Repeated and/or exaggerated jerking or pulling of the fishing line and/or hooks in any attempt to snag fish, whether it results in physically snagging a fish or not, shall be prima facie evidence that snagging has taken place. This shall not apply to the use of a gaff to land a fish that has been legally hooked.
- 3.2 Whether still fishing, casting, or trolling in Vermont waters, a person may take fish only by using not more than two lines over which he or she has immediate control and to each of which lines is attached not more than two baited hooks, or more than three artificial flies, or more than two lures with or without bait.
- 3.3 A person shall not take any fish pursuant to subsection (3.2) unless it is hooked in the mouth. Any fish taken under subsection (3.2) that is not hooked in the mouth shall be immediately released pursuant to 10 V.S.A. § 4602. A fish hooked in any part of the body other than in the mouth shall be considered to be foul hooked, and shall be prima facie evidence of foul hooking.
- 3.4 Taking or attempting to take fish by snagging is prohibited in all Vermont Waters.
- 3.5 Catch and Release: For species with defined harvest seasons, targeted C&R angling with immediate release can occur outside of harvest season, using artificial lures and flies.

### **4.0 Ice Fishing**

- 4.1 Definitions - The definitions of section 3 are applicable to this section.
- (a) Ice Fishing – Ice fishing is defined as fishing by means of hook and line in hand or attached to a rod, tip-up, jack or bob, where the angler is

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fishing through a hole in the ice, from the ice or on an object supported by the ice. Fishing by casting or trolling baited hooks, artificial flies or lures shall not be considered ice fishing.

- 4.2 Fish may be taken through the ice with not more than eight lines, except on Lake Champlain where no more than fifteen lines may be operated. Each line shall not have more than two baited hooks, or more than three artificial flies, or more than two lures with or without bait.
- 4.3 A person ice fishing shall have at all times, immediate control over all lines they operate. A person ice fishing shall be able to visually observe lines they operate. Any line that indicates a fish shall be tended within 30 minutes.
- 4.4 A person shall not take any fish pursuant to subsection (4.2) unless it is hooked in the mouth. Any fish taken under subsection (4.2) that is not hooked in the mouth shall be immediately released pursuant to 10 V.S.A. § 4602. A fish hooked in any part of the body other than in the mouth shall be considered to be foul hooked, and shall be prima facie evidence of foul hooking.
- 4.5 Taking or attempting to take fish by snagging is prohibited in all Vermont Waters.
- 4.6 Catch and Release (C&R): For species with defined harvest seasons, targeted C&R angling with immediate release can occur outside of harvest season, using artificial lures and flies.

### **5.0 Lake Champlain Boundaries**

Lake Champlain proper shall be considered to include the setback at the same level and the major tributaries to the lake to the following boundaries:

Dead Creek to Panton Road bridge in Panton;  
East Creek to the falls in Orwell (downstream of Mount Independence Road);  
Lamoille River to the top of first dam (Peterson Dam) in Milton;  
LaPlatte River to the falls in Shelburne (under Falls Road bridge);  
Lewis Creek to falls in North Ferrisburgh (just upstream of Old Hollow Road);  
Little Otter Creek to falls in Ferrisburgh Center (downstream of Little Chicago Road);  
Malletts Creek to the first falls upstream of Roosevelt Highway (US 2 and US 7) in Colchester;  
Mill River in Georgia to the falls in Georgia (just upstream of Georgia Shore Road bridge);  
Missisquoi River to the top of Swanton Dam in the Village of Swanton;  
Mud Creek to the dam in Alburg (just upstream of Route 78 bridge);  
Otter Creek to the top of the dam in the city of Vergennes;  
Poultney River to Central Vermont Power Dam at Carver Falls in West Haven.

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Rock River to first Canadian border crossing;  
Winooski River to the Winooski One hydropower dam west of Main Street  
(US 7) in Winooski and Burlington;

### 6.0 Seasonally Closed Waters

- 6.1 Lakes and Ponds – The following lakes and ponds or portions thereof are hereby designated seasonally closed waters and shall be closed to all fishing except between Second Saturday in April through October 31

Bald Hill Pond, Westmore  
Beaver Pond, Holland  
Beck Pond, Newark  
Beebe Pond, Sunderland  
Big Mud Pond, Mt. Tabor  
Bourn Pond, Sunderland  
Branch Pond, Sunderland  
Cary Pond, Walden  
Cow Mountain Pond, Granby  
Duck Pond, Sutton  
Forest Lake, Averill  
Griffith Lake, Mt. Tabor  
Holland Pond, Holland  
Jobs Pond, Westmore  
Lake Pleiad, Hancock  
Levi Pond, Groton  
Lewis Pond, Lewis  
Little Rock Pond, Wallingford  
Long Pond, Westmore  
Marl Pond, Sutton  
Martins Pond, Peacham  
North Pond, Chittenden  
Notch Pond, Ferdinand  
Noyes (Seyon) Pond, Groton  
Perch Pond (Zack Woods Pond), Hyde Park  
Pigeon Pond, Groton  
Red Mill Pond, Woodford  
Silver Lake, Leicester  
South America Pond, Ferdinand  
South Pond, Marlboro  
Spring Lake, Shrewsbury  
Stannard Pond, Stannard  
Sterling Pond, Cambridge  
Stoughton Pond, Weathersfield  
Stratton Pond, Stratton  
Unknown Pond, Averys Gore

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Unknown Pond, Ferdinand  
Vail Pond, Sutton  
Vernon Hatchery Pond, Vernon  
West Mountain Pond, Maidstone  
Wheeler Pond, Barton and Sutton  
Zack Woods (Perch Pond), Hyde Park

- 6.2 Rivers and Streams - All rivers and streams are hereby designated seasonally closed waters except as listed in all the sections below. For species with defined harvest seasons, targeted C&R angling with immediate release can occur outside of harvest season, using artificial lures and flies.

### **7.0 Fish – Open Seasons, Size Restrictions and Daily Bag Limits.**

#### **7.1 Fish of the species named or described in the tables set forth below may be taken:**

- (a) In the waters specified in column 1, by the method specified in column 2, during the open season specified in column 3.
  - (b) Provided they meet any size restrictions specified in column 4., and only in numbers listed under daily bag limits specified in column 5., under no circumstances may a person take in one day, more than the daily bag or weight limit from a listed body of water. No person may take in aggregate more than the daily State-wide aggregate limit for any species listed.
  - (c) Businesses may buy lawfully taken fish, with the approval of Commissioner, pursuant to the Commercial angling rules set forth in 10 V.S.A. App 123.
- 7.2 Possession limits are equal to twice the daily bag limits. Fish species with limit restrictions may not be possessed in excess of the possession limits at any time.
- (a) No person shall have live fish in their possession that are transported in a manner which attempts to keep them alive when leaving waters of the state (10 V.S.A. §1251(13)), except as follows:
    - (1) a person may transport approved baitfish species pursuant to the baitfish rules set forth in 10 V.S.A App. §141,
    - (2) the person has been issued a scientific collection permit by the Commissioner which specifically approves of the activity,
    - (3) the person has been issued a fish transportation permit by the Commissioner which specifically approves of the activity,
    - (4) the person has been issued a fish breeders permit or fish importation permit by the Commissioner which specifically approves of the activity.



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- 7.3 The daily bag limit for a fish species on a water body with a closed season for that fish species is zero during the closed season.
- 7.4 “General waters” restrictions are the provisions applicable to all waters of the state, except the waters specifically named or described.
- 7.5 Unless otherwise specifically provided, fish not listed in this regulation may be taken at any time and without size or catch limit, in waters not listed as seasonally closed waters in Section 7 6 of these regulations.
- 7.6 Open Seasons, Size Restrictions and Daily Bag Limits Tables

(a) STATEWIDE AGGREGATE DAILY BAG LIMITS (*Maximum number of a fish species that may be taken in one day*)

<b>FISH SPECIES</b>	<b>DAILY AGGREGATE LIMITS</b>
Brook and Brown and Rainbow Trout - Streams/Rivers	Maximum Combination of <del>6</del> 8 fish
Brook and Brown and Rainbow Trout – lakes and ponds	Maximum Combination of 6 fish
Lake Trout	2 fish, (3 if taken from Lake Champlain)
Salmon	2 fish
Largemouth and Smallmouth Bass	Maximum combination of 5 fish
Northern Pike	5 fish
Chain Pickerel	10 fish
Muskellunge	0 fish
Walleye	3 fish
Black and White Crappie	25 fish
American Shad	0 fish
Yellow Perch	50 fish
Yellow Perch exception	Lake Champlain – no daily limit
Sauger	0 fish
Sturgeon	0 fish

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(b) BROOK, BROWN AND RAINBOW TROUT

<b>1.Waters</b>	<b>2. Methods</b>	<b>3. Season</b>	<b>4.Size Restrictions</b>	<b>5.Daily Bag Limit</b>
Lakes and Ponds	Open-water and ice fishing	Second Saturday in April through October 31  January 1 through March 15	No restriction	6 trout
Lake Champlain	Open-water and ice fishing	No closed season	Minimum length of 12 inches	3 trout
Rivers and Streams	Open-water fishing	Second Saturday in April through October 31	No restriction	8 trout
Sherman Reservoir, Whitingham	Open-water fishing	Second Saturday in April through October 31	No restriction	6 trout

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(c) TROPHY TROUT STREAMS

1. Waters	2. Methods	3. Season	4. Size Restrictions	5. Daily Bag Limit
Listed Below:	Open-water fishing	Second Saturday in April through October 31	No restriction	2 trout in aggregate
<p><b>Black River</b> along Rt. 131 in Weathersfield and Cavendish, - from Downers covered bridge upstream (approximately 4 miles) to the next bridge across the river, the Howard Hill Bridge.</p> <p><b>East Creek</b> in Rutland City -- From the confluence with Otter Creek upstream (approximately 2.7 miles) to the top of the Patch Dam in Rutland City</p> <p><b>Lamoille River</b> – From the downstream edge of the bridge on Route 104 in the Village of Fairfax upstream (approximately 1.6 miles) to the top of the Fairfax Falls Dam in Fairfax.</p> <p><b>Little River</b> – From the confluence with Winooski River in Waterbury upstream to the top of the Waterbury Reservoir Dam in Waterbury.</p> <p><b>Missisquoi River</b> in Enosburg and Sheldon -- From the downstream edge of Kane Road (TH-3) bridge upstream (approximately 5.7 miles) to the top of the Enosburg Falls Dam in Enosburg Falls.</p> <p><b>Otter Creek</b> in Danby and Mt. Tabor - From the Vermont Railway Bridge north of the fishing access upstream (approximately 2 miles) to the Danby- Mt. Tabor Forest Rd. Bridge (Forest Road # 10).</p> <p><b>Passumpsic River</b> in the Village of St. Johnsbury – From the top of the Gage Dam in St., Johnsbury upstream (approximately 2.4 miles) to the top of the Arnold Falls Dam.</p> <p><b>Moose River</b>-- From the confluence with the Passumpsic River upstream (approximately 350 feet) to the downstream edge of the Concord Avenue bridge in the Village of St. Johnsbury</p> <p><b>Walloomsac River</b> in Shaftsbury and Bennington – From the Vermont/New York border in Shaftsbury upstream to the top of the former Vermont Tissue Plant Dam (downstream of Murphy Road) in Bennington.</p> <p><b>Winooski River</b> in Duxbury and Waterbury, - From the top of the Bolton Dam in Duxbury and Waterbury upstream to the Route 2 Bridge (east side of Waterbury Village).</p>				

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(d) RAINBOW TROUT (Including STEELHEAD) / BROWN TROUT

<b>1.WATERS</b>	<b>2. Methods</b>	<b>3. Season</b>	<b>4.Size Restrictions</b>	<b>5.Daily Bag Limit</b>
<b>Listed Below:</b>	Open-water fishing	Second Saturday in April through October 31	Minimum length of 10 inches	2 trout
<p><b>Rivers and Streams:</b></p> <p>Orleans County:</p> <p>Barton River - From Lake Memphremagog upstream to the downstream side of the US Route 5 bridge southernmost and closest to the Village of Barton in Barton.</p> <p>Black River - From Lake Memphremagog upstream to the downstream side of the VT Route 14 / 58 bridge in Irasburg.</p> <p>Brownington Branch of the Willoughby River - From its confluence at the Willoughby River extending upstream to the second road crossing on Brownington Chilafoux Road (TH #15). Crossing is located approximately 2.4 miles from Brownington Center on Chilafoux Road (TH #15).</p> <p>Johns River-From the downstream edge of the first bridge (culvert) upstream of Lake Memphremagog on North Derby Road (TH #6) upstream to U.S. 5, in Derby.</p> <p>Willoughby River - The entire Willoughby River, from confluence with Barton River in Barton upstream to the Willoughby Lake outlet in Westmore.</p>				

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(e) BROOK, BROWN, RAINBOW, LAKE TROUT AND SALMON – 2 FISH AGGREGATE LIMITS

1. Waters	2. Methods	3. Season	4. Size Restrictions	5. Daily Bag Limit
<b>Listed below:</b>	Open-water and Ice fishing	Second Saturday in April through October 31  January 1 through March 15	See regulations for specific bodies of water	Two fish in aggregate
<p>Big Averill Lake, Norton and Averill                      Caspian Lake, Greensboro                      Crystal Lake, Barton                      East Long Pond, Woodbury                      Echo Lake, Charleston                      Elligo Lake, Craftsbury and Greensboro                      Forest Lake (Nelson Pond), Calais and Woodbury                      Harveys Lake, Barnet                      Jobs Pond, Westmore (Seasonally Closed)                      Lake Dunmore, Salisbury                      Lake Memphremagog (including South Bay), Coventry, Derby, Newport City and Newport;                      Little Averill Lake, Averill                      Maidstone Lake, Maidstone                      Martins Pond, Peacham (Seasonally Closed)                      Nelson Pond (Forest Lake), Calais and Woodbury                      Nichols Pond, Woodbury                      Seymour Lake, Morgan                      Shadow Lake, Glover                      Spring Lake, Shrewsbury                      Sunset Lake, Benson                      Willoughby Lake, Westmore</p>				

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(f) LAKE TROUT AND SALMON

1. Waters	2. Methods	3. Season	4. Size Restrictions	5. Daily Bag Limit
General Waters <i>(except as listed below)</i>	Open-water and ice fishing	Second Saturday in April through October 31  January 1 through March 15	Salmon- Minimum length of 17 inches Lake Trout- Minimum length of 18 inches	2 Lake Trout or 2 Salmon or 1 of each
Lake Champlain	Open-water and ice fishing	No closed season	Lake Trout and Salmon – Minimum length of 15 inches	3 Lake Trout and 2 Salmon
Clyde Pond, Derby Little Salem Lake, Derby Salem Lake, Derby Clyde River from Lake Memphremagog upstream to Citizen’s Charleston Dam (Lubber Lake), West Charleston	Open-water fishing	Second Saturday in April through August 31	Lake Trout- Minimum length of 18 inches  Salmon- Minimum length of 17 inches	2 Lake Trout or 2 Salmon or 1 of each
Lake Memphremagog (including South Bay)	Open-water and ice fishing	Second Saturday in April through October 31  January 1 through March 15	Lake Trout- Minimum length of 18 inches  Salmon- Minimum length of 17 inches	2 Lake Trout or 2 Salmon or 1 of each
<b>Listed Below:</b>	Open-water fishing	Second Saturday in April through October 31	Lake Trout- Minimum length of 18 inches	2 Lake Trout or 2 Salmon or 1 of each

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			Salmon- Minimum length of 17 inches	
<p>Orleans County:</p> <p>Barton River - From Lake Memphremagog upstream to the downstream side of the US Route 5 bridge southernmost and closest to the Village of Barton in Barton.</p> <p>Black River - From Lake Memphremagog upstream to the downstream side of the VT Route 14 / 58 bridge in Irasburg.</p> <p>Johns River-From the downstream edge of the first bridge (culvert) upstream of Lake Memphremagog on North Derby Road (TH #6) upstream to U.S. 5, in Derby.</p> <p>Willoughby River - The entire Willoughby River, from confluence with Barton River in Barton upstream to the Willoughby Lake outlet in Westmore.</p>				

(g) SPECIAL REGULATION TROUT STREAMS

1. Waters	2. Method	3. Season	4. Size Restrictions	5. Daily Bag Limit
<p><b>White River</b> From the confluence with Lilliesville Brook in Stockbridge downstream 3.3 miles to 220 ft. downstream of the confluence with Cleveland Brook in Bethel.</p>	Open-water fishing, with artificial lures and flies only.	Second Saturday in April through October 31.	Minimum length of 18 inches	1 trout
<p><b>Winooski River Tributaries – Listed Below</b></p>	Open-water fishing	June 1 through October 31	10 to 16 inches protected slot: <i>(all fish 10 to 16 inches must be released)</i>	2 trout, only 1 greater than 16 inches
<p>Winooski River Tributaries:</p> <p><b>Joiner Brook, Bolton</b> - From the confluence of the Winooski River upstream approximately 1900 feet to the first falls.</p> <p><b>Pinneo Brook, Bolton</b> – From the confluence of the Winooski River upstream approximately 100 feet to the railroad crossing.</p> <p><b>Preston Brook, Bolton</b> - From the confluence of the Winooski River upstream approximately 2600 feet to the first falls.</p> <p><b>Ridley Brook, Duxbury</b> – From the confluence of the Winooski River upstream approximately 1700 feet to the first falls.</p>				

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<b>Listed Below:</b>	Open-water fishing	Second Saturday in April through October 31	10 to 16 inches protected slot: <i>(all fish 10 to 16 inches must be released)</i>	2 trout, only 1 greater than 16 inches
<p><b>New Haven River</b> – From Munger Street Bridge in New Haven upstream (approximately 4.1 miles) to the South Street bridge in Bristol.</p> <p><b>Mettawee River</b> – From the downstream edge of the Route 153 bridge in Pawlet upstream (approximately 16 miles) to the downstream edge of first bridge on Dorset Hollow Road and including tributary: Flower Brook upstream (approximately 1000ft) to the downstream edge of the Route 30 bridge in Pawlet.</p> <p><b>Winooski River</b> – From Preston Brook mouth upstream (approximately 4.4 miles) to the Ridley Brook mouth.</p>				
<b>Listed below:</b>	Open-water fishing	Second Saturday in April through September 30	No size restriction.	8 trout
	Open-water fishing	October 1 through October 31	All trout must be immediately released.	Zero, all trout must be immediately released.
<p><b>Batten Kill (East Branch)</b> – In towns of Manchester and Dorset from the downstream side of Depot Street Bridge (Route 11/30) in Manchester upstream (approximately 5.0 miles) to the downstream side of the US Route 7 Bridge south of East Dorset.</p> <p><b>Green River</b> – In the towns of Arlington and Sandgate from its confluence with Batten Kill upstream (approximately 8.5 miles) to the confluence with Moffitt Hollow Brook in Beartown.</p> <p><b>Roaring Branch</b> – In the towns of Arlington and Sunderland from its confluence with the Batten Kill upstream (approximately 3.0 miles) to the downstream side of the Bridge #14 on Sunderland TH# 3 in East Kansas.</p> <p><b>Warm Brook</b> – In the town of Arlington from its Confluence with the Roaring Branch upstream (approximately 0.8 miles) to the base of the so-called Hale Company Dam in East Arlington.</p>				

(h) ANADROMOUS ATLANTIC SALMON

1. Waters	2. Method	3. Season	4. Size Restrictions	5. Daily Bag Limit
Connecticut River and tributaries	No person shall take or attempt to take an anadromous	No open season	All fish must be immediately released	Zero - All Anadromous Atlantic salmon must be



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	Atlantic salmon, any salmon unintentionally taken shall be immediately released in accordance with section 4602			immediately released
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(i) AMERICAN SHAD

<b>1. Waters</b>	<b>2. Methods</b>	<b>3. Season</b>	<b>4. Size Restrictions</b>	<b>5. Daily Bag limits</b>
Connecticut River, including Vermont river tributaries	Open-water fishing	No closed season	All shad must be released	Zero – All shad must be immediately released.

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(j) BOWFIN, REDHORSE SUCKER (MULLET), LONGNOSE GAR.

<b>1. Waters</b>	<b>2. Methods</b>	<b>3. Season</b>	<b>4. Size Restrictions</b>	<b>5. Daily Bag limits</b>
General Waters <i>and as listed below</i> )	Open-water and ice fishing	No closed season	No restriction	No more than 5 fish of any one species
General Waters <i>(Except seasonally closed waters and as listed below)</i>	Speargun, bow and crossbow all with line attached to arrow	No Closed Season	No restriction	No more than 5 fish of any one species
Lake Champlain, not to include tributaries	Open-water and ice fishing, speargun, bow and crossbow all with line attached to arrow	No closed season	No restriction	No more than 5 fish of any one species
Lake Champlain, not to include tributaries	Shooting and Handheld Spear	March 25 through May 25, Title 10 (4606e)	No restriction	No more than 5 fish of any one species

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(k) SUCKER (LONGNOSE AND WHITE), and CULL FISH

<b>1. Waters</b>	<b>2. Methods</b>	<b>3. Season</b>	<b>4. Size Restrictions</b>	<b>5. Daily Bag limits</b>
General Waters <i>(and as listed below)</i>	Open-water and ice fishing	No closed season	No restriction	No Limit
General Waters <i>(Except seasonally closed waters and as listed below)</i>	Speargun, <del>and</del> bow and crossbow all with line attached to arrow	No Closed Season	No restriction	No Limit
Lake Champlain, not to include tributaries	Open-water and ice fishing, speargun, <del>and</del> bow and crossbow all with line attached to arrow	No closed season	No restriction	No Limit
Lake Champlain, not to include tributaries	Shooting and Handheld Spear	March 25 through May 25, Title 10 (4606e)	No restriction	No Limit

(l) BULLHEAD

<b>1. Waters</b>	<b>2. Methods</b>	<b>3. Season</b>	<b>4. Size Restrictions</b>	<b>5. Daily Bag limits</b>
General Waters <i>(and as listed below)</i>	Open-water and ice fishing	No closed season	No restriction	No Limit
Lake Champlain, not to include tributaries	Open-water and ice fishing	No closed season	No restriction	No Limit
Lake Champlain, not to include tributaries	Shooting and handheld Spear	March 25 through May 25, Title 10 (4606e)	No restriction	No Limit

APPENDIX 122

(m) NORTHERN PIKE

1. Waters	2. Methods	3. Season	4. Size Restrictions	5. Daily Bag limits
General Waters <i>(except as listed below)</i>	Open-water and ice fishing	No closed season	Minimum length of 20 inches	5 Fish
Lake Champlain	Open-water and ice fishing,	No closed season	Minimum length of 20 inches	5 Fish
	Shooting and handheld spearing	March 25 through May 25, 10 VSA 4606)	Minimum length of 20 inches	5 Fish

(n) CHAIN AND REDFIN PICKEREL

1. Waters	2. Methods	3. Season	4. Size Restrictions	5. Daily Bag limits
General Waters <i>(except as listed below)</i>	Open-water and ice fishing	No closed season	No restriction	No limit
Lake Champlain	Open-water and ice fishing	No closed season	No restriction	10 fish
	Shooting and handheld spearing	March 25 through May 25	No restriction	10 fish

(o) MUSKELLUNGE

1. Waters	2. Methods	3. Season	4. Size Restrictions	5. Daily Bag limits
General Waters <i>(except as listed below)</i>	Open-water and ice fishing; Catch and release with artificial lures and flies only	No closed season	All muskellunge must be released	Zero - All muskellunge must be immediately released
Lake Champlain	Open-water and ice fishing; Catch and release with artificial lures and flies only	No closed season	All muskellunge must be released	Zero - All muskellunge must be immediately released

APPENDIX 122

	Shooting and handheld spearing	March 25 through May 25, 10 VSA 4606)		Zero Fish
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(p) SMELT

1. Waters	2. Methods	3. Season	4. Size Restrictions	5. Daily Bag Limit
All waters	Open-water and ice fishing	No closed season	No restriction	No limit

(q) BLACK AND WHITE CRAPPIE

1. Waters	2. Methods	3. Season	4. Size Restrictions	5. Daily Bag limits
All waters	Open-water and ice fishing	No closed season	Minimum length of 8 inches	25 fish, Combined

(r) YELLOW PERCH

1. Waters	2. Methods	3. Season	4. Size Restrictions	5. Daily Bag Limit
General Waters <i>(except as listed below)</i>	Open-water and ice fishing	No closed season	No restriction	50 fish,
Lake Champlain	Open-water and ice fishing	No closed season	No restriction	No Limit
Businesses may buy lawfully taken fish, with the approval of the Commissioner, pursuant to the Commercial angling rule set forth in 10 V.S.A. APP § 123.				

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(s) LARGEMOUTH AND SMALLMOUTH BASS

<b>1. Waters</b>	<b>2. Methods</b>	<b>3. Season</b>	<b>4. Size Restrictions</b>	<b>5. Daily Bag limits</b>
General Waters <i>(except as listed below)</i>	Open-water and ice fishing	Second Saturday in June through March 15.	Minimum length of 10 inches	5 fish
Lake Champlain	Open-water fishing	Second Saturday in June through Nov. 30.	Minimum length of 12 inches	5 fish
Lakes, Ponds and reservoirs (seasonally closed)	Open-water fishing	Second Saturday in June through October 31.	Minimum length of 10 inches	5 fish
Lakes, Ponds and reservoirs (seasonally closed)	Open-water fishing: Catch and release with artificial lures and flies only	Second Saturday in April through the Friday before the Second Saturday in June, both dates inclusive.	All bass must be released	Zero - All bass must be immediately released
Lake Morey, Fairlee	Open-water and ice fishing	Second Saturday in June through March 15	Minimum length of 14 inches	5 Fish
<b>Listed below:</b>	Open-water fishing	Second Saturday in June through Nov. 30.	Minimum length of 10 inches	5 fish
	Catch and release with artificial lures and flies only	Dec. 1 through the Friday before the second Saturday in June, both dates inclusive	All bass must be released	Zero – All bass must be immediately released.
Austin Pond, Hubberton Black Pond, Hubberton Blueberry Lake (Warren Lake), Warren Breese Pond, Hubberton Bullhead Pond, Manchester Gale Meadows, Londonderry				

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Half Moon Pond, Hubberton  
Lily Pond, Vernon  
Lowell Lake, Londonderry  
Mill Pond, Windsor  
Raponda Lake, Wilmington  
Retreat Meadows, Brattleboro  
Roach Pond, Hubberton  
Runnemedede Lake, Windsor  
Sadawga, Whitingham  
Weatherhead Hollow, Guilford

APPENDIX 122

(t) WALLEYE

<b>1. Waters</b>	<b>2. Methods</b>	<b>3. Season</b>	<b>4. Size Restrictions</b>	<b>5. Daily Bag limits</b>
General Waters and Lake Champlain <i>(except as listed below)</i>	Open-water and ice fishing	First Saturday in May through March 15.	Minimum length of 18 inches	3 Fish
Lake Carmi, Franklin	Open-water and ice fishing	First Saturday in May through March 15	Minimum length of 15 inches Protected lengths- 17 to 19 inches (all fish between 17 & 19 inches must be released)	5 fish, provided only 1 is over 19 inches
Chittenden Reservoir, Chittenden including all tributaries upstream to the first barrier impassable to upstream fish movement	Open-water and ice fishing	June 1 through March 15	Minimum length of 22 inches	2 fish

(u) SAUGER

<b>1. Waters</b>	<b>2. Methods</b>	<b>3. Season</b>	<b>4. Size Restrictions</b>	<b>5. Daily Bag limits</b>
General Waters and Lake Champlain	Open-water and ice fishing	No open season	Any fish taken must be immediately released	Zero – All Sauger taken must be immediately released



## 7.7 Spawning grounds for game fish generally

- (a) The below listed waters are declared spawning grounds for game fish and are hereby closed to the taking of fish from second Saturday in April through May 31 annually.

### Chittenden County

- Joiner Brook, Bolton - From the confluence of the Winooski River upstream approximately 1900 feet to the first falls.
- Pinneo Brook, Bolton – From the confluence of the Winooski River upstream approximately 100 feet to the railroad crossing.
- Preston Brook, Bolton - From the confluence of the Winooski River upstream approximately 2600 feet to the first falls.

### Orleans County

- Black River, Coventry - From 600 feet below the falls at Old Harman Mill in Coventry upstream to the top of falls at Old Harman Mill in Coventry.
- Willoughby River, Orleans - From the downstream edge of bridge on Tarbox Hill Road in Orleans Village upstream to the top of the natural falls upstream of the bridge on Tarbox Hill Road in Orleans Village.
- Dorin, Wells, Myers, Schoolhouse and Mill Brooks, all in Westmore - From mouth of brooks at Lake Willoughby upstream approximately 3/4 mile in Dorin Brook, all of Wells Brook, 1/2 mile in Myers Brook, 1/4 mile in the Schoolhouse Brook and, and 1/4 mile in Mill Brook and tributaries, all in Westmore. For identification purpose these brooks are arranged in order from north to south, and flow through Vermont Agency of Transportation structures on Route 5A number 10, 9, 8, 7 and 6, respectively.
- Porter Brook, Greensboro – From Caspian Lake upstream to its headwaters. (1987, Fish and Wildlife Commissioner's Reg. No. 970, eff. April 1, 1987.)

### Washington County

- Chase Brook, Berlin – From its confluence with the Dog River upstream approximately 1/2 mile to the top of the natural falls in Berlin.
- Ridley Brook, Duxbury – From the confluence of the Winooski River upstream approximately 1700 feet to the first falls.

### Windsor County

- Lilliesville Brook, Stockbridge - From its confluence with the White River upstream to the 2nd bridge on the Lilliesville Brook Road.

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Locust Creek, Bethel - From its confluence with the White River upstream to the 2nd bridge on Rt. 12.

(b) The below named waters are closed from March 16 through May 31.

Chittenden County

Lamoille River, Milton - From the downstream edge of the bridge on Bear Trap Road in Milton (referred to as the West Milton Bridge upstream to the top of first dam (Peterson Dam) in Milton.

Winooski River, Winooski and Burlington - From the Winooski One Hydro dam west of Main Street (US 7) in Winooski and Burlington and extending downstream to the downstream side of the first railroad bridge.

Franklin County

Missisquoi River, Swanton - From the top of the Swanton dam in the Village of Swanton downstream approximately 850 feet to the water treatment plant on the west side of the river, and downstream approximately 850 feet to the upstream end of the cement breakwater on the east side of the river. (1988, Fish and Wildlife Board Reg. No. 975, eff. April 7, 1988.)

(c) The below named waters are closed from March 16 to the Friday before the 1st Saturday in May, both dates inclusive:

Franklin County

Missisquoi River, Swanton - From the top of the Swanton Dam in the Village of Swanton extending downstream 5,120 feet to the Northwest corner (downstream) of the Riverside Cemetery and across the river to a pole on the Northeast bank.

(d) The below named waters are closed to fishing year-round:

Orleans County

Clyde River, Newport City - From 260 feet below the top of the abandoned Mill Dam immediately upstream of the Number 1, 2, 3 hydroelectric powerhouse in Newport City, upstream to the top of the abandoned Mill Dam immediately upstream of the Number 1, 2, 3 hydroelectric powerhouse in Newport City.

(e) The below named water is only open to fishing using artificial flies and lures from September 1 to October 31. All salmon caught must be released. Lake Trout may be harvest during this period. The daily limit is 2 lake trout with a minimum length of 18 inches

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Clyde River - From Lake Memphremagog upstream to Charleston Dam (Lubber Lake), West Charleston

- (f) The below named water is catch and release for trout from Second Saturday in April to October 31. All trout must be immediately released.

Batten Kill River - From the New York State line upstream (approximately 20.6 miles) to downstream side of Depot Street Bridge (Route 11/30) in Manchester

- (g) The below named water is catch and release for trout with artificial lures and flies only, anglers less than 15 years old may use live bait from Second Saturday in April to October 31. All trout must be immediately released.

Dog River - From the downstream edge of the Junction Road Bridge in Berlin/Montpelier upstream to the top of the Northfield Falls Dam in Northfield.

- (h) The below named waters are closed to fishing from November 1 to the Friday before the second Saturday in April.

Batten Kill River – From the New York State line upstream (approximately 20.6 miles) to downstream side of Depot Street Bridge (Route 11/30) in Manchester.

Clyde River - From Lake Memphremagog upstream to Charleston Dam (Lubber Lake), West Charleston

Dog River – From the downstream edge of the Junction Road Bridge in Berlin/Montpelier upstream to the top of the Northfield Falls Dam in Northfield.

## Attachment 2

# Wild Turkey Management

An overview of accomplishments and data collection efforts related to assessing fall turkey harvest management strategies



A PRESENTATION TO THE VT FISH AND WILDLIFE BOARD, MAY 19<sup>TH</sup>, 2021





# 2020 Summary

- Total turkey licenses sold - 16,616
- Total youth weekend harvest - 627
- Total spring harvest - 4,795
- Total fall harvest - 719



# 2021 Update

- Licenses sold to date - 14,514
- Total youth weekend harvest - 635
- Total novice weekend harvest - 27
- Total spring harvest to date – 3,853





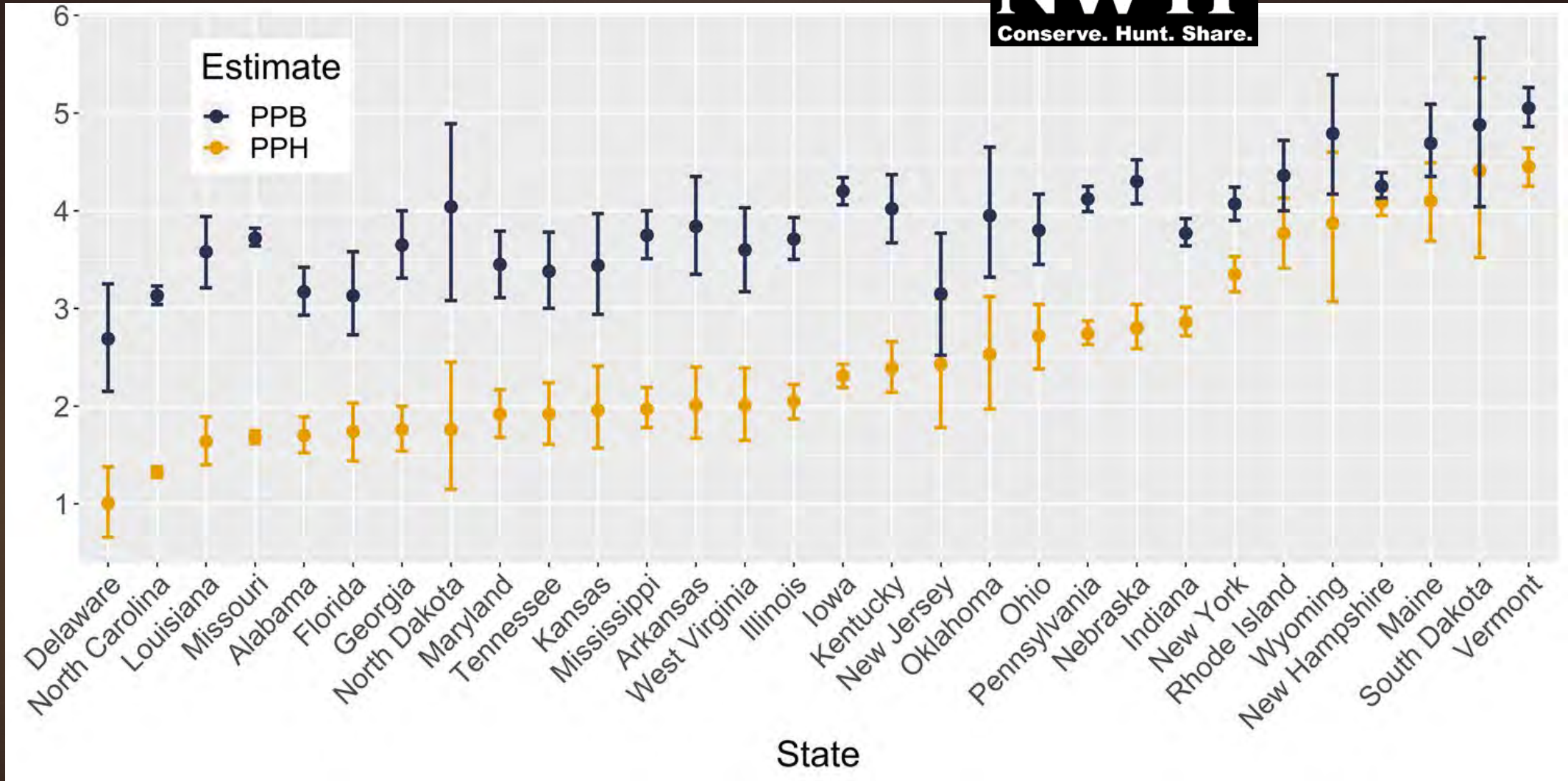


# Accomplishments

- Online reporting
- Completed an in-depth brood survey data analyses
- Partnered with the NWTf to implement a turkey hunter effort survey
- Added effort related questions to the online harvest reporting tool
- Created a turkey hunter effort survey portal for VT Outdoors App
- Completed an in-depth review of turkey hunter licensing data
- Created a SMART analysis decision making framework

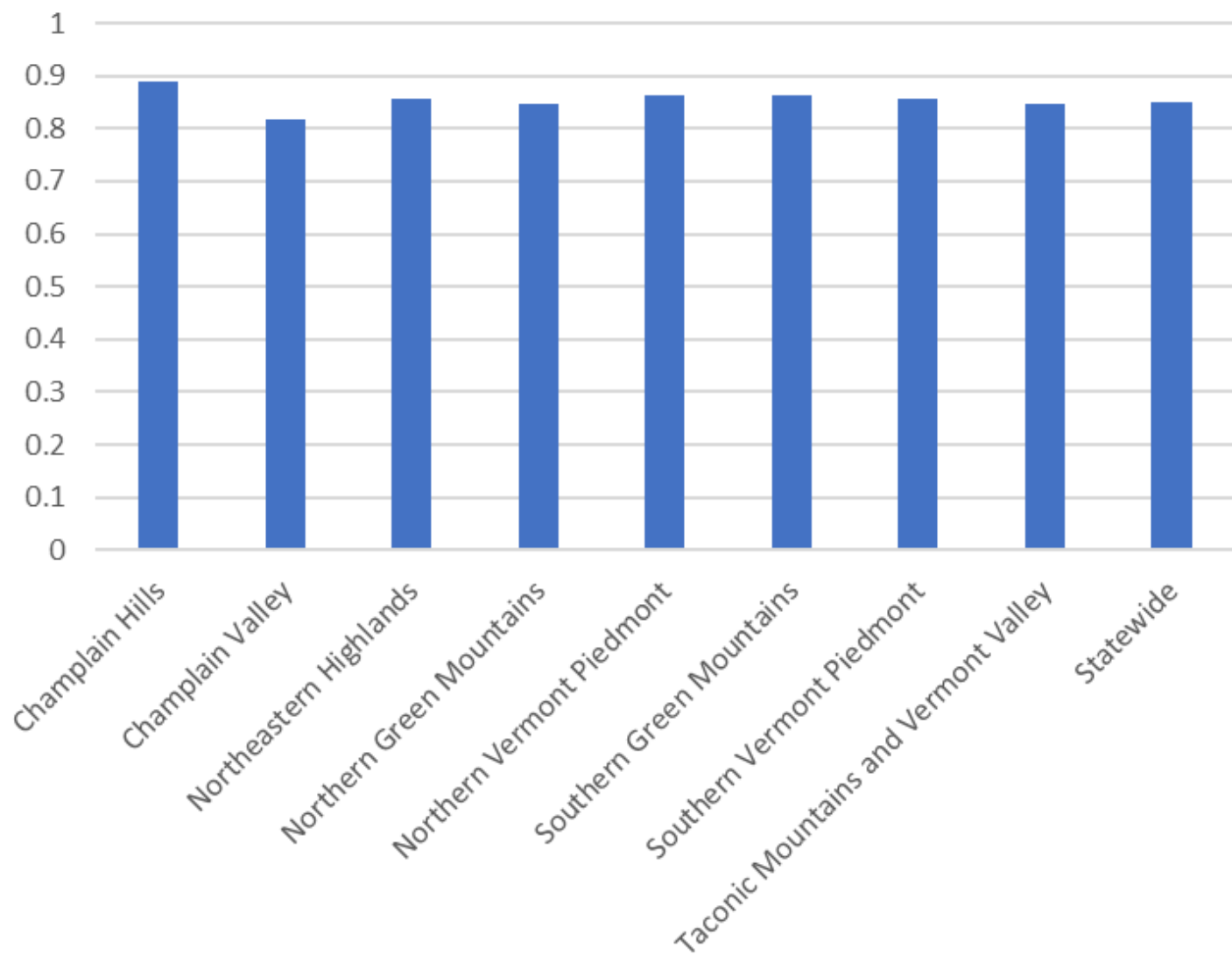


# Brood Survey Data Analysis

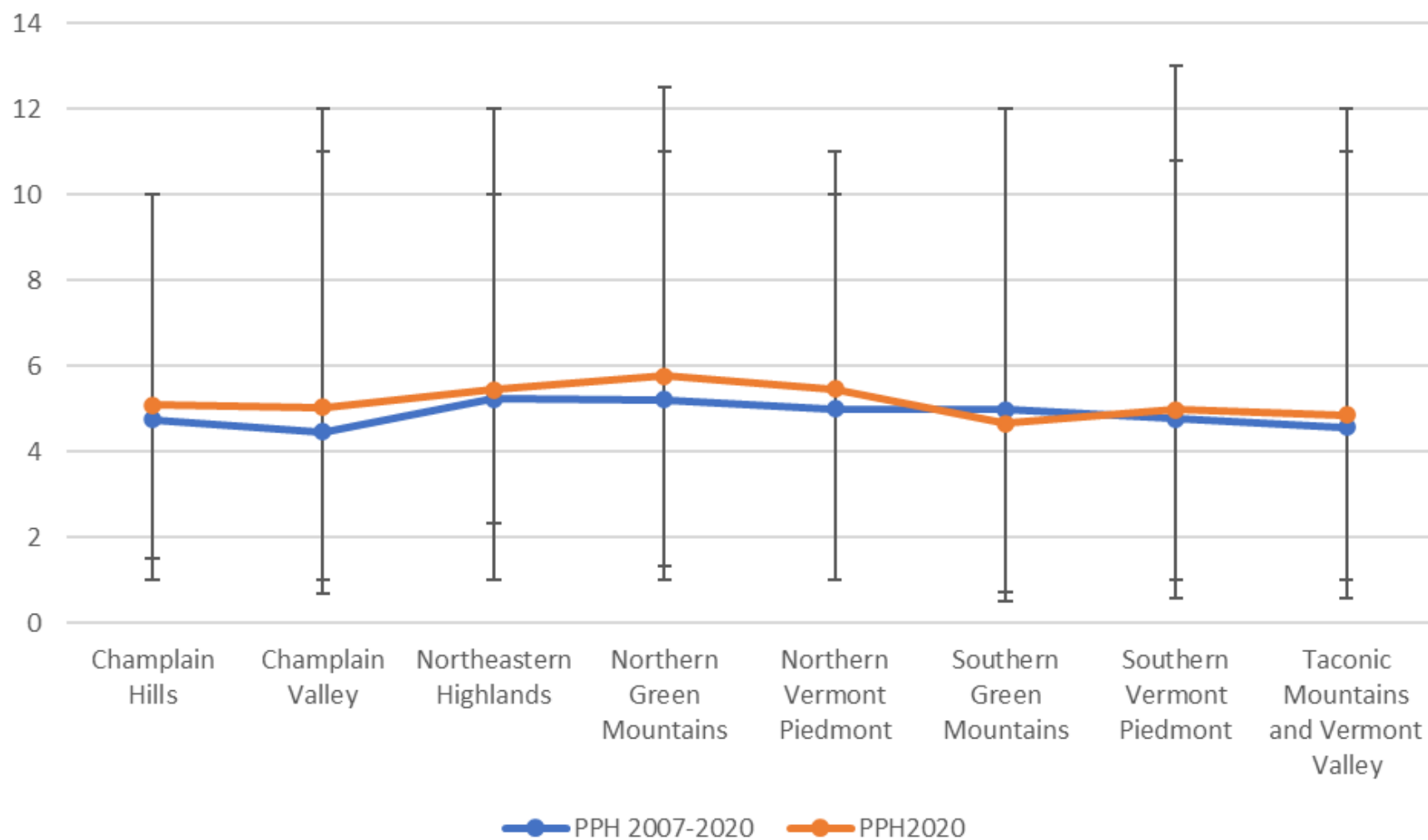


Graph courtesy of Reina Tyl, Missouri Department of Conservation

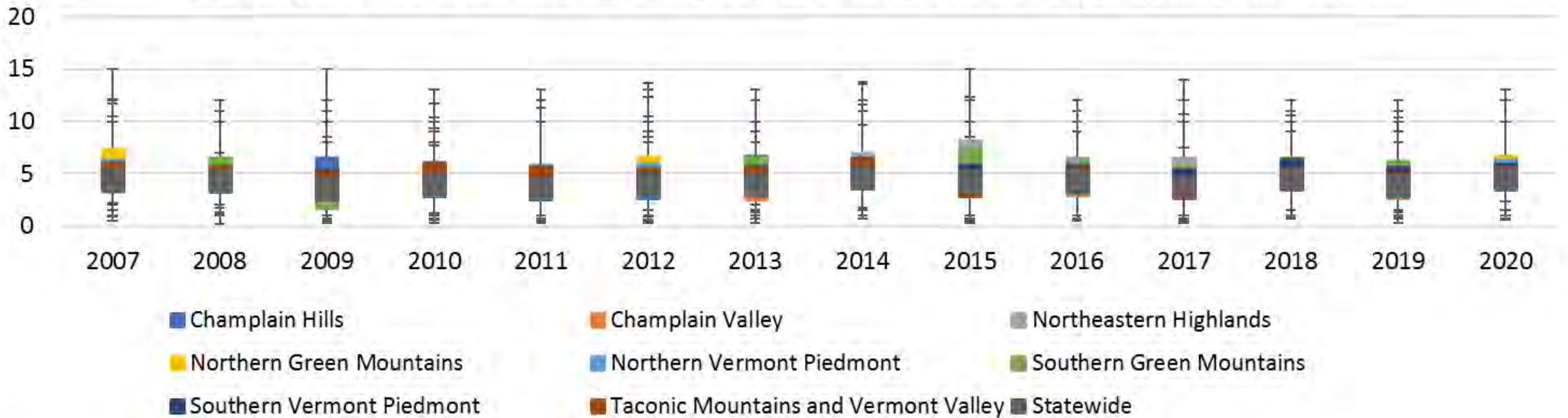
## Proportion hens with brood, 2007-2020



## Poults Per Hen (PPH) comparison across biophysical regions

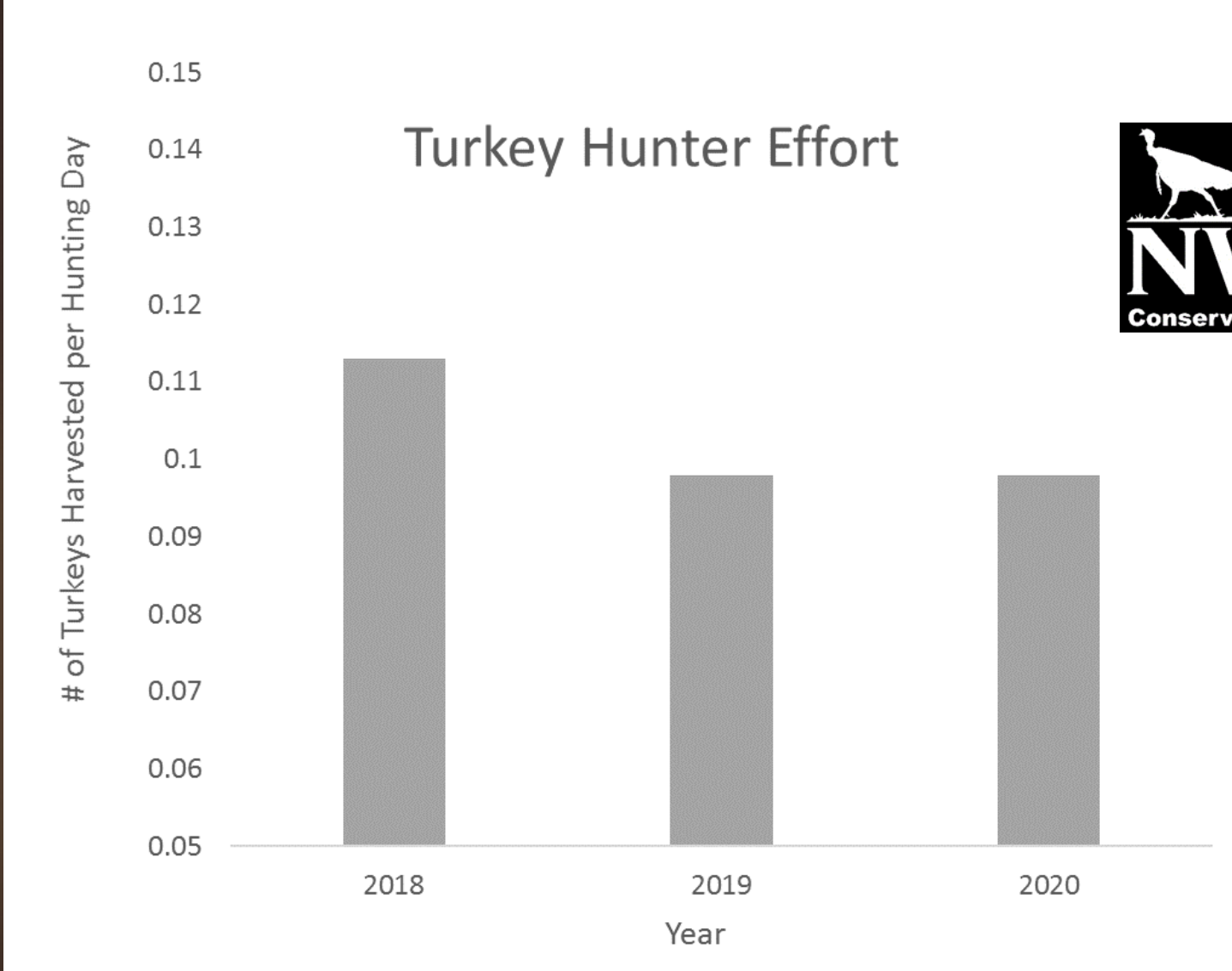


Average ( $\pm$  95% Confidence Intervals) Poult's Per Hen by region 2007-2020

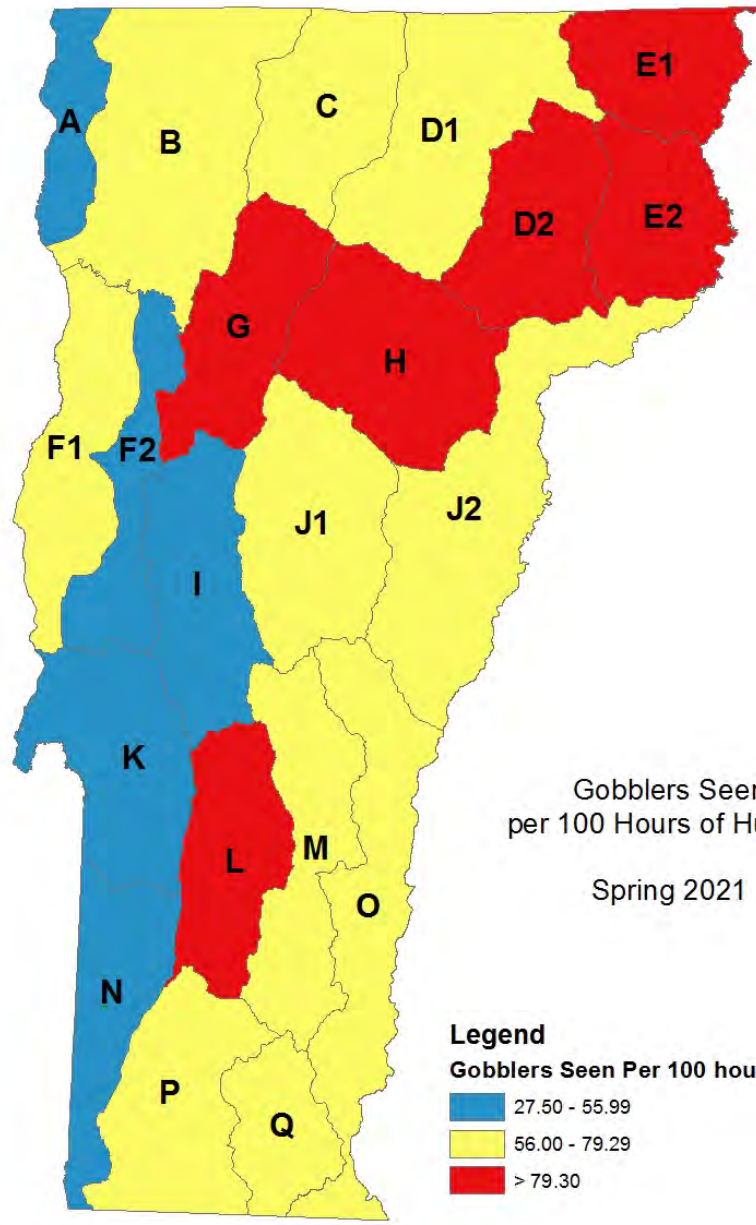




# Hunter effort data analysis



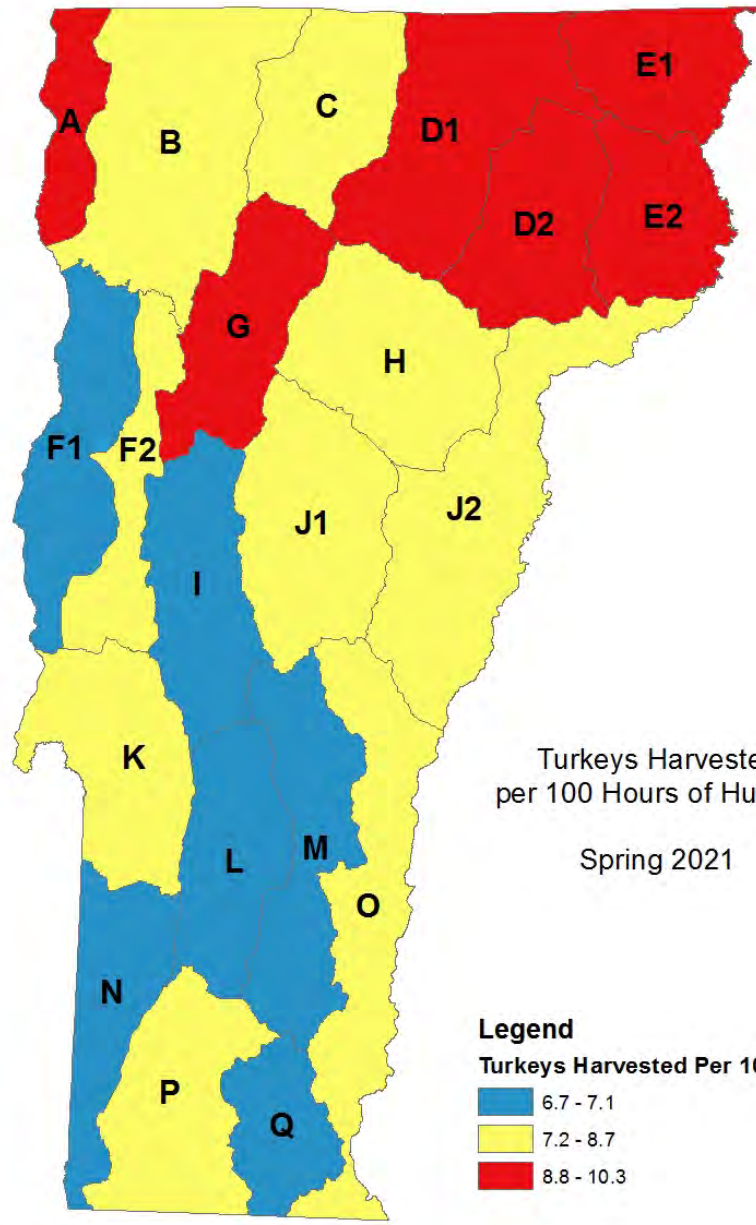
Graph courtesy of Matt DiBona, NWTF



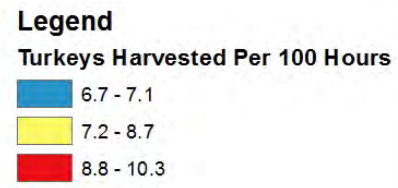
Gobblers Seen  
per 100 Hours of Hunting  
Spring 2021

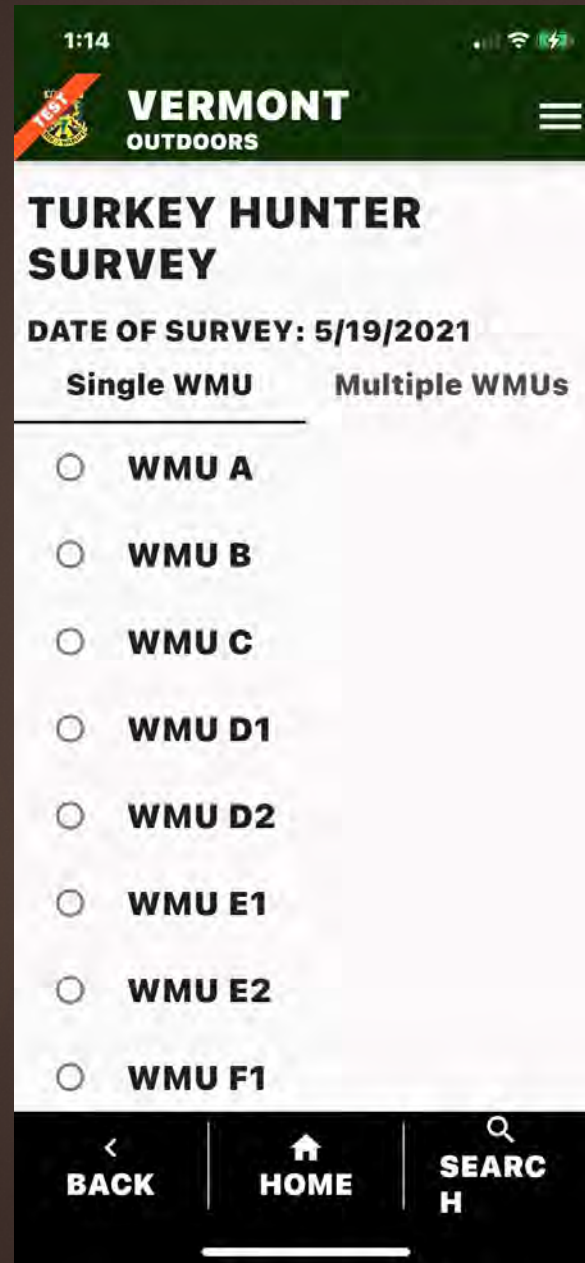
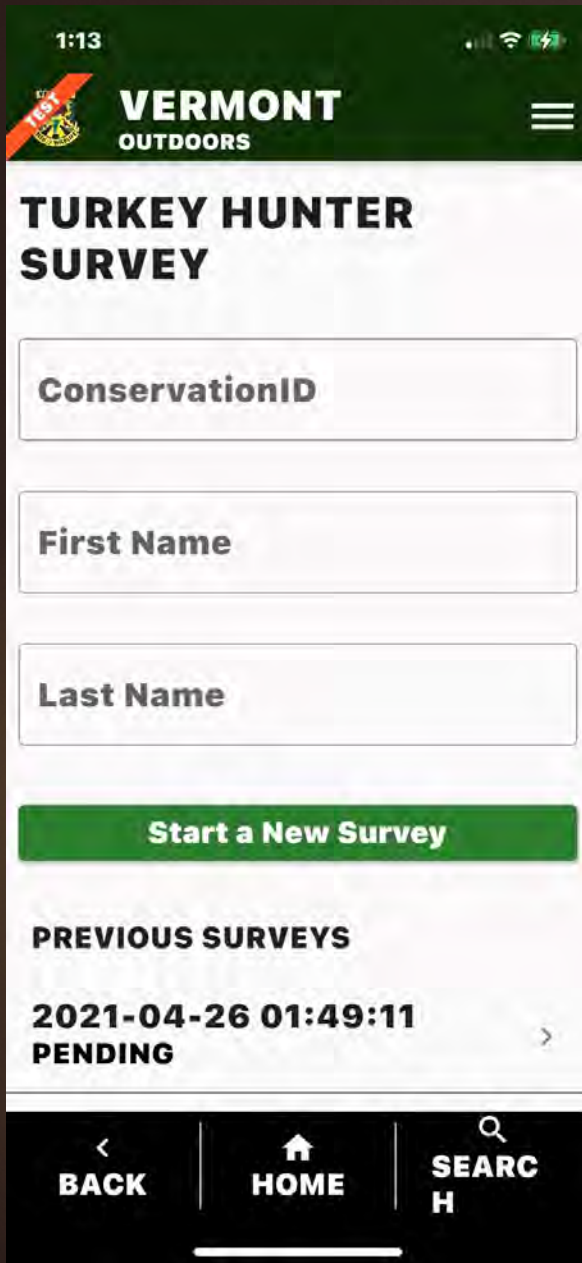




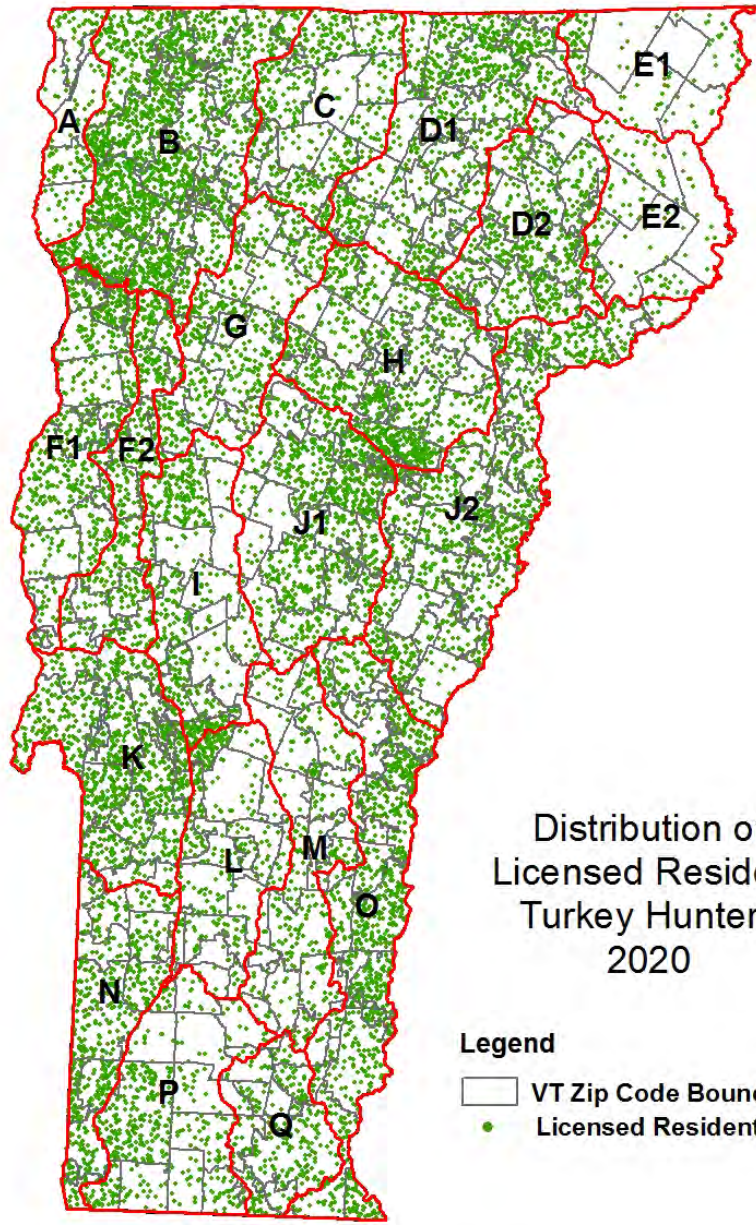


Turkeys Harvested  
per 100 Hours of Hunting  
Spring 2021





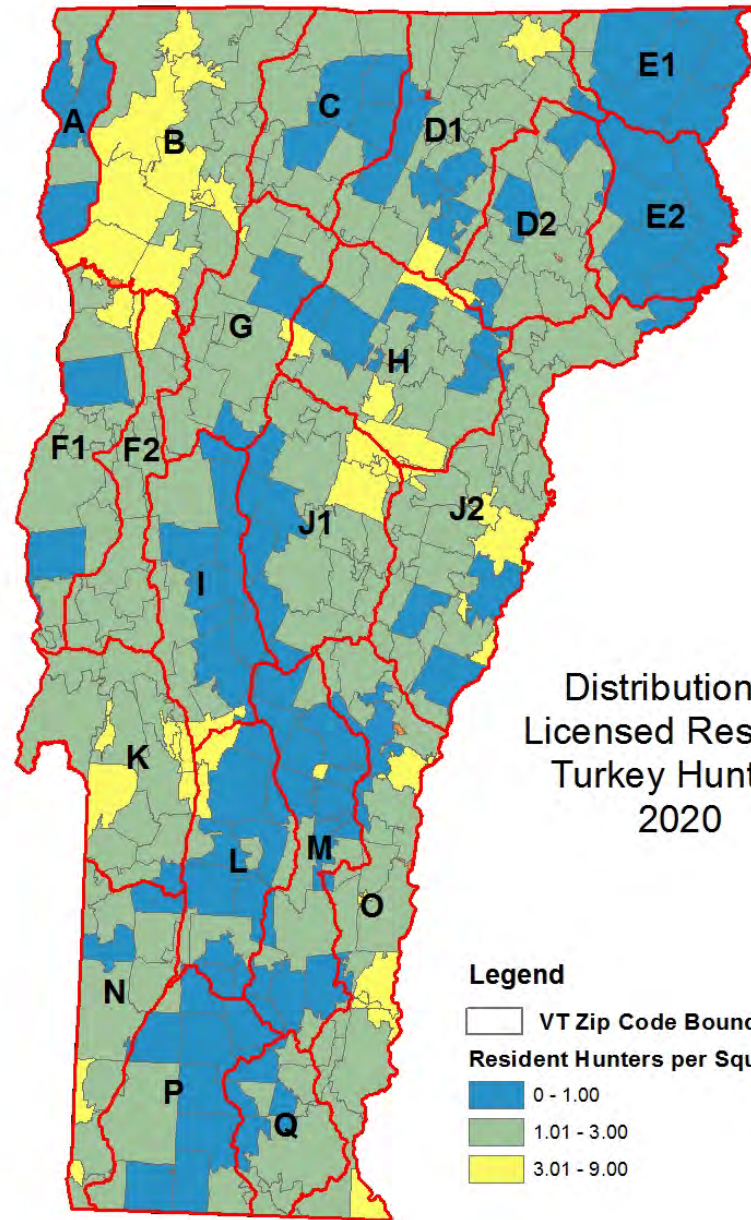




Distribution of  
Licensed Resident  
Turkey Hunters  
2020





- Legend
- VT Zip Code Boundaries
  - Licensed Resident Hunter



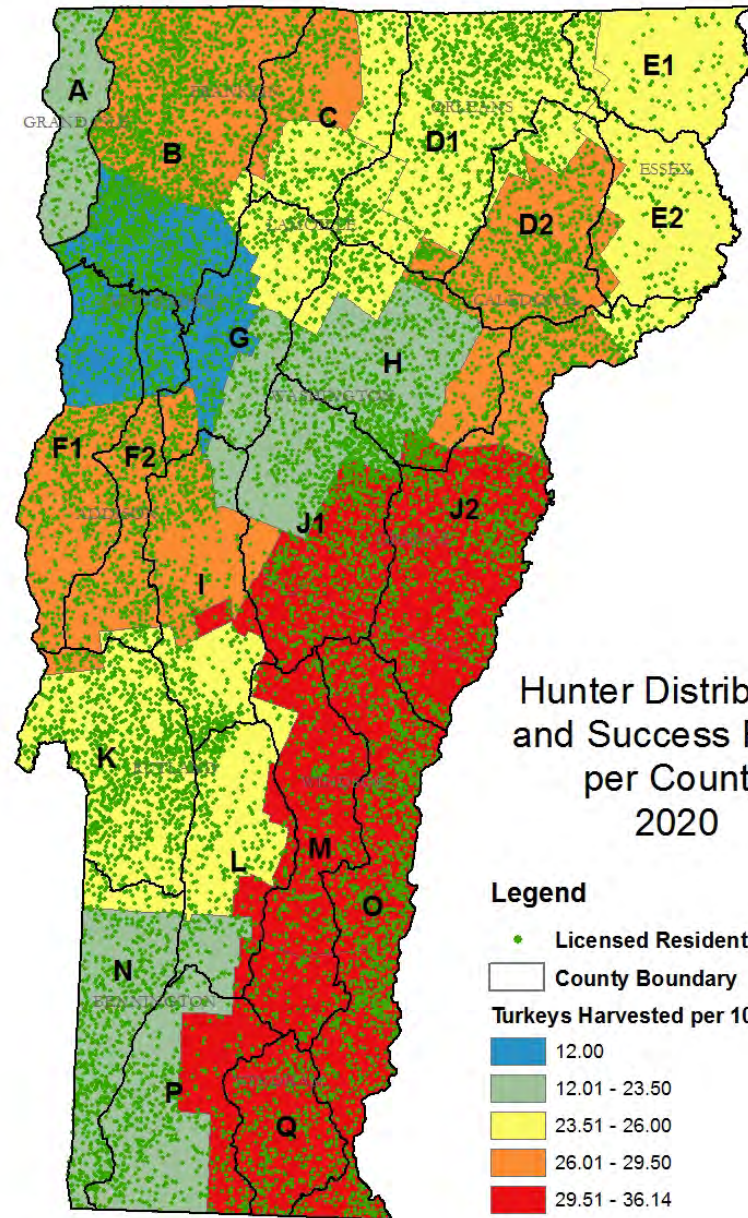


Distribution of  
Licensed Resident  
Turkey Hunters  
2020

**Legend**

-  VT Zip Code Boundaries
- Resident Hunters per Square Mile**
-  0 - 1.00
-  1.01 - 3.00
-  3.01 - 9.00





Hunter Distribution and Success Rates per County 2020

- Legend**
- Licensed Resident Hunter
  - County Boundary
- Turkeys Harvested per 100 Hunters**
- 12.00
  - 12.01 - 23.50
  - 23.51 - 26.00
  - 26.01 - 29.50
  - 29.51 - 36.14



	Status Quo	Package 1	Package 2	Package 3	Package 4	Weight
<b>Maximize Hunter Satisfaction</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>55</b>
<b>Prioritize quality spring hunting over fall hunting</b>						
Minimize risk of overharvest in the fall	0	0	0	0	0	
Preserve statewide spring hunting opportunity	0	0	0	0	0	
Maintain high statewide spring hunter success rates	0	0	0	0	0	
<b>Maximize hunting opportunity</b>						
Length of fall season	0	0	0	0	0	
Timing of fall season	0	0	0	0	0	
Bag limit of fall season	0	0	0	0	0	
Distribution of fall harvest opportunity	0	0	0	0	0	
<b>Minimize complexity</b>						
Frequency of changing harvest regulations	0	0	0	0	0	
Regulatory complexity	0	0	0	0	0	
<b>Maximize Ability to Manage Turkeys Regionally</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35</b>
Responsive to fluctuating populations	0	0	0	0	0	
Sensitive to regional differences in productivity	0	0	0	0	0	
Sensitive to public opinion	0	0	0	0	0	
<b>Minimize Costs to F&amp;W</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>
Required outreach & education	0	0	0	0	0	
Challenge to law enforcement	0	0	0	0	0	
Revenue impacts	0	0	0	0	0	



A photograph of a turkey and arrows in a field with autumn foliage in the background. The turkey is lying on the grass, and two arrows are stuck into its back. The background shows a rolling landscape with trees in shades of yellow and orange, suggesting an autumn setting. The text "Questions?" is overlaid in the center of the image.

Questions?



# Objectives Moving Forward



To develop and implement a decision-making system for managing the fall harvest that:

- Safeguards the health and sustainability of Vermont's turkey population
- Provides the data needed to more confidently assess regional population trends
- Simplifies and strengthens the process for implementing a regional management approach
- Maintains current levels of hunter satisfaction
- Maximizes opportunities for hunting

# Data Needs

## Hunter effort per WMU (CPUE)

- Online survey taking advantage of new online reporting platform
- Email blast surveys to licensed hunters
- Partner with the NWTf to survey membership
- Analyze license data to estimate number of hunters per WMU

## Harvest-independent population trend

- Strengthening brood survey data
- Winter flock survey
- Hunter sighting surveys

## Nuisance/damage complaint data

- Online complaint reporting form

## Public opinion data

- Survey conducted as part of 10-year Big game Planning process



# Data Collection / Regulatory Timeline

## **3-year adaptive management approach**

- ▶ 2020 – Identify objectives, finalize metrics and implement new data collection methods (i.e. winter flock, hunter effort, targeted surveys)
- ▶ 2021 – Data collection
- ▶ 2022 – Data collection
- ▶ 2023 – Data collection / analysis, propose further potential regulatory changes
- ▶ 2024 – 2026 – Continued eval. of changes, propose further regulatory changes (3-year cycle)



# Attachment 3

## 2021 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

- Antlerless harvests in 2020 were close to recommended levels in most WMUs, and were sufficient to stabilize or reduce deer numbers despite a relatively easy winter in most areas in 2021.
- Yearling antler beam diameters, fawn weights, and other physical condition metrics are below optimal levels in many areas, indicating that deer have exceeded the level their habitat can support long-term.
- Deer populations in 7 WMUs are projected to be above their respective population objectives in 2021. 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 5,137 antlerless deer during the antlerless (early muzzleloader) and December muzzleloader seasons. This would result in an estimated total harvest from all seasons of approximately 10,660 antlerless deer.
- This recommended harvest prescription is more conservative than usual due to continued uncertainty about the effects of new hunting regulations and the COVID-19 pandemic on the harvest. It accounts for the higher archery harvests achieved in 2020 and assumes relatively high expected antlerless permit fill rates. As such, the predicted harvest represents the high end of what might realistically be achieved.

## Executive Summary

The Vermont Fish and Wildlife Department estimates there will be approximately 133,000 white-tailed deer on the Vermont landscape prior to the start of the 2021 deer hunting seasons. This represents a decrease of 5 percent from the retrospective 2020 pre-hunt estimate. Deer populations in 7 Wildlife Management Units (WMU) are expected to be above their respective density objectives established in the *2020-2030 Big Game Management Plan*. All other 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 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 2021 was relatively easy for deer throughout most of Vermont. However, increased antlerless harvests in recent years have begun to reduce deer numbers, or at least limit 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 10,660 antlerless deer during the 2021 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 5,137 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 20,000 WMU-specific antlerless permits distributed among 19 of Vermont's 21 WMUs (15 percent fewer permits than the 23,000 allotted in 2020). Most of the permits (10,800; 54 percent) are recommended for the 7 WMUs (30 percent of deer habitat) where deer density will be above respective density objectives in 2021. Permit recommendations in these WMUs are intended to reduce deer densities.

The 2020 hunting seasons were very unusual due to substantial changes to hunting regulations and impacts of the COVID-19 pandemic, and it is not clear what additional changes, if any, should be expected in 2021. This recommendation accounts for uncertainty about potential changes in harvest patterns by utilizing relatively high expected antlerless permit fill rates. Substantial deviations in the antlerless harvest are unlikely, but this recommendation assumes the high end of realistic antlerless harvests that might be achieved from this prescription in order to minimize the possibility of harvests substantially exceeding expectations. There is no risk of overharvesting deer.

Three online public hearings were held March 23, 25, and 26, 2021 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 online public hearings will be held May 11 and 13, 2021.

## 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 2021 antlerless harvest and youth season recommendation. Based on population estimates, a harvest of 10,660 antlerless deer is recommended during the 2021 hunting seasons. This includes 5,523 antlerless deer harvested during the archery, youth, and novice seasons, and 5,137 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 8,931 adult does.

## Population Status

The 2020 deer hunting seasons saw a buck harvest 6 percent lower than the previous 3-year average (see *2020 Vermont White-tailed Deer Harvest Report* for more information). Nine WMUs had retrospective population estimates in 2020 that exceeded their respective population objectives established in the *2020-2030 Big Game Management Plan*. The winter of 2021 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 during late-autumn 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 2021 was relatively easy for deer, with a state-wide average WSI of 30 points (Figure 1). This was well below the 30-year average of 45. Some WMUs in southern Vermont had WSIs close to their long-term average (Figure 2), but abundant oak mast crops in 2020 should have allowed deer in most of those areas to be in good condition entering the winter. Severe winter conditions were relatively short-lived in all WMUs, with deep snows arriving in late January and gone by mid-March. Lack of substantial snow cover 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. As a result, overwinter mortality was minimal.

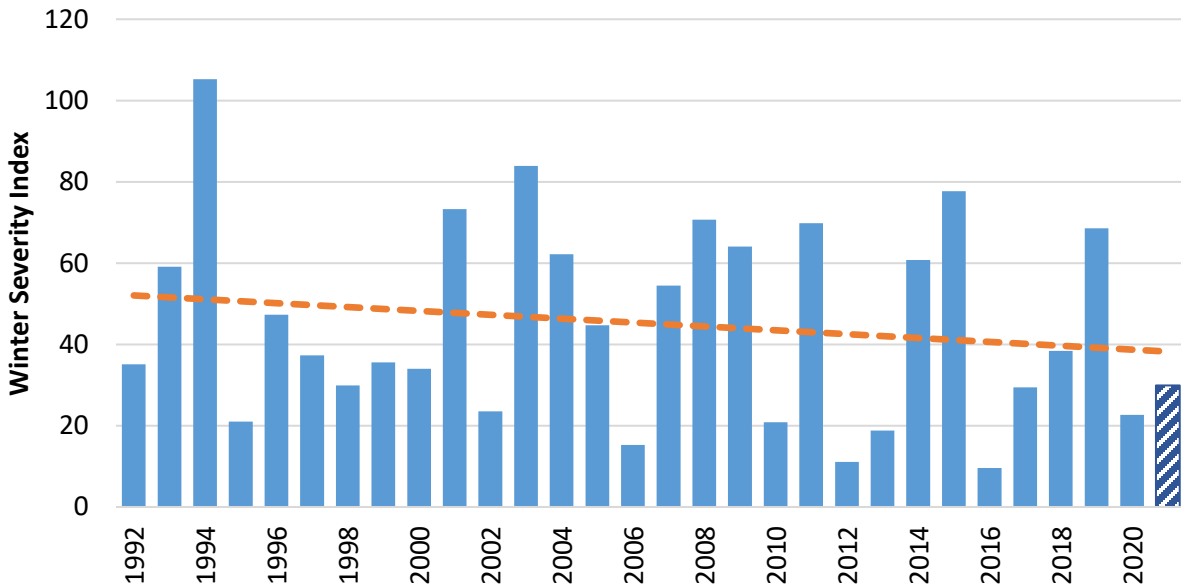


Figure 1. Statewide winter severity index (WSI), 1992–2021. The dashed line shows the 30-year trendline (linear regression).

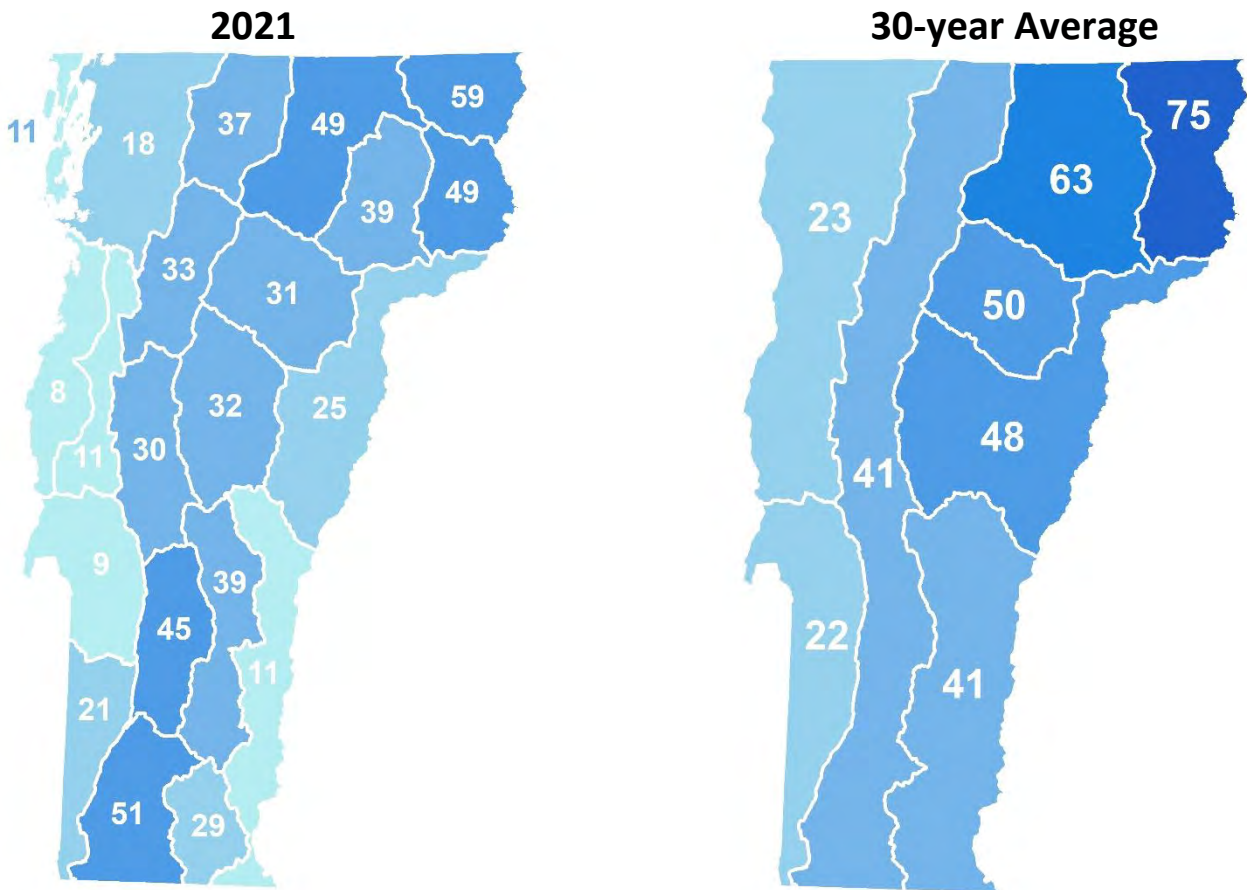


Figure 2. Regional winter severity index in 2021 and the 30-year average.

## 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 but has only recently been detected through increased or improved data collection and analyses. Further, 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 most parts of the state (see Appendix A for more detail). In most cases, the Department believes the primary driver of declining physical condition is 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.

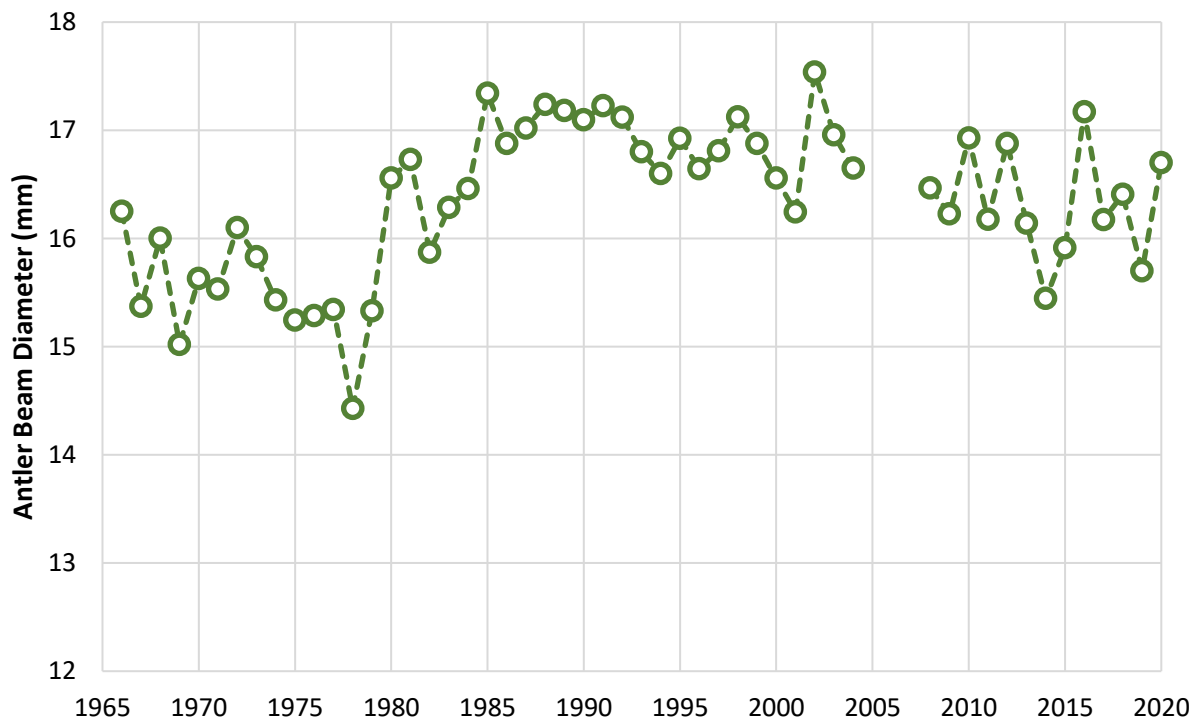


Figure 3. Antler beam diameter of yearling bucks in Vermont, 1965–2020. Data are from deer examined at biological check stations.

## Population Projections and Management Objectives

Although the winter of 2021 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.

Total antlerless harvest in 2020 (9,735) was 4 percent less than recommended (10,147); however, most WMUs that were more than 10% below their recommended antlerless harvests (J1, K, L, M, N, O, Q) were in southern Vermont. The reasons for this pattern are not clear, but harvests are often lower in southern Vermont during good oak mast years like 2020. However, it is notable that declines in the buck harvest were generally greater in other parts of the state.

Based on analysis of herd demographic data, hunter effort and sighting rate data, 2020 and 2021 winter severity information, and 2020 estimated deer populations at the WMU level, the Department expects the statewide deer population to decrease 5 percent from the 2020 retrospective estimate of 140,000 deer to approximately 133,000 deer (Figure 4). Importantly, 7 WMUs will have deer densities that exceed their respective population objectives, and the Department's objective 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.

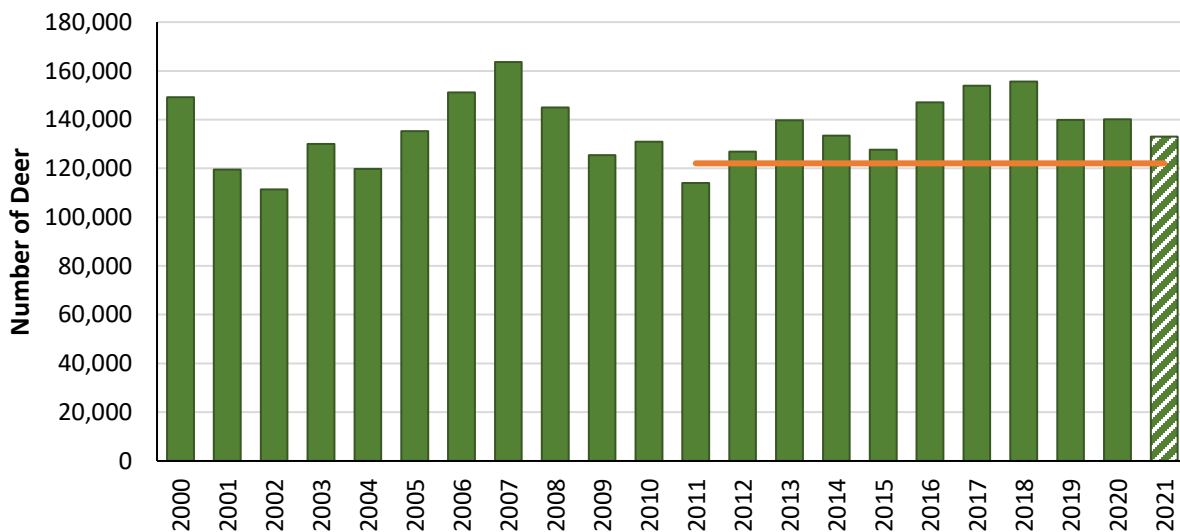


Figure 4. Statewide pre-hunt deer population estimates, 2000–2021. Population estimates are based on VT-DOEPOP, Sex-Age-Kill, Reconstruction, MARK-removal, and roadkill-based modeling. The horizontal orange line represents the sum of WMU-specific population objectives established in the 2020–2030 *Big Game Management Plan*.



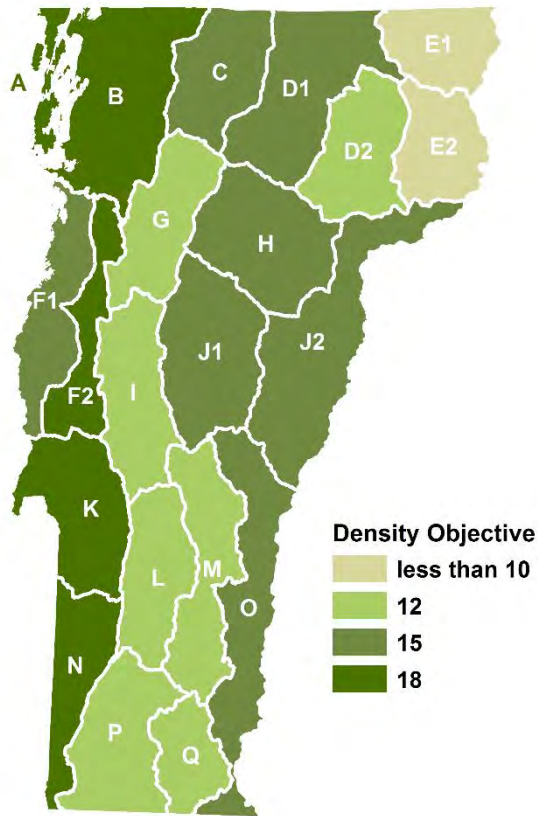


Figure 5. Deer density objectives by wildlife management unit. Deer densities are deer per square mile of habitat.

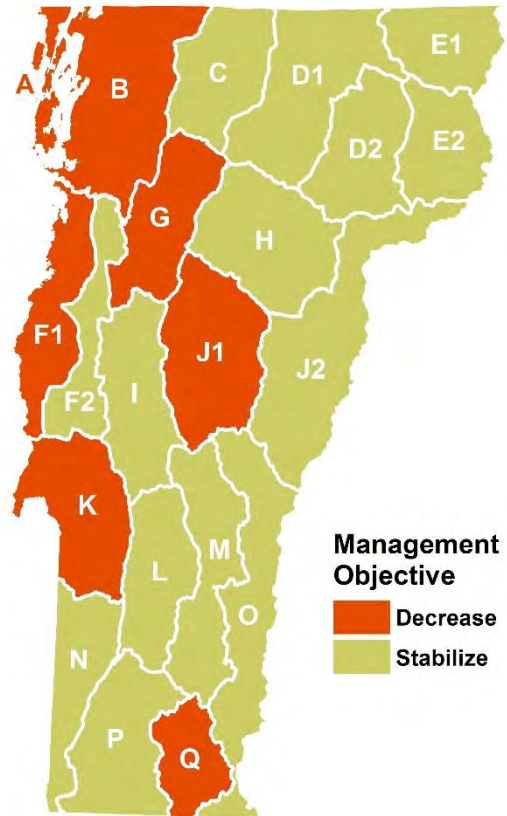


Figure 6. Desired change in the deer population, by wildlife management unit, to reach density objectives.

## Expected Changes in Harvest Patterns

Continued changes to deer harvest patterns are expected in 2021 related to the end of the COVID-19 pandemic and the new hunting regulations that took effect in 2020.

The archery harvest increased much more than expected in 2020, driven primarily by a substantial increase in archery hunting participation. The following statement is from last year’s antlerless recommendation: *“...experience from Vermont and other states indicates the primary factor limiting the archery harvest is the number of hunters, not the length of the season or the bag limit. Crossbow adoption among younger hunters is likely to be slow and will have only a minor impact on the harvest from slightly higher success rates. The recruitment of new archery hunters, or reactivation of former hunters, will have a greater impact on the harvest, but is likely to occur over several years, not all at once.”* The immediate increase in archery participation in 2020 was likely driven, at least in part, by the COVID-19 pandemic. As such, it is reasonable to expect participation to decline somewhat as restrictions are removed and people return to pre-pandemic activities. Given uncertainty about the extent or direction of any further changes in archery participation in 2021, the Department is predicting no change in the archery antlerless harvest, except those related to changes in the deer population.

Conversely, antlerless permit fill rates did not increase as expected in 2020. Fill rates were quite low (9%) during the new antlerless muzzleloader season in late October and that harvest seemed to be



largely compensatory, meaning it simply replaced harvest that would have previously occurred during the December season. December muzzleloader antlerless harvest was down 31 percent from 2019 despite a nearly identical number of valid antlerless permits in hunters' hands. Some of the lower fill rate may have been related to the higher-than-expected archery harvest. There is considerable overlap between archery and muzzleloader hunters, and many who were successful in archery season may not have tried to fill their antlerless permit. Hunting conditions were also challenging in 2020, with deer exhibiting unusual activity patterns, which may have further contributed to lower-than-expected fill rates.

In 2021, the Department is predicting that antlerless permit fill rates will increase by a factor of 1.5, to roughly the same level predicted in the 2020 recommendation. For example, a WMU that had a 20 percent fill rate in 2020 is predicted to have a 30 percent fill rate in 2021 (see Table 1 for expected 2021 fill rates). This is an attempt to account for the effect of poor hunting conditions in 2020 and uncertainty about additional changes in muzzleloader hunting activity related to the new regulations or the end of the pandemic.

Interestingly, the higher-than-expected archery harvest and lower-than-expected muzzleloader harvest essentially balanced each other out, and the total antlerless harvest in most areas in 2020 was close to the recommendation. While this could be viewed as luck, it actually highlights the importance of viewing deer hunting regulations collectively rather than individually.

As was the case in 2020, this antlerless harvest recommendation is conservative, as it predicts relatively high antlerless permit fill rates and the proposed antlerless harvests will take multiple years in most cases to achieve WMU-specific density objectives. Even if antlerless harvests do exceed expectations, they will only move populations toward objective levels quicker. Importantly, deer management will continue to be adaptive and harvests will be adjusted in the future as we gain information on the actual effects of the regulation changes.

## 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 2020 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 (3 percent in 2020) 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 20,000 antlerless permits be issued (15 percent fewer than the 23,000 approved for distribution in 2020). An increase in antlerless permits is recommended in 2 WMUs, and a decrease in antlerless permits is recommended for 9 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 5,137 antlerless deer above those harvested during the archery and youth/novice seasons. Harvesting this number of antlerless deer should yield approximately 4,366 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 2020. However, a greater proportion of the harvest is expected to come from the archery season. 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. This recommendation also accounts for uncertainty about continued changes in hunting effort and harvest patterns related to the COVID-19 pandemic and the new regulations by assuming relatively high antlerless permit fill rates that are unlikely to be achieved. Harvests are also intended 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 as deer condition and fawn recruitment rates improve.

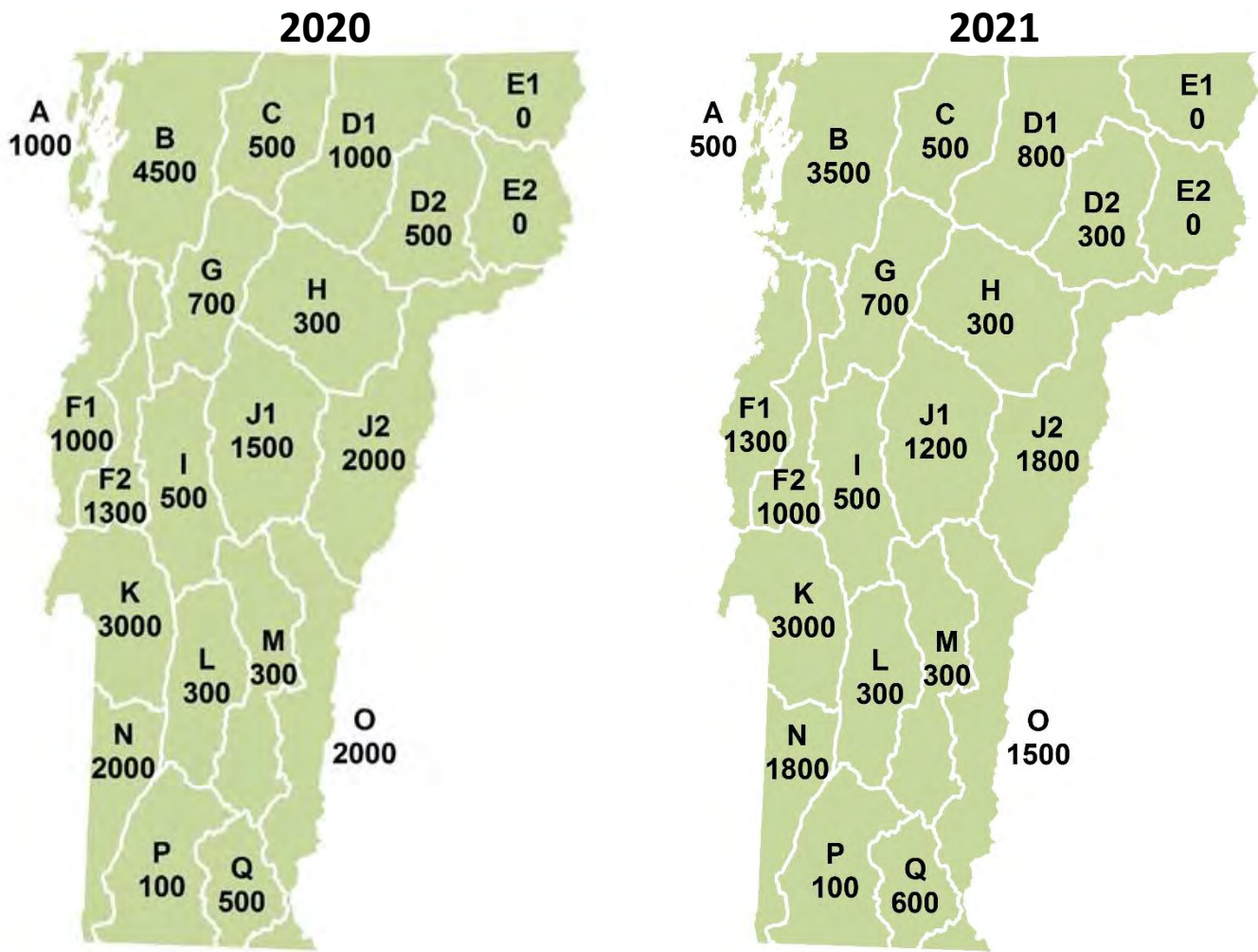


Figure 7. Antlerless permit allocations by wildlife management unit for 2020 and 2021 (proposed).

Table 1. Estimated deer densities, predicted antlerless deer harvest during the 2021 archery, youth, and muzzleloader seasons, and actual 2020 antlerless harvest by wildlife management unit.

WMU	Deer per mi <sup>2</sup>			Early Antlerless		Muzzleloader Antlerless			2021 Total Antlerless	2020 Recommended & (Actual) Antlerless		% Change from 2020 Actual	% of Doe Population Harvested	
	Objective	2020	2021	Archery	Youth	Permits	Fill			Antlerless	Antlerless			Antlerless
							Rate	Harvest						
<b>A</b>	18	34	29	159	23	500	25%	126	308	339 (383)	-20%	26%		
<b>B</b>	18	25	22	749	163	3500	27%	945	1857	1813 (1839)	+1%	24%		
<b>C</b>	15	16	16	230	61	500	34%	170	461	446 (421)	+9%	12%		
<b>D1</b>	15	19	16	451	124	800	34%	275	850	762 (844)	+1%	15%		
<b>D2</b>	12	12	12	171	39	300	30%	90	300	306 (310)	-3%	11%		
<b>E1</b>	<10	6	6	31	8	0		0	39	19 (38)	+3%	4%		
<b>E2</b>	<10	5	5	14	6	0		0	21	12 (20)	+3%	2%		
<b>F1</b>	15	21	21	202	42	1300	26%	333	577	382 (411)	+40%	15%		
<b>F2</b>	18	19	18	195	25	1000	26%	258	479	450 (454)	+5%	17%		
<b>G</b>	12	17	16	193	16	700	26%	180	389	345 (337)	+16%	10%		
<b>H</b>	15	14	13	354	52	300	32%	96	501	335 (480)	+4%	12%		
<b>I</b>	12	13	13	150	20	500	28%	140	309	249 (264)	+17%	10%		
<b>J1</b>	15	20	19	380	60	1200	28%	331	771	814 (726)	+6%	13%		
<b>J2</b>	15	18	17	408	70	1800	31%	554	1031	989 (897)	+15%	14%		
<b>K</b>	18	25	25	242	53	3000	23%	702	997	928 (765)	+30%	16%		
<b>L</b>	12	11	11	74	8	300	26%	77	158	189 (132)	+20%	7%		
<b>M</b>	12	13	14	74	12	300	25%	75	160	148 (131)	+22%	4%		
<b>N</b>	18	19	18	144	42	1800	20%	354	540	570 (458)	+18%	15%		
<b>O</b>	15	16	15	246	31	1500	20%	294	571	741 (544)	+5%	11%		
<b>P</b>	12	11	11	110	10	100	26%	26	146	127 (137)	+6%	5%		
<b>Q</b>	12	14	15	78	4	600	19%	113	195	184 (144)	+35%	10%		
<b>STATE</b>				<b>4655</b>	<b>868</b>	<b>20000</b>	<b>26%</b>	<b>5137</b>	<b>10660</b>	<b>10147 (9735)</b>	<b>+10%</b>	<b>13%</b>		

Table 2. Muzzleloader antlerless permit history by WMU, 2011–2020, and recommended permit allocation for 2021. Numbers in parentheses are the number actually distributed.

WMU	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>A</b>	550	650	900	900	900	1100	1100 (843)	1100 (720)	1100 (939)	1000	<b>500</b>
<b>B</b>	3200	3600	3400	3800	3350	5500	5500	5500	5500	4500	<b>3500</b>
<b>C</b>	0	0	400	400	100	350	700	800	300	500	<b>500</b>
<b>D1<sup>a</sup></b>	175	250	450	850	100	300	500	1200	500	1000	<b>800</b>
<b>D2<sup>a</sup></b>	0	0	100	0	0	100	300	800	300	500	<b>300</b>
<b>E1<sup>a</sup></b>	0	0	0	0	0	0	0	0	0	0	<b>0</b>
<b>E2<sup>a</sup></b>	0	0	0	0	0	0	0	0	0	0	<b>0</b>
<b>F1</b>	450	525	250	175	0	200	1200 (917)	1000 (900)	1000	1000	<b>1300</b>
<b>F2</b>	425	575	450	275	0	700	1500 (1297)	1300	1300	1300	<b>1000</b>
<b>G</b>	0	0	100	200	100	300	300	300	300	700	<b>700</b>
<b>H<sup>b</sup></b>	225	300	150	550	100	750	900	1100	400	300	<b>300</b>
<b>I</b>	0	0	50	0	0	0	300	300	300	500	<b>500</b>
<b>J1</b>	275	400	100	150	0	300	750	1200	800	1500	<b>1200</b>
<b>J2<sup>c</sup></b>	775	1150	950	1000	400	1500	1750	2500	2000	2000	<b>1800</b>
<b>K<sup>d</sup></b>	1400	2000	3900	5000 (4403)	2250	4100 (3569)	4100 (2505)	4000 (2446)	4000 (2440)	3000	<b>3000</b>
<b>L</b>	0	0	100	0	0	0	300	300	300	300	<b>300</b>
<b>M<sup>e</sup></b>	0	0	0	0	0	200	300	300	300	300	<b>300</b>
<b>N</b>	1425	1975	2100	3000 (2123)	1850	2100 (1835)	2100 (1588)	2000 (1487)	2000 (1462)	2000	<b>1800</b>
<b>O<sup>f</sup></b>	675	750	750	750	500	1200	2000	2600 (2300)	2000	2000	<b>1500</b>
<b>P</b>	0	0	0	0	0	0	0	0	0	100	<b>100</b>
<b>Q<sup>a</sup></b>	0	250	200	0	0	250	900 (692)	700 (604)	600	500	<b>600</b>
<b>STATE</b>	<b>9575</b>	<b>12425</b>	<b>14350</b>	<b>17050</b> (15576)	<b>9650</b>	<b>18950</b> (18254)	<b>24500</b> (21442)	<b>27000</b> (24057)	<b>23000</b> (20741)	<b>23000</b>	<b>20000</b>

<sup>a</sup> WMU boundary changed in 2014.

<sup>b</sup> Permit totals prior to 2014 are for former WMU H1.

<sup>c</sup> Permit totals prior to 2014 are for former WMUs H2 and J2.

<sup>d</sup> Permit totals prior to 2014 are for former WMUs K1 and K2.

<sup>e</sup> Permit totals prior to 2014 are for former WMUs M1 and O1.

<sup>f</sup> 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, 2011–2020.

<b>WMU</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>A</b>	14%	11%	10%	11%	9%	10%	12%	19%	13%	17%
<b>B</b>	16%	13%	13%	14%	12%	15%	13%	19%	14%	18%
<b>C</b>			26%	22%	20%	29%	19%	33%	24%	23%
<b>D1*</b>	27%	22%	26%	22%	10%	25%	28%	29%	24%	23%
<b>D2*</b>			21%			18%	18%	21%	21%	20%
<b>E1*</b>										
<b>E2*</b>										
<b>F1</b>	18%	13%	12%	13%		15%	11%	16%	13%	17%
<b>F2</b>	12%	15%	13%	12%		14%	11%	19%	12%	17%
<b>G</b>			35%	16%	7%	20%	16%	28%	14%	17%
<b>H*</b>	24%	20%	18%	19%	12%	16%	17%	20%	18%	21%
<b>I</b>			24%				11%	24%	15%	19%
<b>J1</b>	23%	16%	22%	12%		23%	19%	26%	19%	18%
<b>J2*</b>	19%	16%	22%	22%	16%	20%	16%	23%	17%	21%
<b>K</b>	16%	10%	11%	10%	10%	13%	12%	18%	14%	16%
<b>L</b>			23%				14%	31%	15%	17%
<b>M</b>						18%	15%	24%	13%	17%
<b>N</b>	13%	11%	11%	11%	9%	13%	12%	18%	11%	13%
<b>O*</b>	19%	15%	16%	23%	15%	15%	15%	20%	11%	13%
<b>P</b>										17%
<b>Q*</b>		14%	12%			11%	12%	18%	10%	13%
<b>STATE</b>	<b>16%</b>	<b>15%</b>	<b>18%</b>	<b>16%</b>	<b>11%</b>	<b>15%</b>	<b>14%</b>	<b>21%</b>	<b>14%</b>	<b>17%</b>

\*WMU boundary changed in 2014.

## Public Meeting Comments

Three virtual public hearings were held March 23, 25, and 26, 2021 to gather hunters’ comments on the deer herd. Approximately 63 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 online public hearings will be held May 11 and 13, 2021.

## Appendix A: Explanation of 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 2021 across all seasons. The number of adult does ( $\geq 1$  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 9 years based on retrospective population modelling and the projected density in fall 2021. The density objective established in the *2020-2030 Big Game Management Plan* is shown and represented by a red line in the figure. The shaded green area shows  $\pm 2$  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

**Yearling Antler Beam Diameter/Yearling Male Weight/Fawn Weight:** These physical condition metrics are from deer examined by biologists at check stations and are shown for the past 10 years. The average for the most recent 3 years of data is shown, as well as the minimum acceptable level established in the *2020-2030 Big Game Management Plan*. The red shaded area in the figures represents levels below the established minimums.

**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 or region 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

mi<sup>2</sup> deer habitat



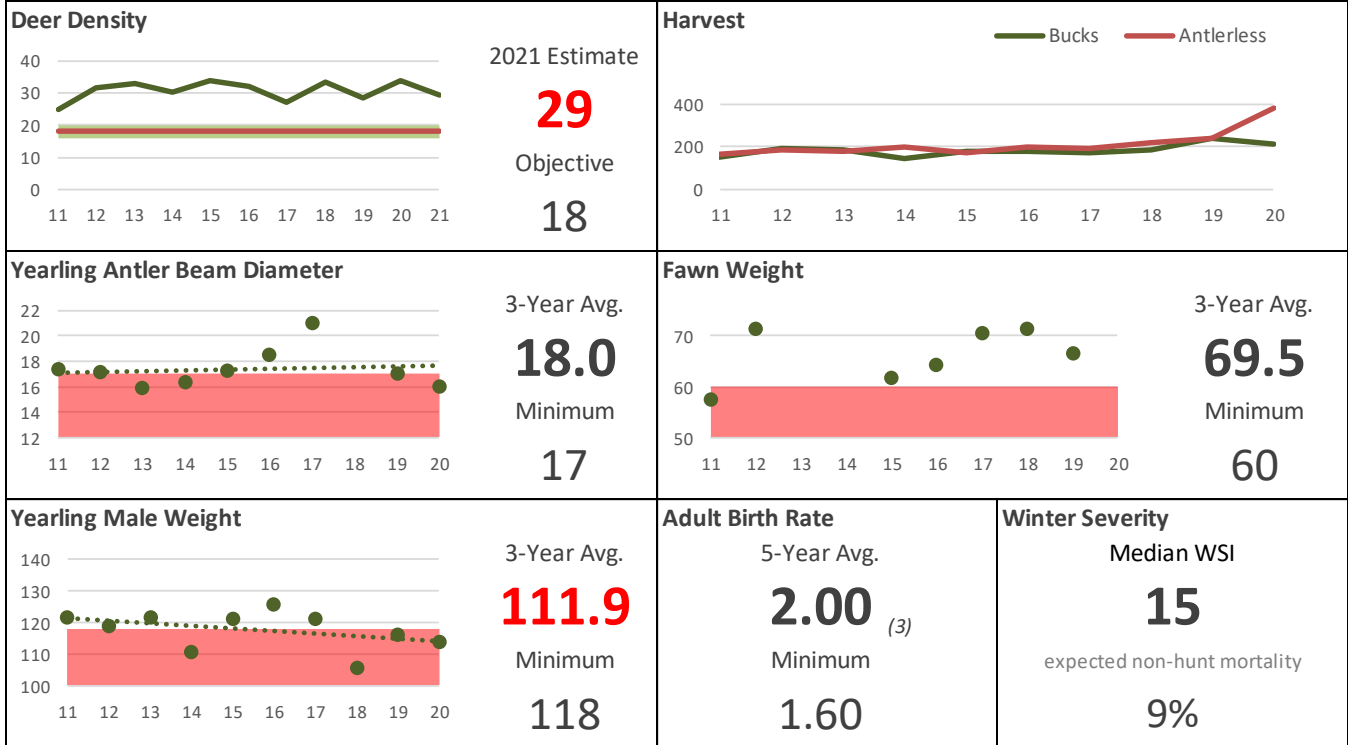
Management Objective

**Decrease**

Recommended Antlerless Harvest

**308** 259 Adult Does

26% of doe population



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 apparent decline in yearling body weight is concerning, but sample size has been low.

The abundant agriculture and other open land means only 46% of the habitat is forested. As a result, the estimated density of 29 deer per square mile of habitat equates to 63 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 2020 antlerless harvest in this WMU exceeded expectations due to the substantial increase in the archery harvest. The 2021 recommendation is similar to the 2020 recommendation but requires fewer antlerless permits due to a higher expected archery harvest. A slightly lower harvest than achieved in 2020 will avoid reducing the population too quickly.



# B

616

mi<sup>2</sup> deer habitat



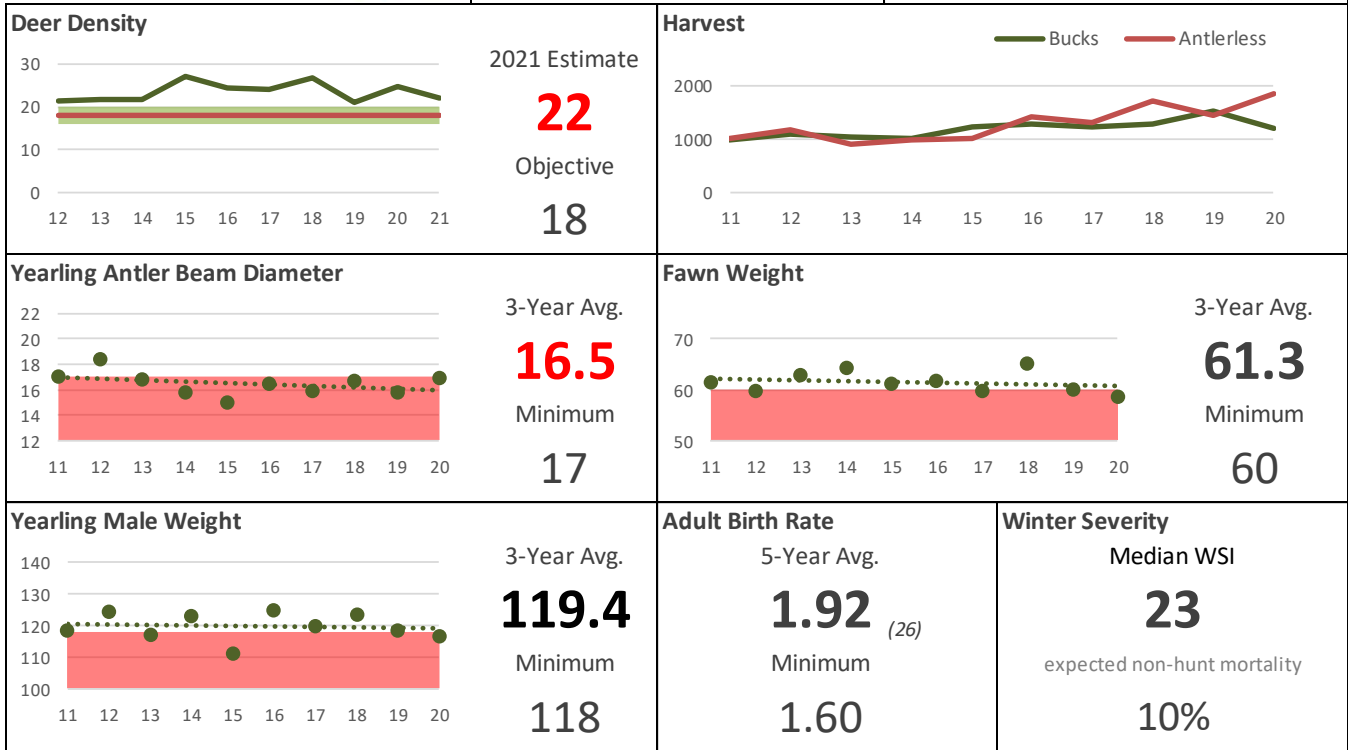
Management Objective

**Decrease**

Recommended Antlerless Harvest

**1857** 1554 Adult Does

24% of doe population



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 desired increases.

Deer density in this WMU has been above management objective for many years, but antlerless harvests achieved in 2018 and 2020 should be sufficient to reduce the population. Greater antlerless harvests will need to continue until density is reduced to objective.

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

# C

386

mi<sup>2</sup> deer habitat



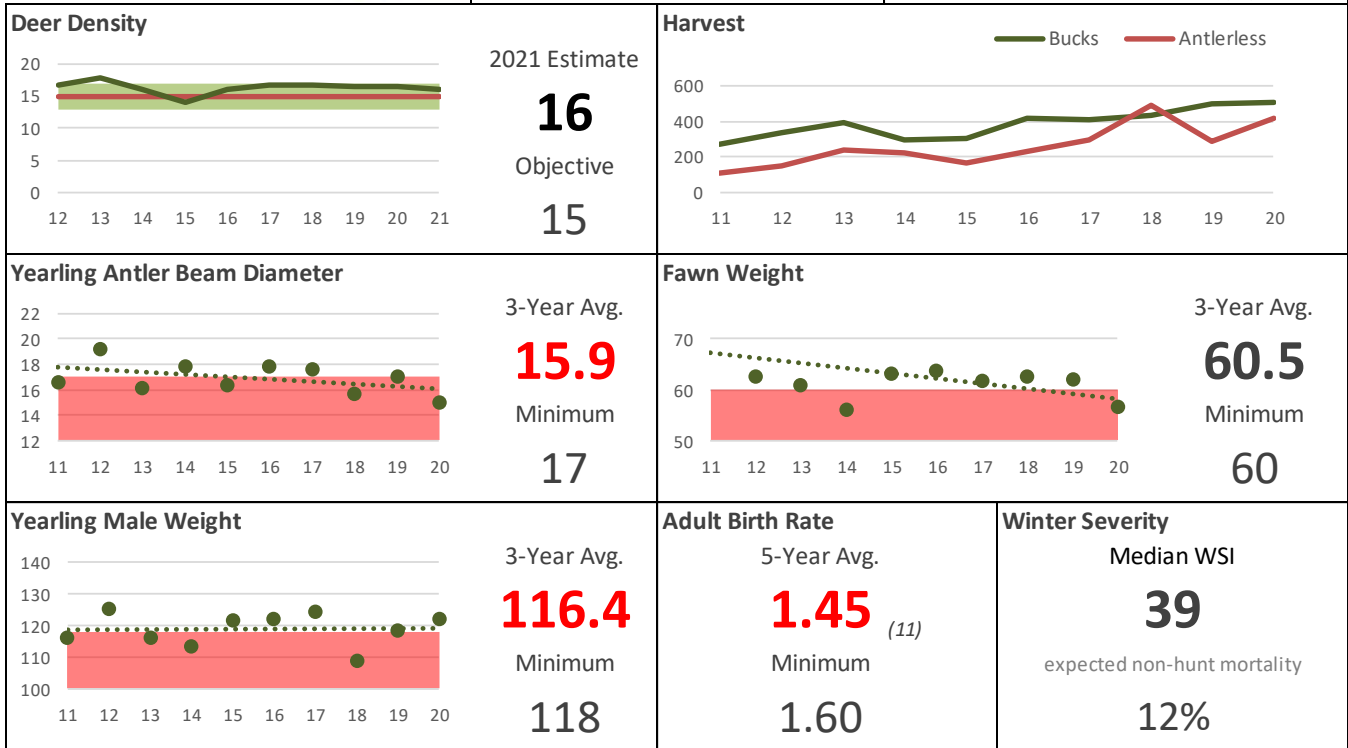
Management Objective

## Stabilize

Recommended Antlerless Harvest

## 461 382 Adult Does

12% of doe population



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 moderately poor 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/mi<sup>2</sup> (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 2021 recommended antlerless harvest is similar to the harvest recommended in 2020.

# D1

570

mi<sup>2</sup> deer habitat



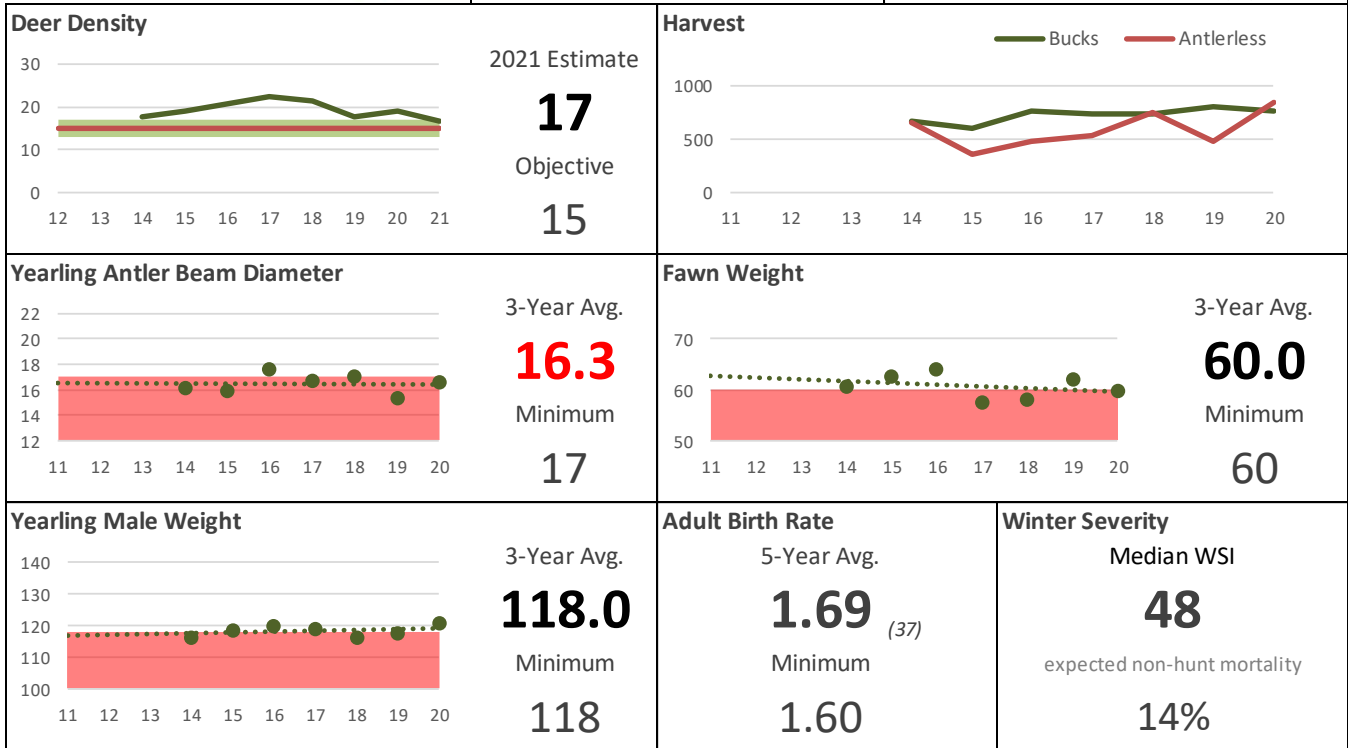
## Management Objective

**Stabilize**

## Recommended Antlerless Harvest

**850** 704 Adult Does

15% 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.

The antlerless harvest achieved in 2020 should be sufficient to reduce deer density in this WMU, and a similar harvest is recommended in 2021. Increased antlerless harvests will need to continue, regardless of winter severity, until deer density reaches the objective.

# D2

387

mi<sup>2</sup> deer habitat



Management Objective

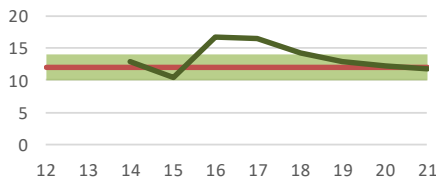
## Stabilize

Recommended Antlerless Harvest

## 300 249 Adult Does

11% of doe population

### Deer Density



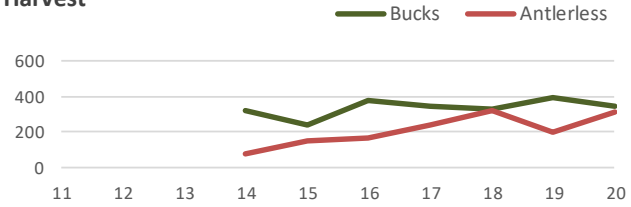
2021 Estimate

## 12

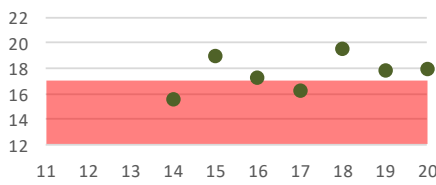
Objective

## 12

### Harvest



### Yearling Antler Beam Diameter



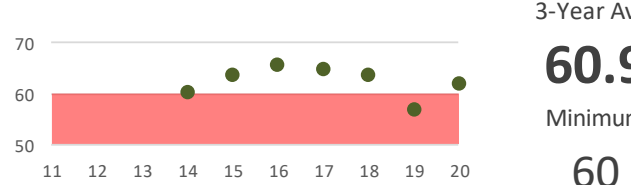
3-Year Avg.

## 18.4

Minimum

## 17

### Fawn Weight



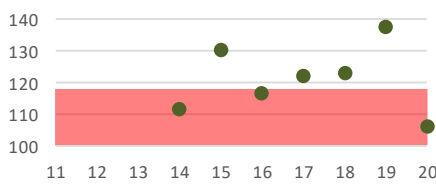
3-Year Avg.

## 60.9

Minimum

## 60

### Yearling Male Weight



3-Year Avg.

## 122.1

Minimum

## 118

### Adult Birth Rate

5-Year Avg.

## 1.82

(17)

Minimum

## 1.60

### Winter Severity

Median WSI

## 62

expected non-hunt mortality

## 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/mi<sup>2</sup> by allowing for slightly increased antlerless harvests, which will 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

mi<sup>2</sup> deer habitat



Management Objective

## Stabilize

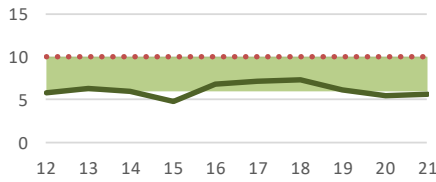
Recommended Antlerless Harvest

## 60

49 Adult Does

3% of doe population

### Deer Density



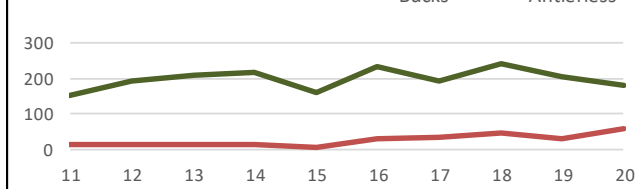
2021 Estimate

## 6

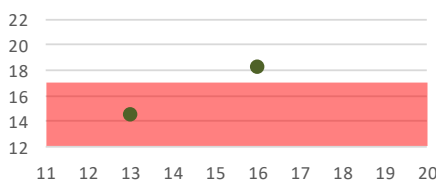
Objective

## <10

### Harvest



### Yearling Antler Beam Diameter



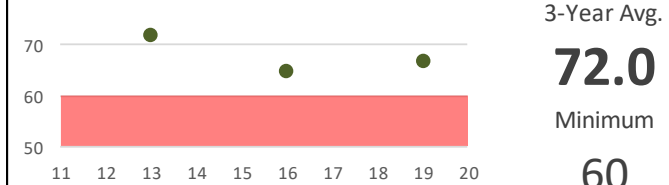
3-Year Avg.

## 14.6

Minimum

## 17

### Fawn Weight



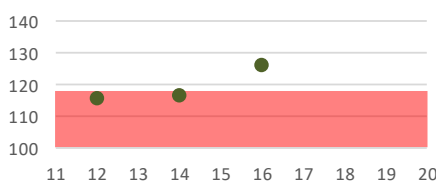
3-Year Avg.

## 72.0

Minimum

## 60

### Yearling Male Weight



3-Year Avg.

## 108.5

Minimum

## 118

### Adult Birth Rate

5-Year Avg.

## 1.89

(9)

Minimum

## 1.60

### Winter Severity

Median WSI

## 77

expected non-hunt mortality

## 18%



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/mi<sup>2</sup> helps minimize the risk of brainworm infection in moose and allows deer winter habitats to improve.

Deer density remains well below the 10/mi<sup>2</sup> 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

mi<sup>2</sup> deer habitat



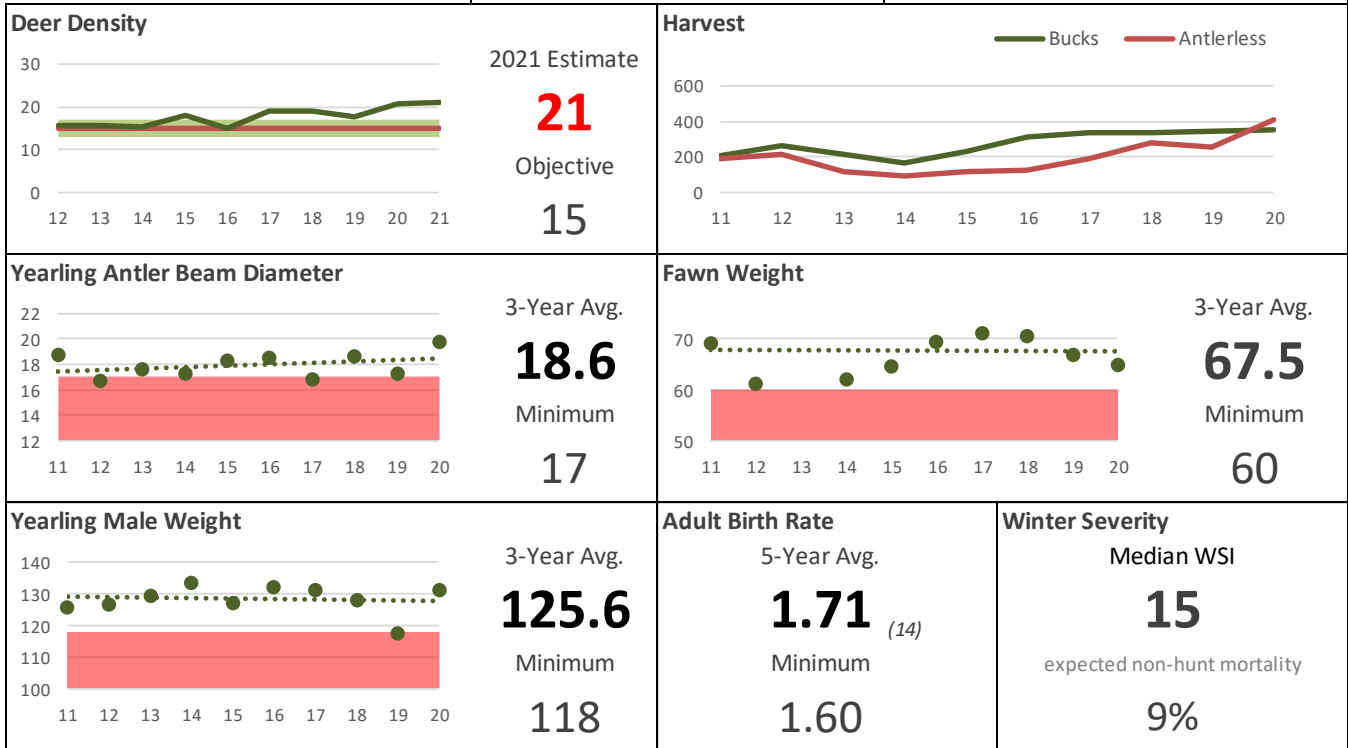
Management Objective

**Decrease**

Recommended Antlerless Harvest

**577 485** Adult Does

15% of doe population



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 21 deer/mi<sup>2</sup> of habitat therefore equates to 63 deer/mi<sup>2</sup> 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 a further increase over the harvest achieved in 2020. 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

mi<sup>2</sup> deer habitat



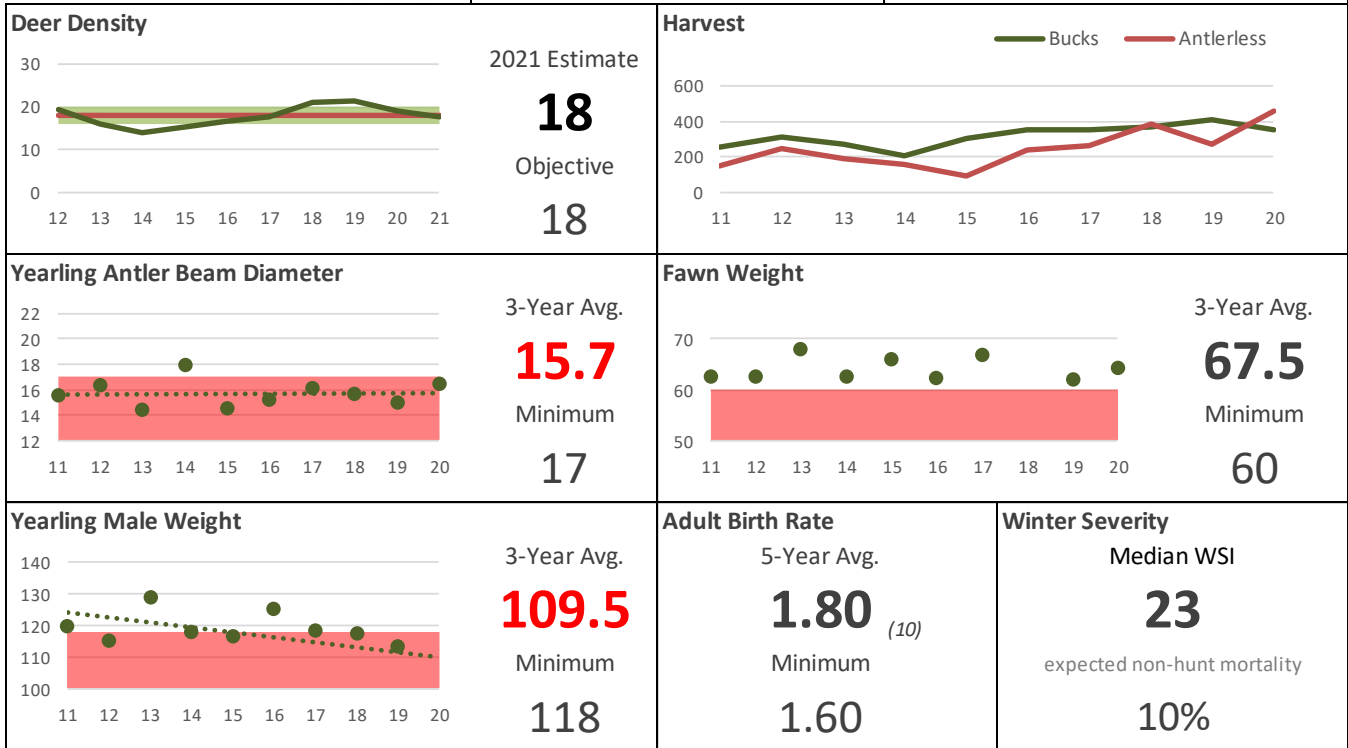
Management Objective

**Stabilize**

Recommended Antlerless Harvest

**479** 403 Adult Does

17% of doe population



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 may have helped to stabilize the population near the objective.

The current antlerless harvest recommendation is similar to the harvest achieved in 2020, 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

mi<sup>2</sup> deer habitat



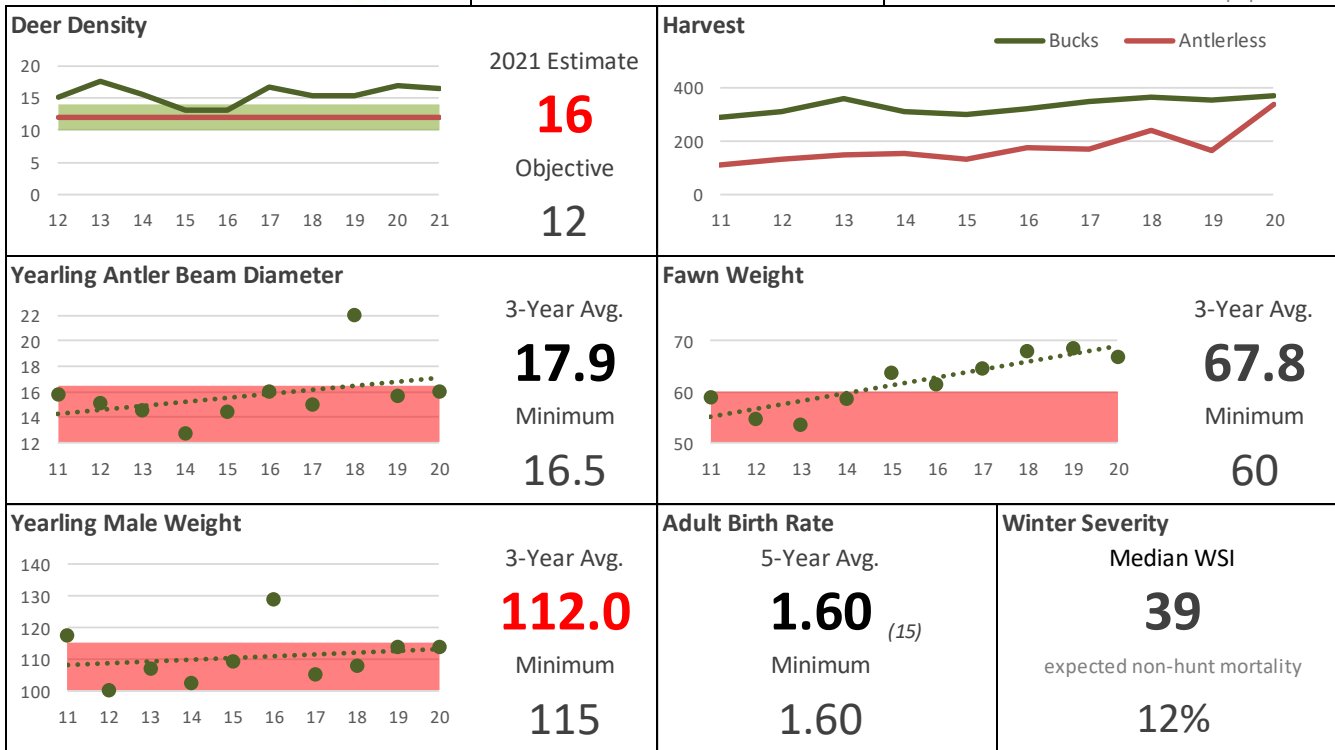
Management Objective

**Decrease**

Recommended Antlerless Harvest

**389** 329 Adult Does

10% of doe population



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. The poor physical condition of deer clearly indicates that density has exceeded what the habitat can support, likely for many years. This was the primary basis for setting the current population objective in this unit at 12 deer/mi<sup>2</sup>.

Past antlerless harvests have had no apparent effect on the deer population in this WMU, although the level of harvest achieved in 2020, if maintained, should be sufficient to reduce the population. The recommended antlerless harvest in 2021 is similar to the harvest recommended and achieved in 2020.



# H

518

mi<sup>2</sup> deer habitat



Management Objective

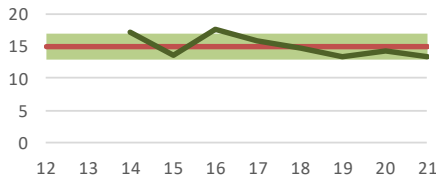
## Stabilize

Recommended Antlerless Harvest

## 501 418 Adult Does

12% of doe population

### Deer Density



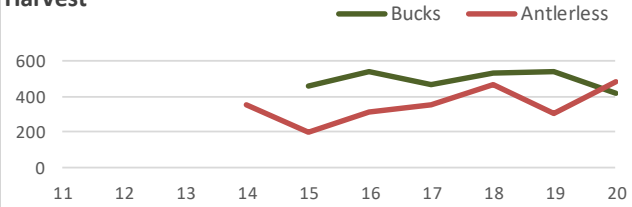
2021 Estimate

## 13

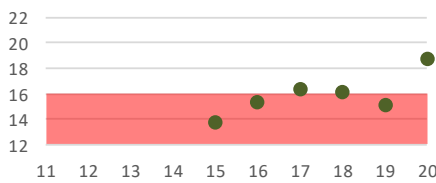
Objective

## 15

### Harvest



### Yearling Antler Beam Diameter



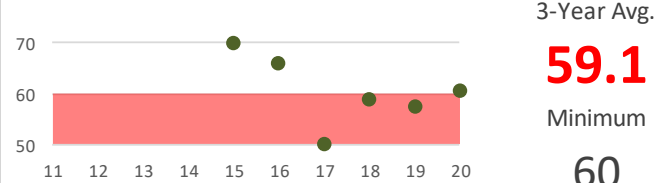
3-Year Avg.

## 16.7

Minimum

## 16

### Fawn Weight



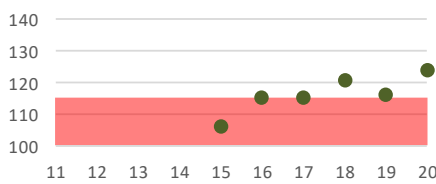
3-Year Avg.

## 59.1

Minimum

## 60

### Yearling Male Weight



3-Year Avg.

## 120.1

Minimum

## 115

### Adult Birth Rate

5-Year Avg.

## 1.63

(24)

Minimum

## 1.60

### Winter Severity

Median WSI

## 43

expected non-hunt mortality

## 13%



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.

The 2020 antlerless harvest exceeded expectations by 43%. However, because 75% of that harvest occurred during archery season, it was heavily concentrated closer to Barre and Montpelier. Nearly half of the total antlerless harvest in the WMU came from the towns of Montpelier, East Montpelier, Barre, and Plainfield. This is a highly desirable harvest distribution, and the recommendation for 2021 is to maintain the same harvest level achieved in 2020.



424

mi<sup>2</sup> deer habitat



Management Objective

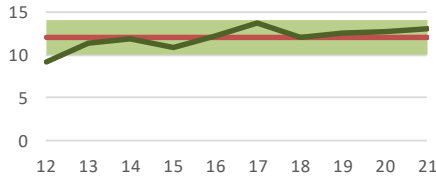
**Stabilize**

Recommended Antlerless Harvest

**309** 260 Adult Does

10% of doe population

**Deer Density**



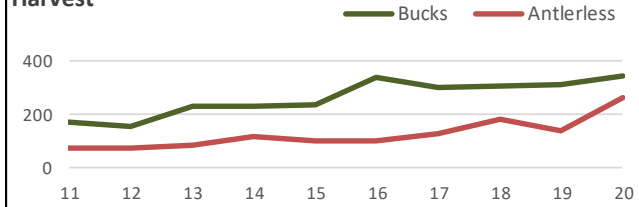
2021 Estimate

**13**

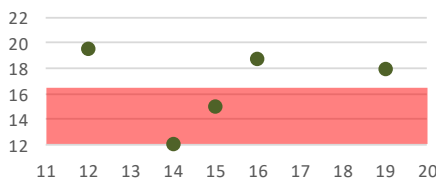
Objective

**12**

**Harvest**



**Yearling Antler Beam Diameter**



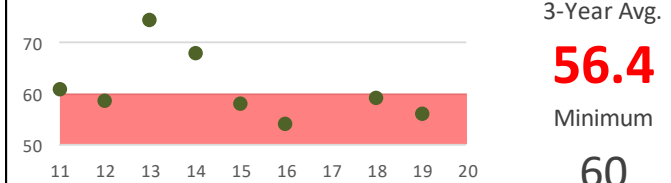
3-Year Avg.

**17.3**

Minimum

**16.5**

**Fawn Weight**



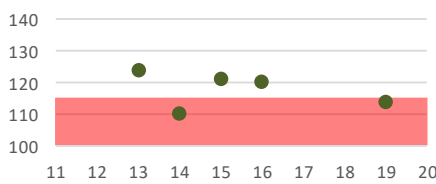
3-Year Avg.

**56.4**

Minimum

**60**

**Yearling Male Weight**



3-Year Avg.

**118.3**

Minimum

**115**

**Adult Birth Rate**

5-Year Avg.

**1.38** <sup>(9)</sup>

Minimum

**1.60**

**Winter Severity**

Median WSI

**39**

expected non-hunt mortality

**12%**



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. The deer population in this unit has grown steadily over the past 10 years, and the buck harvest has nearly doubled in that time. Clearly, past antlerless harvest were insufficient to prevent population growth.

The higher antlerless harvest achieved in 2020 should help to stabilize the population near its current level, and the recommendation for 2021 is to continue with that harvest level.

# J1

528

mi<sup>2</sup> deer habitat



Management Objective

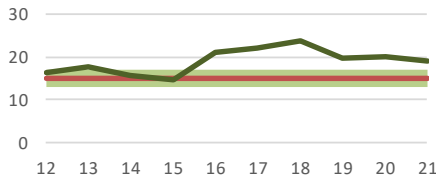
**Decrease**

Recommended Antlerless Harvest

**771 646** Adult Does

13% of doe population

### Deer Density



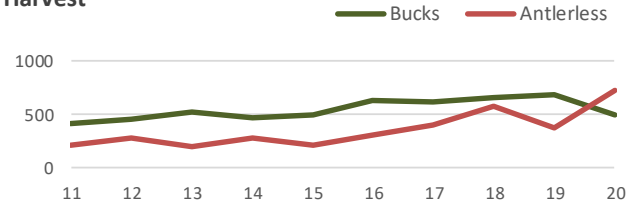
2021 Estimate

**19**

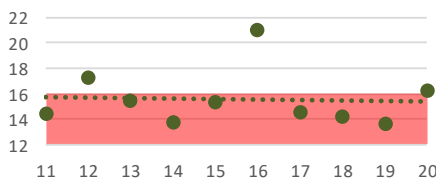
Objective

**15**

### Harvest



### Yearling Antler Beam Diameter



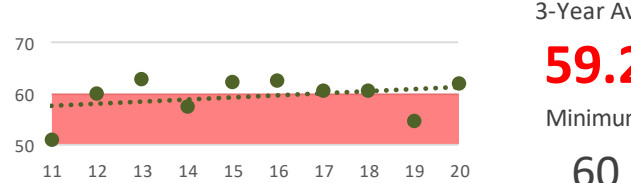
3-Year Avg.

**14.7**

Minimum

**16**

### Fawn Weight



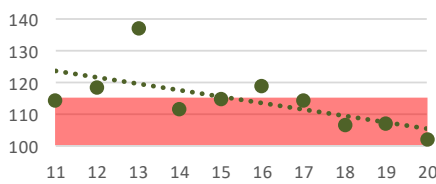
3-Year Avg.

**59.2**

Minimum

**60**

### Yearling Male Weight



3-Year Avg.

**105.2**

Minimum

**115**

### Adult Birth Rate

5-Year Avg.

**1.60** (32)

Minimum

**1.60**

### Winter Severity

Median WSI

**43**

expected non-hunt mortality

**13%**



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.

The recommended antlerless harvest is a continuation of the harvest achieved in 2020 and is necessary to reduce the population. It will take several more years at this higher harvest level to reduce deer density to the objective.

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

mi<sup>2</sup> deer habitat



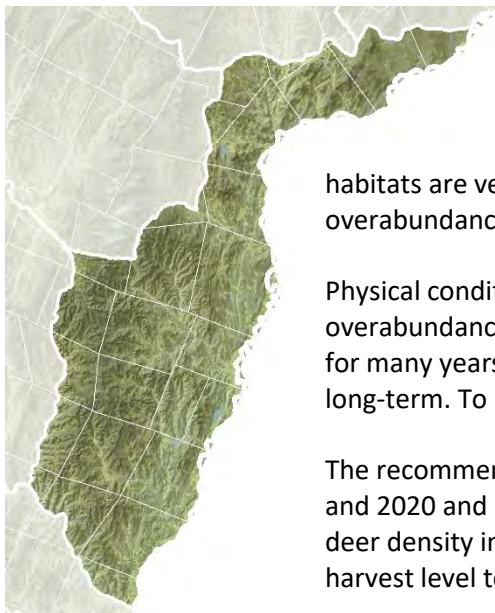
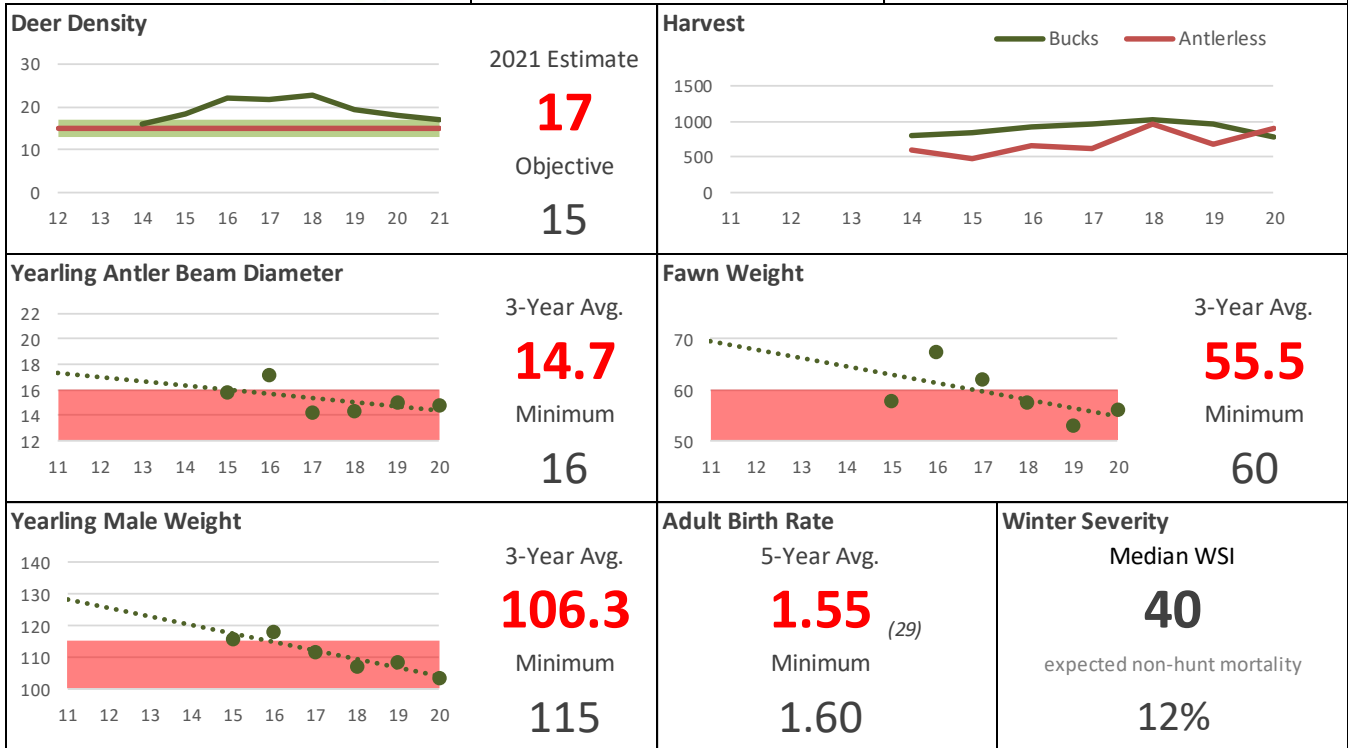
Management Objective

**Decrease**

Recommended Antlerless Harvest

**1031** 866 Adult Does

14% of doe population



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.

The recommended antlerless harvest maintains the higher harvests achieved in 2018 and 2020 and is necessary to reduce the population. Despite apparent declines in deer density in recent years, it will still likely take several more years at this higher harvest level to reduce deer density to the objective.

# K

438

mi<sup>2</sup> deer habitat



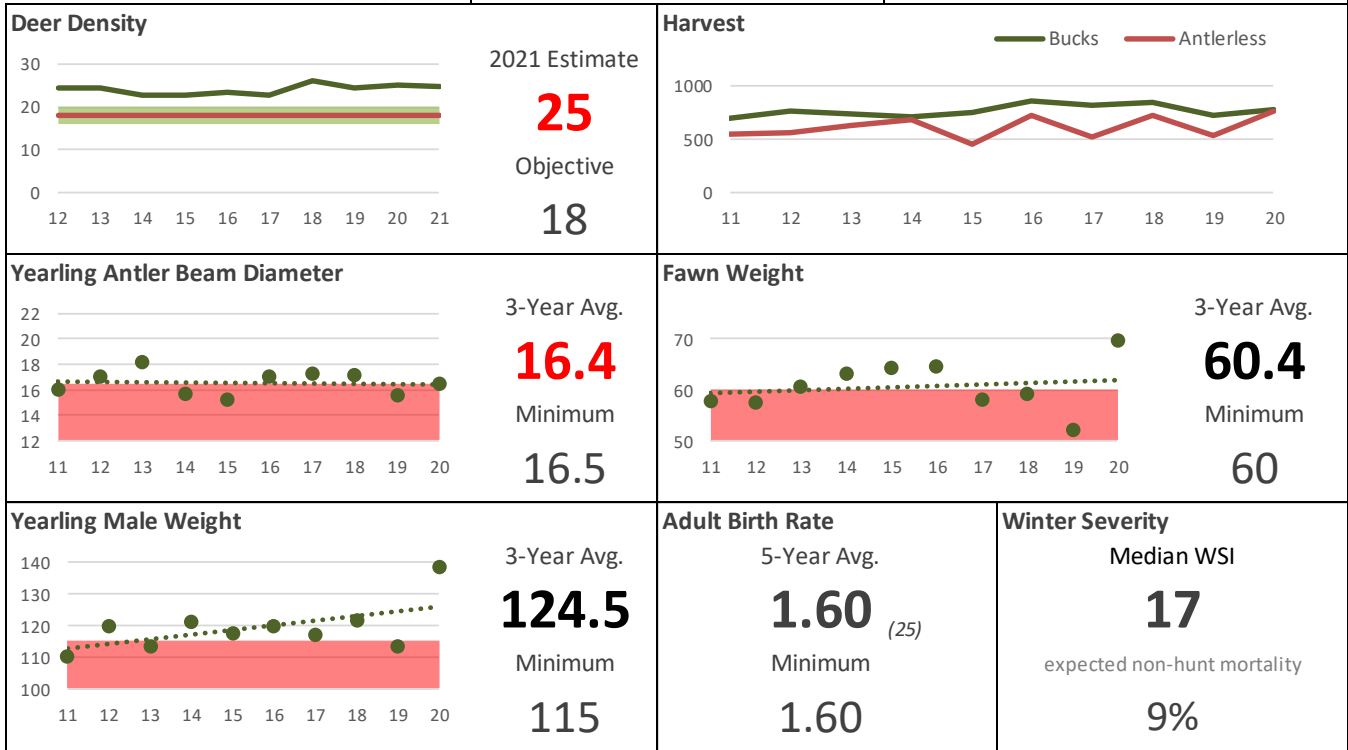
Management Objective

**Decrease**

Recommended Antlerless Harvest

**997** 840 Adult Does

16% of doe population



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 decent 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.

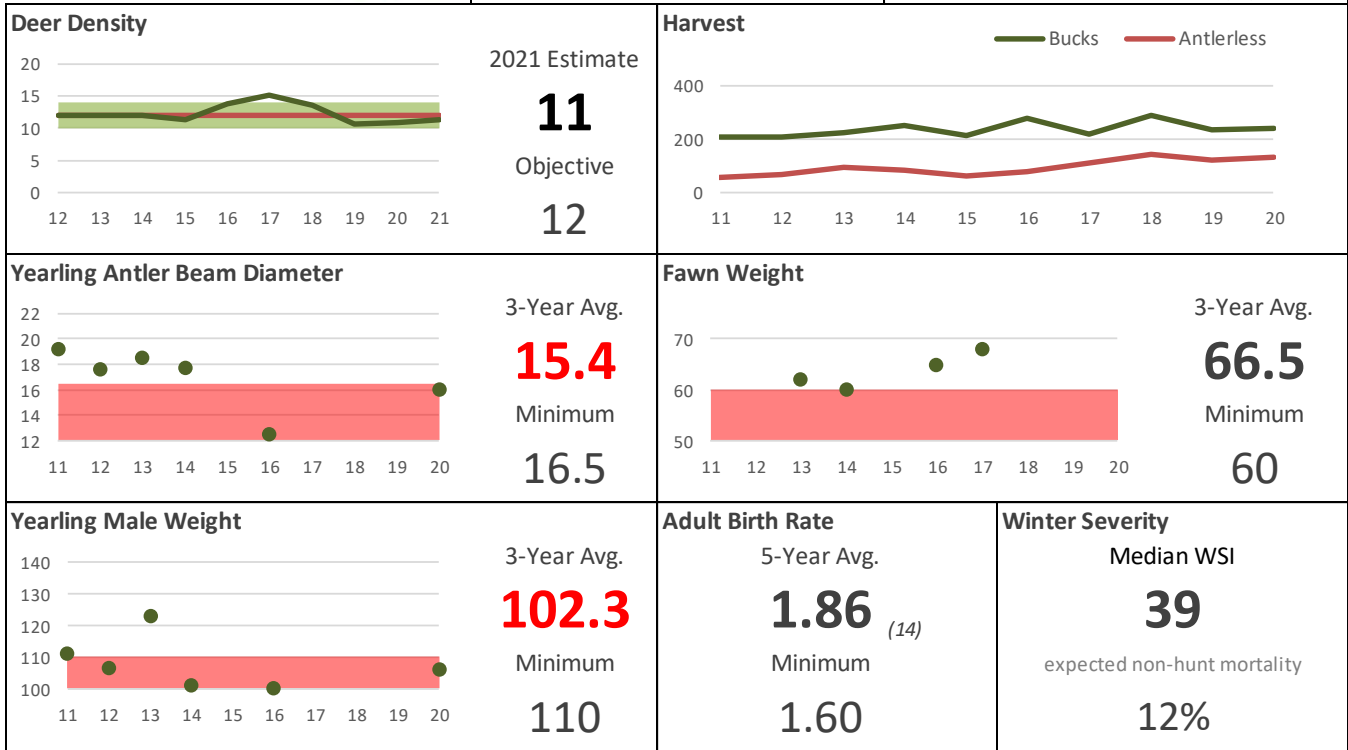
Antlerless harvest did not increase as expected in 2020, and was 18% below the objective of 928. The 2021 recommendation attempts to increase antlerless harvest to that level. If all permits are distributed this year and the recommended harvest is achieved, it will take several years at that harvest level to reduce deer density to the objective.

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





<b>Management Objective</b> <h1 style="color: green;">Stabilize</h1>	<b>Recommended Antlerless Harvest</b> <h1 style="font-size: 2em;">158</h1> <h1 style="font-size: 2em;">133</h1> Adult Does <small>7% of doe population</small>
---	--



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

mi<sup>2</sup> deer habitat



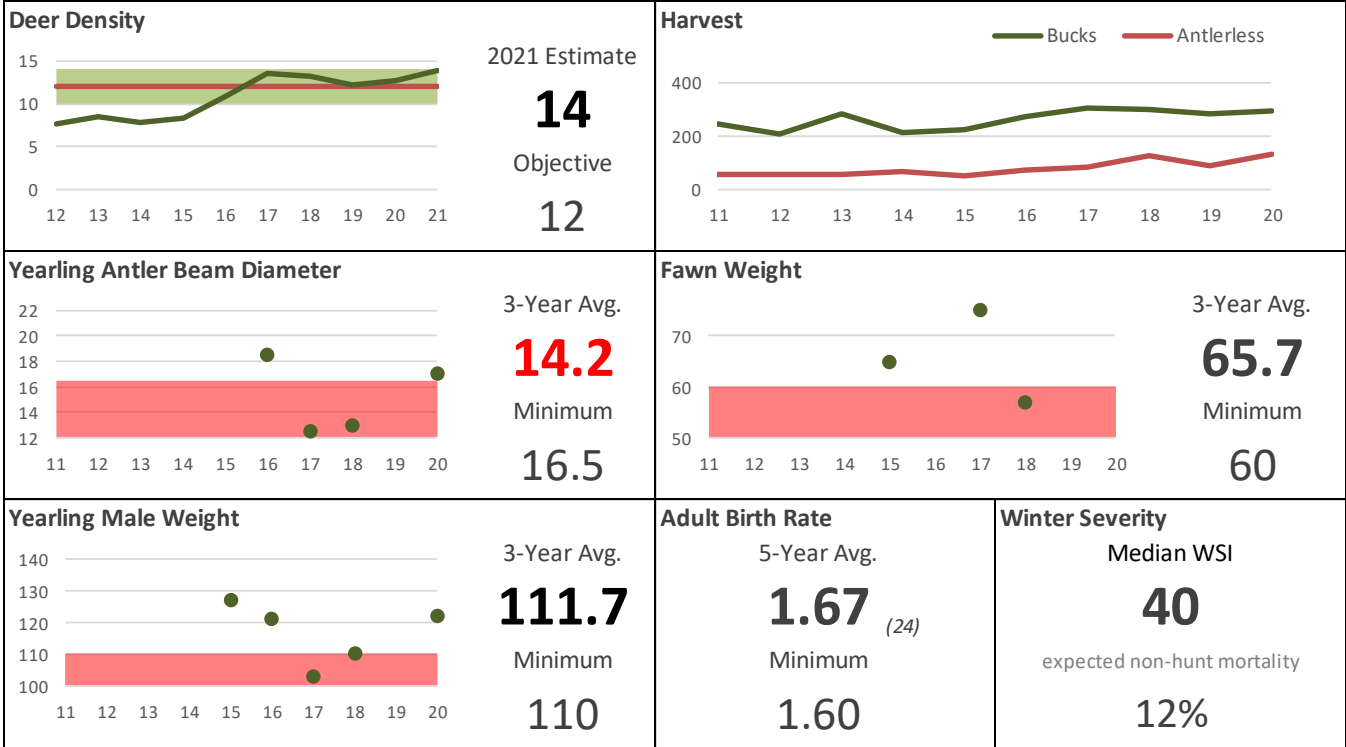
Management Objective

## Stabilize

Recommended Antlerless Harvest

## 160 134 Adult Does

4% of doe population



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.

Yearling antler beam diameter is below desired 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

mi<sup>2</sup> deer habitat



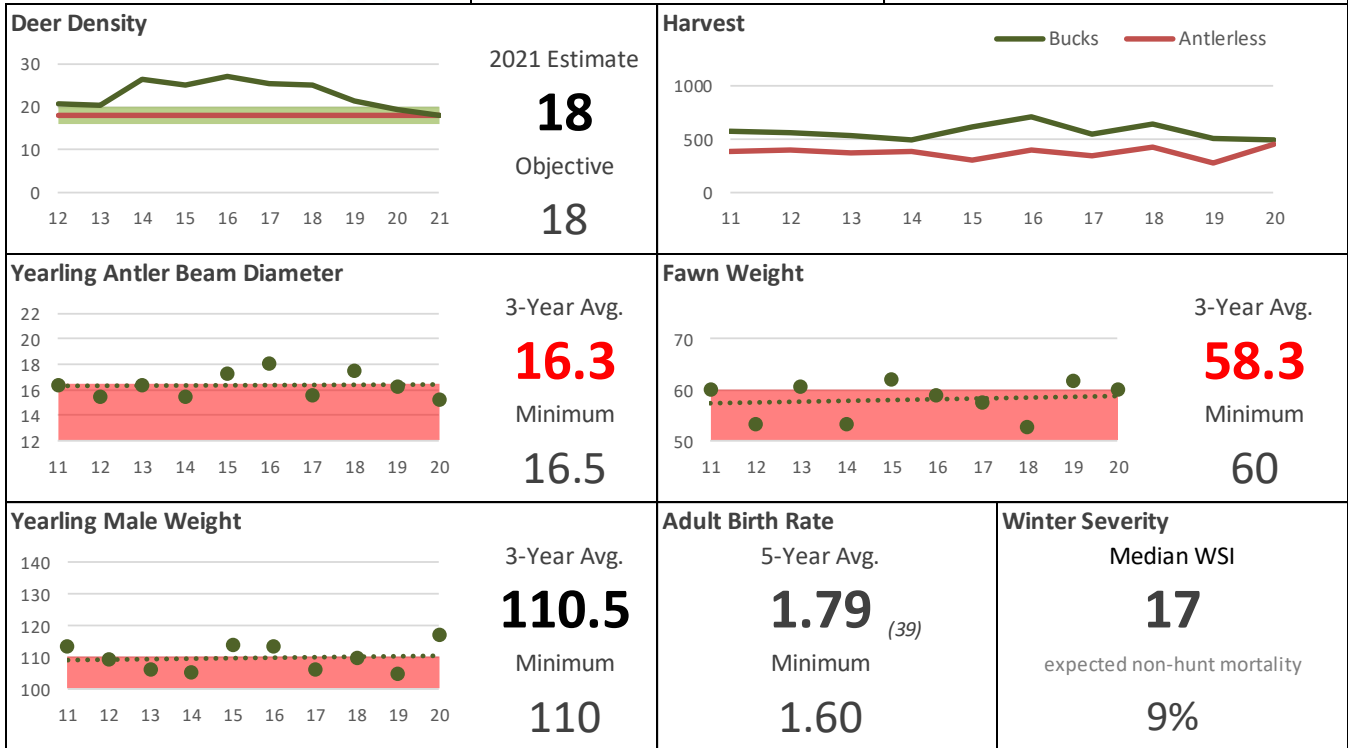
Management Objective

## Stabilize

Recommended Antlerless Harvest

## 540 452 Adult Does

15% of doe population



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 good birth rates as it allows does to be in good condition during the breeding period.

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.

Lower density estimates in recent years are presumably driven by lower buck harvests and deer sighting rates related to abundant mast crops in 2019 and 2020. It is unlikely that the population is declining. Regardless, the recommended harvest is similar to that achieved in recent years and will be necessary to stabilize the population if it is close to the objective.

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

# O

548

mi<sup>2</sup> deer habitat



Management Objective

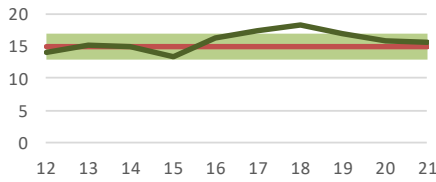
## Stabilize

Recommended Antlerless Harvest

## 571 481 Adult Does

11% of doe population

### Deer Density



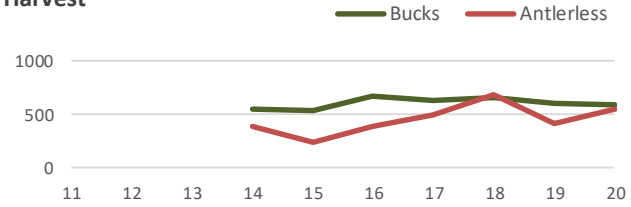
2021 Estimate

## 16

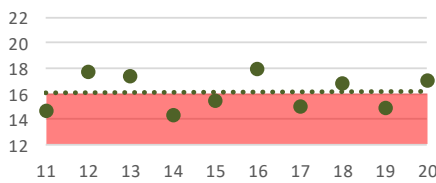
Objective

## 15

### Harvest



### Yearling Antler Beam Diameter



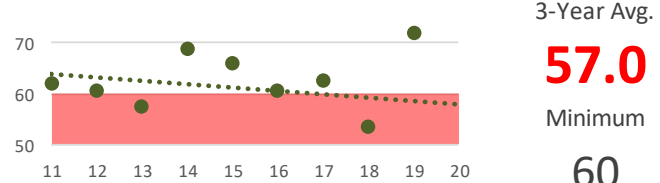
3-Year Avg.

## 16.2

Minimum

## 16

### Fawn Weight



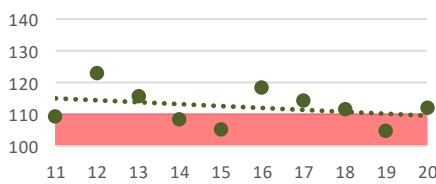
3-Year Avg.

## 57.0

Minimum

## 60

### Yearling Male Weight



3-Year Avg.

## 109.4

Minimum

## 110

### Adult Birth Rate

5-Year Avg.

## 1.73

(22)

Minimum

## 1.60

### Winter Severity

Median WSI

## 20

expected non-hunt mortality

## 9%



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 2020. The increased archery harvest allows for a reduction in antlerless permits.

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

mi<sup>2</sup> deer habitat



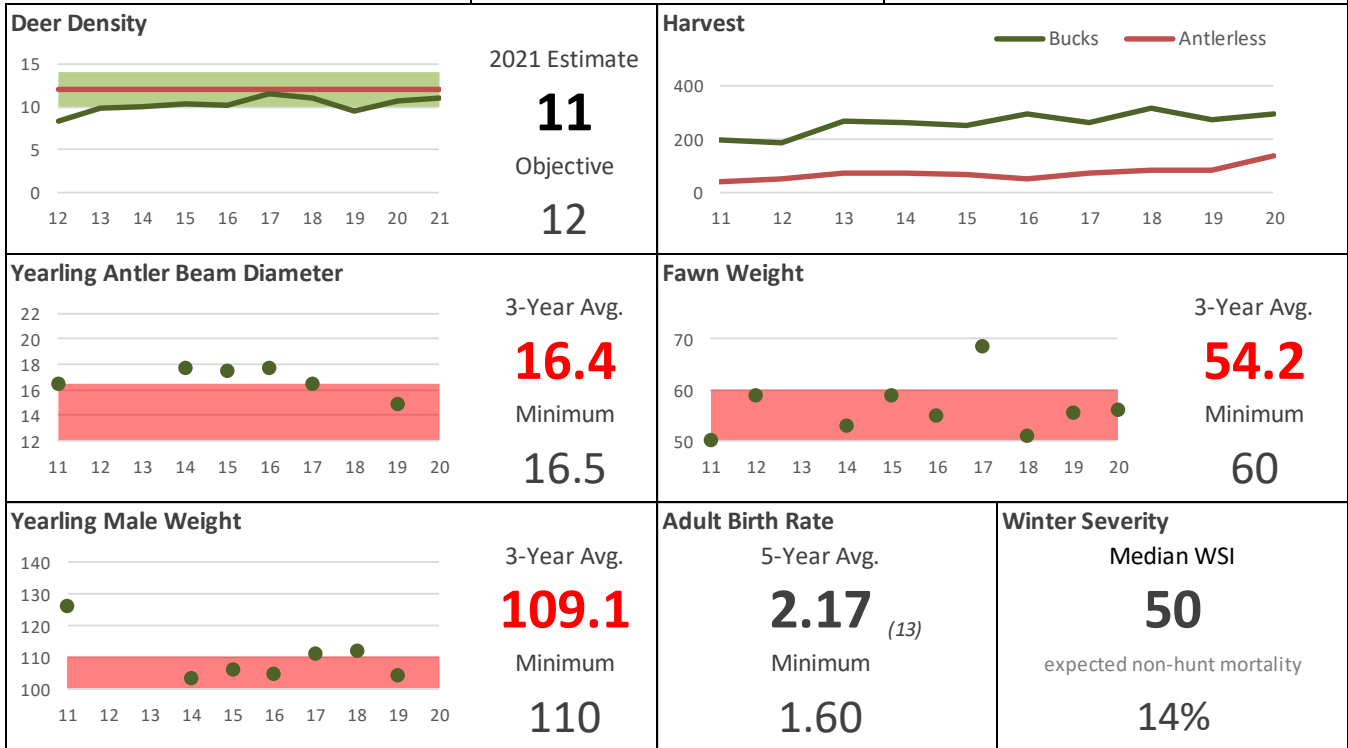
Management Objective

## Stabilize

Recommended Antlerless Harvest

## 146 122 Adult Does

5% 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/mi<sup>2</sup> over the past 10 years despite very minimal antlerless harvest (archery and youth only, no antlerless permits), 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 2019 and 2020. Given this trend, the Department would like to maintain the higher antlerless harvest achieved in 2020. 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

mi<sup>2</sup> deer habitat



### Management Objective

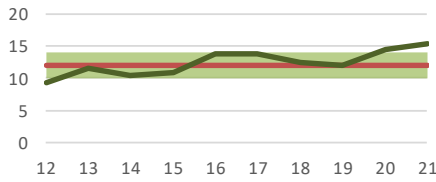
## Decrease

### Recommended Antlerless Harvest

# 195 165 Adult Does

10% of doe population

#### Deer Density



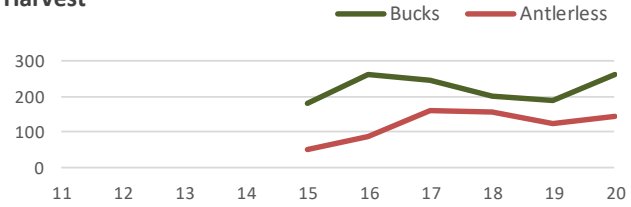
2021 Estimate

## 15

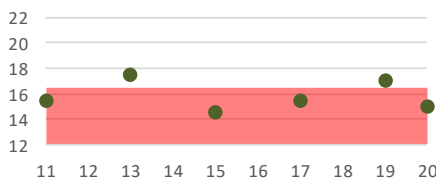
Objective

## 12

#### Harvest



#### Yearling Antler Beam Diameter



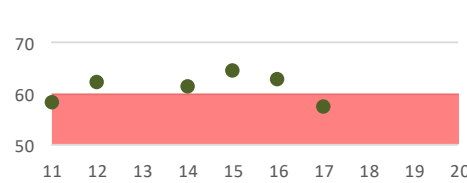
3-Year Avg.

## 15.8

Minimum

## 16.5

#### Fawn Weight



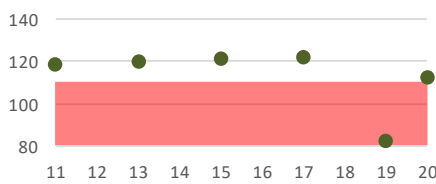
3-Year Avg.

## 61.8

Minimum

## 60

#### Yearling Male Weight



3-Year Avg.

## 105.2

Minimum

## 110

#### Adult Birth Rate

5-Year Avg.

## 1.71<sup>(7)</sup>

Minimum

## 1.60

#### Winter Severity

Median WSI

## 25

expected non-hunt mortality

## 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.

Yearling antler beam diameter and weight 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 increasing. The recommended antlerless harvest is an increase over levels achieved in recent years and is intended to reduce 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.