

Forest Fragmentation Act 250 Considerations

Jamey Fidel

Forest & Wildlife Program Director



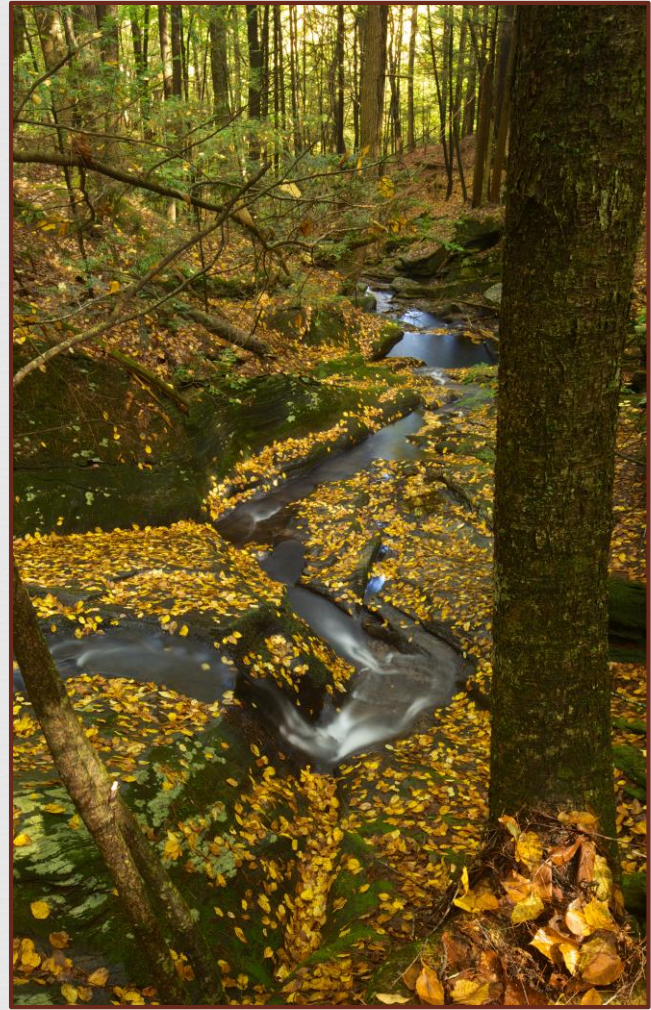


Brian Mohr / Ember Photo



















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

Examples of Forest Roundtable Recs.



Rec. # 9: Track annual rates of parcelization in Vermont.

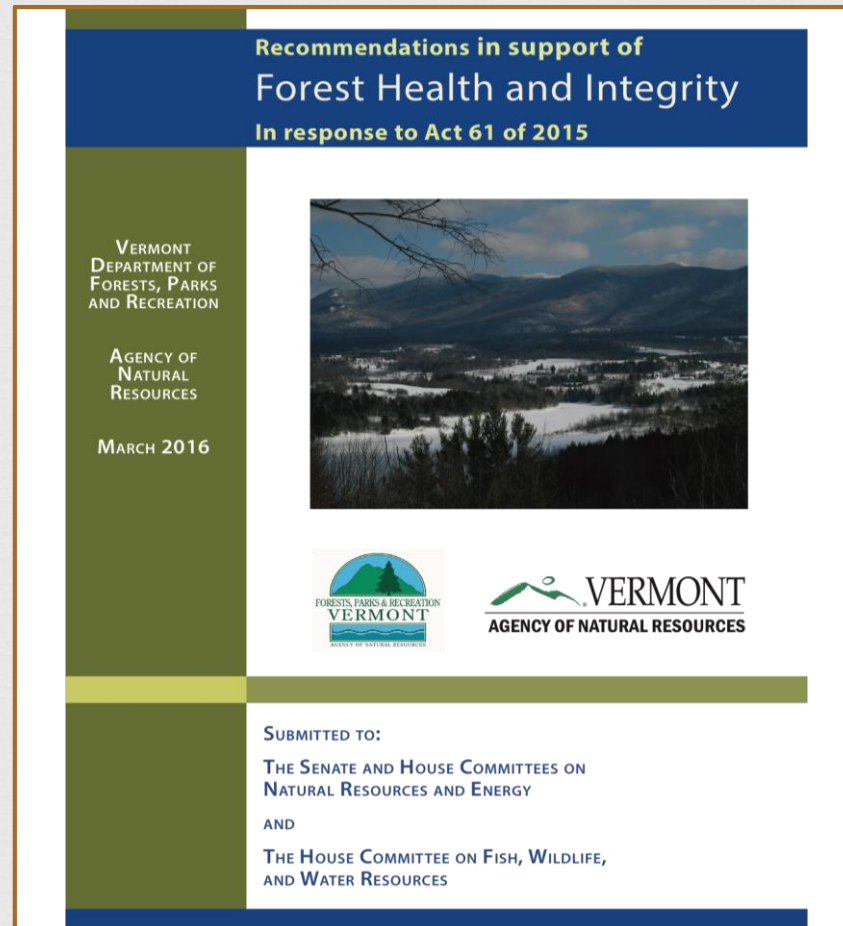
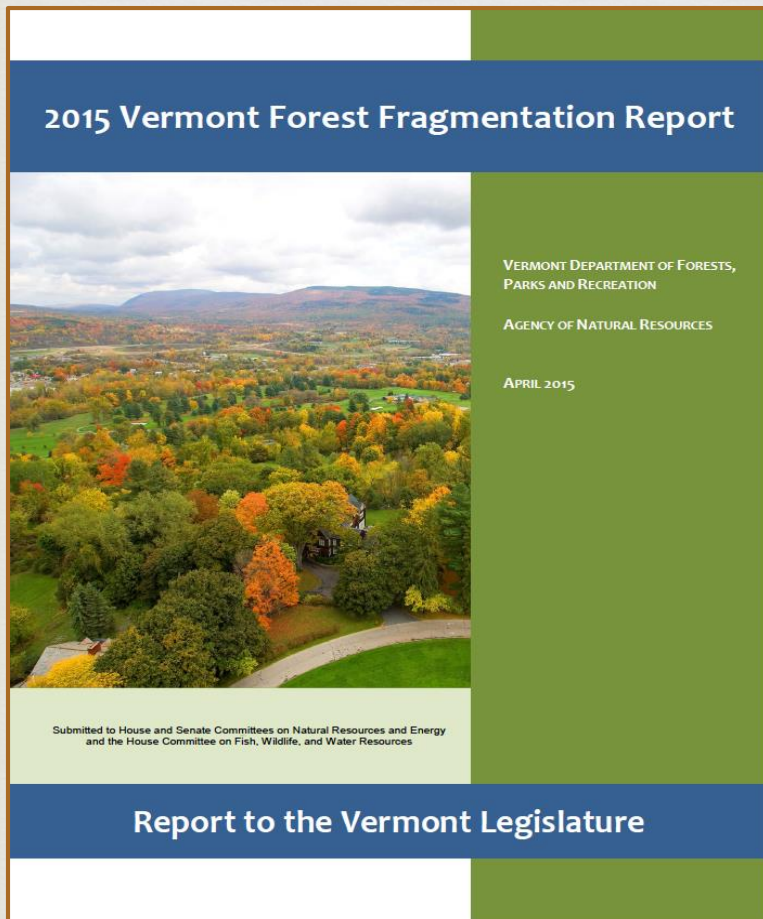
Rec. #10: Utilize existing data and develop maps to identify and prioritize forest blocks for conservation.

Rec. #11: Track and analyze rates and degree of forest fragmentation in Vermont.

Rec. #12: Integrate existing planning efforts at the local, regional and state level to better address fragmentation.

Rec. #13: Identify and correct gaps in Act 250 and other land use regulations to attenuate the rate of parcelization and forest fragmentation in Vermont.

ANR Forest Fragmentation Reports for the Legislature



Report to the Vermont Legislature from the Act 171 Forest Integrity Study Committee

Evaluation of potential changes to statewide and local forestland planning and regulation to support forest integrity

February 3, 2017

Submitted to:

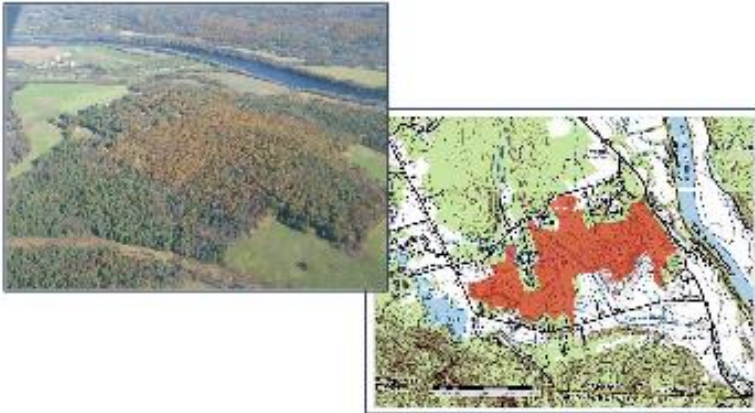
The House Committee on Natural Resources, Fish and Wildlife
The House Committee on Agriculture and Forestry
The Senate Committee on Natural Resources and Energy

Designated participants:

- 1) Commissioner of Forests, Parks and Recreation -- Michael Snyder
- 2) Commissioner of Housing and Community Development -- Lucy Leriche, Secretary, Agency of Commerce & Community Development
- 3) Chair of the Natural Resources Board -- Diane Shelling
- 4) A current officer of a municipality, appointed by the Vermont League of Cities and Towns -- Karen Horn
- 5) Vermont Association of Planning & Development Agencies -- Bonnie Waringer
- 6) Vermont Natural Resources Council and Forest Roundtable -- Jamey Fidel
- 7) Vermont Working Lands Enterprise Board -- Joe Nelson
- 8) Vermont Forest Products Association -- Sam Lincoln
- 9) Vermont Woodlands Association -- Pat Blodgett

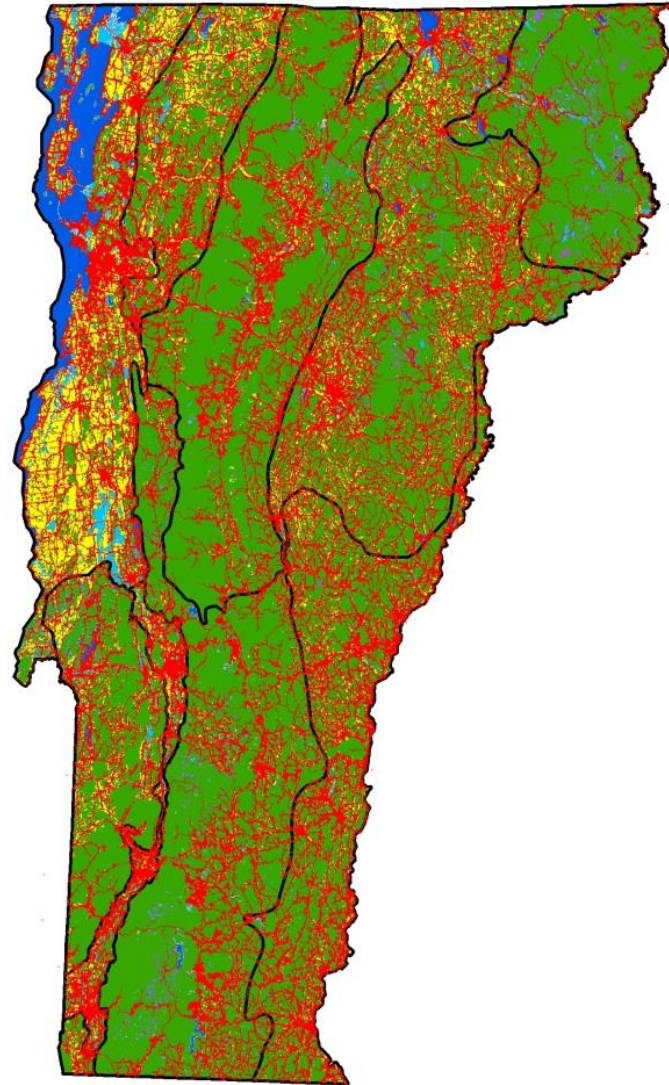
Prioritize Blocks and Track Fragmentation

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



Vermont Fish and Wildlife Department
April 2014

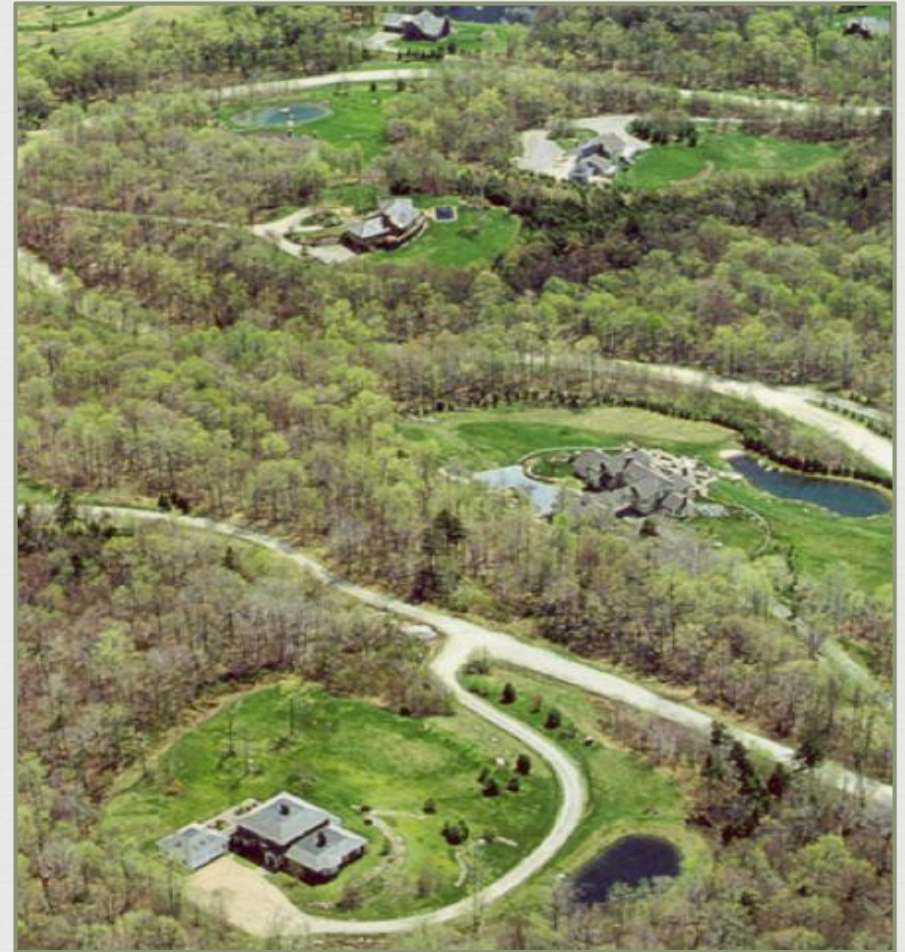
Eric Sorenson, Vermont Fish and Wildlife Department
Jon Osborne, Vermont Land Trust



Parcelization

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.



A. Blake Gardner

Background and Justification



- While close to 80% of Vermont is forested, forest cover is actually declining. According to the Forest Service, Vermont may have lost 102,000 acres of forestland from 2012 to 2017 (Morin et al (2017)).
- In order to address forest fragmentation and forest loss, it is necessary to understand where parcelization and subdivision are occurring, and the rate at which they are occurring.



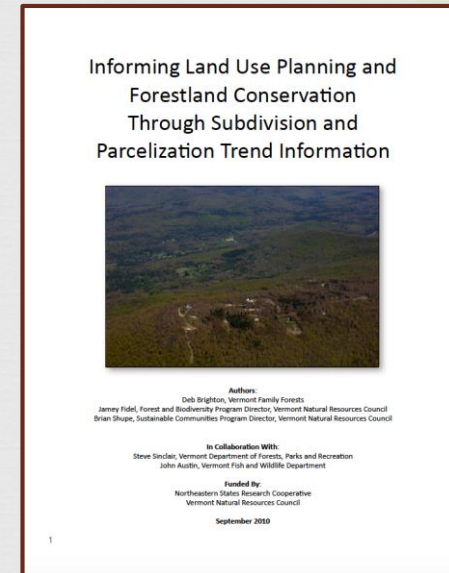
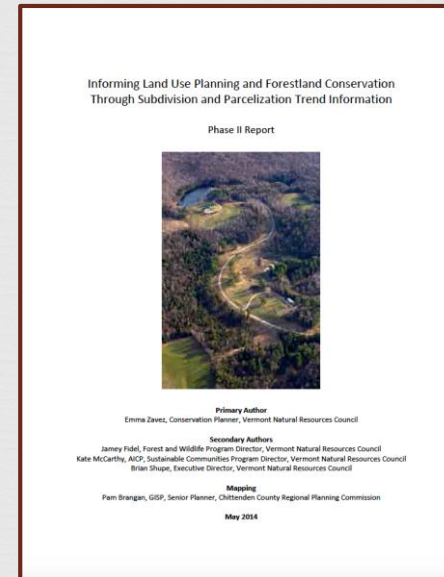
Photo: A. Blake Gardner

Background on VNRC Research

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

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

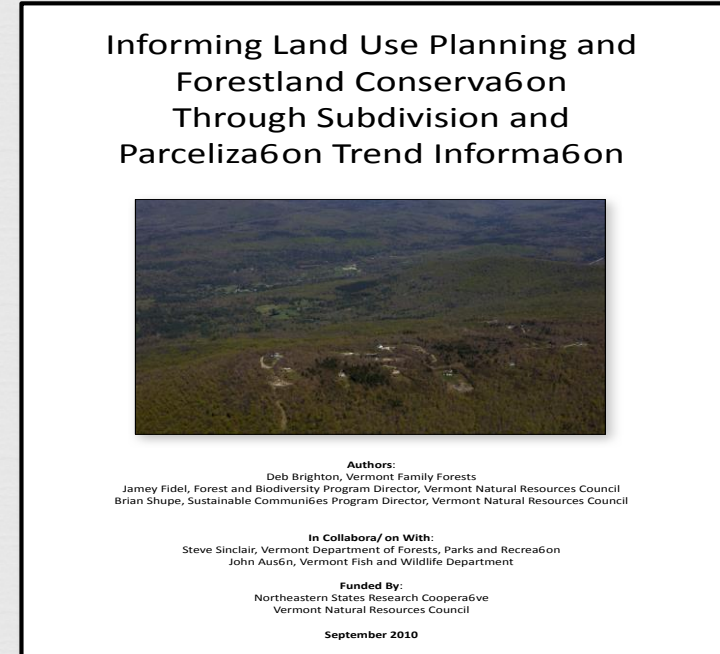
Phase 3 (2018) **Parcelization trends, 2004-2016**
(state, regional planning commission, county, & town levels)



*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*

VNRC Subdivision Study – Phase 2

- 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 are created?
 - What size are the lots created?
- 2,749 lots were created from 925 subdivisions.



How many lots are created?

Finding:

On average, each subdivision resulted in 2-4 lots.

What does this mean?

- Subdivision is happening in small increments.
- 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.
- Local regulations, if they exist, are the only backstop to guiding subdivision patterns. Only half of municipalities have subdivision regulations. Act 171 is very helpful to address fragmentation, but it addresses planning, and not necessarily development review.

Where are lots being created?

Finding:

Most land subdivision is taking place in rural areas, though conservation districts provide some protection.

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

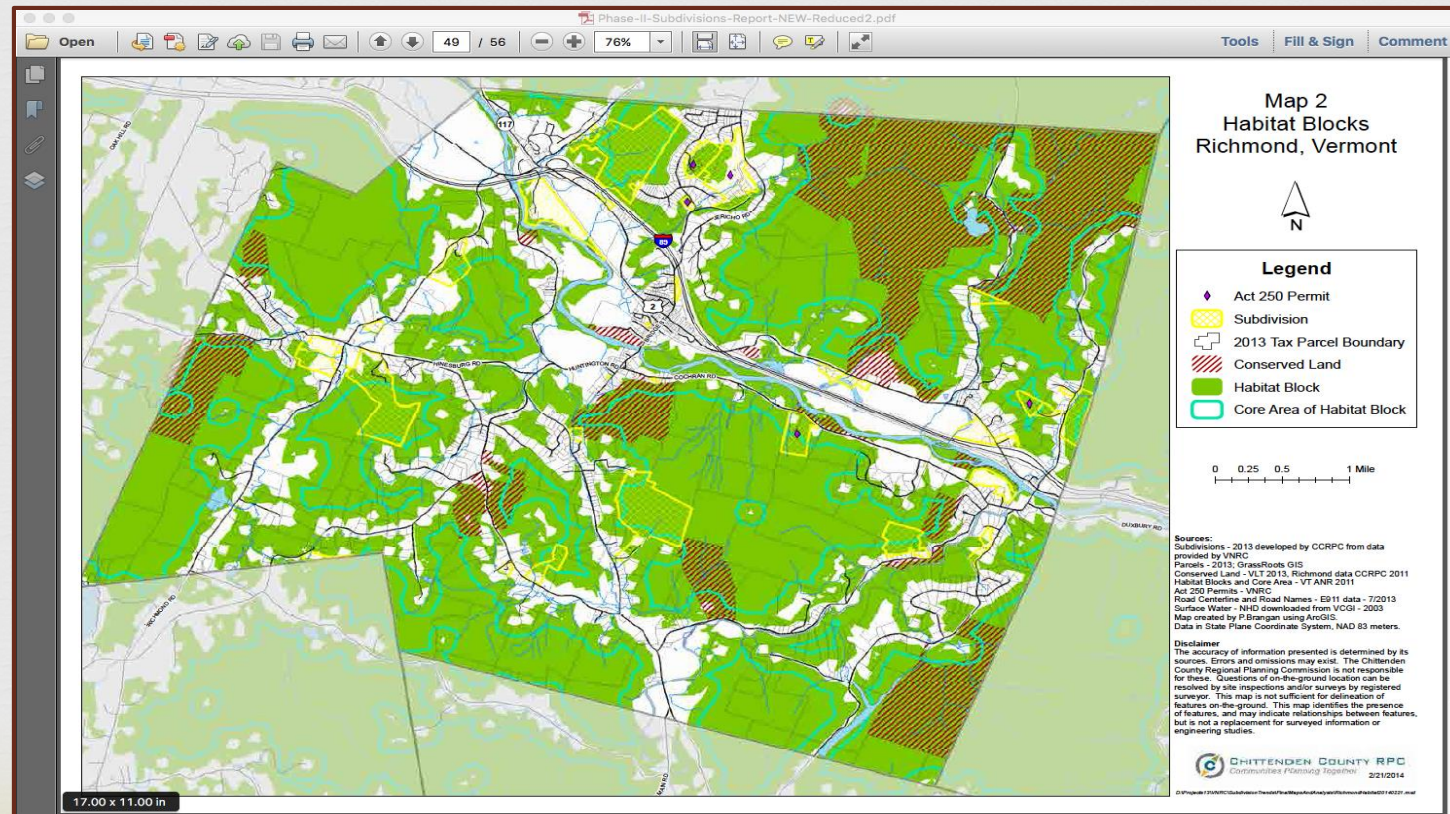
What does this mean?

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

Where are lots being created?

Forest/habitat blocks are being parcelized by subdivision.

- Based on spatial analysis in four communities, between 50% and 68.8% of the subdivided acres were located within forest/habitat blocks mapped by the Agency of Natural Resources.



Goals for Phase 3 Research

- Quantify the degree to which subdivision is affecting the **viability of large parcels** for resource management and conservation;
- Quantify the extent to which **residential development** is occurring;
- Quantify the extent to which **large undeveloped woodland parcels** are declining; and
- Document trends that may be relevant for **policies and programs** that support resource management and/or minimize the fragmentation of land.

Methods

- **Vermont Department of Taxes Grand List**
Tax Years 2004 to 2016
- **Use Value Appraisal (Current Use) Data**
- **Designed Metrics to look at various trends within the data:**
 - Number of parcels
 - Acreage
 - Parcel Sizes
 - Parcel types
 - Dwellings
 - Land Values
 - UVA

Steering Committee & Partners

DATABASE DEVELOPER

- Brian Voigt, Fellow, Gund Institute for Ecological Economics (UVM Rubenstein School of Environment and Natural Resources)

WEBSITE DEVELOPER:

- Steve Sharp, GIS Operations Manager (Vermont Center for Geographic Information)

COLLABORATORS

- John Adams, Director (Vermont Center for Geographic Information)
- John Austin, Lands and Habitat Program Director (Vermont Department of Fish and Wildlife)
- Pam Brangan, GIS Data & IT Manager (Chittenden County Regional Planning Commission)
- Deb Brighton, Research Associate (Vermont Family Forests)
- Jim Duncan, Director (Forest Ecosystem Monitoring Cooperative)
- Erik Engstrom, GIS Project Supervisor (Vermont Agency of Natural Resources)
- Doug Farnham, Policy Director and Economist (Vermont Department of Taxes)
- Danielle Fitzko, Urban & Community Forestry Program Manager (Vermont Department of Forests, Parks, and Recreation)
- Jens Hilke, Community Wildlife Program (Vermont Department of Fish and Wildlife)
- Elizabeth Hunt, Current Use Program Chief (Vermont Department of Taxes)
- Jon Osborne, GIS Director (Vermont Land Trust)
- Jennifer Pontius, Research Assistant Professor (UVM Rubenstein School of Environment and Natural Resources)
- Jill Remick, Director (Property Valuation and Review Division, Vermont Department of Taxes)
- Kim Royar, Wildlife Biologist (Vermont Department of Fish and Wildlife)
- Steve Sinclair, Director of Forests (Vermont Department of Forests, Parks, and Recreation)
- Keith Thompson, Private Lands Program Manager (Vermont Department of Forests, Parks, and Recreation)

Private Land Trends

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

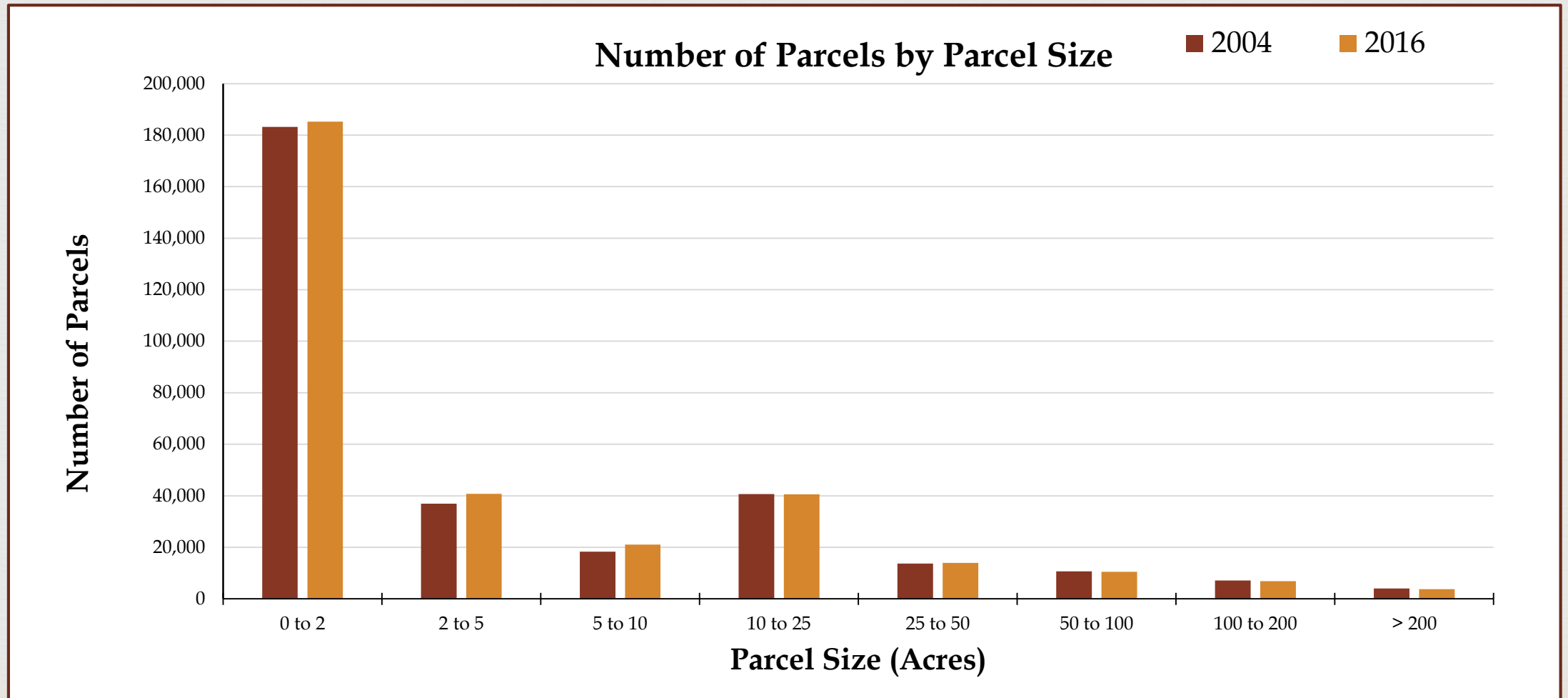
*residential 40.0%

*woodland 25.7%



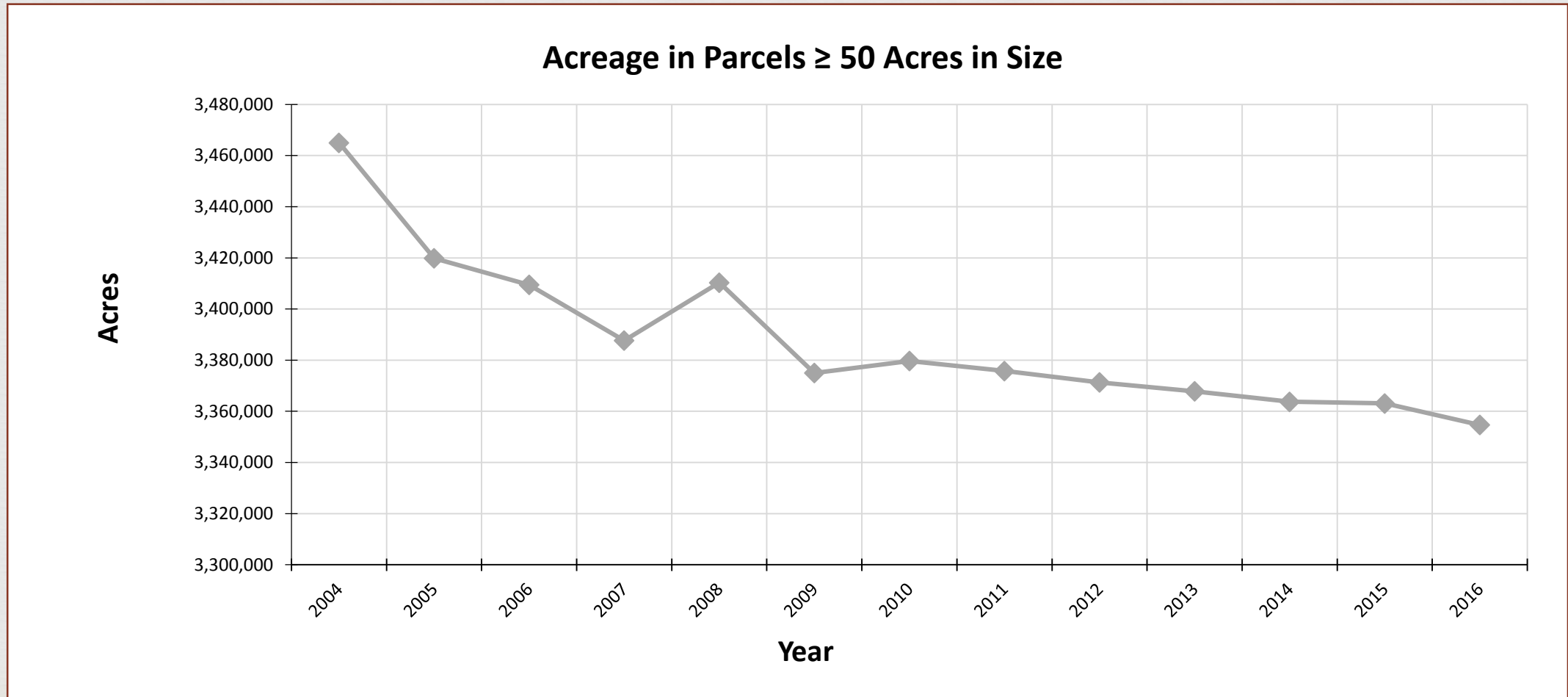
Number of Parcels by Parcel Size

Small parcels are increasing, especially in the 2-5 and 5-10 acre categories, a size commonly used for “rural residential” house lots.



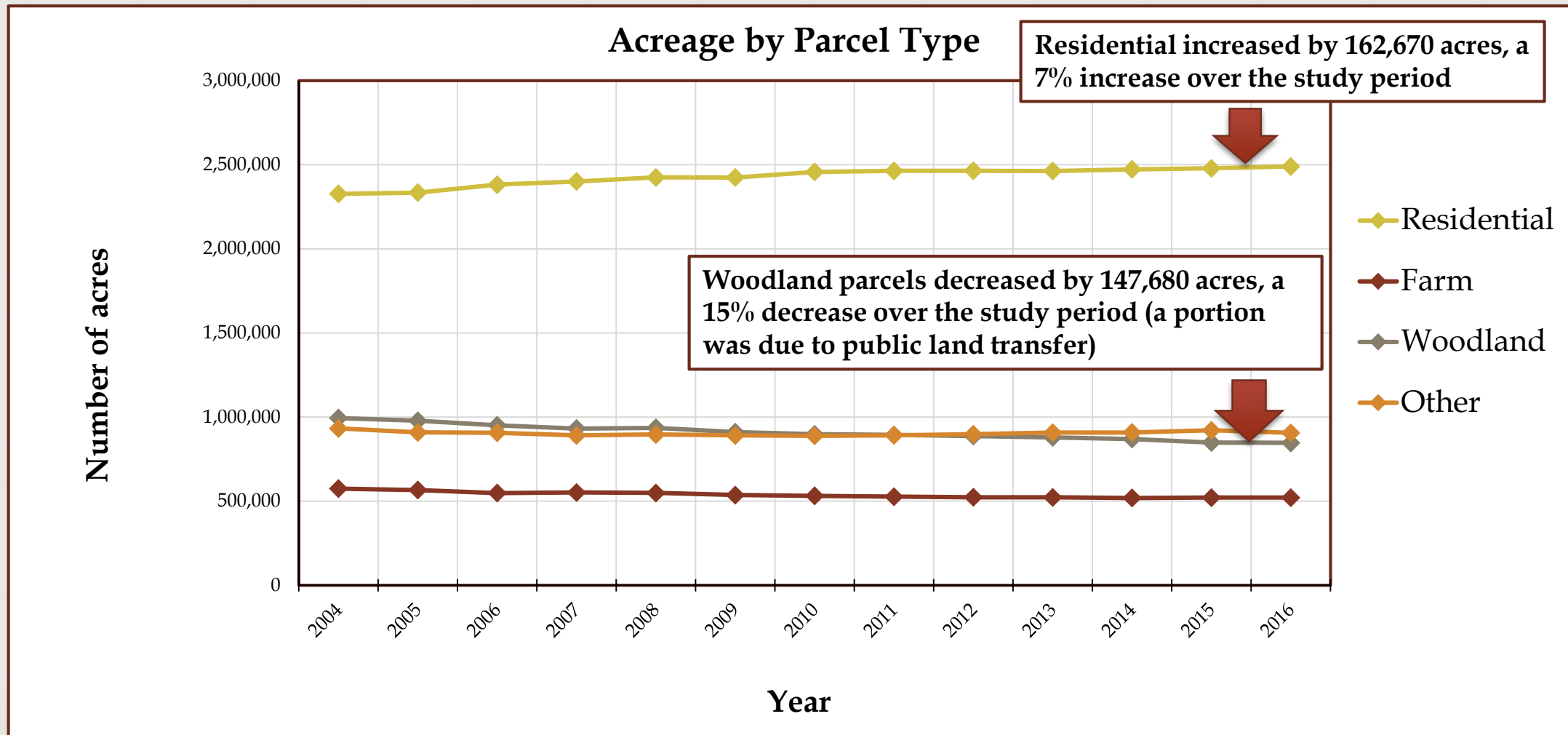
Acres in Parcels \geq 50 Acres in Size

Between 2004 and 2016, the amount of land in parcels 50 acres or larger declined by about 110,300 acres, or roughly 8,485 acres per year.



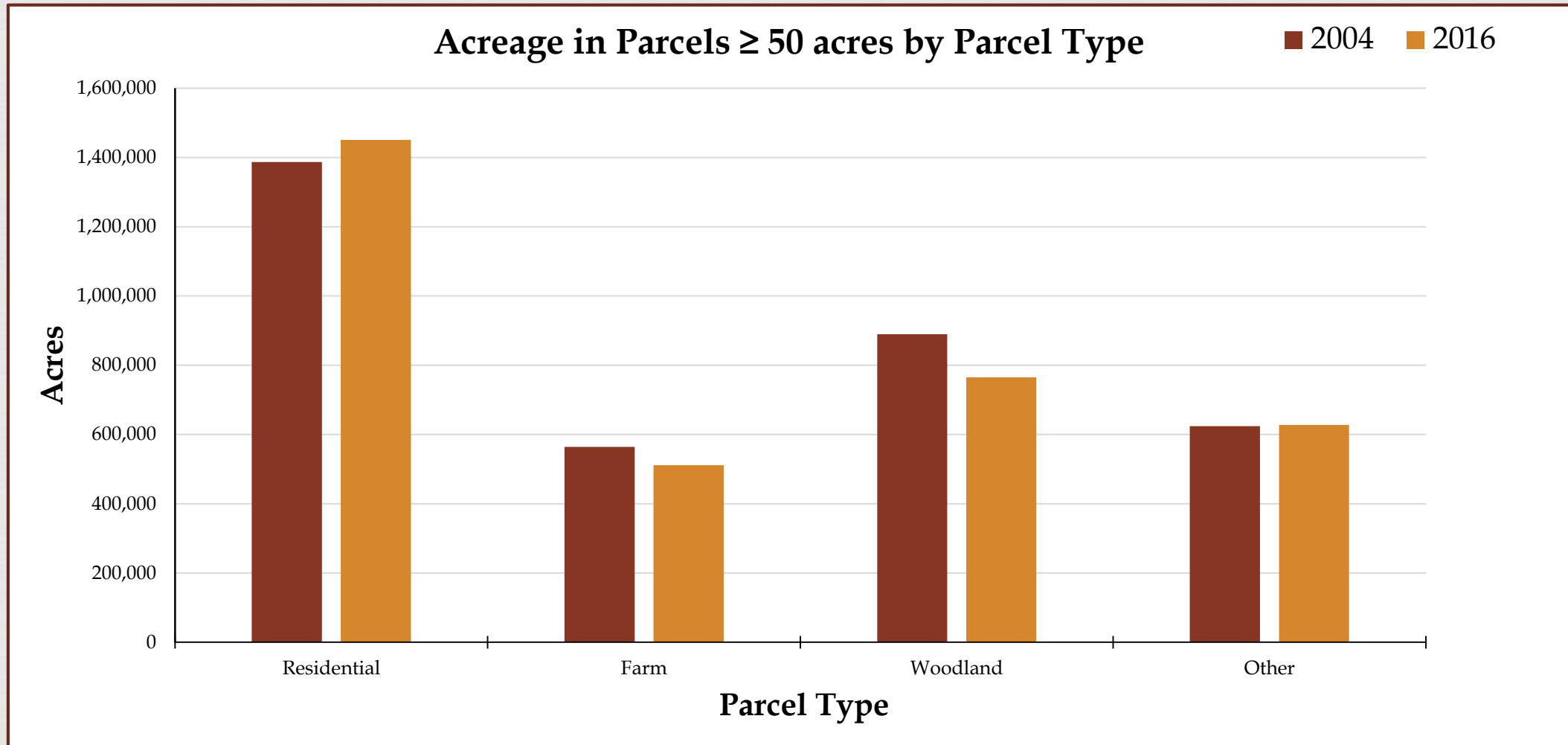
Acreeage by Parcel Type

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



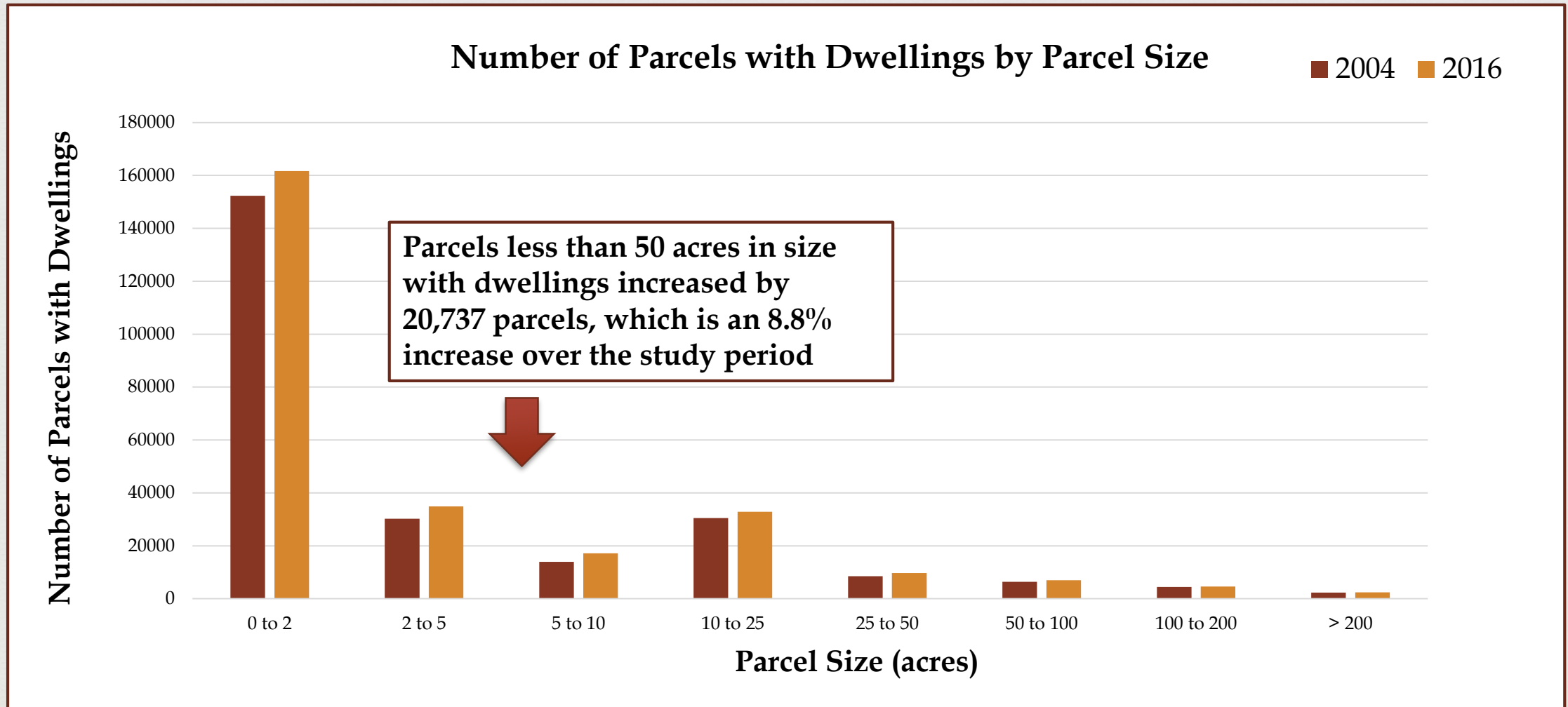
Acres in Parcels ≥ 50 Acres by Parcel Type

The loss of large (50+ acre) woodland parcels outpaced the loss of large parcels in general.



Number of Parcels with Dwellings by Parcel Size

Most dwellings are built on smaller parcels compared to larger parcels.

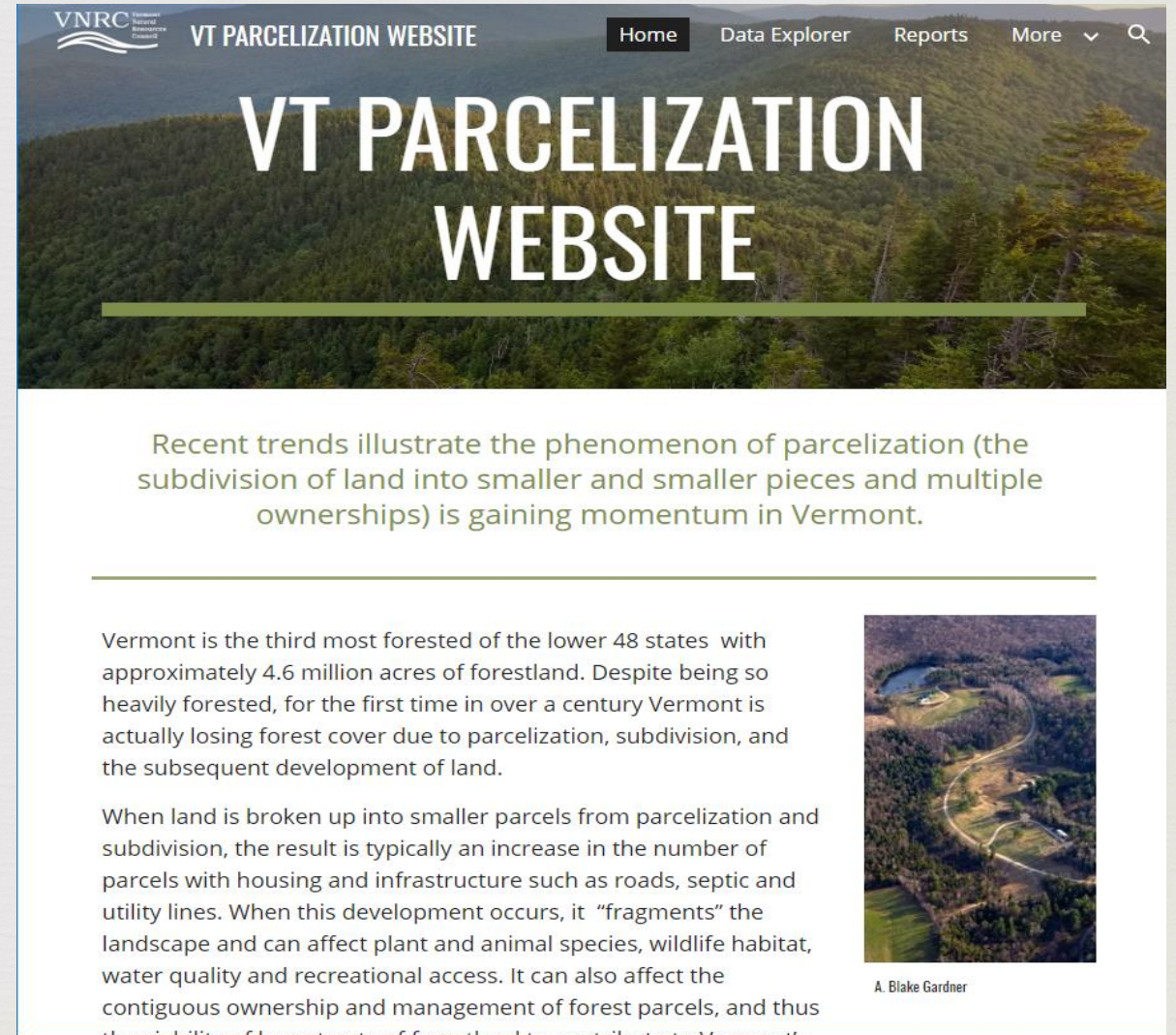


Parcelization Website

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

Available at:

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.

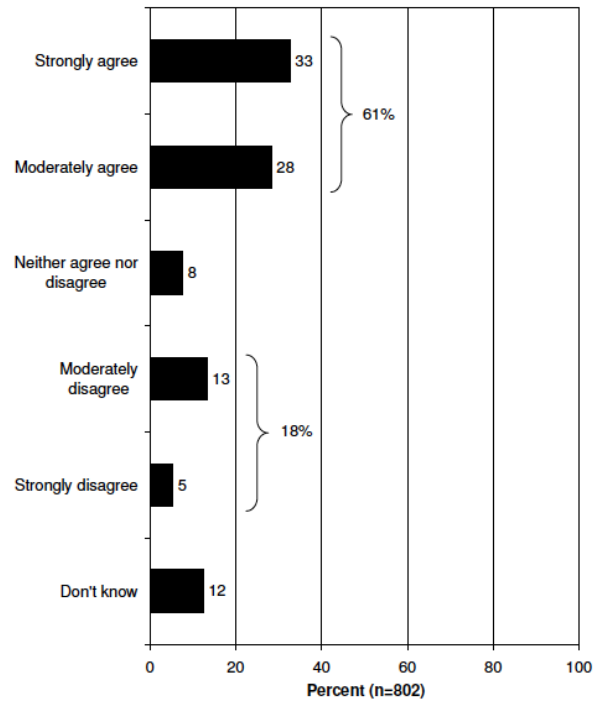
When land is broken up into smaller parcels from parcelization and subdivision, the result is typically an increase in the number of parcels with housing and infrastructure such as roads, septic and utility lines. When this development occurs, it “fragments” the landscape and can affect plant and animal 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



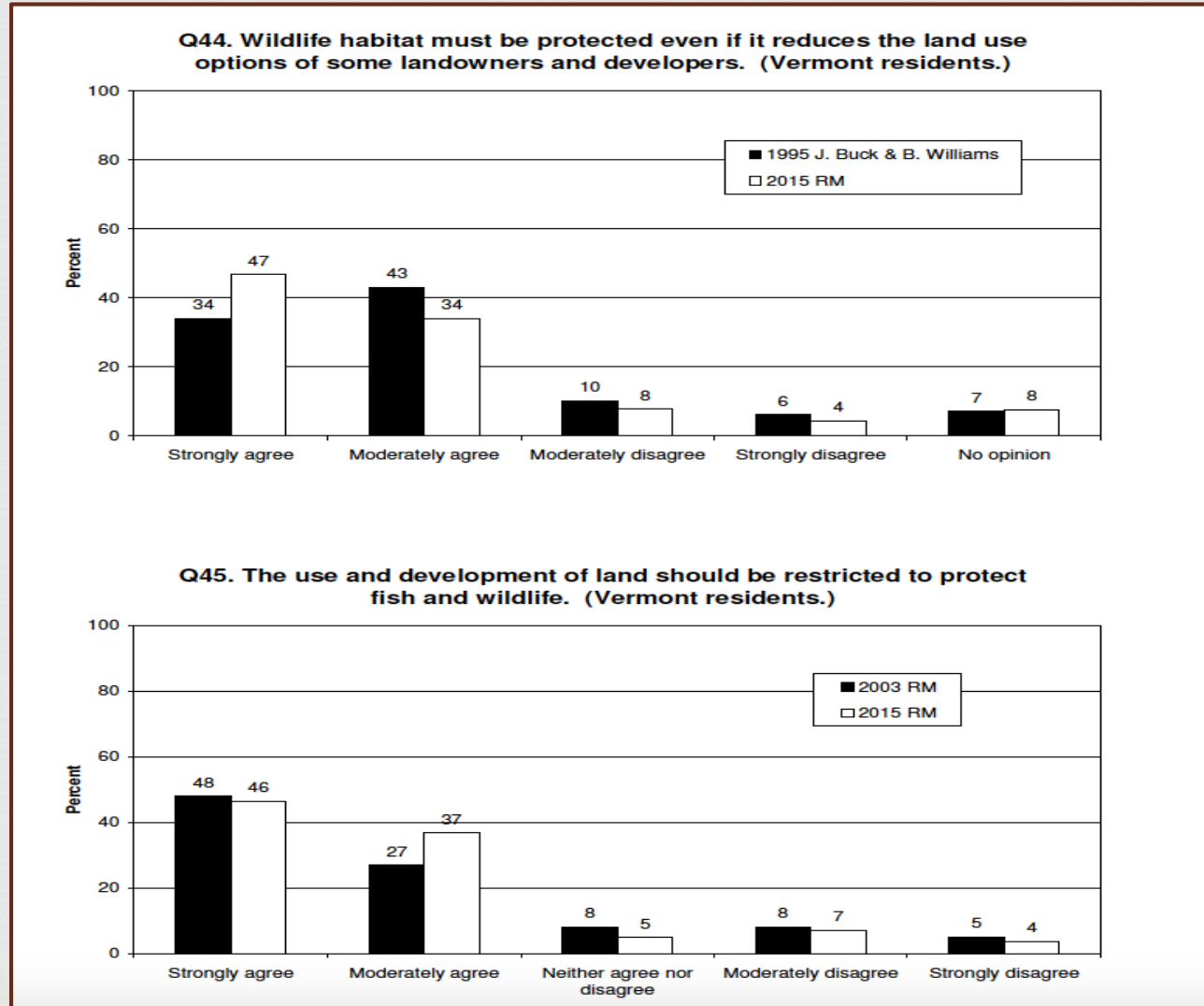
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Forest/Habitat Fragmentation

Q38. Forest fragmentation and loss is a problem in Vermont.
(Vermont residents.)

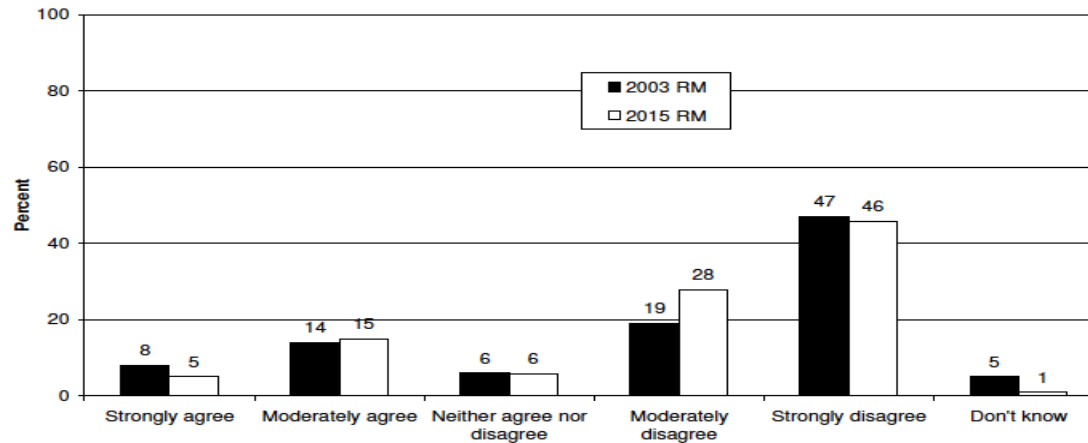


Forest/Habitat Fragmentation



Forest/Habitat Fragmentation

Q46. Landowners should be allowed to develop their land regardless of its impact on wildlife. (Vermont residents.)



Q47. If it came down to a choice between preserving wildlife habitat or providing land for new homes, we should always side with providing new homes for the residents of our state. (Vermont residents.)

