

# Addressing Forestland Loss and Fragmentation in Act 250

Jamey Fidel

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# Forest Loss

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- While 74% of the state is covered by forests, a closer look reveals that our forests are being converted and fragmented by rural sprawl.
- According to the Forest Service, 14,207 acres of forest land are converted on average to nonforest every year.\*
- This means there is an average net loss of approximately 11,000 acres of forests a year since roughly 3,000 acres of nonforest revert back to forest on an annual basis.\*

\* Source: USDA Forest Service. 2019. Forests of Vermont, 2018. Resource Update FS-212. Madison, WI: U.S. Department of Agriculture, Forest Service.

<https://doi.org/10.2737/FS-RU-212>



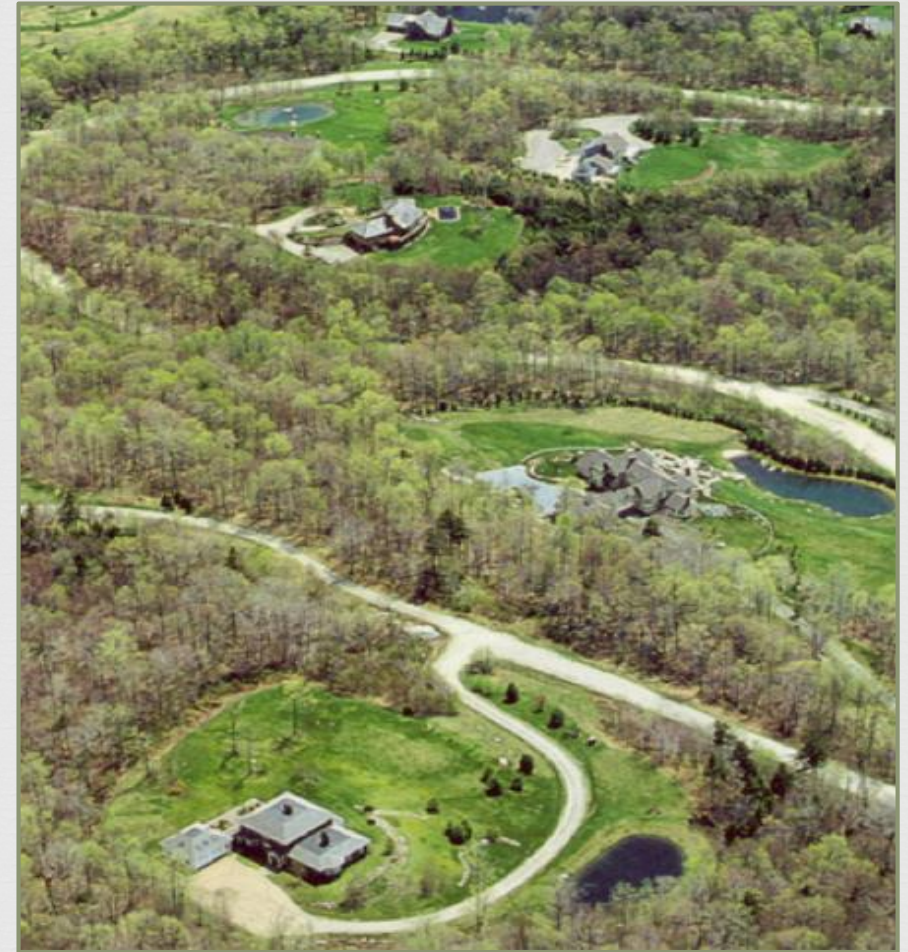
A. Blake Gardner

# Parcelization

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The breaking up of land into smaller and smaller parcels, usually through subdivision.

- Increased, potentially disjointed ownership of parent parcel;
- Step toward new development, housing and infrastructure that may fragment natural resources and intact forests depending on how it occurs;
- Less viable tracts for forestry; and
- Potential negative ecological impacts.



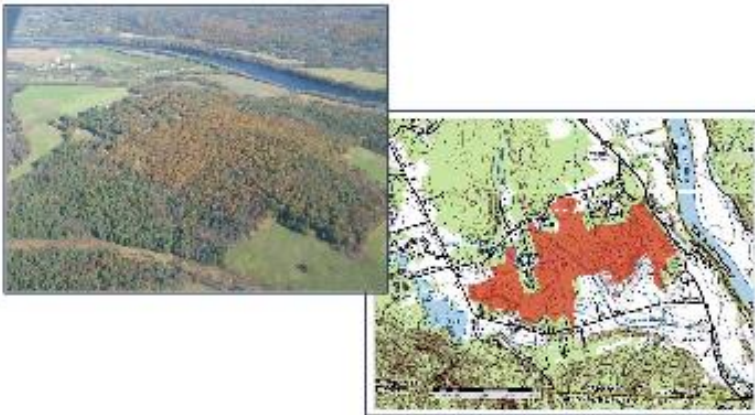
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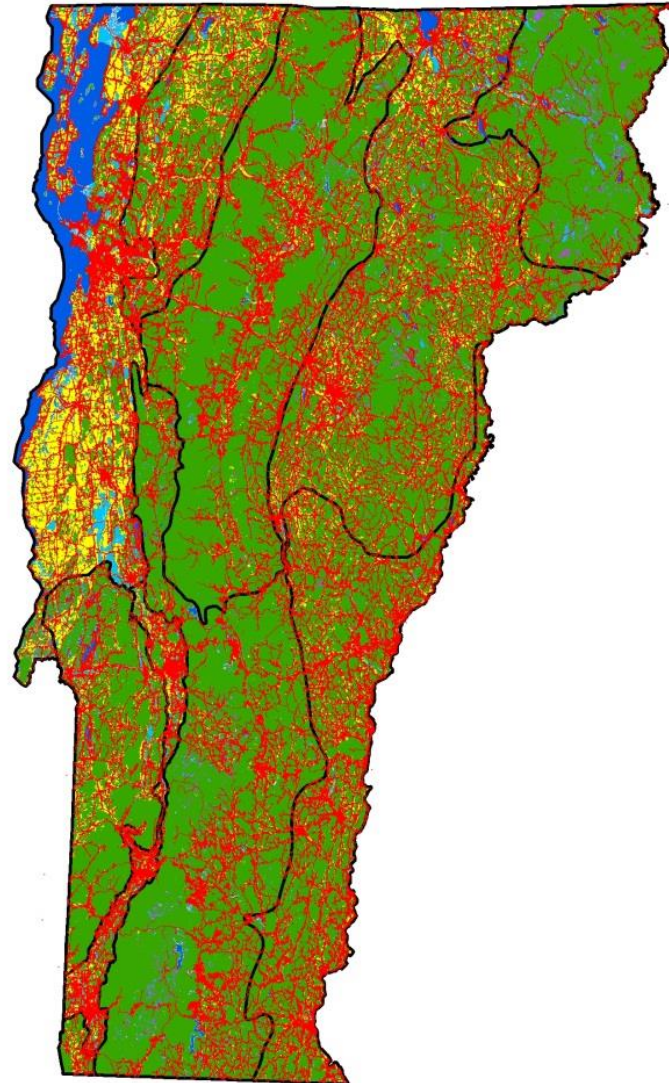
# Intact Blocks and Fragmentation

## Vermont Habitat Blocks and Habitat Connectivity: An Analysis using Geographic Information Systems



Vermont Fish and Wildlife Department  
April 2014

Eric Sorenson, Vermont Fish and Wildlife Department  
Jon Osborne, Vermont Land Trust





# Strategies to Address Parcelization & Fragmentation - Forest Roundtable

- An ongoing policy discussion on forest policy with a focus on parcelization and forest fragmentation.
- Bringing diverse interests together since 2006 to work on a common issue of concern (Over 200 interested members).
- Information sharing and networking.
- Testing new ideas.



# 2007 Forest Roundtable Report

## **ROUNDTABLE ON PARCELIZATION AND FOREST FRAGMENTATION**

### **FINAL REPORT**



**MAY 2007**

Recommendations from a roundtable of diverse participants.

*Primary Author: Jamey Fidel, Forest and Biodiversity Program Director,  
Vermont Natural Resources Council*

Includes 27 strategies to address parcelization and fragmentation.

- Tax Policy
- Land Use and Conservation Planning
- Valuation of Ecosystem Services
- Long-term Sustainability of the Forest Products Industry



# Roundtable Recommendations for State Policy

## ROUNDTABLE RECOMMENDATIONS CHECKLIST

### RECOMMENDATIONS REGARDING TAX POLICY

*The following recommendations focus on tax policies that influence the way forestland is managed and conserved in Vermont.*

- ☐ The Forest Roundtable strongly endorses Vermont's Use Value Appraisal Program (UVA) including continued funding.
- ☐ Educate municipal officials regarding the lack of impact of the UVA Program on municipal tax rates.
- ☐ Provide the UVA Program with adequate resources to administer the program. The Agency of Natural Resources, The Department of Taxes, and the Legislature should study ways to improve the overall efficiency and administration of the Program.
- ☐ Conduct an independent legislative study of the UVA Program which examines the statutory goals of the program and assesses the program's effectiveness with respect to the original goals. For example, is the goal of conserving natural ecological systems adequately addressed? This study should also assess ways to expand landowner enrollment in the program, and assess the effectiveness of the land use change tax.
- ☐ Assess property with perpetual conservation easements at a lower value.
- ☐ Disburse property transfer tax revenue according to the formula set in statute.
- ☐ Strengthen the collection of the land gains tax on timber sales on land subject to the land gains tax, and develop better mechanisms to track timber sales and assess taxes from these sales.

### RECOMMENDATIONS REGARDING CONSERVATION PLANNING

*The following recommendations focus on conservation planning as a broad theme encompassing state, regional, municipal, and estate planning mechanisms to reduce the rate of parcelization and forest fragmentation in Vermont.*

- ☐ Educate landowners about programs for keeping forestland intact across multiple generations.
- ☐ Track annual rates of parcelization in Vermont.

- ☐ Utilize existing data and develop maps to identify and prioritize forest blocks for conservation.
- ☐ Track and analyze rates and degree of forest fragmentation in Vermont.
- ☐ Integrate existing planning efforts at the local, regional and state level to better address parcelization and forest fragmentation.
- ☐ Identify and correct gaps in Act 250 and other land use regulations to attenuate the rate of parcelization and forest fragmentation in Vermont.
- ☐ Implement planning efforts that reflect the public values of forests.

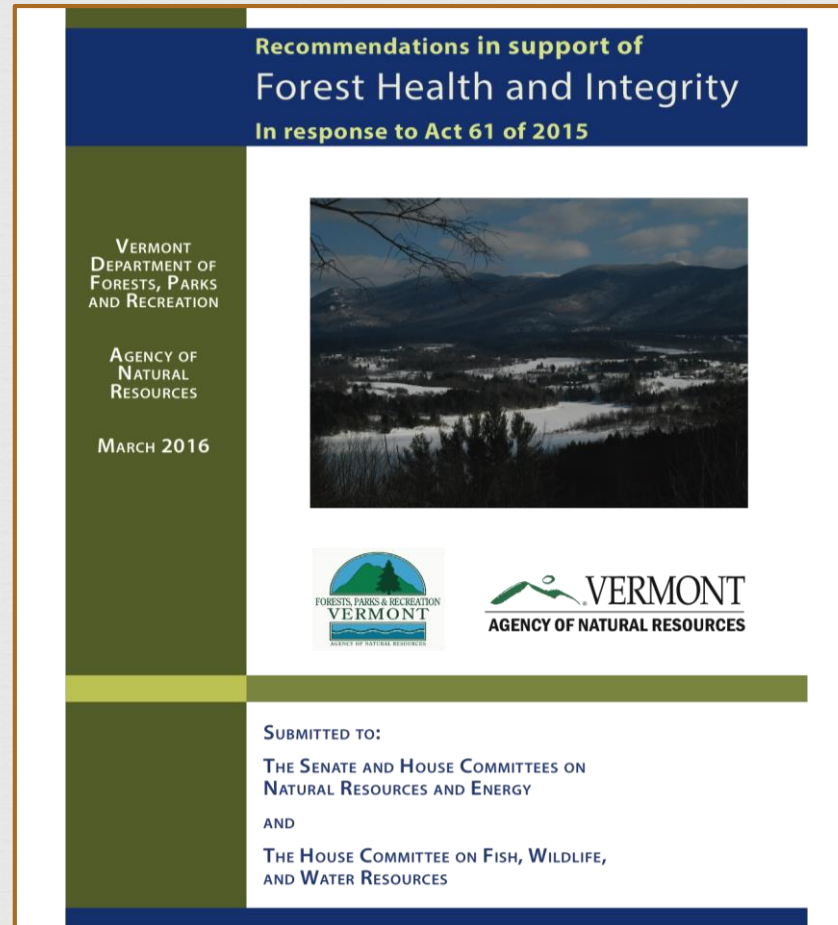
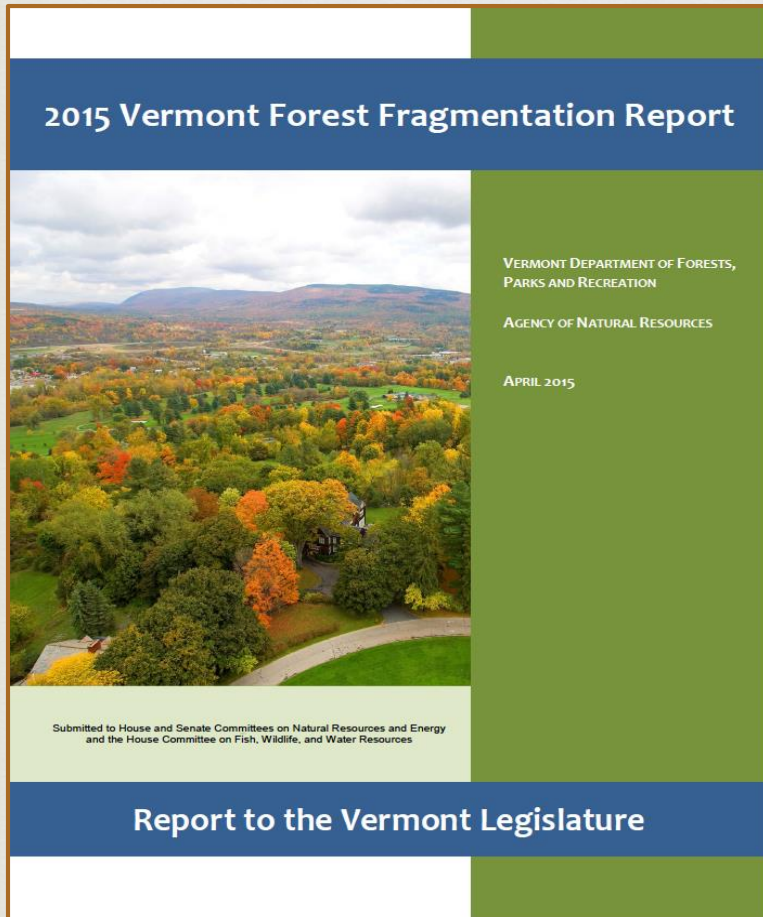
### RECOMMENDATIONS REGARDING THE CONSERVATION, STEWARDSHIP, AND VALUATION OF ECOSYSTEM SERVICES

*The following recommendations focus on conservation, stewardship, and in particular, the recognition of the value of healthy functioning forested ecosystems in Vermont.*

- ☐ Develop a system to consistently quantify, recognize, and compensate landowners for the value of ecosystem services provided by forestland in Vermont.
- ☐ Communicate the value of forests to the public in everyday terms, including the ecological benefits that the public is receiving for free from healthy functioning forests.
- ☐ Convene a forum on how to manage for ecosystem services at the regional scale, paying attention to property rights, alternative models of ownership and management, and to required policies and distribution of costs and benefits.
- ☐ Create an annual award for ecosystem service stewardship to increase awareness and showcase forest ethics role models in the state.
- ☐ Fund the development of build-out models and case studies to show projected impacts on ecosystem services in order to assist planning, conservation, and stewardship activities.
- ☐ Create a model for community-based Timberland Investment Management Organizations (TIMO's) that can buy and manage forestland collectively.
- ☐ Support the establishment of landowner cooperatives that foster conservation, forest stewardship, ecosystem services and forest product marketing efficiencies.



# ANR Forest Fragmentation Reports for the Legislature





# Commission on Act 250 Report (2019)



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

### 3. Discussion and Recommendation

In 2017, the House passed H.233, entitled an act relating to protecting working forests and habitats. The bill proposed to amend the Act 250 criteria in order to protect forest resources and support the forest economy, water quality, and habitat connectivity. It proposed adding criteria 8(B) and (C), which would require projects subject to the Act to avoid, minimize, or mitigate fragmentation of, respectively, forest blocks and habitat connectors. The Commission recommends that the changes to Act 250 contained in H.233 be adopted in order to protect against further fragmentation of Vermont's shrinking forests and habitat.<sup>84</sup>

### 3. Discussion and Recommendation

As discussed in Section V.B., above, the goal of maintaining a settlement pattern of compact centers surrounded by rural countryside has been a long-standing policy of the State of Vermont, and the data indicate that, while the State has had some success, it is not achieving this goal. Similarly, as discussed in Section V.C., above, the fragmentation of forests and habitat threatens Vermont's ecosystems and natural resources.



# Commission on Act 250 Report (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

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As part of an overall balancing of interests to support economic development in compact centers while promoting a rural countryside and protecting important natural resources, the Commission recommends establishing a multitiered approach toward Act 250 jurisdiction over commercial and industrial development, subdivisions, and housing units. This approach would include the following tiers, with jurisdictional thresholds running from lowest to highest:

- A tier of "critical resource areas" containing ecosystems, natural resources, and habitat that are priorities for protection. These areas could include river corridors, elevations above 2,000 feet, significant wetlands, and areas characterized by steep slopes and shallow soils. Act 250's jurisdiction would be increased by lowering the existing jurisdictional thresholds for critical resource areas. Regional and municipal planning processes could assist in identifying critical resource areas. This tier would include protection of these areas even if they are located within existing settlements.
- A "rural and working lands" tier, consisting of lands that are neither critical resource areas nor existing settlements as currently defined in Act 250. Jurisdictional thresholds would be higher in this tier than the critical resource areas tier but, in order to protect forests, connecting habitat, and agricultural soils, potentially lower than they are today.

<sup>117</sup>Act 250 Rule 2(C)(6).

VT LEG #335768 v.14

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- A tier for "existing settlements" as defined under current law, which includes not only existing compact centers, but also areas designated under the State designation program. This tier would include multiple sub-tiers and jurisdictional thresholds that might be increased from where they are today for some of these sub-tiers. One sub-tier might be for areas receiving an enhanced designation created within the State designation program. Under the enhanced designation process, the municipality would require compliance with the Act 250 criteria instead of application review by the District Commission. Because of the implications for Act 250 jurisdiction, designation decisions would become appealable.



# Initial VT Climate Action Plan (2021)

## INITIAL VERMONT CLIMATE ACTION PLAN

Vermont Climate Council  
DECEMBER 2021

- g. Update Act 250 to promote compact settlement by:
  - i. waiving the mitigation fees for prime agricultural soils<sup>233</sup> for alternative or community wastewater systems that will serve a state designated center.
  - ii. removing the population-based caps on the Act 250 exemption for priority housing projects
  - iii. including criteria that better address climate change, forest fragmentation and forest loss, to incentivize growth in the state's designated centers and better address the specific challenges to working lands enterprises;
  - iv. updating its governance, staffing, public engagement, and the role of State Agency permits in the Act 250 process to create the enterprise capacity necessary to implement new climate related criteria and respond to future land use pressure from climate change and in-migration of climate refugees.
  - v. removing Act 250 jurisdictional thresholds for housing development within and immediately adjacent to certain state designated centers to incentivize compact, dense settlement in areas with adequate local land use laws and existing infrastructure, reducing development pressures on open spaces such as greenfields and forested locations. These centers should grow in a manner by which walking and biking are preferred means of mobility, and mobility infrastructure should be designed for universal accessibility.

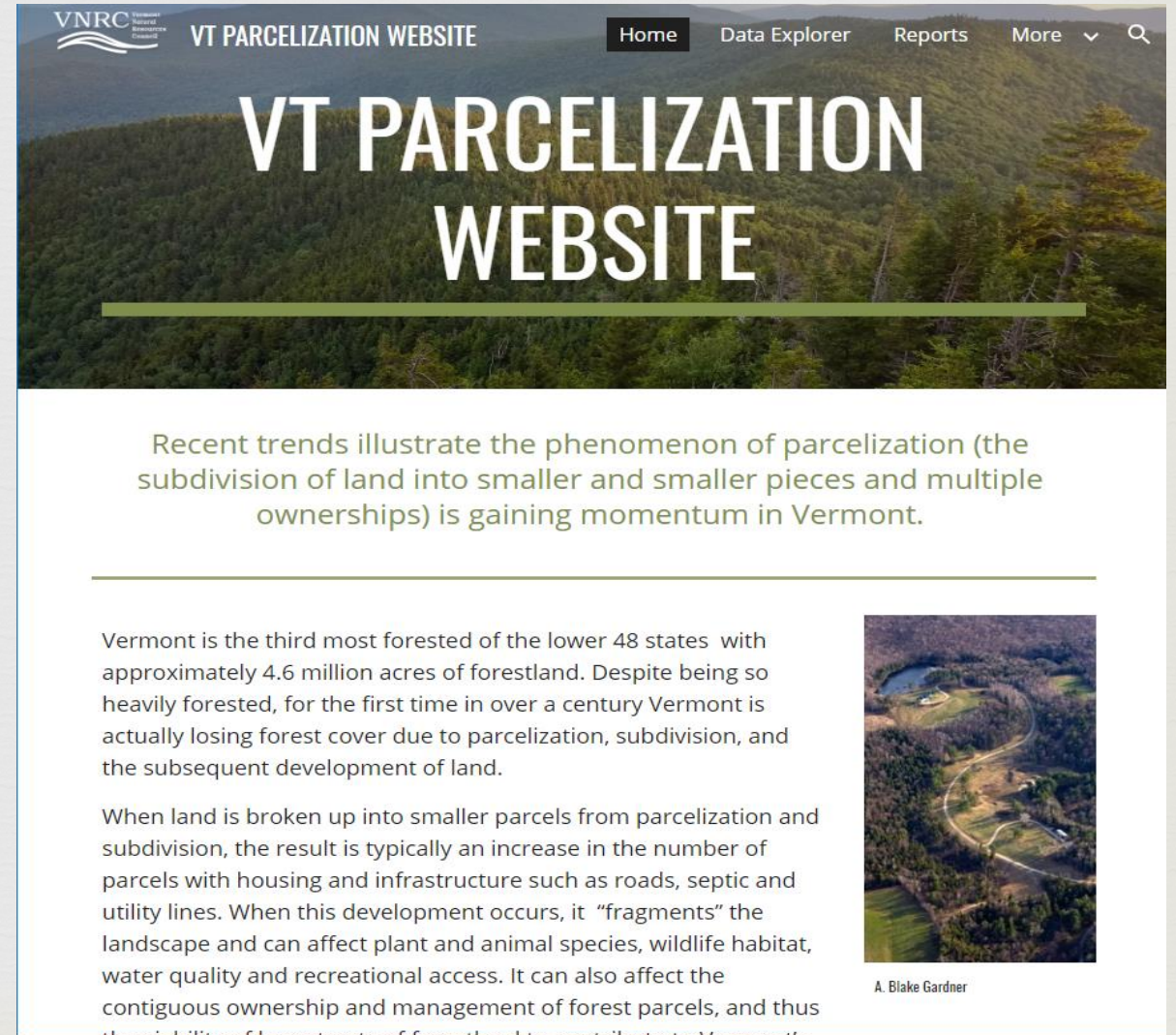
# VNRC Parcelization Website

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- To make parcelization data more accessible
- To visualize change spatially.
- To generate geographically-specific reports

Available at:

[www.vtforesttrends.vnrc.org](http://www.vtforesttrends.vnrc.org)





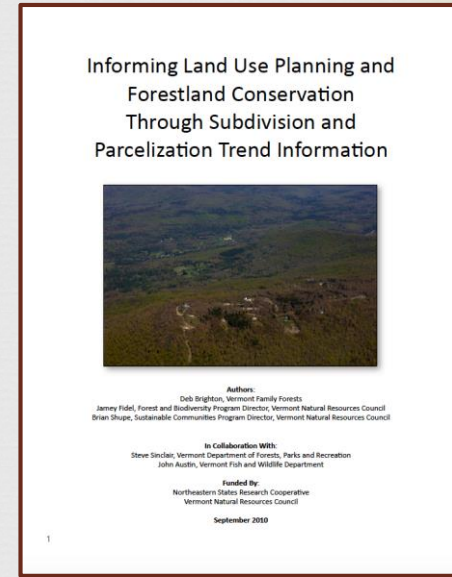
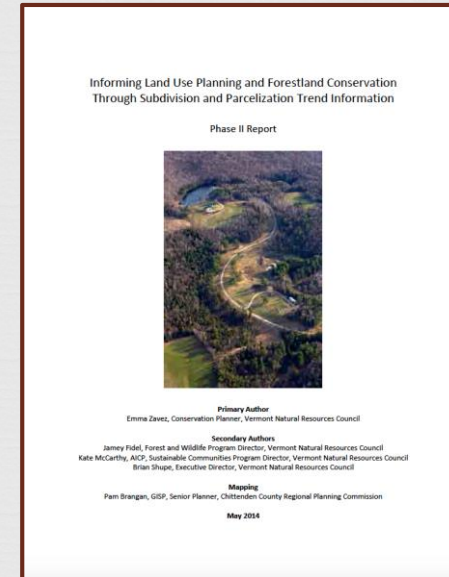
# Background on VNRC Research

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*Phase 1 (2010)*      Statewide parcelization trends,  
2003-2009.

*Phase 2 (2014)*      Subdivisions in 22 case study towns.

*Phase 3 (2018)*      Parcelization trends, 2004-2016  
(state, regional planning commission, county, & town levels)



*Funded by Northeastern States Research Cooperative (NSRC), a partnership of Northern Forest states (New Hampshire, Vermont, Maine, and New York) in coordination with the  
USDA Forest Service*

# Private Land Trends

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In 2016, roughly 3,350,000 acres (70.4% of the land) were in parcels 50 acres or larger.\*

\*residential 40.0%

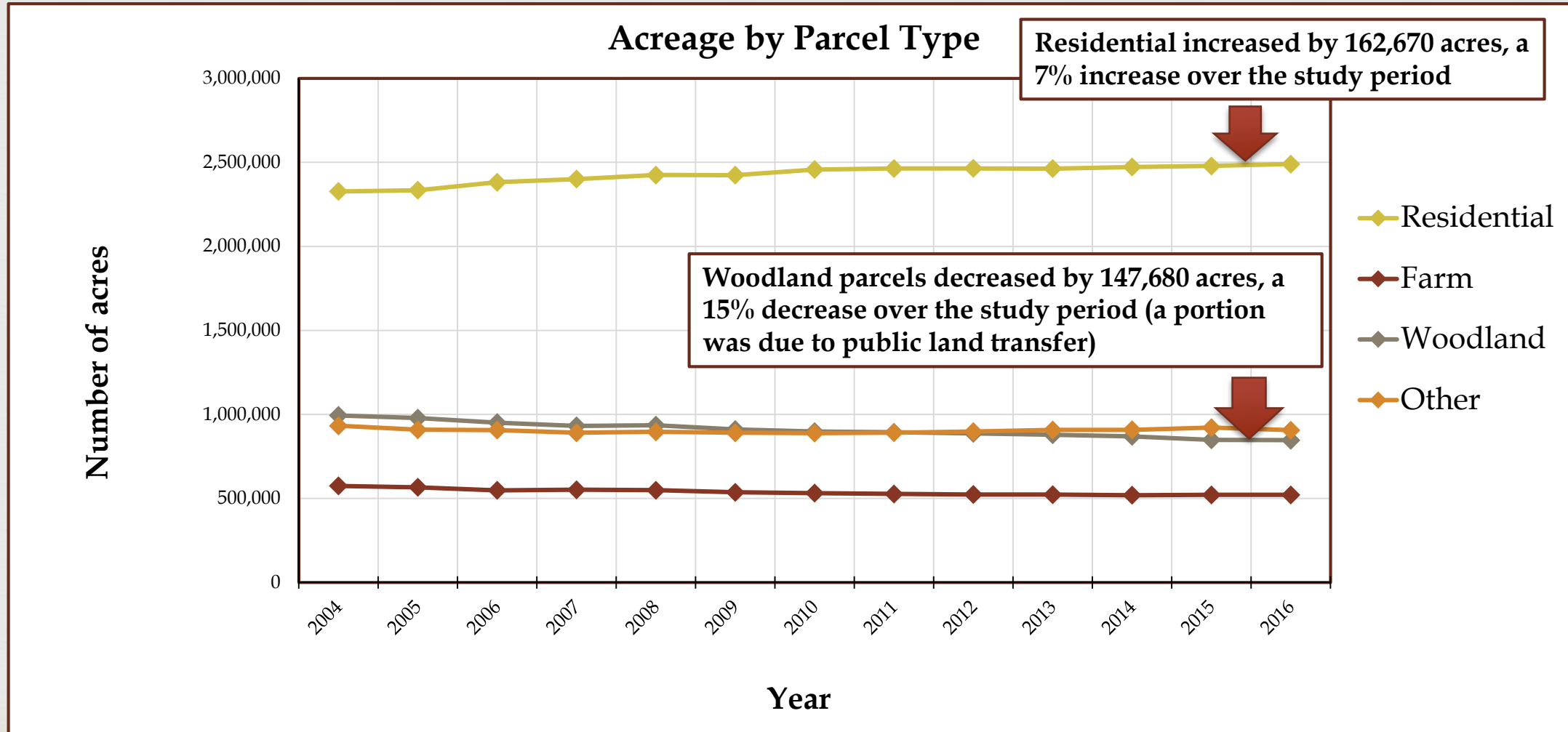
\*woodland 25.7%





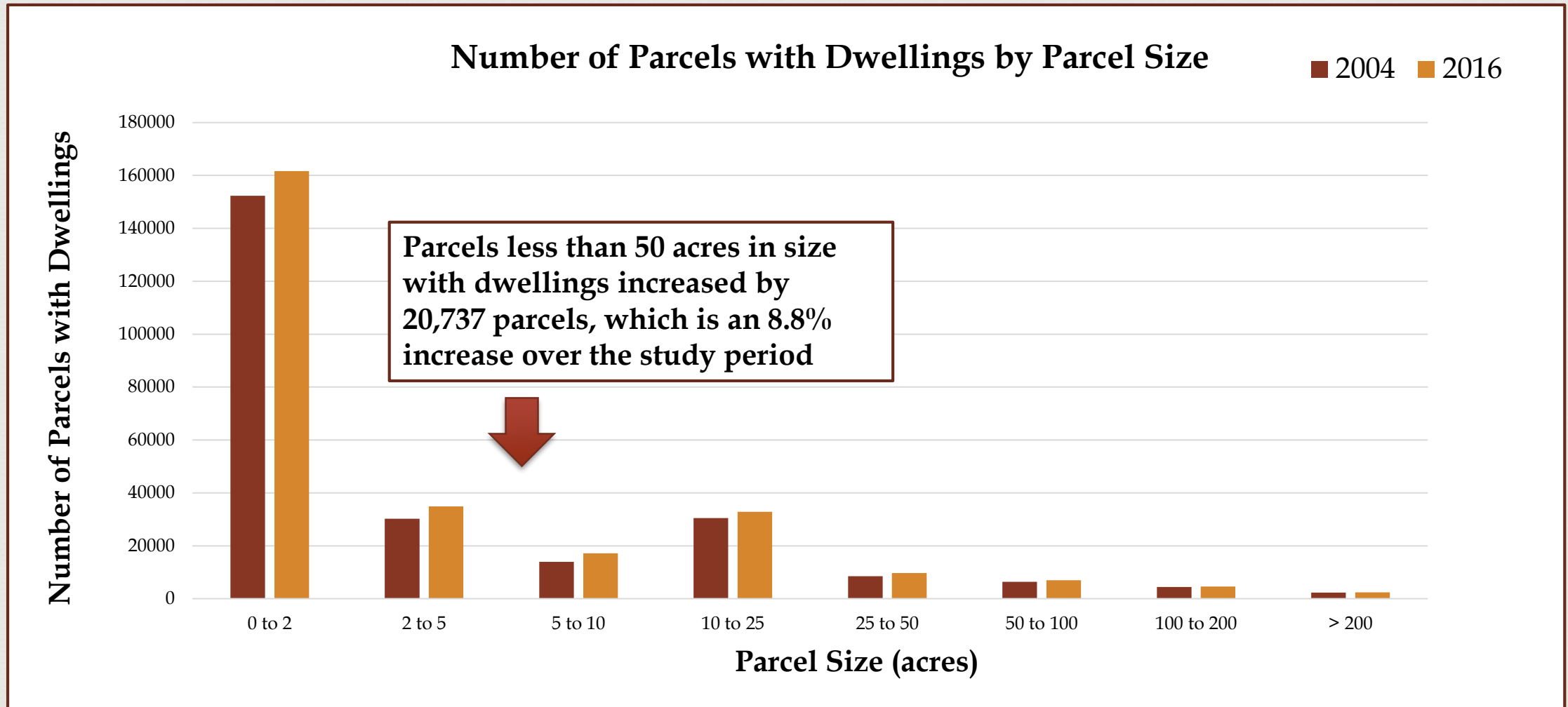
# Acreage by Parcel Type

The number of acres in the “residential” category is increasing, while “farm” and “woodland” acreage is decreasing, with “woodland” acreage decreasing the fastest.



# Number of Parcels with Dwellings by Parcel Size

Growth in dwellings on smaller parcels compared to larger parcels.





# VNRC Subdivision Study – Phase 2

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- Reviewed records of subdivisions in 22 case study towns
- Total subdivision activity, by zoning district, from 2002 through 2009
- When land is subdivided...
  - How many lots were created?
  - What size were the lots?

## Informing Land Use Planning and Forestland Conservation Through Subdivision and Parcelization Trend Information



### Authors:

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Jamey Fidel, Forest and Biodiversity Program Director, Vermont Natural Resources Council  
Brian Shupe, Sustainable Communities Program Director, Vermont Natural Resources Council

### In Collaboration With:

Steve Sinclair, Vermont Department of Forests, Parks and Recreation  
John Ausen, Vermont Fish and Wildlife Department

### Funded By:

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Vermont Natural Resources Council

September 2010

# How many lots were created?

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## *Findings:*

- 2,749 lots created from 925 subdivisions affecting a total of 70,827 acres of land.
- On average, each subdivision resulted in 2-4 lots.
- Based on spatial analysis in four Phase II communities, between 50% and 68.8% of the subdivided acres were located within habitat blocks mapped by the Agency of Natural Resources.



# What Does This Mean for Act 250?

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- The majority of subdivision is not triggering Act 250.
- Only 1% - 2% of subdivisions in the case study towns were large enough to trigger Act 250.
- A small number of subdivisions, but a larger amount acreage, was subject to Act 250 under amendment jurisdiction, meaning the land was already under Act 250.

# What Were The Lot Sizes?

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## Findings

- Median lot sizes: 2.4 – 12.15 acres
- Size of original lot (“parent parcel”) matters

Size of original parcel	Subdivisions resulting in at least one 50+ acre parcel
100+ acres	97%
50-100 acres	57%

## What does this mean?

- Resulting parcels may be too small to support long-term forest management goals.
- Multiple owners can lead to fragmented land management.



# Where Were The Lots Created?

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## Finding:

Most land subdivision is taking place in rural residential districts versus conservation districts.

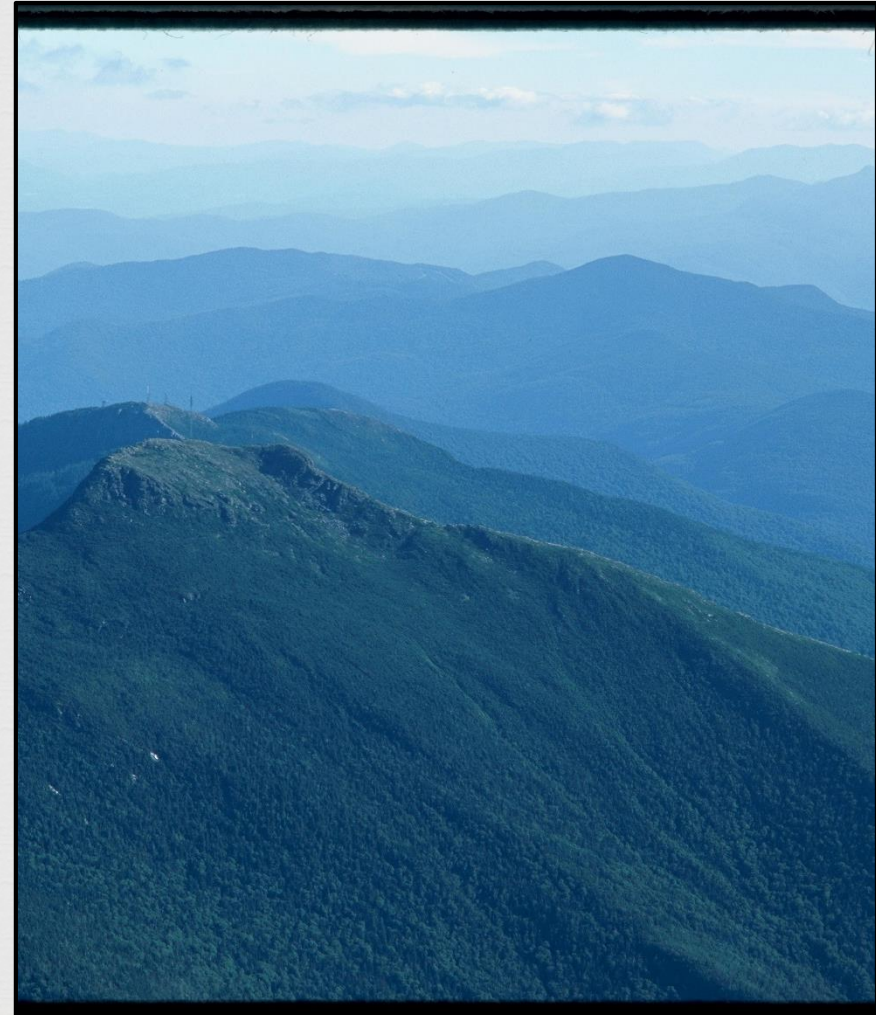
	In Rural Res. districts	In Natural Resource districts
% of total subdivisions	79%	15%
% of total acres	84%	22%

## What does this mean?

- Natural resources in “default” districts – where most subdivision is happening – may be more vulnerable to fragmentation unless these districts include standards.
- Opportunity for improved site design and subdivision configuration in these areas.

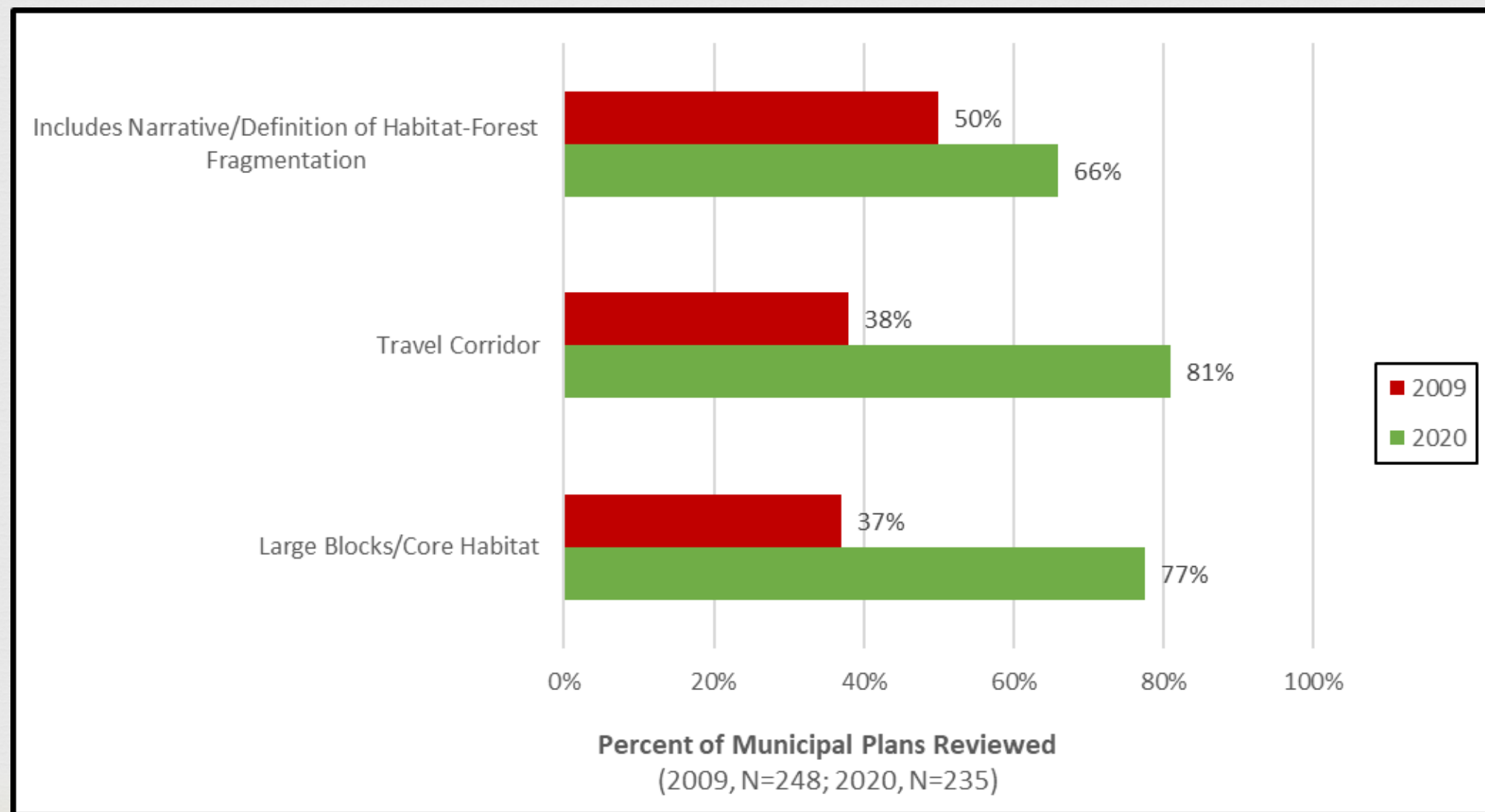
# Planning – Act 171 (Effective in 2018)

- New state land use planning goal to manage Vermont's forestlands so as to maintain and improve forest blocks and habitat connectors.
- Requires town and regional plans to indicate those areas that each town or region deems to be important or require special consideration as forest blocks and habitat connectors.
- Plan for land development in those areas to minimize forest fragmentation and promote the health, viability, and ecological function of forests.





# Measuring Progress on Act 171



# Measuring Progress on Act 171

	Conservation District	Forest Reserve District	Water Resource District	Natural Resources Overlay District	Wildlife Overlay District	Fluvial Erosion/ River Hazard District	Rural / Ag. / Resource / Res. District	Residential District	Open Space District
<b>Percentage of towns where district exists*</b>	44%	25%	11%	3%	4%	14%	82%	80%	16%
<b>District has specific wildlife review**</b>	19%	23%	9%	83%	63%	0%	6%	4%	15%
<b>District has fragmentation standards**</b>	10%	31%	0%	50%	50%	0%	4%	4%	15%

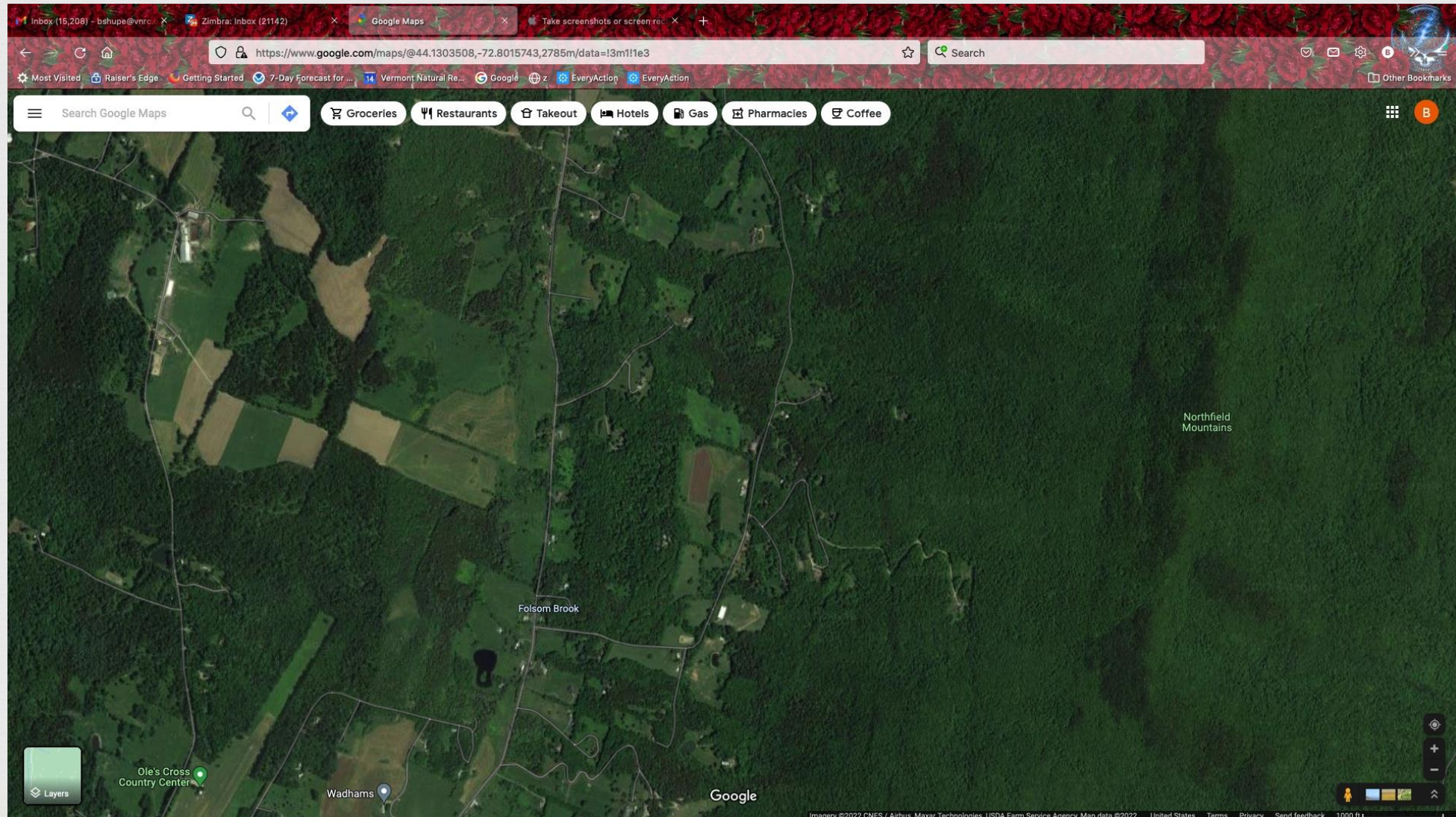
**\*Percent of Towns with Zoning Regulations**

**\*\*Percent of Towns with District**



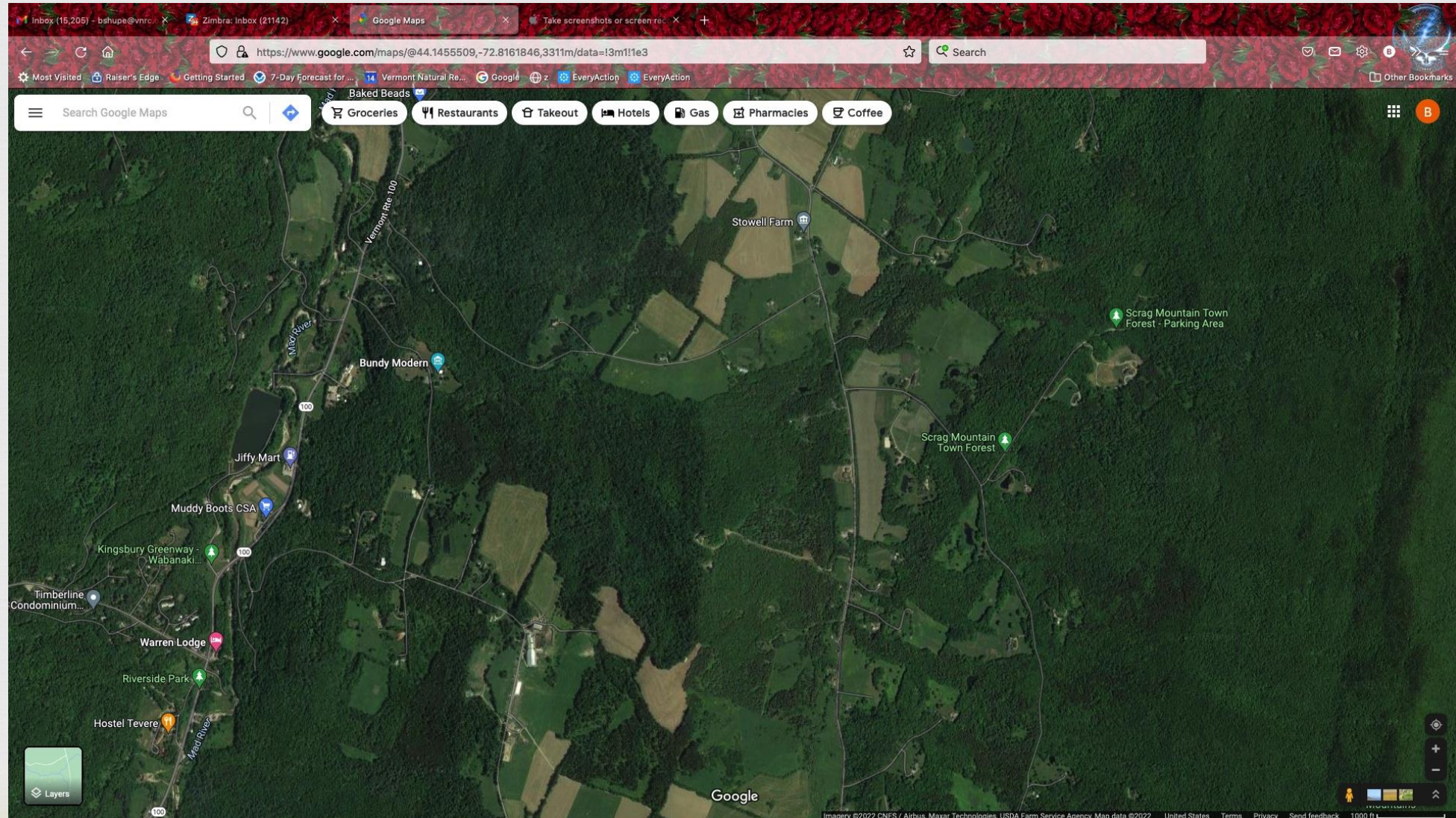
# Examples of Forest Fragmentation

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# Examples of Forest Fragmentation





# Examples of Forest Fragmentation

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# Jurisdictional Options to Promote a Rural Countryside/ Address Fragmentation

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Other mechanisms for addressing jurisdiction over high impact rural development have been considered by the Legislature over the years. These include:

- Automatic location-based jurisdiction (in priority natural resources such as forest blocks, connectivity areas, riparian areas, sensitive natural resource areas, etc.);
- Automatic jurisdiction above a certain elevation (e.g. moving to 2,000 feet in elevation);
- Reviewing development that occurs a certain distance into a forest block;
- Reverting back to reviewing the secondary impacts of utility lines (e.g. the homes that are connected to utility lines expansions);
- Lowering the number of lots that trigger review.
- All of these would have create automatic jurisdiction.
- The revised road rule is a much narrower jurisdictional tool that does not trigger jurisdiction unless the applicant chooses to make a long intrusion into intact land.



# Legislation Passed (But Has Not Become Law)

## H.233 as Passed by the House 2017

- The bill would have added new criteria to Act 250 under Criterion 8 to require development projects that are already going through Act 250 to avoid, minimize, or mitigate the fragmentation of interior forest blocks and habitat connectivity areas (habitat connectors).
- The Natural Resources Board would have developed rules to implement the mitigation in coordination with the Vermont Housing and Conservation Board and Dept. of Forests, Parks and Recreation.
- The Natural Resources Board and Agency of Natural Resources would have developed guidance outlining how subdivision projects and other types of development could minimize fragmentation to comply with the criteria.

## H.926 as Passed by the House and Senate 2020

- The bill would have added new criteria to Act 250 under Criterion 8 to require development projects that are already going through Act 250 to avoid, minimize, or mitigate the fragmentation of forest blocks and habitat connectivity areas (habitat connectors).
- The Natural Resources Board and Agency of Natural Resources would have developed rules to implement the new criteria.
- As passed by the House, H.926 included a road rule.

# Recommendations on Next Steps

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- Pass current legislation focused on addressing forest fragmentation in Act 250, promoting housing in designated growth areas, and maintaining viable working lands/wood manufacturing.
- Have VNRC report back on results of new parcelization and subdivision data going through 2020.
- Have VNRC report back on statewide assessment of municipal planning to reduce the fragmentation of forest blocks and habitat connectors, and maintain wildlife habitat.
- Continue efforts through other legislation and statewide efforts.