

# Forestland Loss and Fragmentation

Jamey Fidel

General Counsel, Forest & Wildlife Program Director





# 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>



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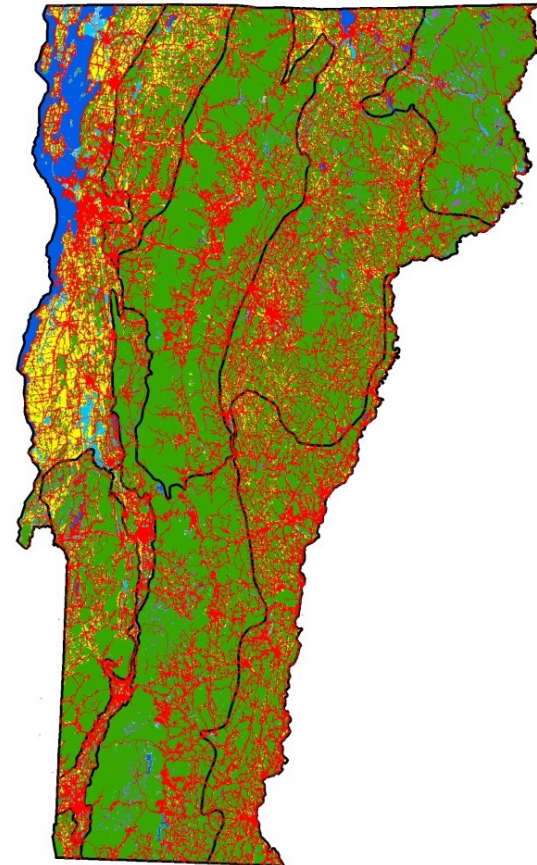
# Intact Blocks and Fragmentation

## 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



# 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.



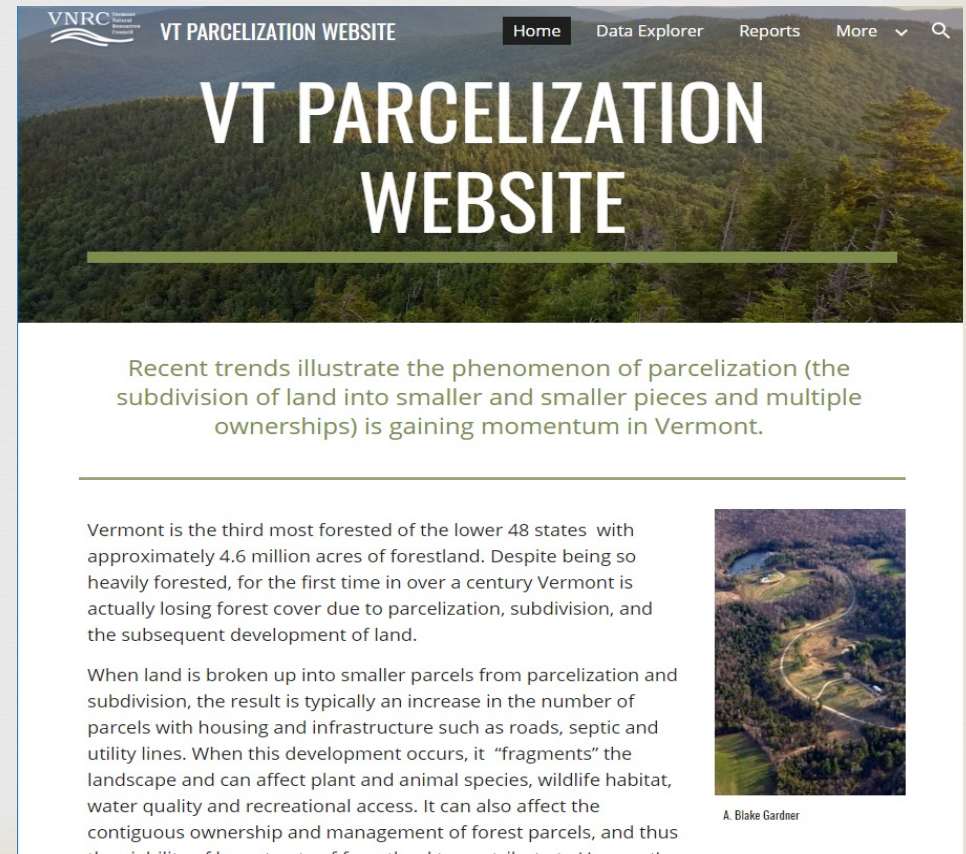
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# VNRC Parcelization Website

- 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)



VNRC Vermont Natural Resources Council  
VT PARCELIZATION WEBSITE

Home Data Explorer Reports More

## VT PARCELIZATION WEBSITE

Recent trends illustrate the phenomenon of parcelization (the subdivision of land into smaller and smaller pieces and multiple ownerships) is gaining momentum in Vermont.

Vermont is the third most forested of the lower 48 states with approximately 4.6 million acres of forestland. Despite being so heavily forested, for the first time in over a century Vermont is actually losing forest cover due to parcelization, subdivision, and the subsequent development of land.

When land is broken up into smaller parcels from parcelization and subdivision, the result is typically an increase in the number of parcels with housing and infrastructure such as roads, septic and utility lines. When this development occurs, it "fragments" the landscape and can affect plant and animal species, wildlife habitat, water quality and recreational access. It can also affect the contiguous ownership and management of forest parcels, and thus the viability of large tracts of forestland to contribute to Vermont's

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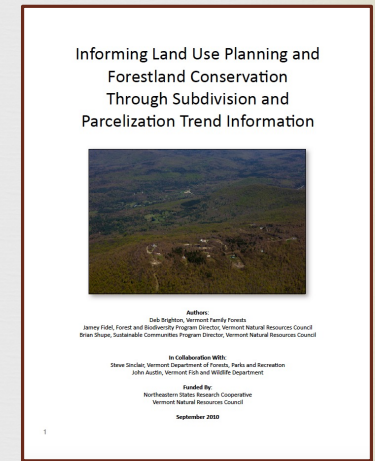
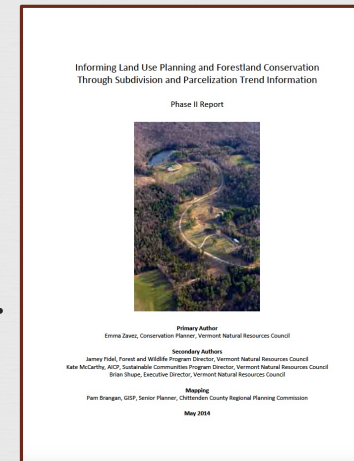
# Background on VNRC Research

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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*



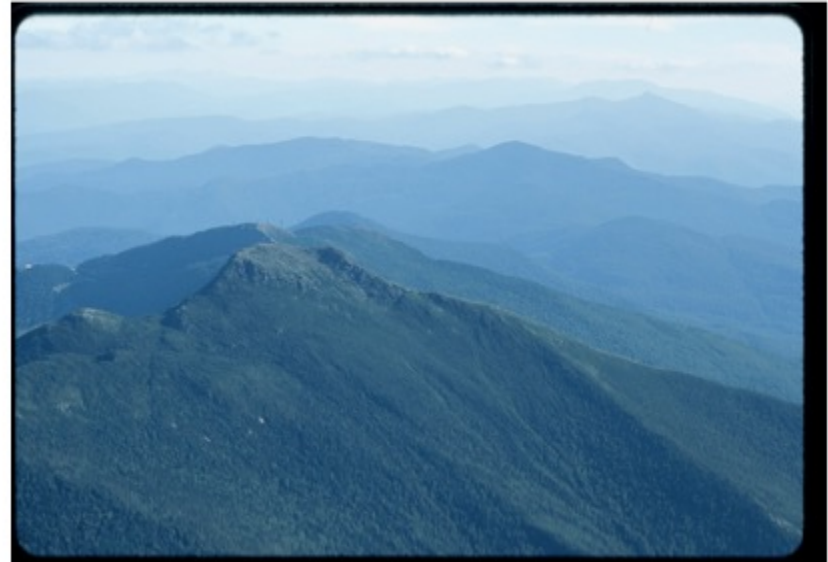
# Private Land Trends

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

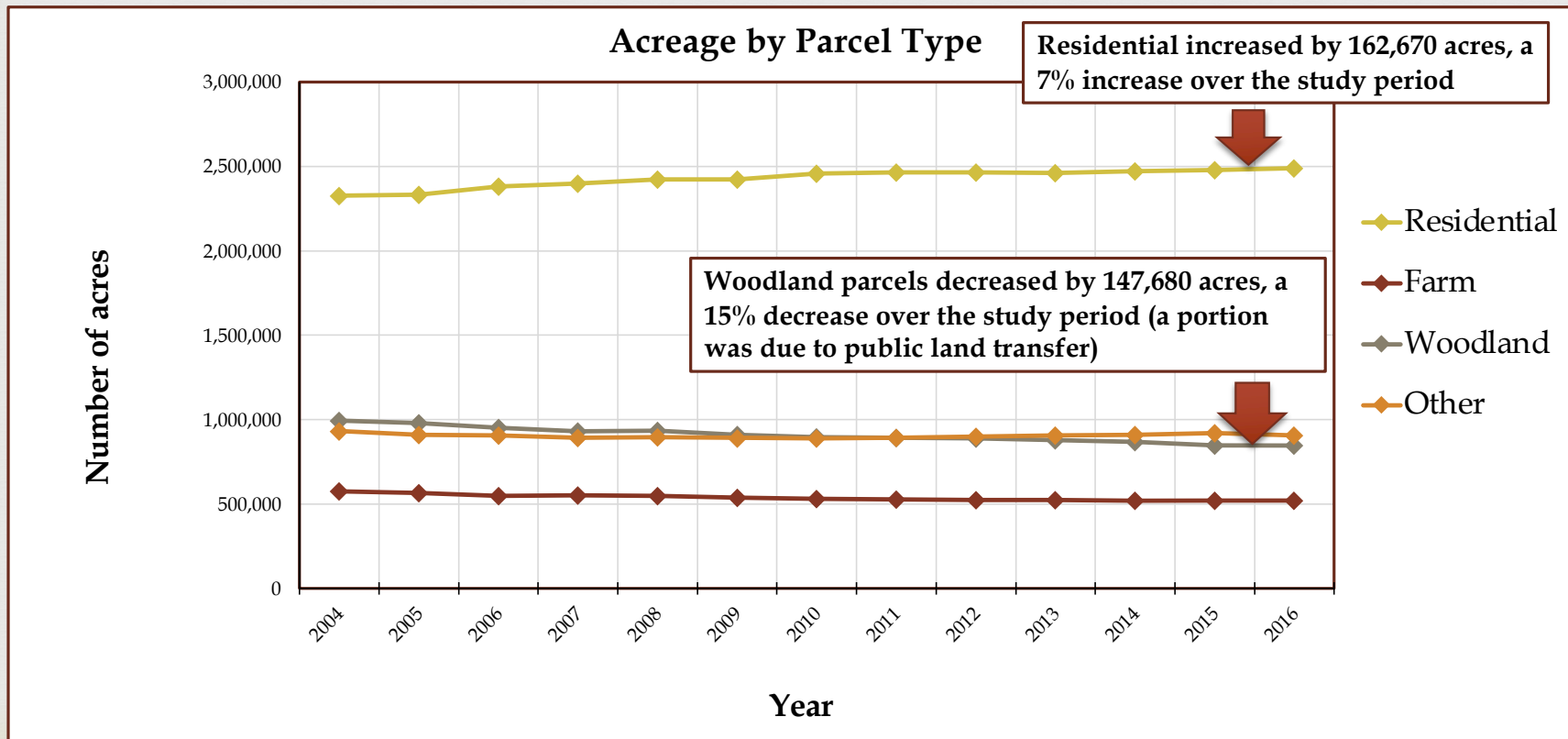
\*residential 40.0%

\*woodland 25.7%



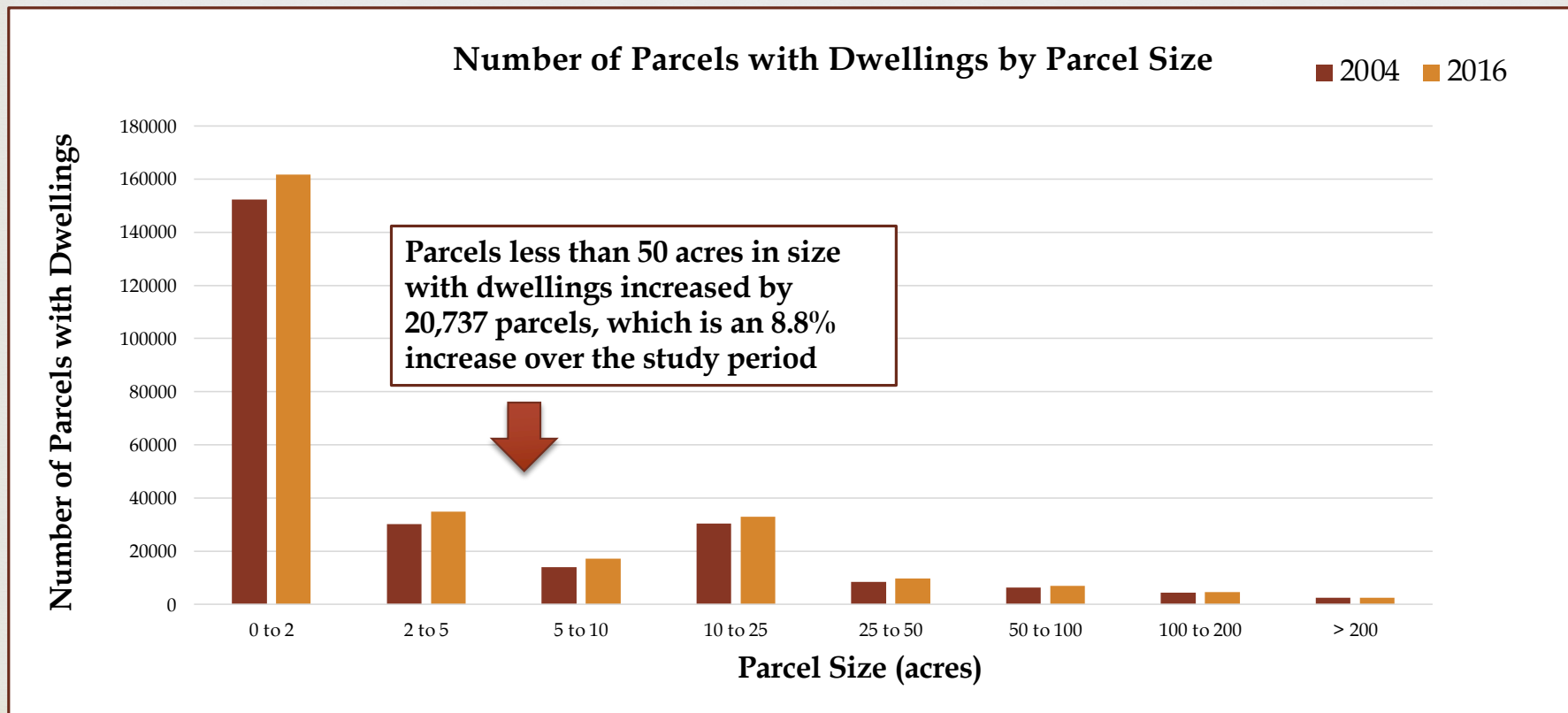
# Acreeage by Parcel Type

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

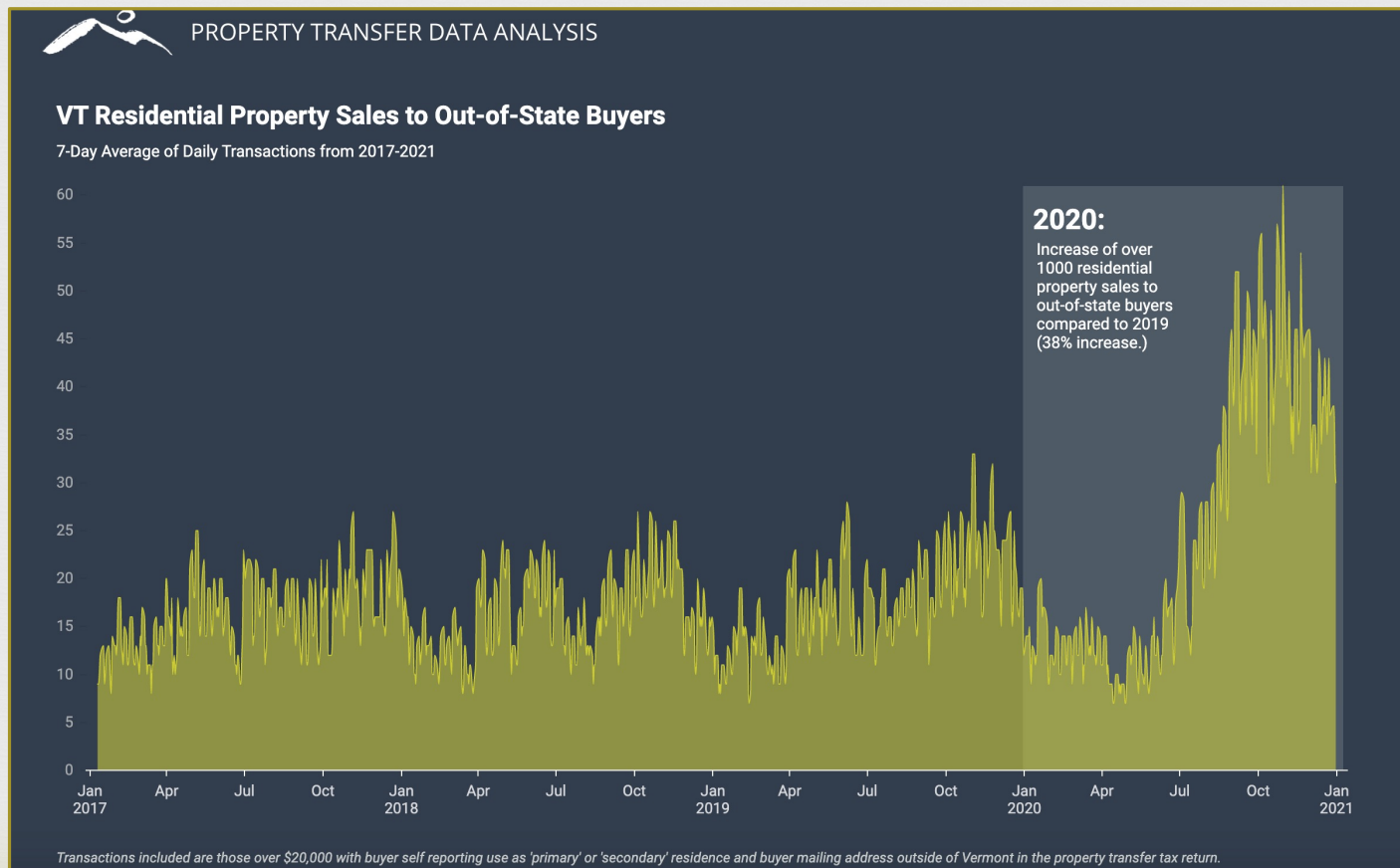


# Number of Parcels with Dwellings by Parcel Size

Growth in dwellings on smaller parcels compared to larger parcels.



# Property Sales & Covid-19 Migration

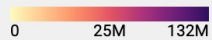


# Property Sales & Covid-19 Migration

## VT Residential Property Sales to Out-of-State Buyers

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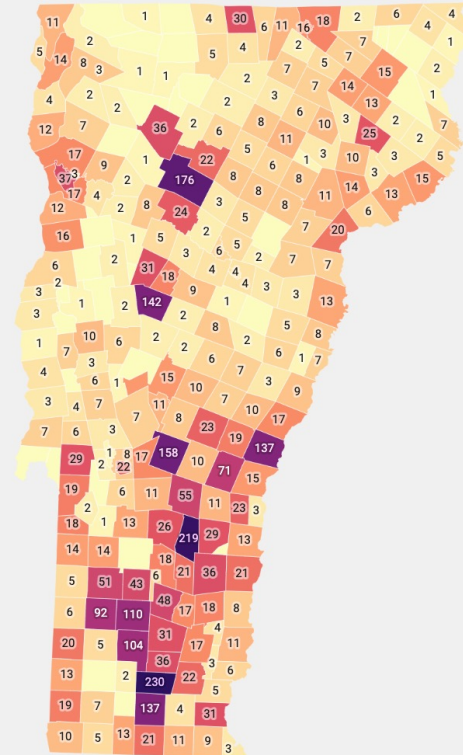
Page 1 of 17



Town	Sales	2017	2018	2019	2020
1 Stowe	156  176	84.7M	104.2M	66.8M	132.1M
2 Ludlow	142  219	44.7M	65.4M	75M	97.9M
3 Dover	126  230	38M	37M	32.6M	72.7M
4 Stratton	63  104	31.4M	29.9M	31.5M	65.4M
5 Wilmington	96  137	37.6M	19.4M	21.3M	53.8M
6 Woodstock	48  71	37.9M	21.8M	28.7M	53M
7 Warren	104  142	23.2M	25M	29M	49.3M
8 Winhall	48  110	20.1M	23.8M	24.8M	49.2M
9 Manchester	39  92	16.1M	22.9M	25.3M	46M
10 Killington	140  158	27.5M	31.8M	43.5M	43.9M
11 Hartford	85  137	20.1M	27.7M	29.5M	41.8M
12 Dorset	20  51	9.2M	11.8M	15.7M	37M
13 Plymouth	25  55	5.7M	11M	11M	20.4M
14 Burlington	32  37	12.4M	10.4M	6.7M	17.6M
15 Pomfret	5  19	2.1M	7M	1.6M	17.4M

## Residential Property Sold to Out-of-State Buyers in 2020

# of transactions where buyer listed out of state mailing address



# 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.

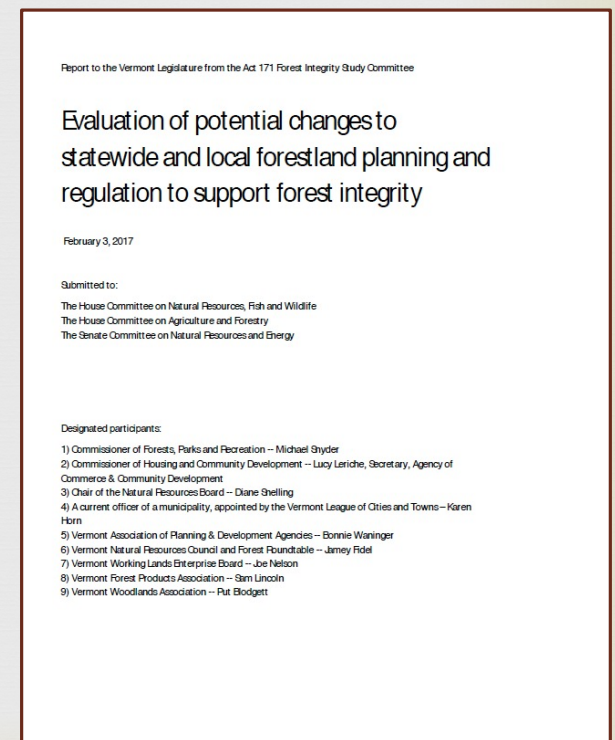
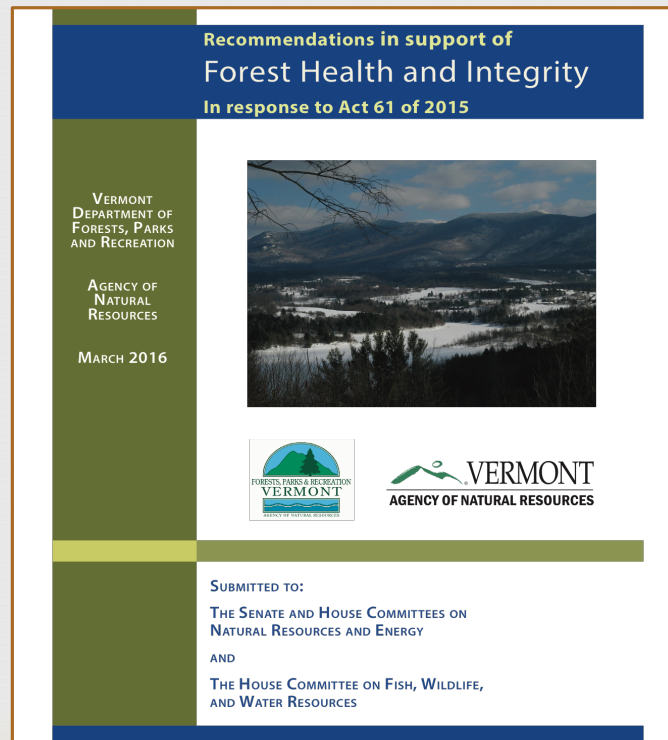
### RECOMMENDATIONS REGARDING THE CONSERVATION, STEWARDSHIP, AND VALUATION OF ECOSYSTEM SERVICES

*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.

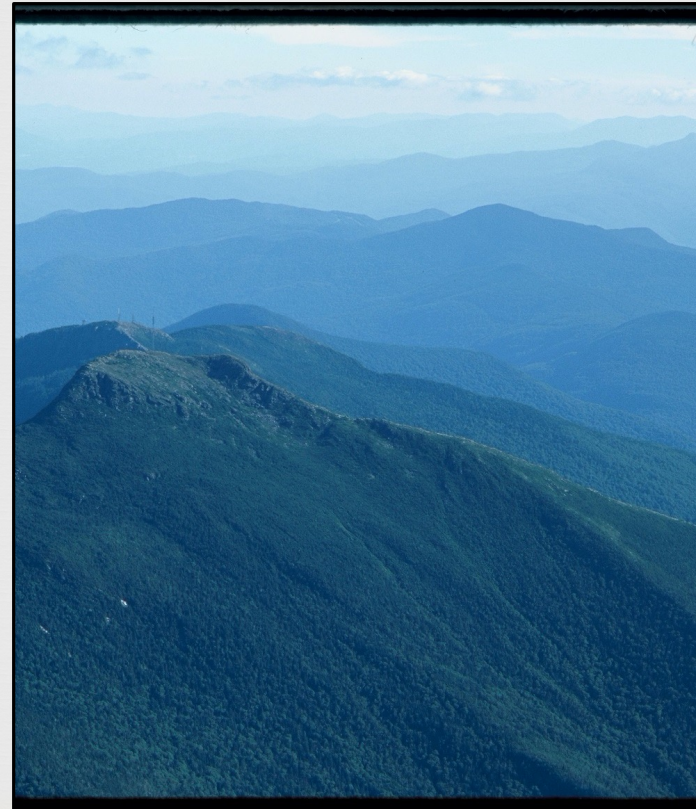


# ANR Forest Fragmentation Reports for the Legislature

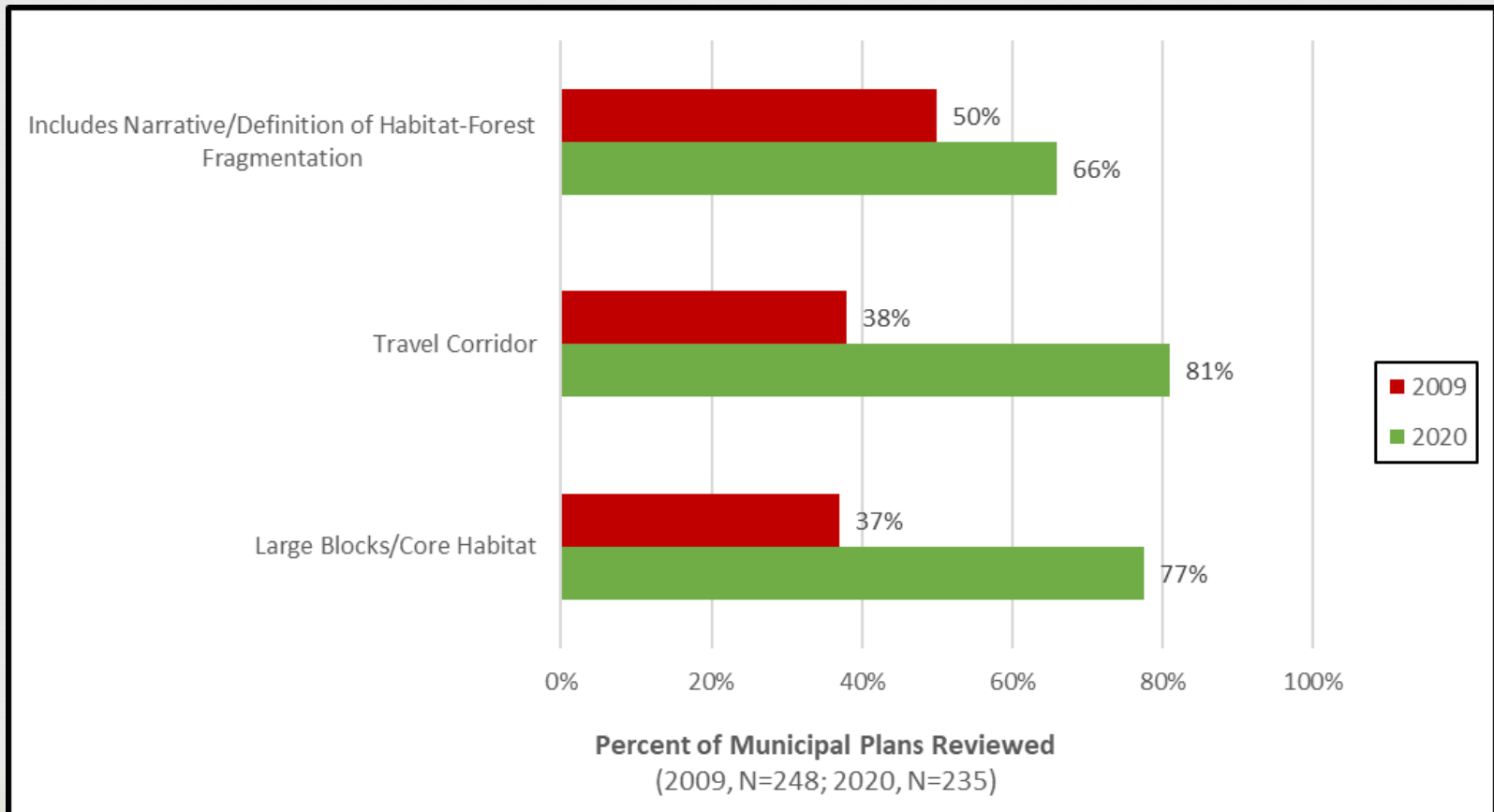


# Planning - Act 171 (Effective in 2018)

- 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

## Recommendations on Next Steps

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- 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.
- Pass current legislation focused on addressing forest fragmentation in Act 250 and continue efforts to develop new legislative policies (see following slides).

# Recommendations for State Policy

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## *Recommendations for state policy and investments*

- Support diversified strategies to reduce the pressures on landowners to subdivide land.
- Provide full statutory funding for the Vermont Housing and Conservation Board (VHCB), and robust funding for the Working Lands Enterprise Initiative.
- Consider potential new state revenue sources to boost investment in land conservation and land use planning.
- Investigate potential new state tax incentives to promote voluntary forest conservation by private landowners, such as a JFO study of the feasibility of establishing a tax credit or deduction for donations of conservation easements or fee title on forestland.
- Support public policy to encourage the aggregation of land for conservation purposes.
- Support implementation of recommendations from the *Vermont Forest Carbon Sequestration Working Group*.
- Support technical assistance and outreach programs (such as VHCB's Viability Program, Vermont Woodlands Association and VT Coverts programs, etc.) that assist landowners with successional planning to promote maintaining large intact forestland parcels.
- Support the implementation of the Intergenerational Transfer of Forestland Working Group's Recommendations in response to Act 171 of 2016.
- Support the implementation of President Biden's 30 x 30 initiative to promote accelerated forestland conservation in Vermont to sustain native biodiversity and a range of co-benefits.

# Recommendations for State Policy

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## *Recommendations for state policy and investments*

- Continue to support working forests, including funding the Current Use Program and the administration of new forestland enrollment. Explore how to expand enrollment opportunities for old forests/wild forests.
- Examine assessing property with perpetual conservation easements at a lower value, or determine how to better assist landowners with the carrying cost of permanently conserved land, especially if they can't enroll in the Current Use Program.
- Address the gaps in Act 250 and strengthen it to play a more meaningful role in reviewing the impacts of development on forestland. Add criteria to Act 250 to avoid or minimize the fragmentation of intact forest blocks and connectivity areas; and (2) modify Act 250 jurisdiction to review projects that have a high probability of fragmenting forests.
- Support and enhance technical assistance to municipalities to implement Act 171 planning to reduce the fragmentation of intact forest blocks, working forests, and habitat connectivity areas.
- Support greater implementation of zoning and subdivision strategies and standards to encourage proactive site design in forests to reduce forest fragmentation and conversion.
- Support policies that concentrate new development in settled areas and reduce development pressures on undeveloped forestland – e.g., boost funding for water supply and wastewater infrastructure in downtowns and village centers.
- Support and fund efforts to track the rate of forest fragmentation, parcelization, and conversion in Vermont through updates to LIDAR mapping, maintenance of the VT Parcelization website, etc.