

2018 VERMONT WILDLIFE HARVEST REPORT – BLACK BEAR



VERMONT



Most of the programs described in this report are funded through the Federal Aid in Wildlife Restoration Program. This program was initiated in 1937 as the Federal Aid in Wildlife Act and created a system whereby taxes are paid on firearms, ammunition and archery equipment by the public who hunts. Today this excise tax generates over a hundred million dollars each year that are dedicated to state wildlife restoration and management projects across the United States. The State of Vermont uses these monies for acquiring land, and for restoring and managing wildlife. These excise tax dollars, coupled with state hunting license fees, have been the predominant source of money funding the successful restoration and management of Vermont's wildlife resources.

2018 Vermont Black Bear Harvest Report

Contents

.1
.1
.1
.3
.4
.4
.4
.6
.6
.7
.8
:y 10



The MISSION of the Vermont Fish & Wildlife Department is the conservation of fish, wildlife, and plants and their habitats for the people of Vermont.

Vermont Fish & Wildlife Department

Agency of Natural Resources 1 National Life Drive, Dewey Building Montpelier, Vermont 05620-3208 (802) 828-1000 / www.vtfishandwildlife.com

2018 Black Bear Report

Vermont's Black Bear Population and Habitat

Vermont's bear population is currently estimated to be within the population objective of 4,500 to 6,000 bears called for in the *Big Game Management Plan, 2010-2020.* The bear population is strong throughout the state, and abundant hunting opportunities exist in most areas. There are currently more than 800,000 acres of public land open to hunting under state or federal management, including more than 136,000 acres on 98 Wildlife Management Areas. To view or download maps of these public lands, go to the Vermont Fish & Wildlife Department's website: <u>vtfishandwildlife.com</u>.

The department expends considerable effort in protecting black bear habitat by reviewing and making habitat development recommendations on projects that require federal, state, or local permits for potential impacts to fish, wildlife and related habitats. Since 1995, there have been more than 30,000 acres of significant bear habitat protected in Vermont through the environmental permitting process. Recently, department biologists reviewed plans for several large industrial wind projects proposed for remote areas of the state that could potentially impact large areas of significant bear habitats. Due to the lack of data on the potential impacts of wind generation projects on black bears, the department has implemented a long-term study in southern Vermont associated with the Deerfield Wind Project. To date, 43 bears have been collared and monitored as part of this study that is expected to continue through 2022.

2018 Harvest Summary

Bear hunters in Vermont had a safe and successful hunting season in 2018. Licensed hunters harvested 683 black bears (370 males, 313 females) in Vermont during the combined 2018 seasons (Table 1) yielding a harvest sex ratio of 1.2 males per female. An estimated 204,900 meals of nutritious wild game meat were provided by the bear harvest. The harvest represents an increase of 60 bears from the 2017 harvest of 623 bears and was 178 bears above the preceding decade average harvest (505 bears, Figure 1). A total of 593



Public Education and Outreach

Biologists and game wardens gave 21 bear-related presentations to communities, organizations, and schools as requested. The bear project biologist also gave project updates at several Vermont Bear Hound Association meetings as well as "Living with Vermont Black Bear" presentations in several towns that were concerned with their safety due to increased numbers of bear sightings in residential areas. Six news releases were done addressing bear-human conflicts, and 12 different newspapers or magazines contacted department staff regarding the status of bear management in the state. The public also filed 294 bear conflict reports on the department website while game wardens responded to an additional 498 complaints of black bears involved in automobile collisions, causing property damage or potentially threatening public safety in 2018. In the interest of promoting the hunting of bears, the department has begun hosting black bear hunting seminars for hunters desiring to learn more about hunting the species.

bears were harvested during the early bear hunting season and 90 during the late season that overlaps with the November deer season (Table 2). The 2018 bear harvest by sex and town is shown in Appendix A.

Annual surveys of both soft and hard mast were conducted by department biologists in September and October to evaluate the relative abundance of the most important fall foods. Soft mast includes soft juicy berries, wild cherries, and apples while hard mast includes beechnuts, acorns and hazelnuts. Biologists have long recognized the influence that the availability and distribution of these important food items has on black bears in Vermont. Vermont biologists go afield every year to assess mast availability as they recognize that food availability in general affects bear reproductive success, seasonal movements, and timing of hibernation. Mast availability also influences the distribution and timing of the bear harvest, road kills, and property damage.

Natural foods for bears were fewer in 2018. March and April averaged below normal temperatures and with limited sunshine, winter-like weather continued through the end of April delaying green-up. Below normal precipitation continued from May through July statewide and drought conditions throughout most of the state through September resulting in a shortage of succulent plants available to the bears. Results from statewide mast surveys conducted in 2018 indicate that both soft and hard mast were also in short supply throughout most of the

state. Surveys done on soft mast indicated that apple and berry production was generally less than in 2017 and anecdotal reports were that where soft mast did occur, that it did not persist late into the fall.

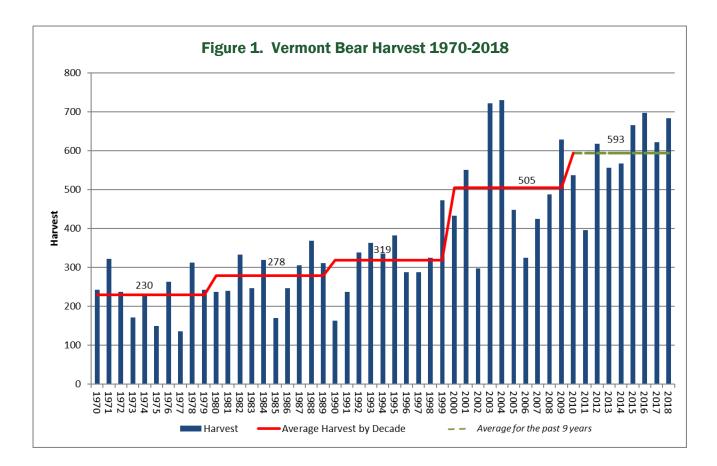
Table 1. 2018 Bear Harvest by Sex and WMU	
---	--

	Total	Percent of		-
WMU	Harvested	Harvest	Female	Male
В	19	2.8%	8	11
C	25	3.7%	13	12
D1	67	9.8%	30	37
D2	46	6.7%	21	25
E1	12	1.8%	6	6
E2	21	3.1%	8	13
F1	4	0.6%	2	2
F2	25	3.7%	11	14
G	20	2.9%	11	9
H	48	7.0%	23	25
Ι	43	6.3%	25	18
J1	48	7.0%	23	25
J2	64	9.4%	19	45
K	30	4.4%	11	19
L	29	4.2%	14	15
М	25	3.7%	14	11
Ν	49	7.2%	23	26
0	52	7.6%	22	30
Р	35	5.1%	22	13
Q	21	3.1%	7	14
Total	683	100%	313	370

Table 2. Timing of Harvest

Season	Month	Bear Harvest	Percent of Harvest
Early Season	September	382	56%
Bear (Sept. 1	October	194	28%
– Nov. 9)	November 1-9	17	3%
, ,	Total	593	87%
Late Bear	NI 1 10		
Season	November 10-	90	13%
(Nov. 10-18)	19		





Department biologists also surveyed 26 beech and oak stands. Ratings of individual production for oak stands ranged from good to poor with an overall average of "poor." Following an exceptional beechnut production year in 2017, beechnut surveys in 2018 showed much lower numbers of nuts than the previous year. Most beech stands had no nut production with numbers of nuts recorded being some of the lowest for the past two decades. Overall, the availability of all mast, both soft and hard, was markedly lower than for most years. Staff also noted an almost absence of deer and bear sign while conducting the surveys, and hunters reported seeing little bear sign in beech stands during November.

Historically, the bear harvest during the season overlap with the November rifle deer season is lower in years with poor hard mast production. This is especially true if there is deep snow through the end of the bear season. During these years, bears tend to enter hibernation early, making them less vulnerable to opportunistic deer hunters. This was the case in 2016 and 2018 when the combination of a poor mast crop and abundant snow resulted in a low bear harvest during the overlap with the November deer season.

Ages of Bears

Since 1968, the department has collected premolar teeth from harvested bears for the purpose of evaluating age composition of the harvest and for estimating the size of the population. The teeth are sent to a laboratory in Montana for aging by cementum analysis. Beginning in 2017, it became mandatory for each successful bear hunter to collect and submit a tooth from each harvested bear. Hunters are notified the following spring of the age of their bear, and the list of ages is posted on the department's website. The average age of bears submitted for aging in 2017 was 3.73 years with the average age of harvested bears having declined in recent years. The oldest bears harvested in 2017 were two females that were 20 years of age while the oldest bear on record is a 39-year old male taken in Maidstone in 1985. Ages for bears harvested in 2018 should be available to the public by the end of May 2019.

During 2018, bear management activities continued to generate the information required to ensure the population is managed at a sustainable level consistent with public desires. The current management program is based primarily on biological data collected from the mandatory bear harvest registration, through population and habitat indexes, as well as from occasional surveys of public desires derived through a detailed public input process undertaken every ten years.

Total Bear Harvest for Hunting Seasons 1970-2018

Total bear harvest is the combined harvest by still- and hound-hunters. The number of bears taken can fluctuate widely from year to year as illustrated in Figure 1. The current trend, however, is that the annual bear harvest has increased notably during the past two decades. Periodic fluctuations in harvest generally occur due to differences in food availability (especially beechnuts) and weather conditions. The highest bear harvests in the past 50 years have been achieved in the last two decades, with the 2018 harvest being higher than the past 10-year average. These historic high harvests reflect a strong bear population that is larger than previous decades and represents a general increase in occupied range in the state. It is unknown if this also indicates an increase in the number of hunters hunting specifically for bears. Early season licenses have averaged 11,443 for the past six years. More than 90 percent of license sales are to resident hunters. The department will continue to track early season license sales in the coming years to determine the trend in bear hunter numbers.

Harvest Distribution

Bears were harvested in all WMUs with the exception of WMU A (Figure 2). The largest numbers of bears were taken in WMUs D1 (67), J2 (64), O (52), and H (48) (Table 1). During 2018, bears were harvested in 187 towns compared to 185 towns in the previous year. Towns with the highest harvests were Pownal with 19, Lunenburg with 14, Irasburg with 12, and Charleston with 11 (Figure 2 and Appendix A). Counties reporting the highest harvests were Rutland with 78, followed by Orleans and Windsor (tied at 73), and Bennington, Caledonia, and Windham (tied at 65). Grand Isle County had no bears harvested. Bears were harvested statewide except for portions of the Champlain Valley (Figure 2).

Timing of Harvest

During the early season 593 bears (87%) were taken, while 90 (13%) were harvested during the late season. Thirteen percent of the harvest occurred during the nine-day overlap with the November deer season (Table 2) compared to 46 percent of the harvest during this period in 2017.



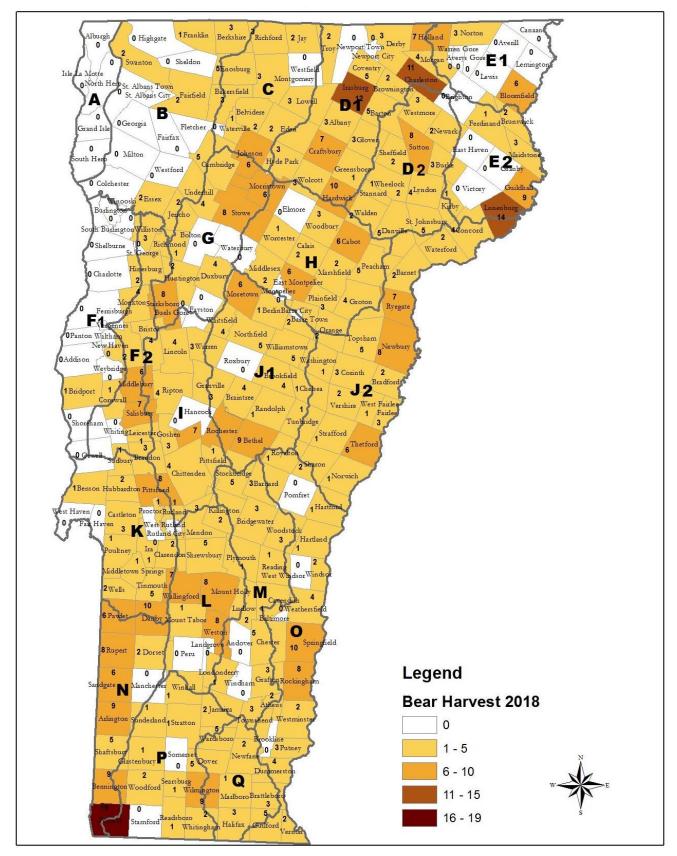


Figure 2. 2018 Bear Harvest by Town and WMU

Harvest by Hunting Opportunity

Bears in Vermont can be taken by hunters hunting with the use of hounds, with firearms, and by archers. Snaring, trapping, and hunting with the use of bait is prohibited. All licensed hunters are potential bear hunters during the late bear hunting season as a Late Season bear tag is provided with every general hunting license sold. A recent survey, however, reveals that only 24 percent of our hunters have hunted for bears in the past five years. Early season license sale numbers indicate that 11,287 hunters potentially could have hunted for bears prior to the beginning of the November 2018 deer season yielding a success rate of 5.3 percent. In 2017, when a much lower number of bears were harvested during the early season, the success rate was 3.0 percent.

During the 2018 season, 79 percent of the harvest was taken by hunters specifically targeting bears (Table 3) and 19 percent by opportunistic deer hunters (versus 43 percent by deer hunters in 2017). The reduction in harvest of bear by deer hunters is characteristic of years when beechnut production is poor and when many bears have already begun hibernation by the start of the late hunting season. There were 116 bear hound permits issued (35 more than in 2017), with four of the permits going to non-residents. Houndsmen accounted for 14 percent of the total harvest (98 bears) for an overall average of 0.84 bears taken per permit. Archers took 97 bears making up 14 percent of the total harvest with crossbows being used to harvest 33 of those.

Heaviest Bears

A total of 16 bears weighing 300 pounds or more (scaled/dressed weight) were taken during the 2018 season (Table 4). The heaviest field-dressed bear weighed 402 pounds and was taken in the town of Cavendish. Although large bears were taken throughout the state, hunters took the largest number of large bears in WMUs J2 and D1. Many of the heaviest bears were taken with the use of dogs and probably reflects hunters using hounds being more selective in the bears that they choose to harvest. Several additional large bears were reported that were not fully field-dressed when brought into the reporting station for weighing and so are not included in this report.

The average weight for all bears in the 2018 harvest was 144 pounds – 2 pounds heavier than in 2017. The largest bear that we have on record was a 525-pound male bear taken in the town of Norton in 1965. The largest bears harvested in Vermont range in ages from 8-16 years of age. For more information on large bears harvested in Vermont, visit the Vermont Big Game Trophy Club website at vermontbiggametrophyclub.com.

Principal Species Hunter was Seeking		Number Harvested	Percent of Harvest
Bear		539	79%
•	Harvest with dog	98	14%
•	Harvest with no dog	449	83%
Deer		132	19%
•	During Early Season	65	9%
•	During Late Season	67	10%
Other	/Unknown	12	2%

Table 3. 2018 Bear Harvest by Hunting Opportunity

Town Harvested	WMU	Weight	Date of Kill	Sex	Target Species	Using Dogs
Warren	J1	409	9/1/2018	М	Bear	Yes
Cavendish	М	402	11/10/2018	М	Bear	No
Newbury	J2	400	9/28/2018	М	Bear	No
Hyde Park	D1	395	9/28/2018	М	Bear	No
Holland	E1	379	9/20/2018	М	Bear	Yes
Holland	E1	377	9/15/2018	М	Bear	Yes
Brattleboro	Q	375	10/7/2018	М	Bear	No
Weathersfield	0	354	11/17/2018	М	Deer	No
Guilford	Q	353	9/9/2018	М	Bear	Yes
Norwich	J2	343	9/7/2018	М	Bear	No
Charleston	D1	336	9/8/2018	М	Bear	Yes
Westmore	D1	335	9/12/2018	М	Bear	Yes
Ryegate	J2	331	10/16/2018	М	Bear	Yes
Moretown	J1	326	11/11/2018	М	Other	No
Ripton	Ι	318	10/22/2018	М	Deer	No
Lunenburg	E2	308	9/23/2018	М	Bear	No

Table 4. Heaviest Bears Harvested in Vermont



Cavendish, Windsor County. 402 lbs. Photo courtesy of Vermont Big Game Trophy Club.



Newbury, Orange County. 400 lbs. Photo courtesy of Vermont Big Game Trophy Club.

Non-hunting Mortalities and Damage Complaints

In addition to the 683 bears taken legally during the regulated hunting seasons, there were 183 reported non-hunting (or incidental) mortalities during 2018 (Table 5). Of these bears that were not taken by hunters, 128 were killed in motor vehicle collisions and at least 48 more were dispatched as the result of other bear-human conflicts. The number of other bear-human incidents was also much higher in 2018 resulting in 795 total bear reports received by the department. The reason for more reports in 2018 is believed due to the relative scarcity of natural foods available to the bears.



	Reports to Game Wardens		Department Website Reports	
Year	Incidental Bear Mortalities	Complaints	Number of Reports	Total Reports
2002	60	136		196
2003	115	154		269
2004	96	158	_	254
2005	94	159	—	253
2006	56	135	_	191
2007	55	140		195
2008	75	142	_	217
2009	107	143		250
2010	98	180		278
2011	60	119	39	218
2012	109	214	91	414
2013	77	188	47	312
2014	138	153	184	475
2015	128	132	47	307
2016	203	263	277	743
2017	90	197	184	471
2018	183	315	297	795

Table 5. Non-hunting Mortalities and Bear-Human Conflicts, 2002-2018.

Looking to the Future

Several changes were enacted to bear hunting regulations in 2018. It is now mandatory that harvested bears must be field dressed prior to reporting. A warden may now request that a hunter takes the warden to the kill site of a bear. And new language clarifies and improves regulations on the use of bear hounds for hunting as well as delaying the starting date for nonresident bear hound hunting to September 15.

The bear population in Vermont is healthy and is currently estimated to be well within the statewide population objective of 4,500 to 6,000 bears established in the *Big Game Management Plan*. Each Spring, after receiving information on the ages of bears harvested in the previous fall, the population model is run again, allowing the population estimate to be updated. If the population rises or goes below the population objective, then additional management actions, such as changing the season length, may be required to stabilize the population.

In 2019, the department will continue the process of developing the next 10-Year Big Game Management Plan (2020-2030) for Vermont's four big game species including for black bear. Data gained from bear harvests including age information from larger numbers of bear teeth and hunter effort information from mail surveys will be used to help assess the status of the bear population. There will be opportunities for public involvement during the development of the plan that identifies the major management issue and establishes goals and guides management actions for the next decade.

Appendix A. 2018 Vermont Black Bear Harvest by Town and County of Kill

COUNTY	Town	Males	Females	Total Harvested
ADDISON	Addison	0	0	0
	Bridport	1	0	1
	Bristol	2	2	4
	Cornwall	1	0	1
	Ferrisburgh	0	0	0
	Goshen	3	0	3
	Granville	0	3	3
	Hancock	0	0	0
	Leicester	1	0	1
	Lincoln	2	2	4
	Middlebury	0	6	6
	Monkton	3	1	4
	New Haven	2	0	2
	Orwell	0	0	0
	Panton	0	0	0
	Ripton	3	1	4
	Salisbury	4	3	7
	Shoreham	0	0	0
	Starksboro	3	5	8
	Weybridge	0	0	0
	Whiting	0	0	0
	Total	25	23	48
	A alian a trans	2	(9
BENNINGTON	Arlington	3	6	
	Bennington	5	4	9
	Dorset	0	2	2
	Glastenbury	1	0	1
	Landgrove	0	0	0
	Manchester	0	0	0
	Peru	0	0	0
	Pownal	8	11	19
	Readsboro	0	1	1
	Rupert	6	2	8
	Sandgate	4	2	6
	Searsburg	0	1	1
	Shaftsbury	2	3	5
	Stamford	0	0	0
	Sunderland	1	0	1
	Winhall	0	1	1
	Woodford	1	1	2
	Total	31	34	65

COUNTY	Town	Males	Females	Total Harvested
CALEDONIA	Barnet	0	2	2
	Burke	1	2	3
	Danville	2	3	5
	Groton	3	1	4
	Hardwick	8	2	10
	Kirby	1	0	1
	Lyndon	2	2	4
	Newark	1	1	2
	Peacham	2	3	5
	Ryegate	6	1	7
	St. Johnsbury	3	2	5
	Sheffield	2	0	2
	Stannard	0	1	1
	Sutton	5	3	8
	Walden	1	1	2
	Waterford	2	0	2
	Wheelock	0	2	2
	Total	39	26	65
	Total	0,5	_0	
CHITTENDEN	Bolton	0	0	0
	Buels Gore	0	0	0
	Burlington	0	0	0
	Charlotte	0	0	0
	Essex	1	1	2
	Hinesburg	0	2	2
	Huntington	2	0	2
	Jericho	0	2	2
	Milton	0	0	0
	Richmond	0	1	1
	Shelburne	0	0	0
	South Burlington	0	0	0
	Underhill	1	3	4
	Williston	1	2	3
	Westford	0	0	0
	Total	5	11	16
ESSEX	Averill	0	0	0
	Averys Gore	0	0	0
	Bloomfield	3	3	6
	Brighton	0	0	0
	Brunswick	0	2	2
	Canaan	0	0	0
	Concord	3	1	4
	East Haven	0	0	0

COUNTY	Town	Males	Females	Total Harvested
ESSEX (CONT.)	Ferdinand	0	1	1
	Granby	0	0	0
	Guildhall	5	4	9
	Lemington	0	0	0
	Lewis	0	0	0
	Lunenburg	10	4	14
	Maidstone	3	0	3
	Norton	1	2	3
	Victory	0	0	0
	Warrens Gore	0	0	0
	Total	25	17	42
FRANKLIN	Bakersfield	3	0	3
	Berkshire	2	1	3
	Enosburg	4	1	5
	Fairfax	0	0	0
	Fairfield	1	1	2
	Fletcher	0	0	0
	Franklin	1	0	1
	Georgia	0	0	0
	Highgate	0	0	0
	Montgomery	1	2	3
	Richford	2	1	3
	Sheldon	0	0	0
	St. Albans	0	0	0
	Swanton	1	1	2
	Total	15	7	22
GRAND ISLE	Alburgh	0	0	0
	Grand Isle	0	0	0
	Isle La Motte	0	0	0
	North Hero	0	0	0
	South Hero	0	0	0
	Total	0	0	0
LAMOILLE	Belvidere	1	1	2
	Cambridge	1	4	5
	Eden	0	2	2
	Elmore	0	0	0
	Hyde Park	3	0	3
	Johnson	1	5	6
	Morristown	2	4	6
	Stowe	5	3	8
	Waterville	1	0	1
	Wolcott	2	1	3
	Total	16	20	36

COUNTY	Town	Males	Females	Total Harvested
ORANGE	Bradford	2	0	2
	Braintree	3	1	4
	Brookfield	3	1	4
	Chelsea	0	1	1
	Corinth	2	1	3
	Fairlee	2	1	3
	Newbury	7	1	8
	Orange	1	1	2
	Randolph	1	0	1
	Strafford	1	0	1
	Thetford	3	3	6
	Topsham	2	3	5
	Tunbridge	1	0	1
	Vershire	2	0	2
	Washington	0	1	1
	West Fairlee	1	0	1
	Williamstown	4	1	5
	Total	35	15	50
ORLEANS	Albany	2	1	3
	Barton	2	3	5
	Brownington	0	2	2
	Charleston	4	7	11
	Coventry	4	1	5
	Craftsbury	4	3	7
	Derby	0	3	3
	Glover	3	0	3
	Greensboro	1	0	1
	Holland	4	3	7
	Irasburg	9	3	12
	Jay	1	1	2
	Lowell	2	1	3
	Morgan	2	2	4
	Newport	0	0	0
	Troy	1	1	2
	Westfield	0	0	0
	Westmore	2	1	3
	Total	41	32	73
RUTLAND	Benson	1	0	1
	Brandon	3	0	3
	Castleton	3	0	3
	Chittenden	1	3	4

COUNTY	Town	Males	Females	Total Harvested
RUTLAND (CONT.)	Clarendon	2	0	2
	Danby	4	6	10
	Fair Haven	0	0	0
	Hubbardton	1	1	2
	Ira	1	0	1
	Killington	1	1	2
	Mendon	0	3	3
	Middletown Springs	0	1	1
	Mount Holly	3	5	8
	Mount Tabor	1	0	1
	Pawlet	2	4	6
	Pittsfield	0	1	1
	Pittsford	2	6	8
	Poultney	1	0	1
	Proctor	1	0	1
	Rutland	1	0	1
	Shrewsbury	3	1	4
	Sudbury	0	1	1
	Tinmouth	4	1	5
	Wallingford	3	4	7
	Wells	2	0	2
	West Haven	0	0	0
	West Rutland	0	0	0
	Total	40	38	78
WASHINGTON	Barre	1	1	2
	Berlin	1	0	1
	Cabot	4	2	6
	Calais	1	1	2
	Duxbury	1	3	4
	East Montpelier	2	4	6
	Fayston	0	0	0
	Marshfield	0	2	2
	Middlesex	2	0	2
	Moretown	3	3	6
	Northfield	2	3	5
	Plainfield	2	1	3
	Roxbury	0	0	0
	Waitsfield	1	3	4
	Warren	2	1	3
	Waterbury	0	0	0
	Woodbury	2	1	3
L	Woodbury	4	Ŧ	

COUNTY	Town	Males	Females	Total Harvested
WASHINGTON	Worcester	1	0	1
(CONT.)	Total	25	25	50
WINDHAM	Athens	1	1	2
	Brattleboro	3	0	3
	Brookline	0	0	0
	Dover	3	2	5
	Dummerston	4	0	4
	Grafton	1	2	3
	Guilford	5	0	5
	Halifax	1	2	3
	Jamaica	1	1	2
	Londonderry	0	1	1
	Marlboro	0	1	1
	Newfane	1	1	2
	Putney	3	0	3
	Rockingham	5	3	8
	Somerset	0	0	0
	Stratton	0	0	0
	Townshend	1	2	3
	Vernon	1	1	2
	Wardsboro	3	2	5
	Westminster	2	0	2
	Whitingham	1	1	2
	Wilmington	3	6	9
	Windham	0	0	0
	Total	39	26	65
	Total	07	20	00
WINDSOR	Andover	0	0	0
	Barnard	0	3	3
	Bethel	3	6	9
	Bridgewater	1	2	3
	Cavendish	1	0	1
	Chester	1	4	5
	Hartford	0	1	1
	Hartland	1	0	1
	Ludlow	1	1	2
	Norwich	1	0	1
	Plymouth	1	0	1
	Pomfret	0	3	3
	Reading	0	1	1
	Rochester	4	3	7

COUNTY	Town	Males	Females	Total Harvested
WINDSOR (CONT.)	Royalton	1	0	1
	Sharon	1	1	2
	Springfield	6	4	10
	Stockbridge	2	3	5
	Weathersfield	1	3	4
	West Windsor	0	0	0
	Weston	4	4	8
	Windsor	2	0	2
	Woodstock	3	0	3
	Total	34	39	73
STATE TOTAL		370	313	683