Vermont Agricultural Land Use 1840 - 2024

Ryan Patch
Agriculture Climate and Land Use Policy Manager
Vermont Agency of Agriculture, Food and Markets
Presentation to: House Committee on Agriculture, Food Resiliency & Forestry
February 9, 2024

VERMONT
AGENCY OF AGRICULTURE, FOOD & MARKETS

0

The number of ‘marketable’ trees in the Champlain Valley by 1840.

Source: JAN ALBERS, HANDS ON THE LAND: A HISTORY OF THE VERMONT LANDSCAPE 84 (2000).
From: Mike Winslow, A Natural and Human History of Lake Champlain. VJEL Vol. 17 p. 492

- Clearing trees for lumber and potash transformed Vermont.
- 1791: Vermont exported 2 million pounds of Potash to Great Britain.
- 1823 the Champlain Canal was constructed.
- Burlington was the 3rd largest lumber port in the U.S. by the mid-1800s.
- By the late 19th Century, Vermont was 70% Cleared and 30% forested.

Source: JAN ALBERS, HANDS ON THE LAND: A HISTORY OF THE VERMONT LANDSCAPE 84 (2000).
Source: History, CITY OF BURLINGTON, VT., https://www.burlingtonvt.gov/CEDO/History [https://perma.cc/K887-HPXV] (last visited Apr. 1, 2016).
Source: CHARLES W. JOHNSON, THE NATURE OF VERMONT 60 (1998).
From: Mike Winslow, A Natural and Human History of Lake Champlain. VJEL Vol. 17 p. 492

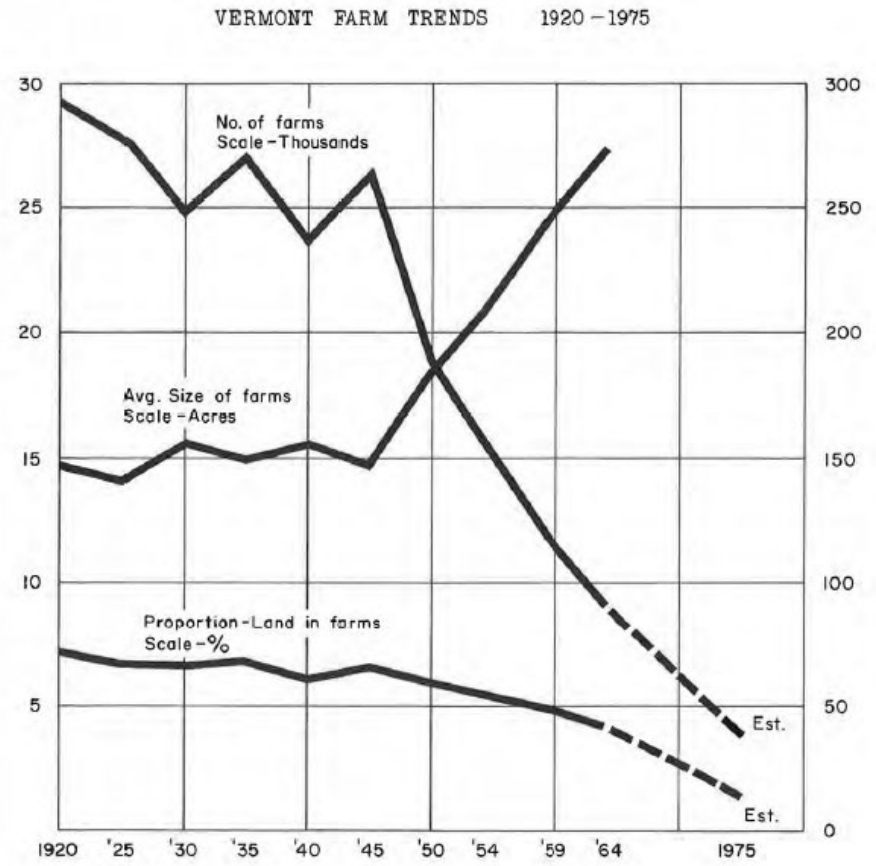
TABLE I TRENDS IN VERMONT FARMING

YEAR	NUMBER	AVERAGE SIZE OF FARMS PER ACRE	PROPORTION OF LAND IN FARMS
1850	29,763	139	71%
1860	31,556	136	73%
1870	33,827	134	78%
1880	35,522	138	84%
1890	32,573	135	75%
1900	33,104	143	81%
1910	32,709	143	80%
1920	29,075	146	72%
1925	27,786	141	67%
1930	24,898	156	67%
1935	27,061	149	69%
1940	23,582	156	62%
1945	26,490	148	66%
1950	19,043	185	59%
1954	15,981	208	56%
1959	12,099	243	50%
1964	9,247	273	43%

Source: Central Planning Office, Montpelier, Vermont

* * * *

Graph 1



Source: https://outside.vermont.gov/agency/ACCD/ACCD_Web_Docs/CD/CPR/Resources-and-Rules/DHCD-Planning-VisionChoice-FutureStateFramework-1968.pdf

70% to 16%

Change from Late 1800's open land to Agricultural land in the Champlain Valley by 2012.

Source: JAN ALBERS, HANDS ON THE LAND: A HISTORY OF THE VERMONT LANDSCAPE 156 (2000).
From: Mike Winslow, A Natural and Human History of Lake Champlain. VJEL Vol. 17 p. 492

The Vermont Statehouse

VERMONT
AGENCY OF AGRICULTURE, FOOD & MARKETS

From: State Curator's Office, BGS. Retrieved from: https://curator.vermont.gov/sites/curator/files/styles/slideshow_image_only/public/images/image_only_slides/historic-state-house-780x450.jpg?itok=lXOLbhmj

VERMONT
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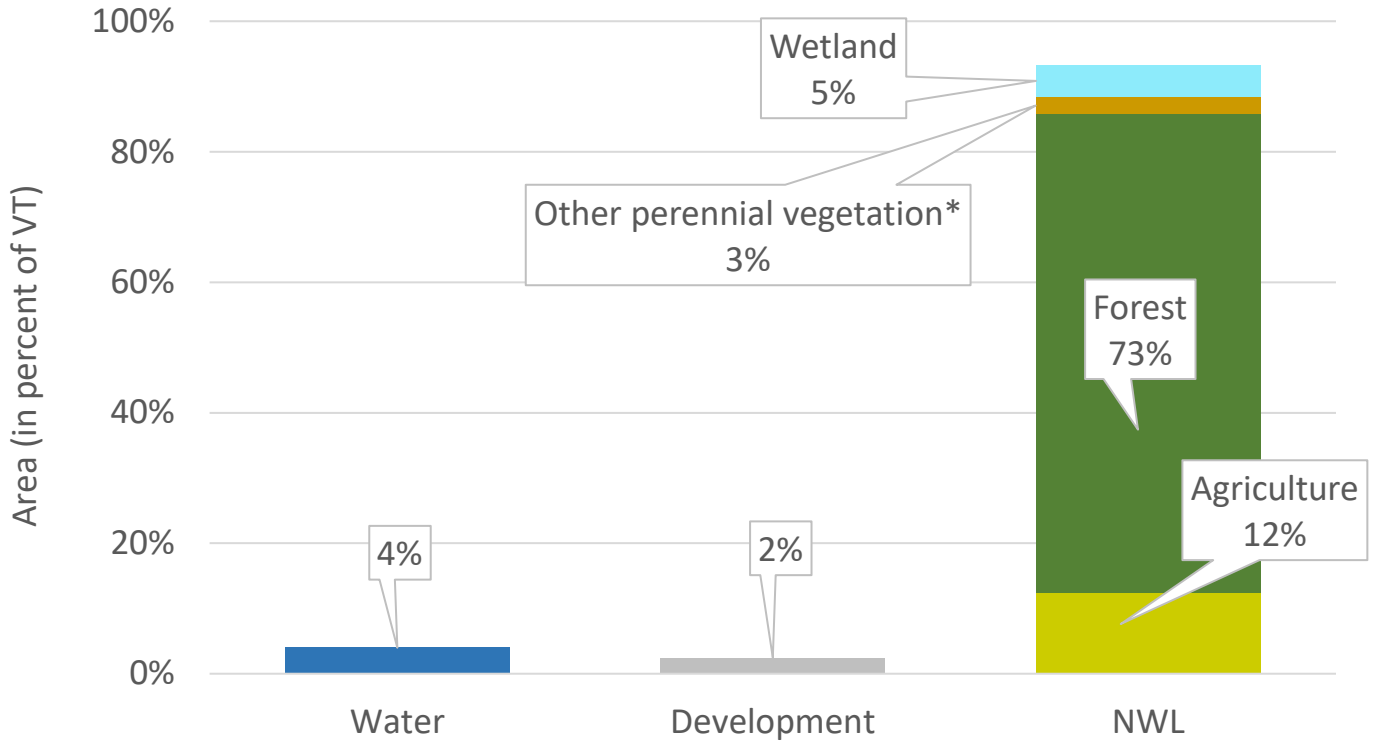
Natural & Working Lands (NWL) cover 94% of Vermont



*Other perennial vegetation includes grasslands, shrub/scrublands, and turf

Data source: 2016 National Land Cover Database; Images courtesy FPR

Ag Land Management

VERMONT
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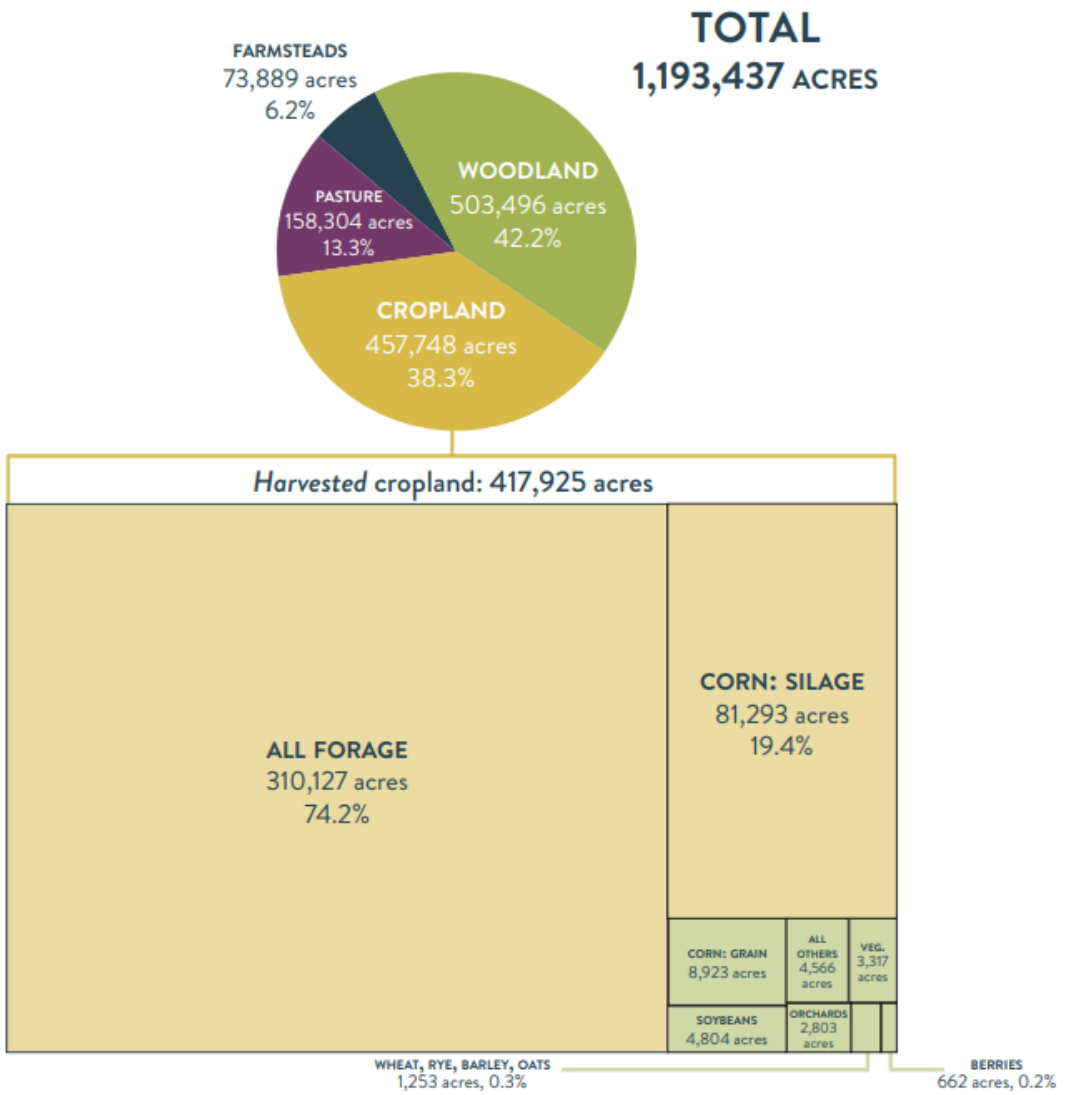
Land in Agriculture



#1 Vermont had the highest agricultural sales of any New England state, largely due to milk production.

47% In 2021, Vermont produced almost half of the country's maple syrup (1.75 million gallons)

-64% Cropland decreased from 1.3 million acres in 1945 to 458,000 acres in 2017

-85% Pastureland decreased from 1.0 million acres in 1945 to 158,000 acres in 2017

END USES

- ANIMAL FEED
- EDIBLE

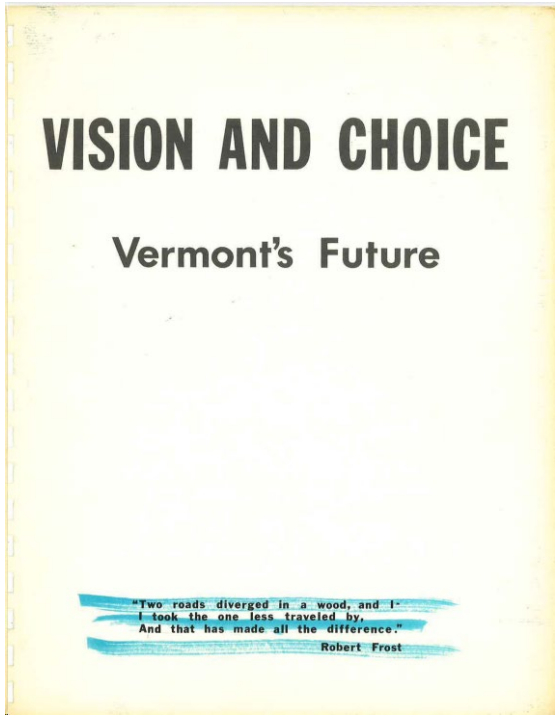
Acreage for animal feed equaled **93.6% (391,420 acres)** of harvested cropland and 32.8% of total land in agriculture. Boosting vegetable, fruit, and grain production—whether in the open or indoors—is one way Vermont could help the region.

Source: https://nefoodsystemplanners.org/wp-content/uploads/NEFNE-VERMONT-State-Brief.pdf

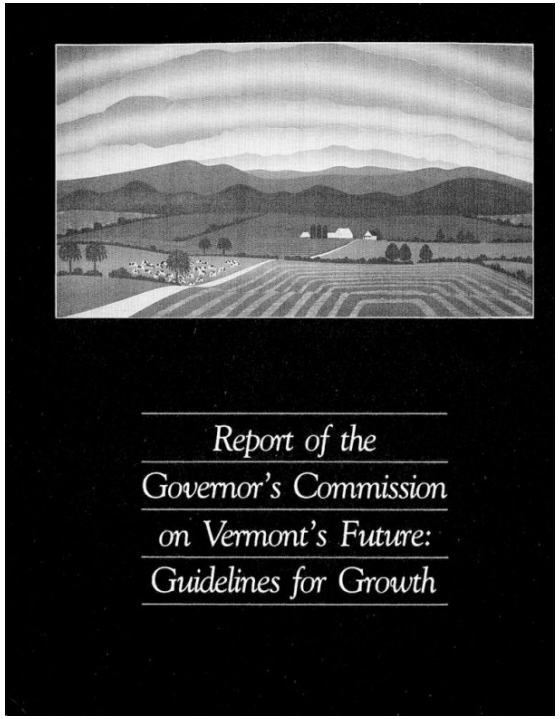
Act 250 reports through the years

VERMONT
AGENCY OF AGRICULTURE, FOOD & MARKETS

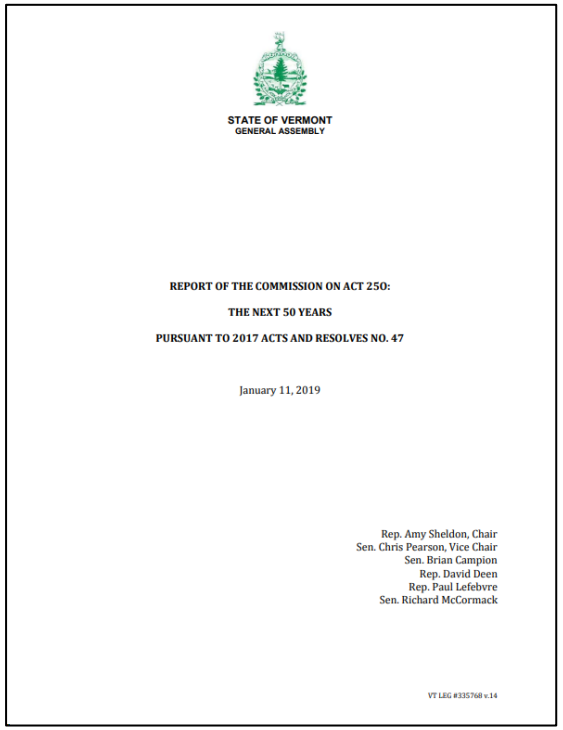
1968



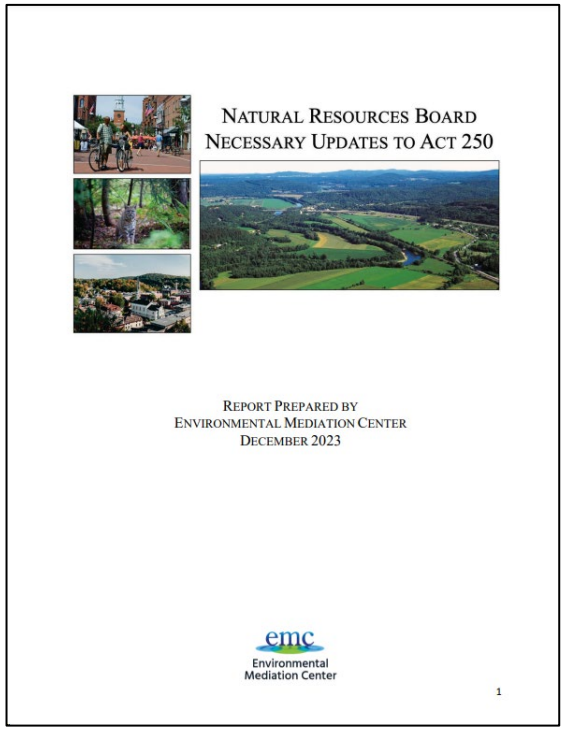
1988



2019



2023



Source: https://outside.vermont.gov/agency/ACCD/ACCD_Web_Docs/CD/CPR/Resources-and-Rules/DHCD-Planning-GovCommission-FutureGuidelines-Growth.pdf
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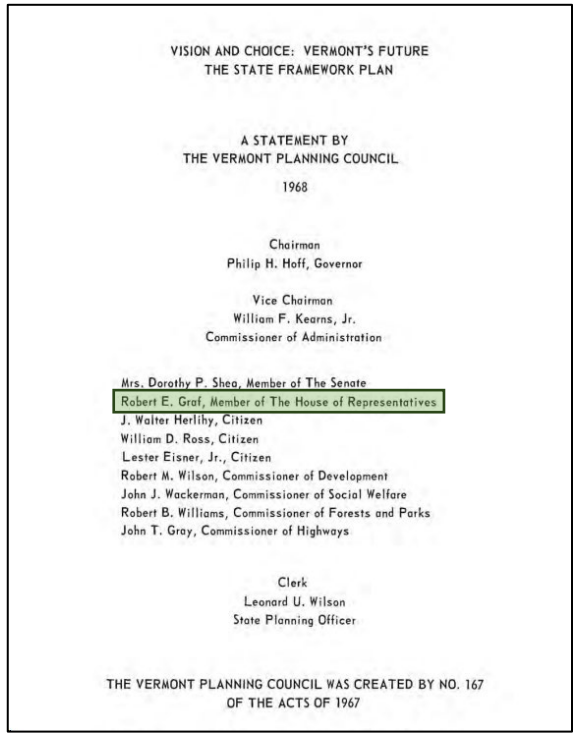
Source: https://legislature.vermont.gov/Documents/2018/WorkGroups/Act250/Final%20Report/W~Ellen%20Czajkowski~Commission%20on%20Act%20250%20Final%20Report~1-11-2019.pdf
Source: https://nrb.vermont.gov/sites/nrb/files/documents/NRB_Necessary_Updates_to_Act_250_Study_Report_FINAL.pdf

Act 250 reports through the years

VERMONT
AGENCY OF AGRICULTURE, FOOD & MARKETS

1968



VISION AND CHOICE: VERMONT'S FUTURE
THE STATE FRAMEWORK PLAN

A STATEMENT BY
THE VERMONT PLANNING COUNCIL
1968

Chairman
Philip H. Hoff, Governor

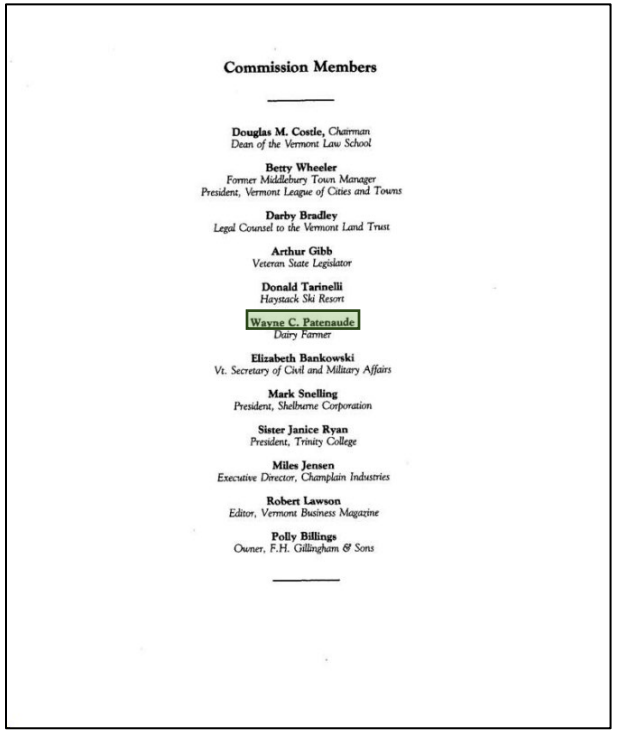
Vice Chairman
William F. Kearns, Jr.
Commissioner of Administration

Mrs. Dorothy P. Shea, Member of The Senate
Robert E. Graf, Member of The House of Representatives
J. Walter Herlihy, Citizen
William D. Ross, Citizen
Lester Eisner, Jr., Citizen
Robert M. Wilson, Commissioner of Development
John J. Wackerman, Commissioner of Social Welfare
Robert B. Williams, Commissioner of Forests and Parks
John T. Gray, Commissioner of Highways

Clerk
Leonard U. Wilson
State Planning Officer

THE VERMONT PLANNING COUNCIL WAS CREATED BY NO. 167
OF THE ACTS OF 1967

1988



Commission Members

Douglas M. Costle, *Chairman*
Dean of the Vermont Law School

Betty Wheeler
Former Middlebury Town Manager
President, Vermont League of Cities and Towns

Darby Bradley
Legal Counsel to the Vermont Land Trust

Arthur Gibb
Veteran State Legislator

Donald Tarinelli
Haystack Ski Resort

Wayne C. Patenaude
Dairy Farmer

Elizabeth Bankowski
Vt. Secretary of Civil and Military Affairs

Mark Snelling
President, Shelburne Corporation

Sister Janice Ryan
President, Trinity College

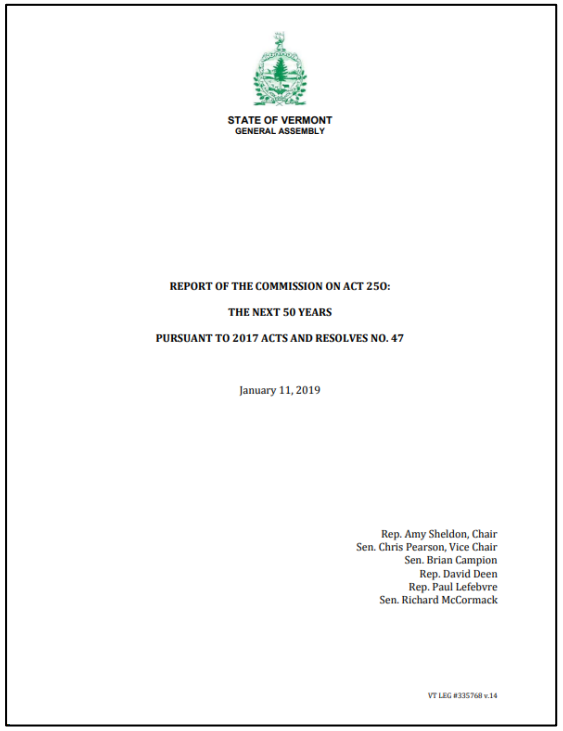
Miles Jensen
Executive Director, Champlain Industries

Robert Lawson
Editor, Vermont Business Magazine

Polly Billings
Owner, F.H. Gillingham & Sons

Elizabeth Bankowski, VT Secretary of Civil and Military Affairs and Chief of Staff to Governor Kunin; Polly Billings, owner of F.H. Gillingham & Sons, a general store; Darby Bradley, Legal Counsel to the Vermont Land Trust and former Chair, Vermont Environmental Board; Arthur Gibb, a banking and investment counsel who served in the VT General Assembly for 24 years and was instrumental in the creation of Act 250; Miles Jensen, Executive Director of Champlain Industries; Robert Lawson, Editor of Vermont Business Magazine; Wayne C. Patenaude, a St. Johnsbury dairy farmer; Sister Janice Ryan, President of Trinity College; Mark Snelling, President of Shelburne Corporation, a manufacturer of ski accessories; Donald Tarinelli, principal owner of Haystack Ski Resort; Betty Wheeler, Middlebury Town Manager and President, Vermont League of Cities and Towns.

2019



STATE OF VERMONT
GENERAL ASSEMBLY

REPORT OF THE COMMISSION ON ACT 250:

THE NEXT 50 YEARS

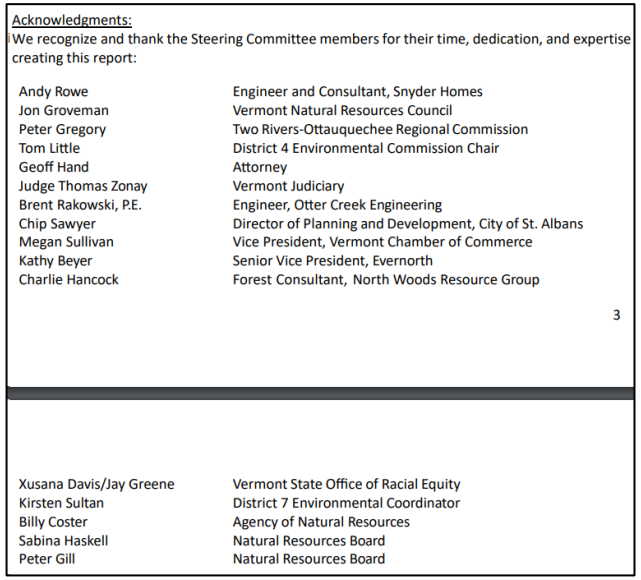
PURSUANT TO 2017 ACTS AND RESOLVES NO. 47

January 11, 2019

Rep. Amy Sheldon, Chair
Sen. Chris Pearson, Vice Chair
Sen. Brian Campion
Rep. David Deen
Rep. Paul Lefebvre
Sen. Richard McCormack

VT LEG #335768 v.14

2023



Acknowledgments:
We recognize and thank the Steering Committee members for their time, dedication, and expertise creating this report:

Andy Rowe	Engineer and Consultant, Snyder Homes
Jon Groveman	Vermont Natural Resources Council
Peter Gregory	Two Rivers-Ottauquechee Regional Commission
Tom Little	District 4 Environmental Commission Chair
Geoff Hand	Attorney
Judge Thomas Zonay	Vermont Judiciary
Brent Rakowski, P.E.	Engineer, Otter Creek Engineering
Chip Sawyer	Director of Planning and Development, City of St. Albans
Megan Sullivan	Vice President, Vermont Chamber of Commerce
Kathy Beyer	Senior Vice President, Evernorth
Charlie Hancock	Forest Consultant, North Woods Resource Group

3

Xusana Davis/Jay Greene	Vermont State Office of Racial Equity
Kirsten Sultan	District 7 Environmental Coordinator
Billy Coster	Agency of Natural Resources
Sabina Haskell	Natural Resources Board
Peter Gill	Natural Resources Board

Farmer

Source: https://outside.vermont.gov/agency/ACCD/ACCD_Web_Docs/CD/CPR/Resources-and-Rules/DHCD-Planning-GovCommission-FutureGuidelines-Growth.pdf
Source: https://outside.vermont.gov/agency/ACCD/ACCD_Web_Docs/CD/CPR/Resources-and-Rules/DHCD-Planning-VisionChoice-FutureStateFramework-1968.pdf
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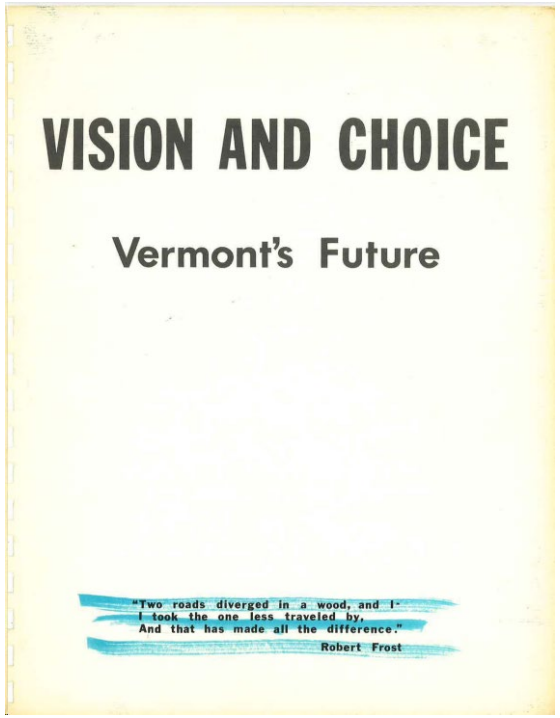
Act 250 reports through the years

VERMONT
AGENCY OF AGRICULTURE, FOOD & MARKETS

1968



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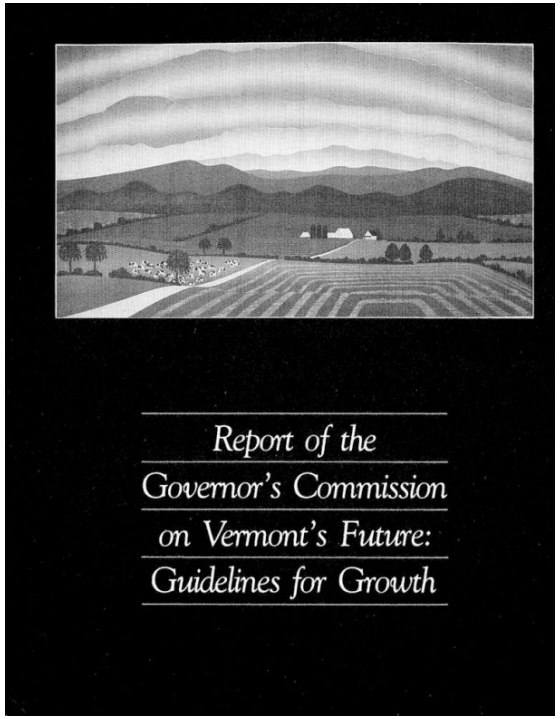
1988



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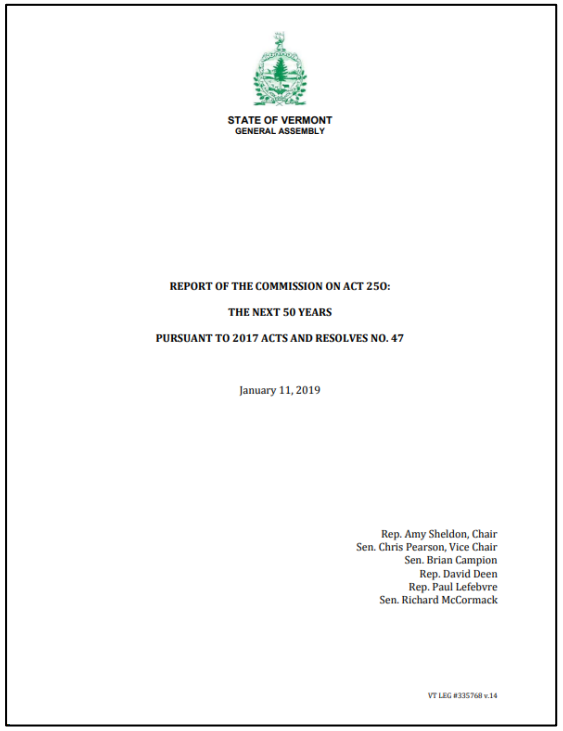
2019



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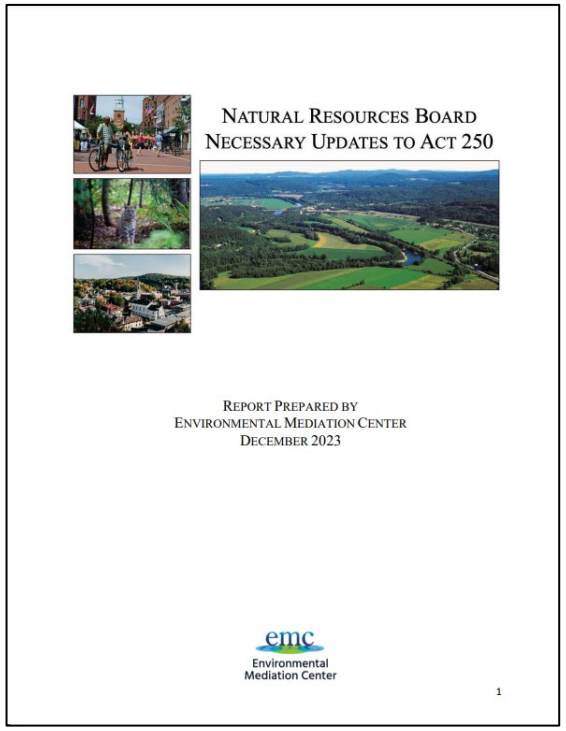
2023



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	1968	1988	2019	2023
agriculture*	17	34	32	6
farm*	34	22	36	5
dairy*	3	21	0	0
food*	0	6	1	0
word count	12,805	21,620	28,256	11,471
ag related words	54	77	68	11
word count	12,805	21,620	28,256	11,471
ag / word	0.42%	0.36%	0.24%	0.10%

Ag Trends

VERMONT
AGENCY OF AGRICULTURE, FOOD & MARKETS

1968

TABLE I TRENDS IN VERMONT FARMING

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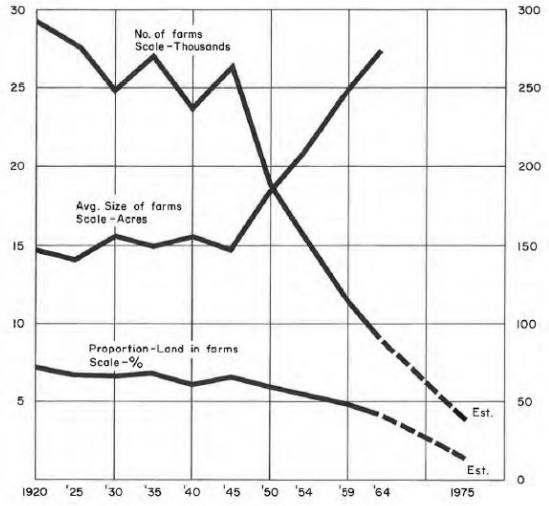
Source: Central Planning Office, Montpelier, Vermont

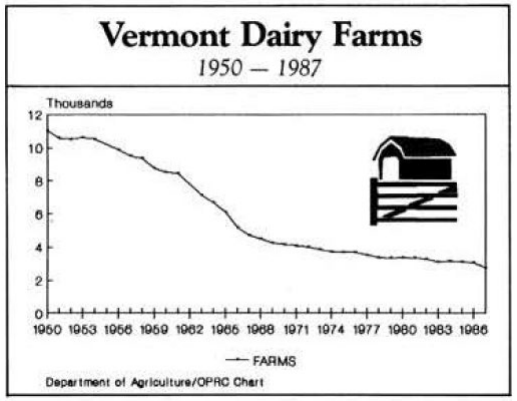
Graph 1

VERMONT FARM TRENDS 1920 – 1975



VT Land in Farms: 43%

1988



Agriculture

"We are losing our farms and we are losing rural Vermont at an unbelievable rate," said Jack Starr, a dairy farmer from Troy.

The number of farmers in Vermont has declined dramatically over the last twenty years. Over that period, the decrease has been due to increased productivity, rising land values, low milk prices, and, most recently, the federal whole herd buy-out program. While there are many types of farms in Vermont, the dairy industry is still predominant, accounting for over 80% of all agricultural sales.

Since 1986, the rate of farm decline has accelerated and the problem has become a crisis. Vermont has lost more than 300 dairy farms (10% of the total) in just the past two years. With the cuts in federal price supports scheduled for 1988 and 1989, Vermont may lose twice that many again in the next two years.

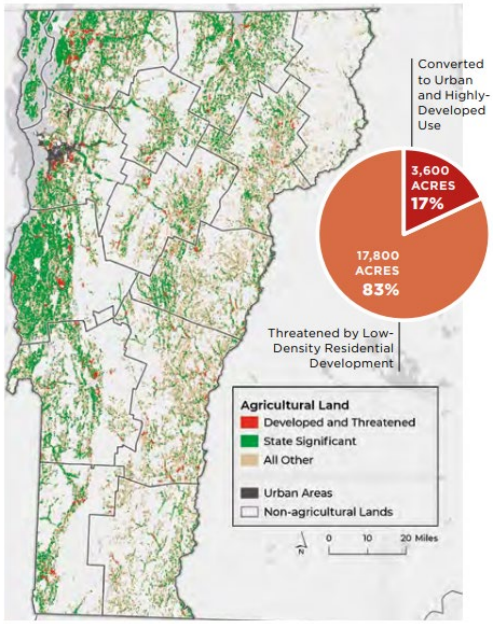
VT Land in Farms: 24%
-44%

2019

Available data show that, statewide from 2008 to 2018, 83 percent of new residential structures and 60.63 percent of commercial structures were located outside existing centers.[67] The spread of residential development outside the centers is underscored by map comparisons of Vermont's population distribution, which show that Vermont's daytime population is much more concentrated in the centers than its 24-hour population distribution.[68]

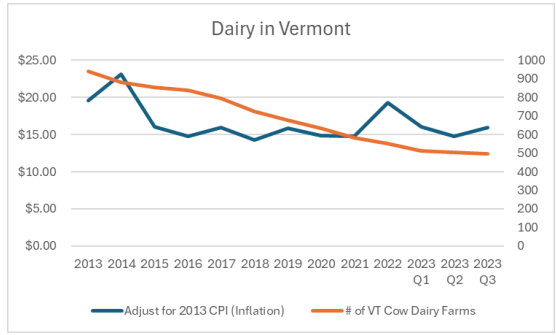
Available data also show that, statewide from 2004 to 2016, Vermont lost 147,684 acres or approximately 15 percent of its undeveloped woodland parcels, and 53,406 acres, or 9.3 percent, of its farmland parcels to public ownership or another land classification.[69] During the same period, the acreage classified as residential use increased by 162,670 acres, or seven percent.[70]

VERMONT

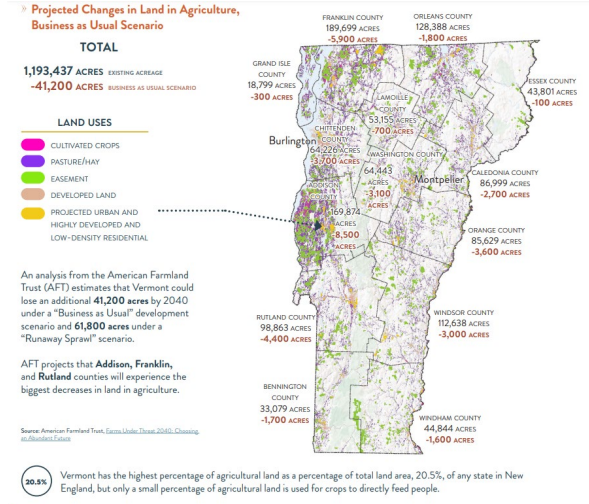


VT Land in Farms: 12%
-72%

2023



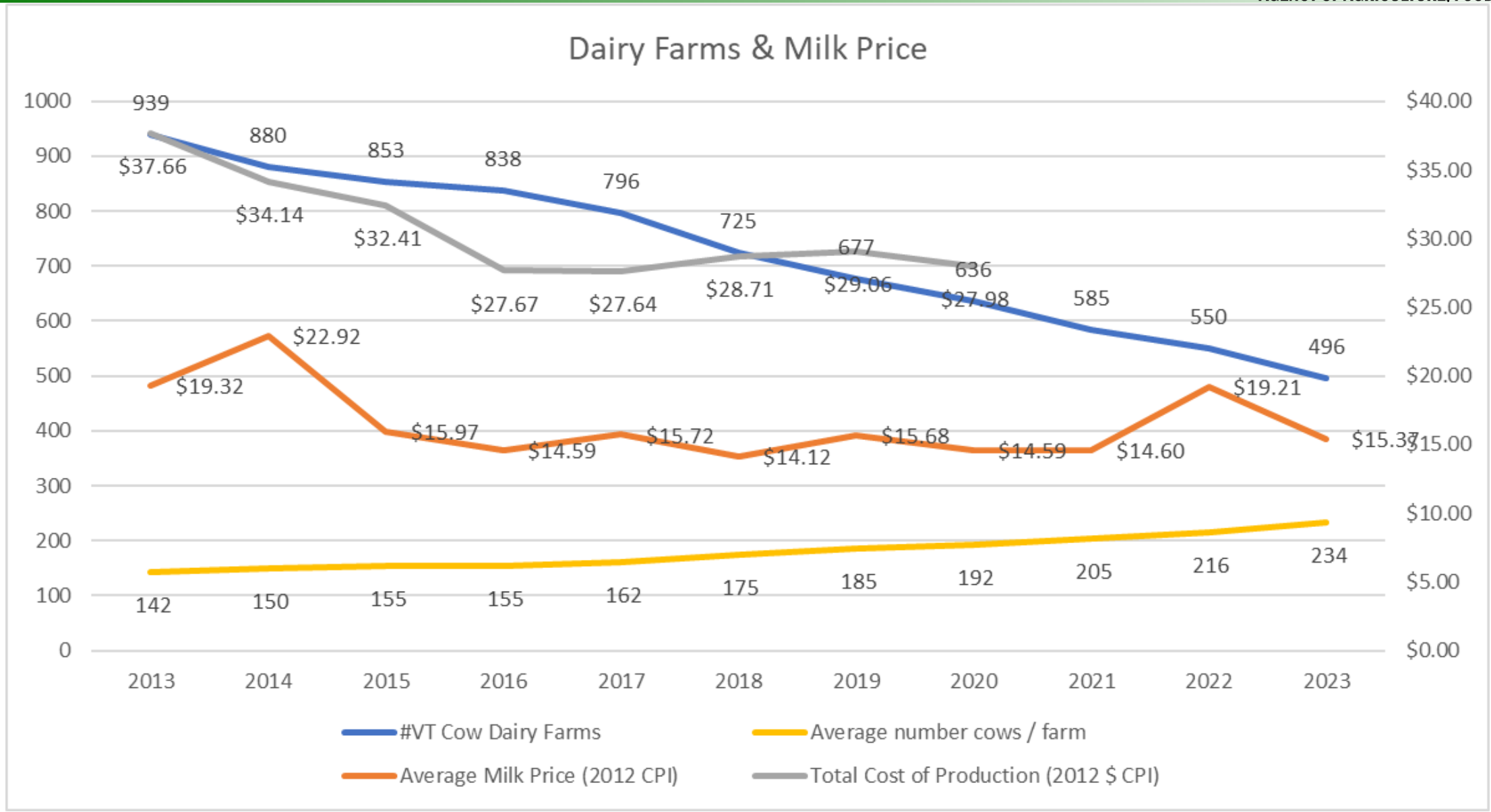
-47% Dairy Farms
-19% Milk Price



VT Land in Farms: ?%

VT Dairy Trends

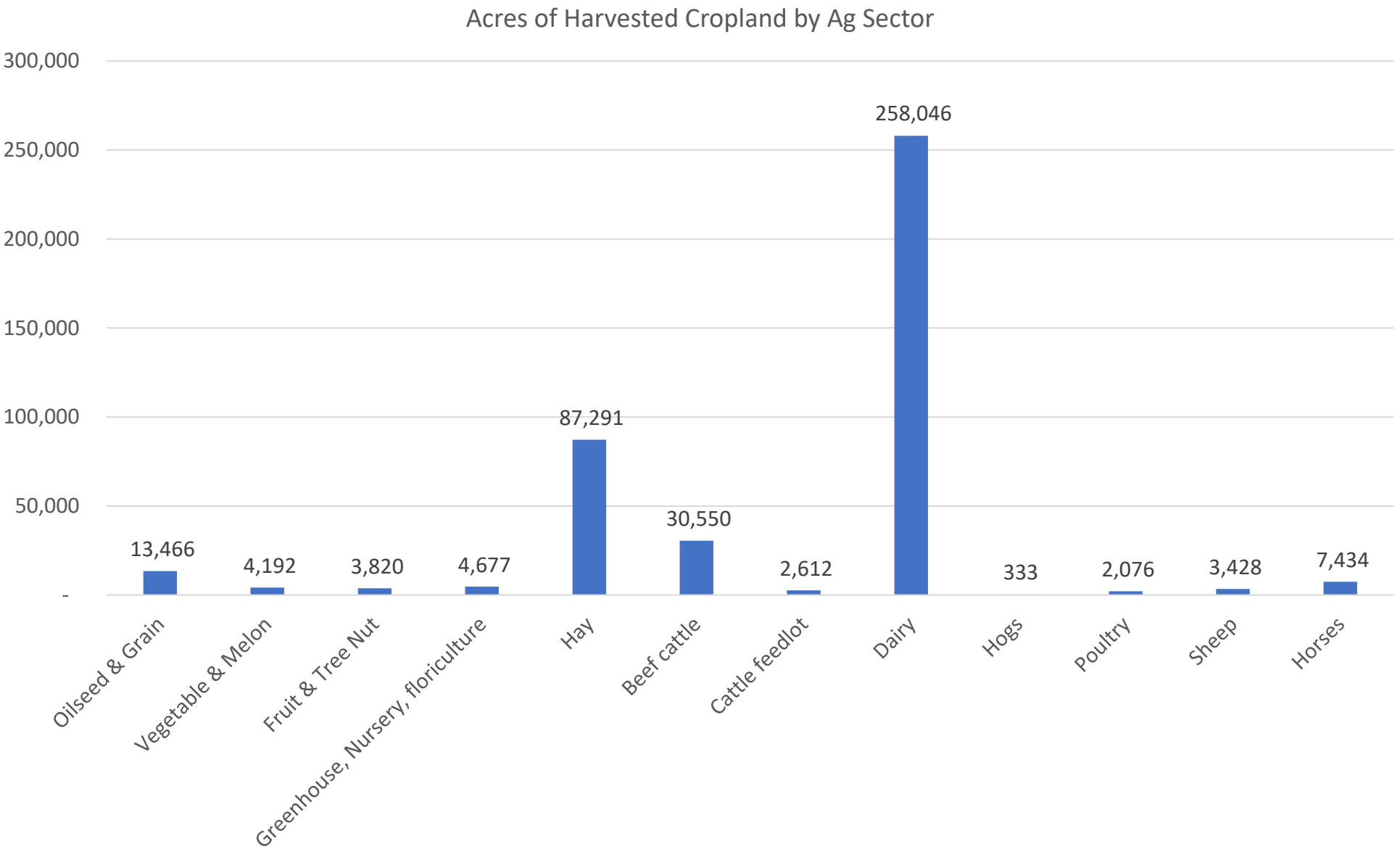
VERMONT
AGENCY OF AGRICULTURE, FOOD & MARKETS



Source: https://www.uvm.edu/sites/default/files/Agriculture/dairy-update/2023-nov-dairy-update.pdf
Source: https://www.ers.usda.gov/data-products/milk-cost-of-production-estimates/

VT Dairy Trends

VERMONT
AGENCY OF AGRICULTURE, FOOD & MARKETS



Source: https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_State_Level/Vermont/st50_1_0075_0075.pdf

Development Trends

VERMONT
AGENCY OF AGRICULTURE, FOOD & MARKETS

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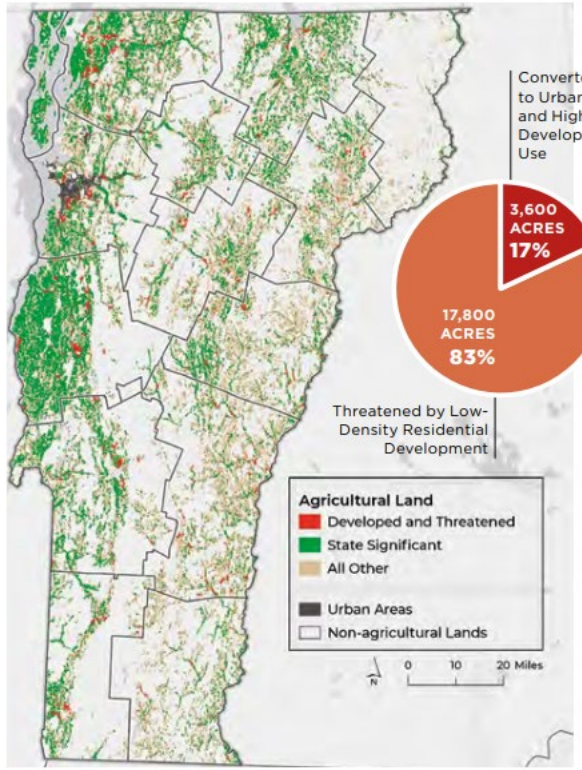
VERMONT



Projected Changes in Land in Agriculture, Business as Usual Scenario

TOTAL

1,193,437 ACRES EXISTING ACREAGE
-41,200 ACRES BUSINESS AS USUAL SCENARIO

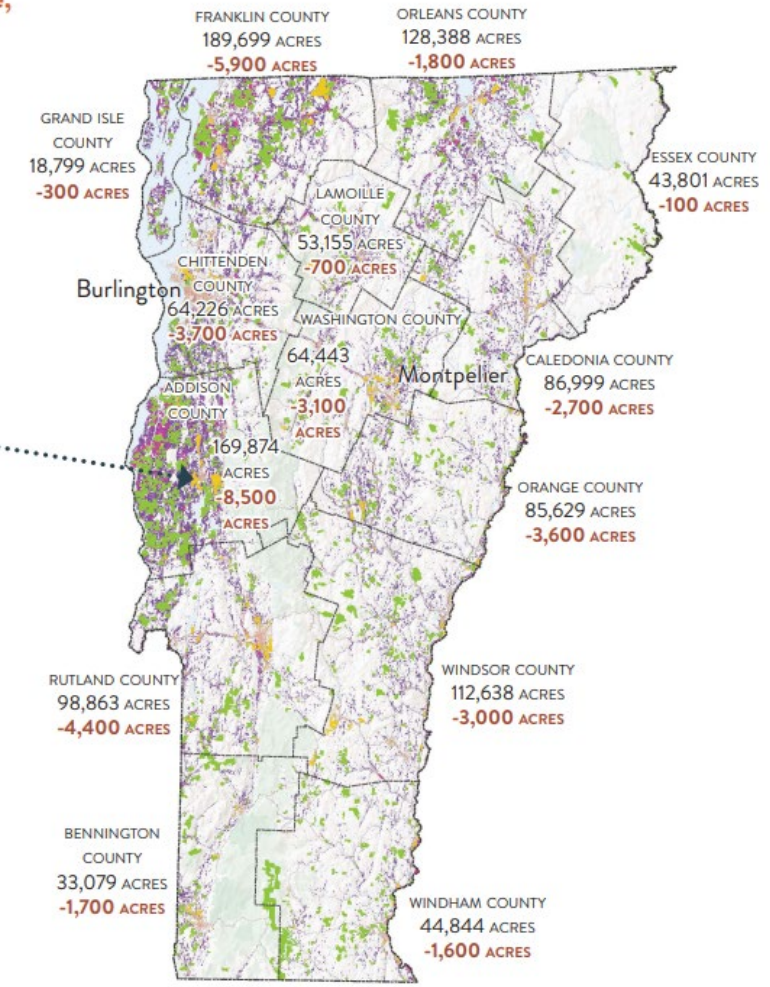
LAND USES

- CULTIVATED CROPS
- PASTURE/HAY
- EASEMENT
- DEVELOPED LAND
- PROJECTED URBAN AND HIGHLY DEVELOPED AND LOW-DENSITY RESIDENTIAL

An analysis from the American Farmland Trust (AFT) estimates that Vermont could lose an additional **41,200 acres** by 2040 under a "Business as Usual" development scenario and **61,800 acres** under a "Runaway Sprawl" scenario.

AFT projects that **Addison, Franklin,** and **Rutland** counties will experience the biggest decreases in land in agriculture.

Source: American Farmland Trust, Farms Under Threat 2040: Choosing an Abundant Future



20.5% Vermont has the highest percentage of agricultural land as a percentage of total land area, 20.5%, of any state in New England, but only a small percentage of agricultural land is used for crops to directly feed people.

Source: https://nefoodsystemplanners.org/wp-content/uploads/NEFNE-VERMONT-State-Brief.pdf ; source: https://farmlandinfo.org/wp-content/uploads/sites/2/2020/10/AFT_NE_FUT-10_14_20_rev.pdf

Ag Perspective

VERMONT
AGENCY OF AGRICULTURE, FOOD & MARKETS

1968

The commitment to a framework for organizing the expanding population and resources of the State could accomplish many specific objectives. It would:

- attract outside industrial and recreational investment
- reassure present investors and semi-residents of protection
- preserve the State's agricultural and forest base
- provide choice of urban, suburban and rural living throughout Vermont
- Preserve essential community life in the State
- foster rural area development on the concentration and space preservation concept that is classic to Vermont
- balance political concerns and mitigate against urban-suburban rural polarization
- Provide the setting for establishment of new towns and planned expansion of satellite villages
- promote local control and initiative within guidelines of a State consensus built on a balance of benefits from State incentives and investments.

1988

All of the recommendations were based on four broad goals that spring from Vermont values:

1. To maintain a sense of community.
2. To support our agricultural heritage — the working landscape.
3. To protect environmental quality.
4. To provide opportunity for all Vermonters to obtain a quality job, a good education and decent, affordable housing.

Future policies and planning at the local, regional and state levels must be guided by these goals.

Vs.

2019

1. Charge

Act 47, Sec. 2 (e)(2)(C)(ii) – "Whether the criteria support development in areas designated under 24 V.S.A. chapter 76A, and preserve rural areas, farms, and forests outside those areas."

Vs.

- The repeal of the exemption for farming, logging, and forestry below 2,500 feet when these occur in areas that have been designated as critical resource areas.

2023

The Steering Committee recognizes that Vermont is facing a housing crisis in addition to the global climate crisis. The Steering Committee believes that facilitating the development of new housing while ensuring that we are maintaining our rural working lands and ecologically important natural resources are not mutually exclusive goals. In fact, exempting designated areas from Act 250 jurisdiction to increase the state's housing stock, advance equity and diversity through affordable and workforce housing, and thus expand economic development opportunities while protecting rural lands and natural resources are the basis for these recommendations.

wildlife, and agricultural soils and local government capacity to service new development. The longstanding vision of Act 250 has been to support compact development surrounded by forests and open lands, including farms and forestry operations.

Vs.

Recommendation: Enact the provisions in H.128 reducing the agricultural soils mitigation ratio for forest processing enterprises to 1:1, which is the same ratio that industrial parks need to provide.

National and Vermont Climate Impacts

VERMONT
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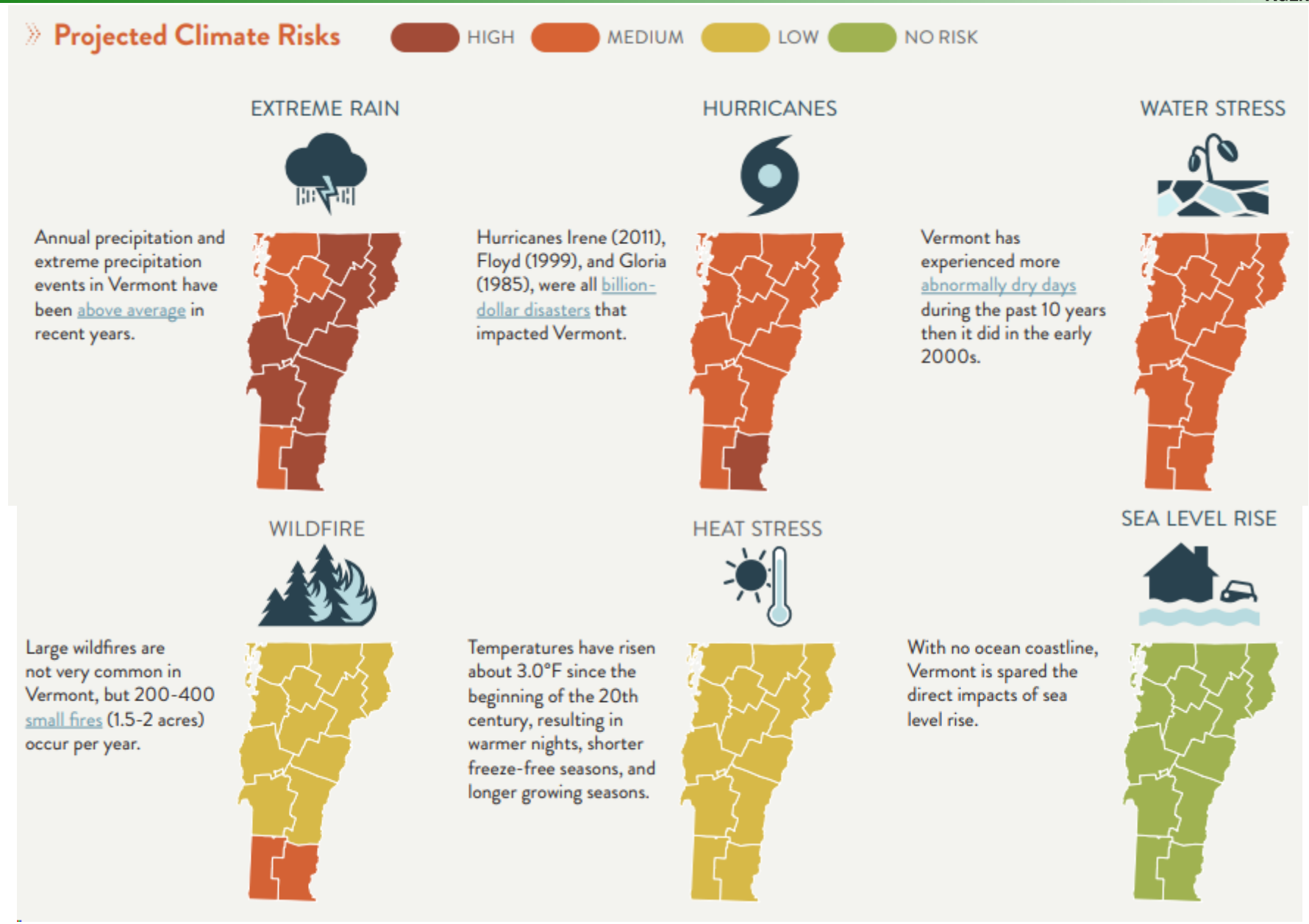

Source: https://nefoodsystemplanners.org/wp-content/uploads/NEFNE-VERMONT-State-Brief.pdf

National and Vermont Climate Impacts

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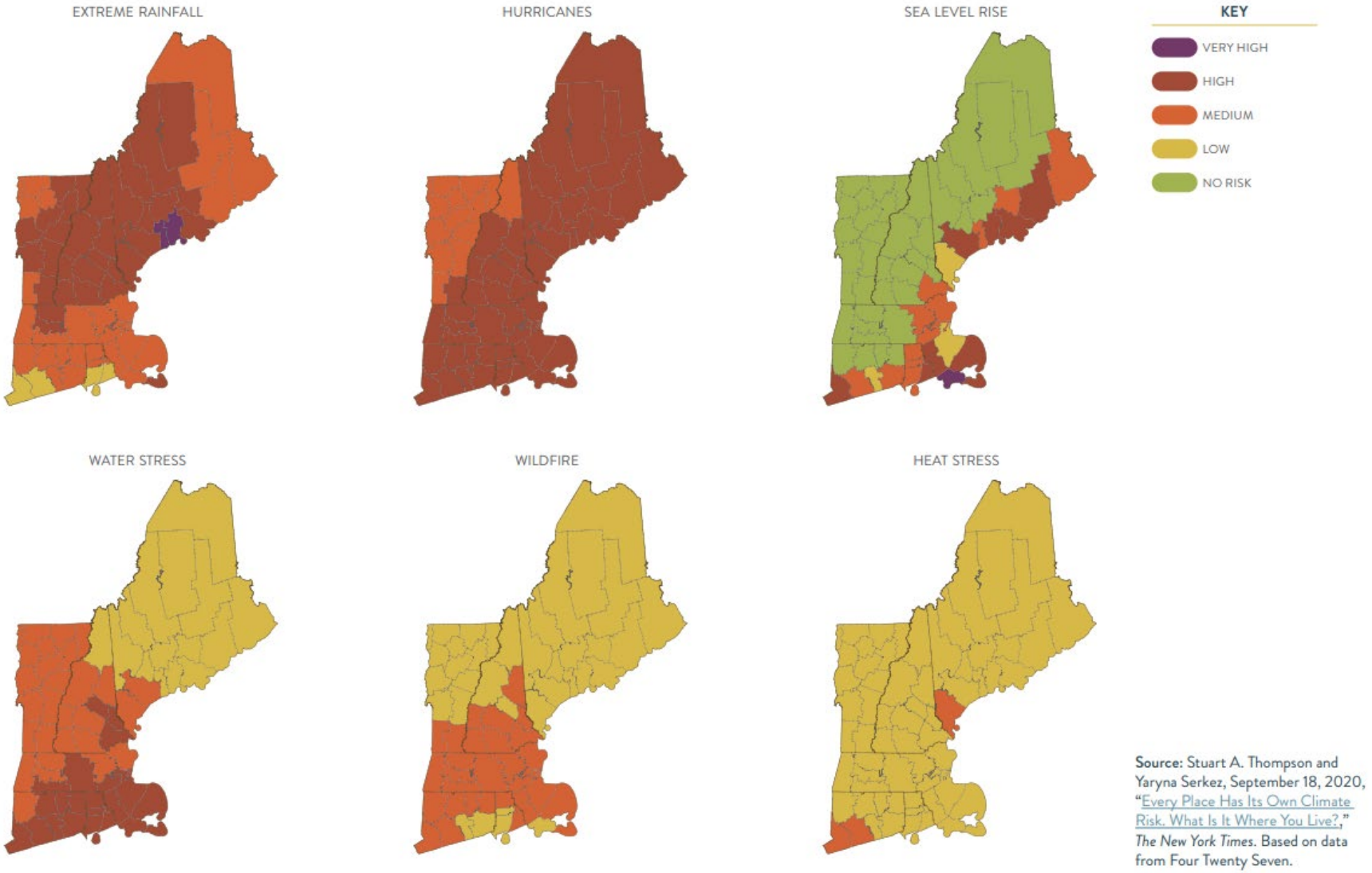
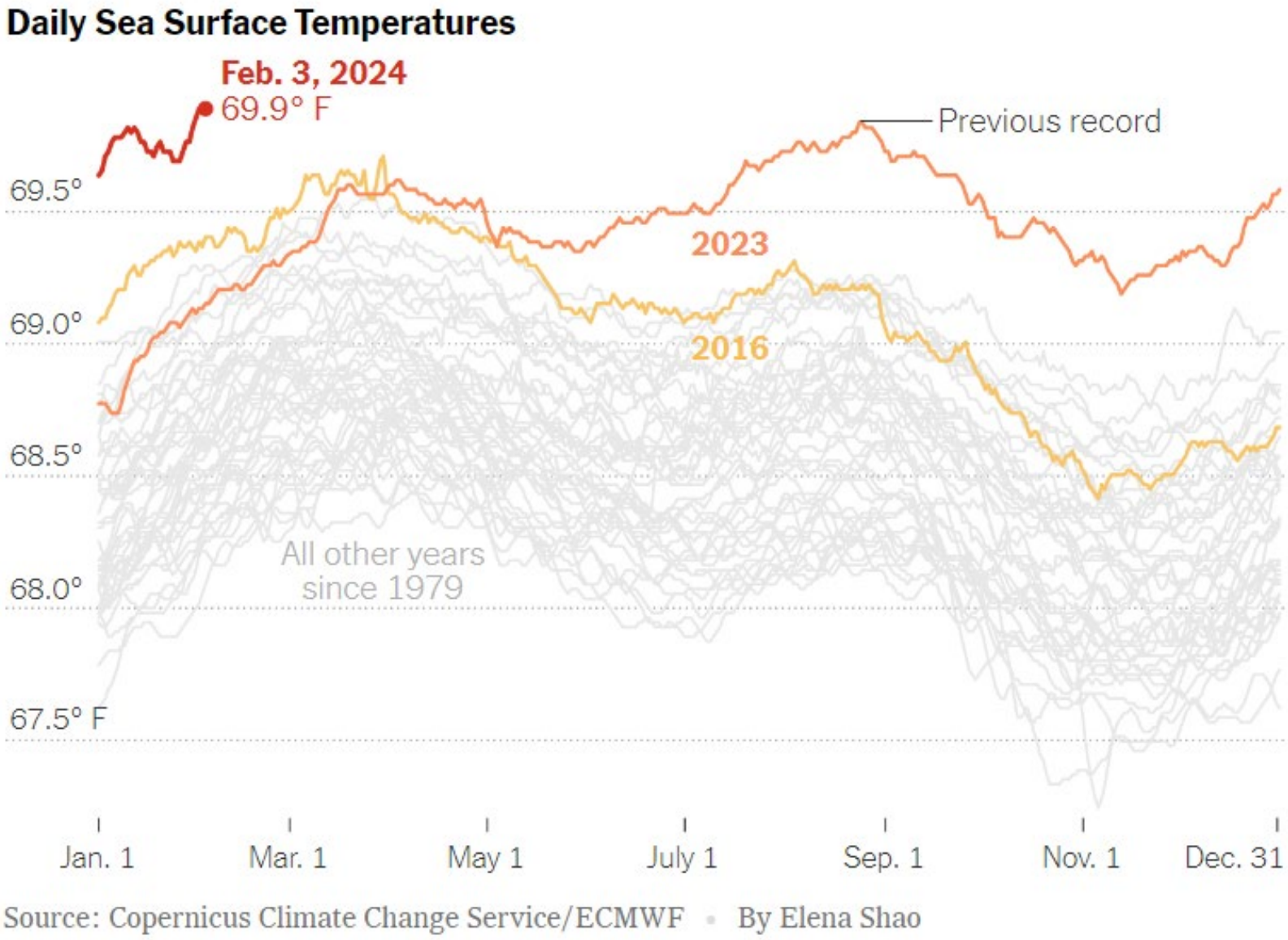
FIGURE 6: Projected Climate Change Risks by New England County



Source: Stuart A. Thompson and Yaryna Serkez, September 18, 2020, "Every Place Has Its Own Climate Risk. What Is It Where You Live?," *The New York Times*. Based on data from Four Twenty Seven.

Source: https://nefoodsystemplanners.org/wp-content/uploads/NEFNE_Common-Food-System-Challenges.pdf



Source: https://www.nytimes.com/2024/02/07/climate/2024-hottest-january-data.html

Can the 6 New England states provide 30% of their food from regional farms and fisheries by 2030?

Volume 2

Could the six New England states meet a goal of supplying 30% of the region's food by 2030?

NEW ENGLAND'S FARMERS + FISHERMEN COULD MEET **30%** OF SERVINGS FOR A POPULATION GROWING FROM **15.3** MILLION TO **15.6** MILLION THIS WOULD REQUIRE MAXIMIZING USE OF **401,000** EXISTING UNDERUTILIZED ACRES + **588,000** *ADDITIONAL* ACRES OF CLEARED LAND

New England Regional Self-Reliance for Major Food Groups

	GRAINS	VEGETABLES	FRUITS	DAIRY	PROTEINS
Servings	1.6%	28.3%	8.7%	50.0%	3.2%
Calories	1.7%	41.0%	6.9%	47.4%	2.6%

Source: Volume 2: Estimating Production for 30% Regional Self-Reliance. *Note: vegetables consists of a significant amount of calorie-dense potatoes grown in Maine; dairy includes a significant amount of production in Vermont.*

Source: https://nefoodsystemplanners.org/wp-content/uploads/NEFNE_Executive-Summary.pdf
Source: https://nefoodsystemplanners.org/wp-content/uploads/NEFNE-VERMONT-State-Brief.pdf

National and Vermont Climate Impacts

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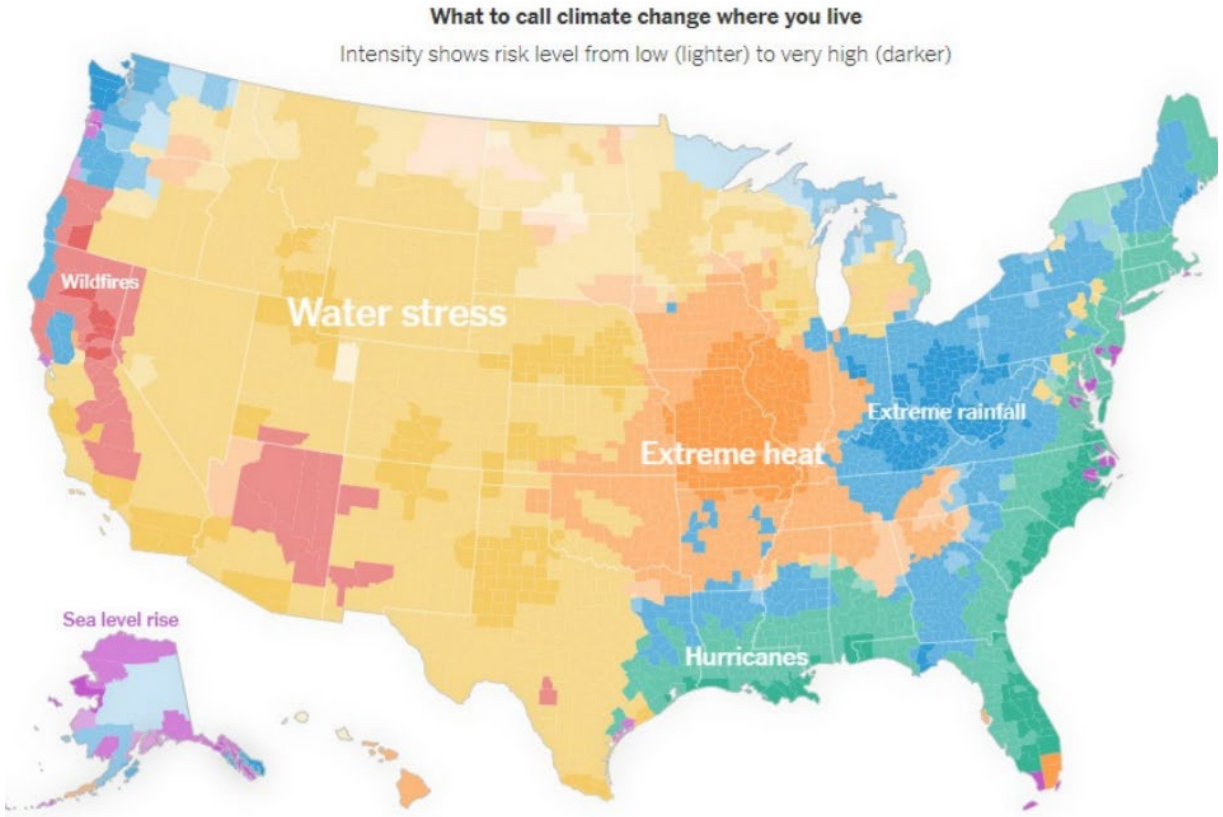

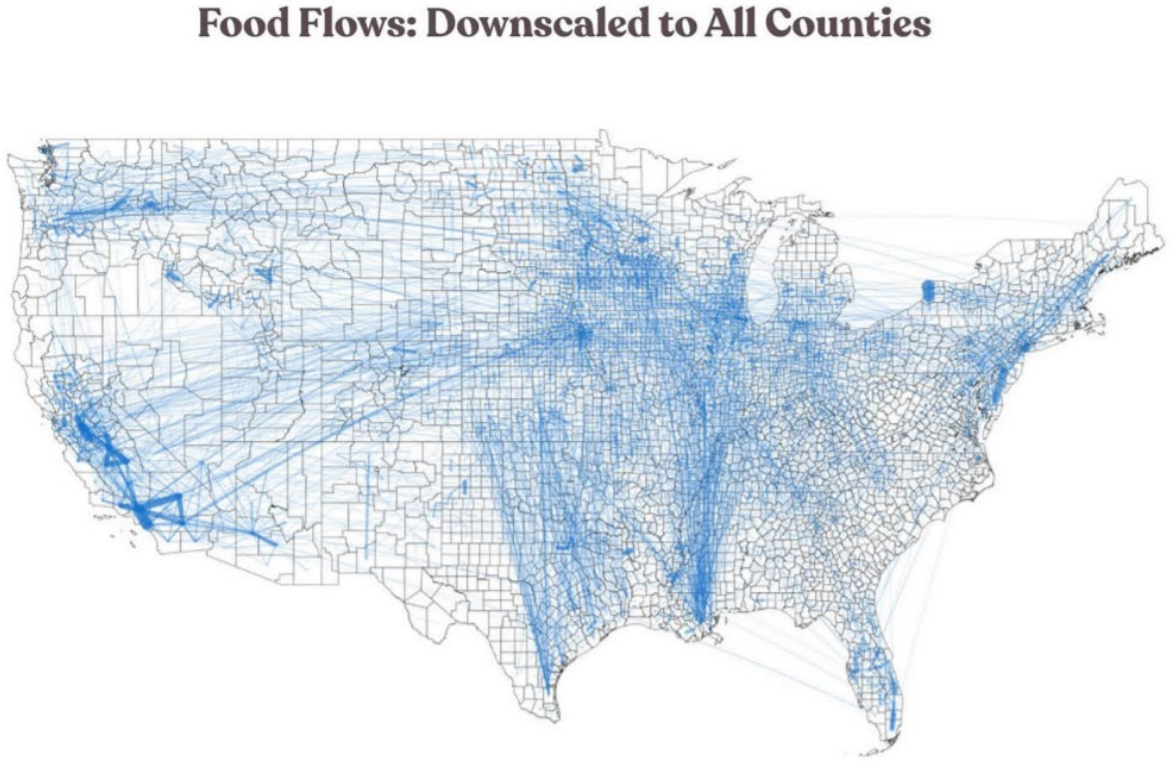

From: Ellen Kahler, VSJF Presentation to House Agriculture:
https://legislature.vermont.gov/Documents/2022/WorkGroups/House%20Agriculture/Food%20Security/W~Ellen%20Kahler~New%20England%20Feeding%20New%20England-%20Cultivating%20a%20Reliable%20Food%20Supply~1-26-2021.pdf

The Vermont Statehouse

VERMONT
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From: State Curator's Office, BGS. Retrieved from: https://curator.vermont.gov/sites/curator/files/styles/slideshow_image_only/public/images/image_only_slides/historic-state-house-780x450.jpg?itok=lXOLbhmj