

Tracking Parcelization Over Time to
Inform Planning and Policy:
Parcelization Trends in Vermont

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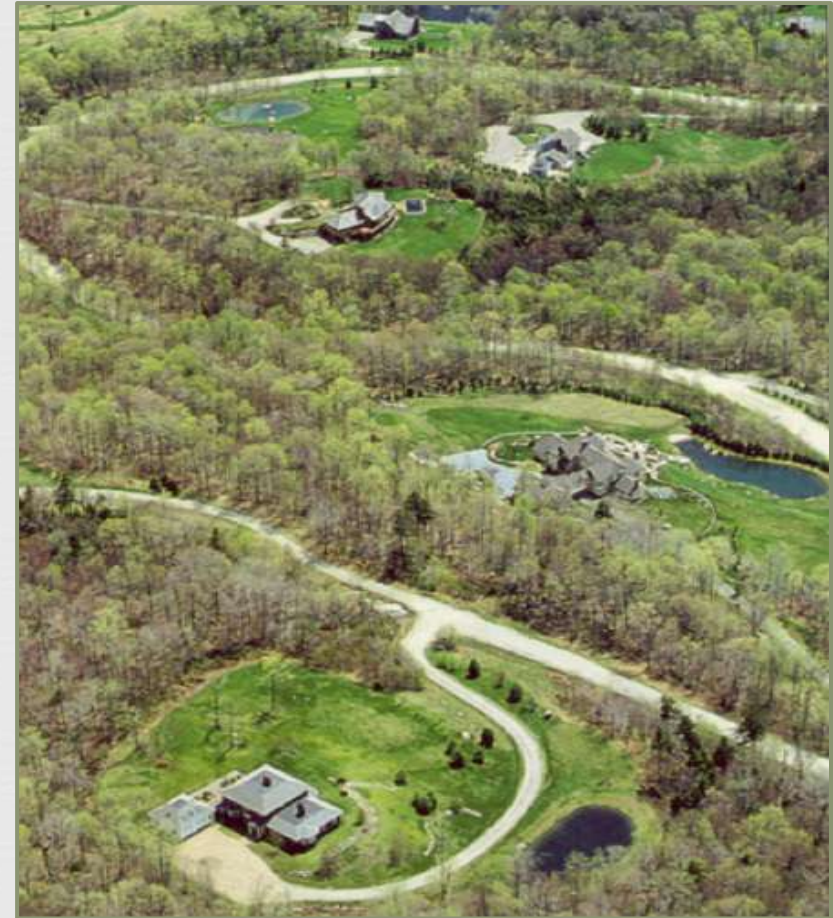
Forest & Wildlife Program Director/
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Parcelization

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.



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Forest Loss & Fragmentation

- 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 minimize forest fragmentation and forest loss, it is necessary to understand where parcelization and subdivision are occurring, and the rate at which they are occurring.

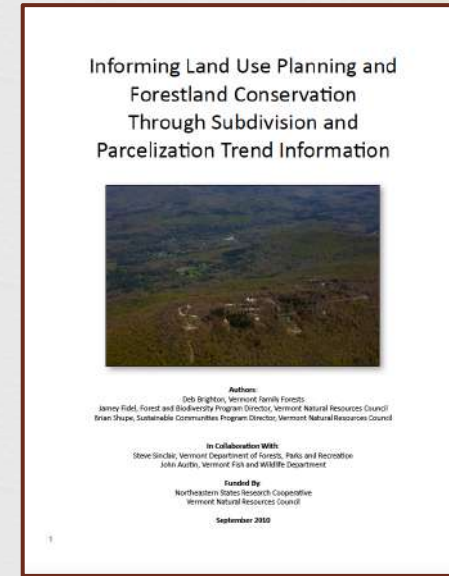
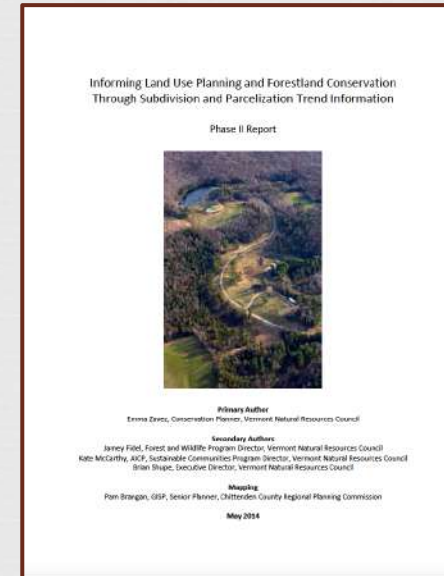


Background on VNRC Research

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

Goals for Phase 3 Research

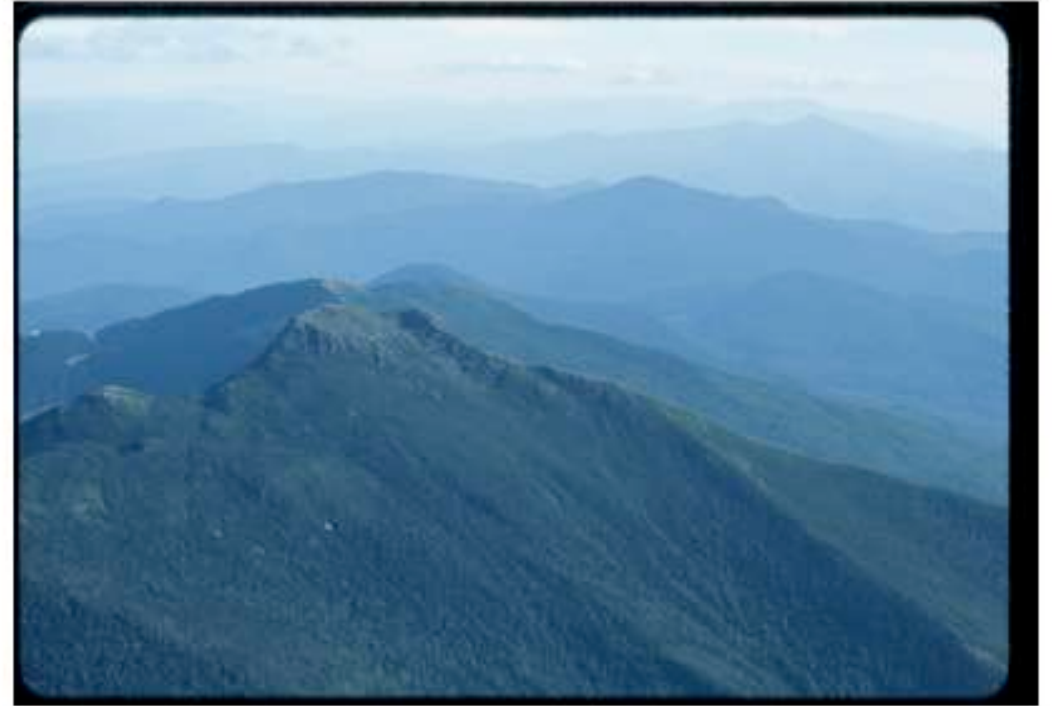
- Quantify the degree to which subdivision is affecting the **viability of large parcels** for resource management and conservation;
- Quantify the extent to which **residential development** is occurring;
- Quantify the extent to which **large undeveloped woodland parcels** are declining; and
- Document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

Private Land Trends

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

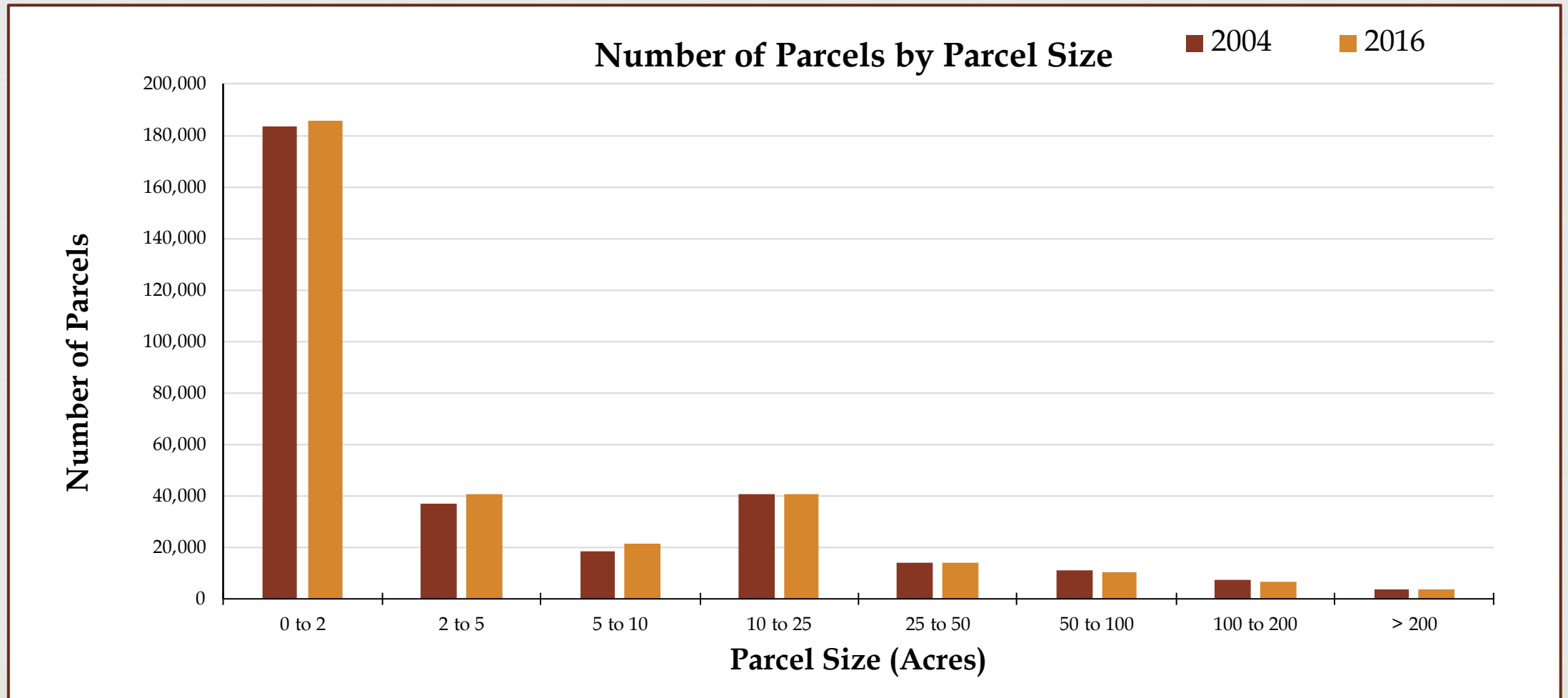
*residential 43.3%

*woodland 22.8%



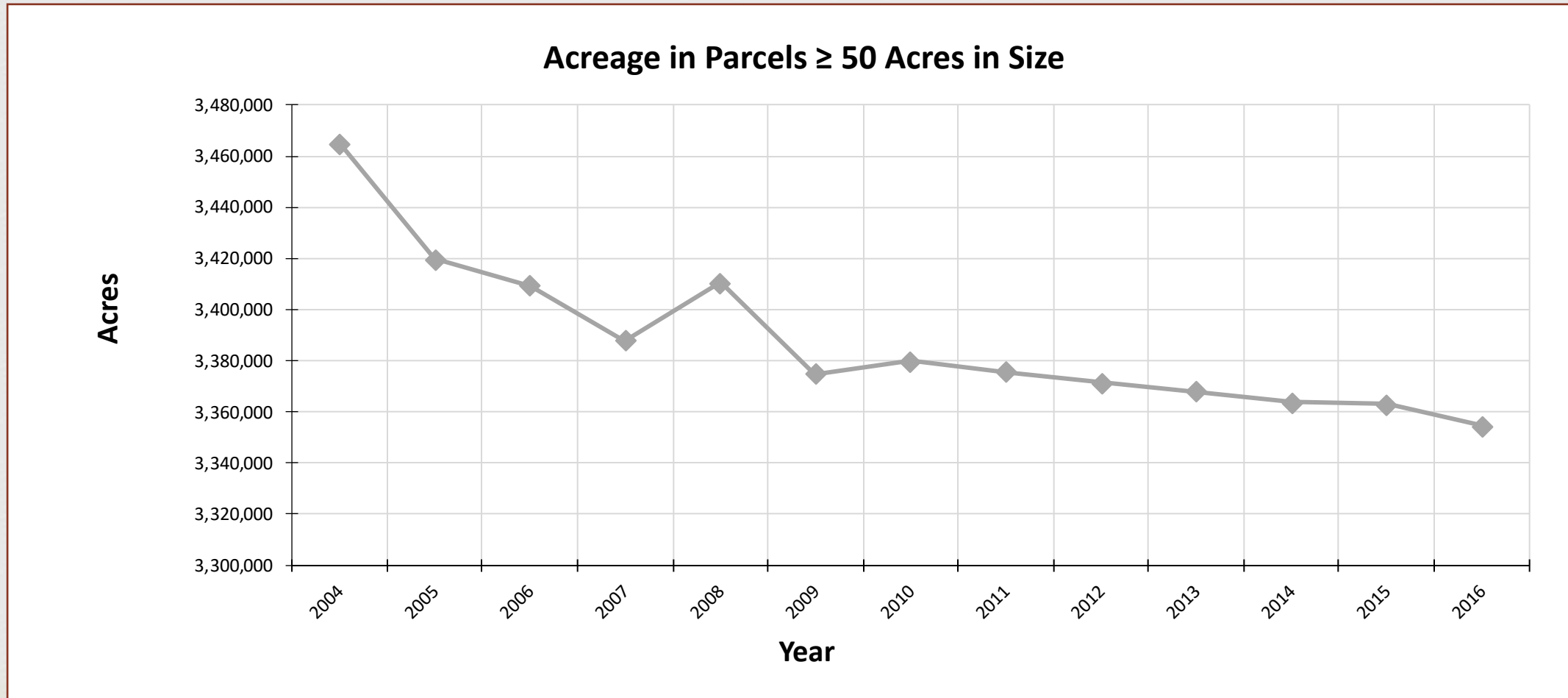
Number of Parcels by Parcel Size

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



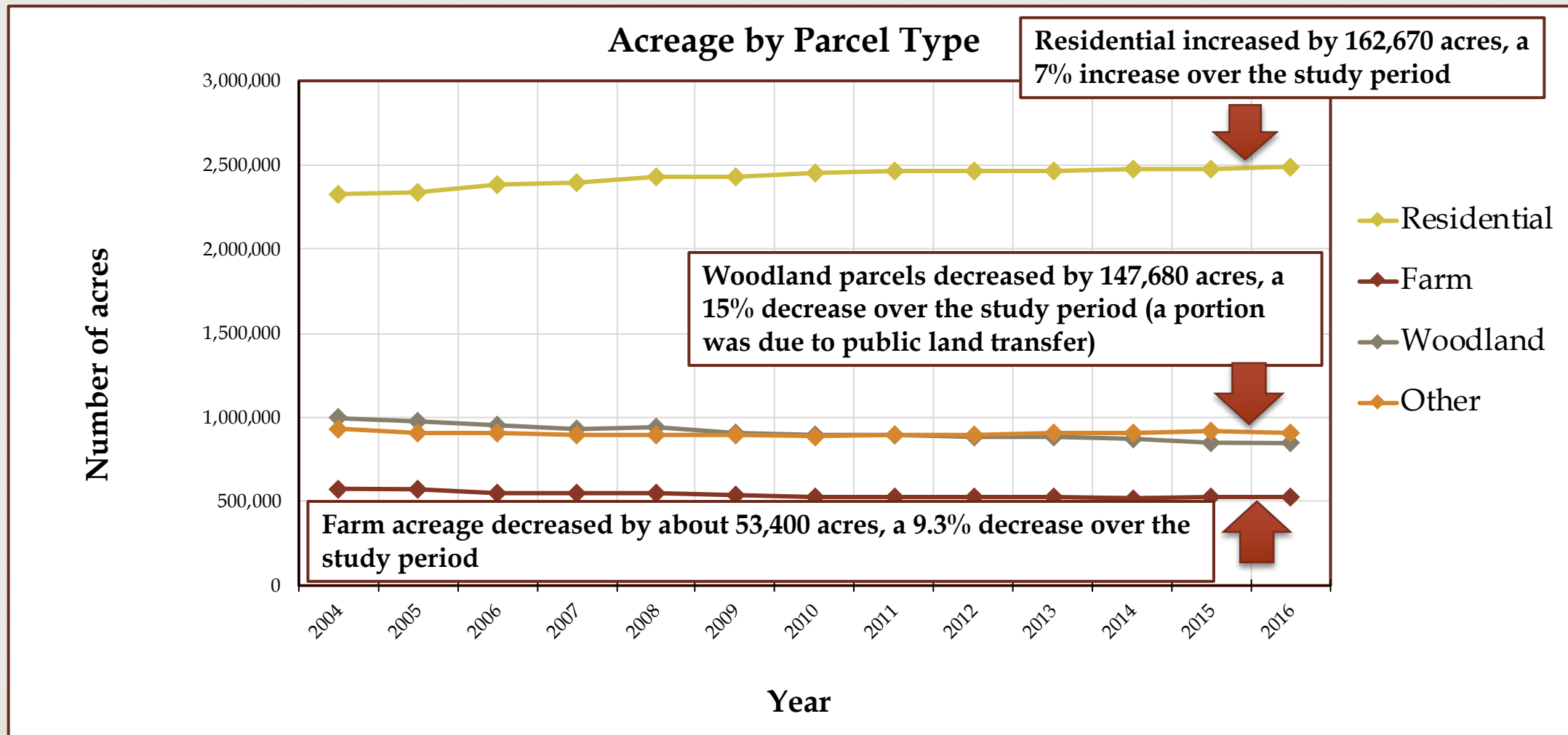
Acreage in Parcels \geq 50 Acres in Size

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.



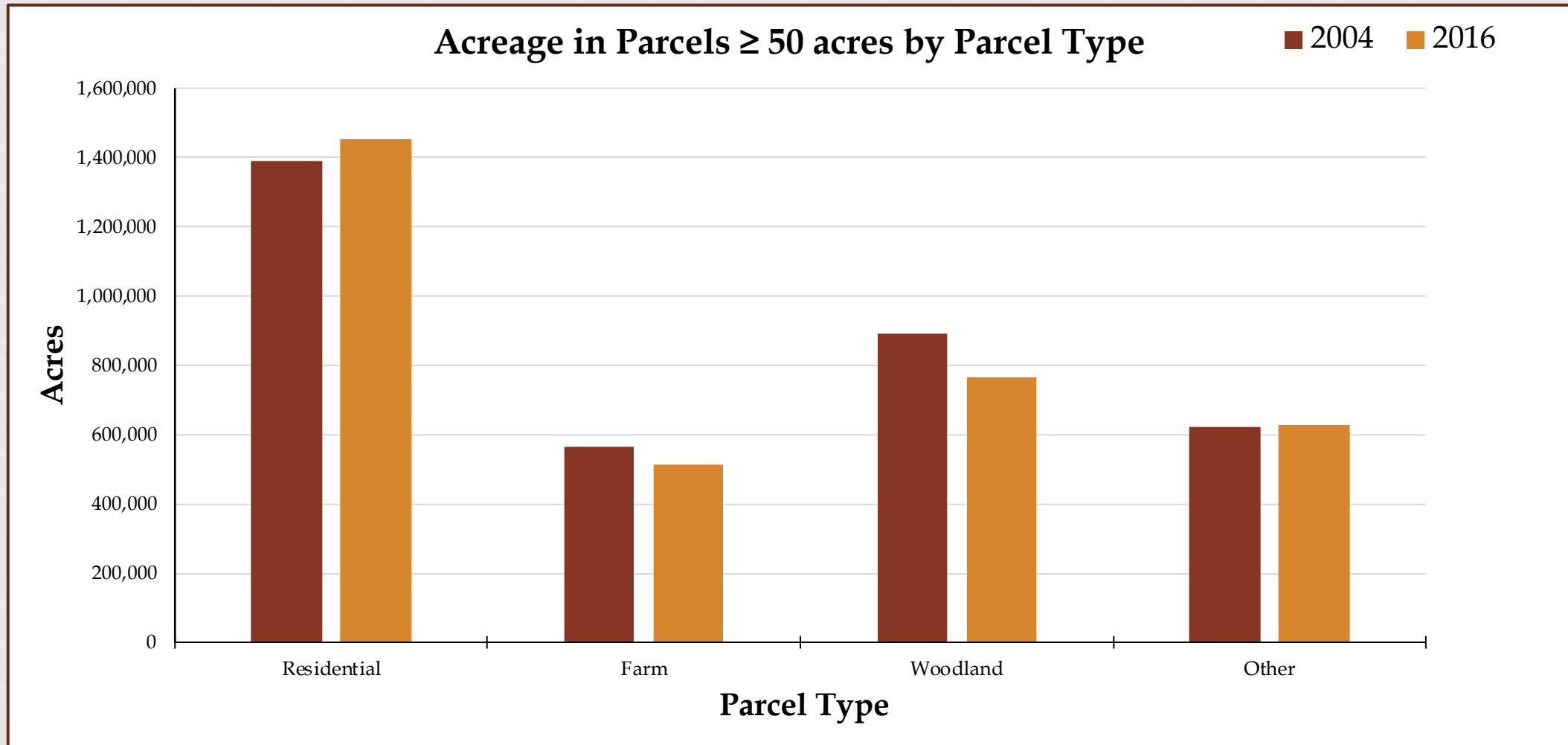
Acres by Parcel Type

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



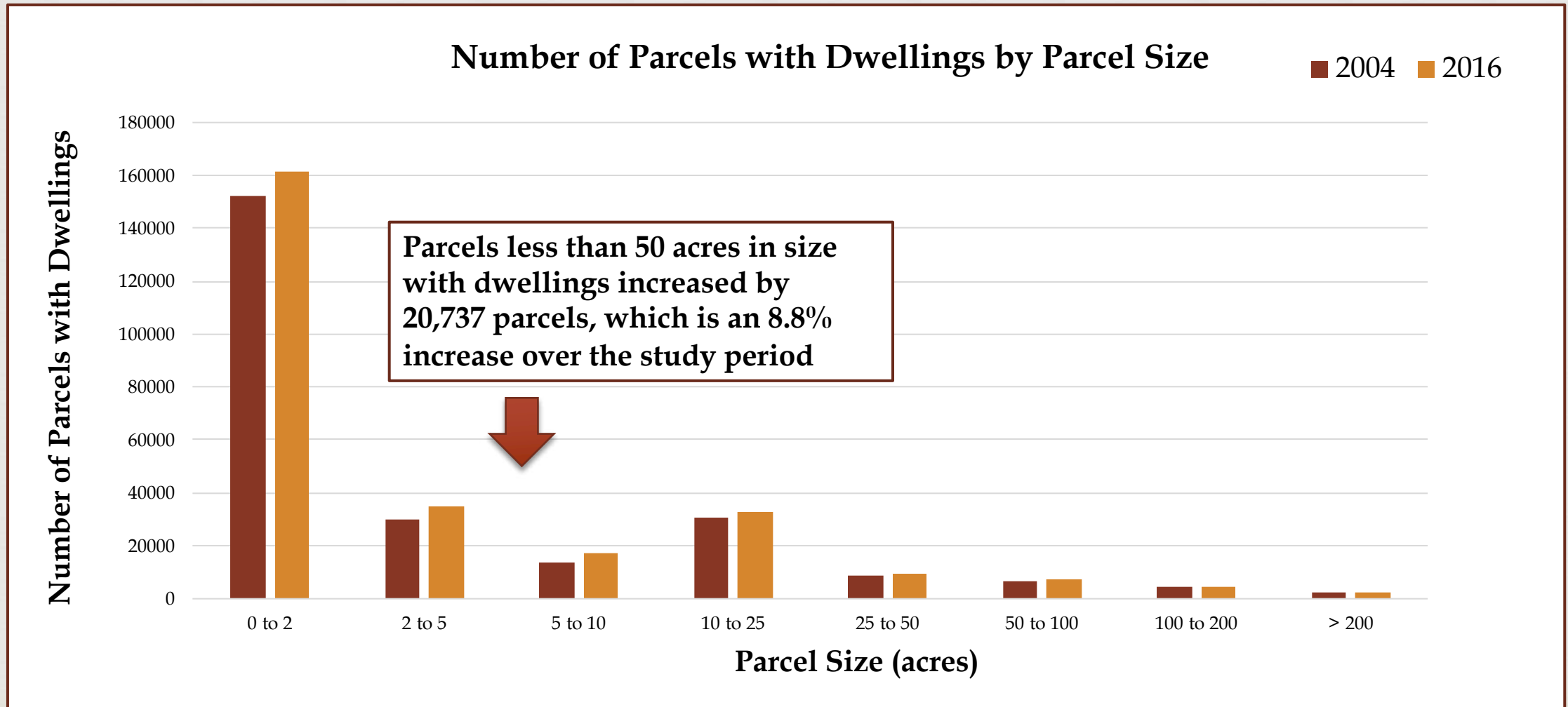
Acres in Parcels ≥ 50 Acres by Parcel Type

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



Number of Parcels with Dwellings by Parcel Size

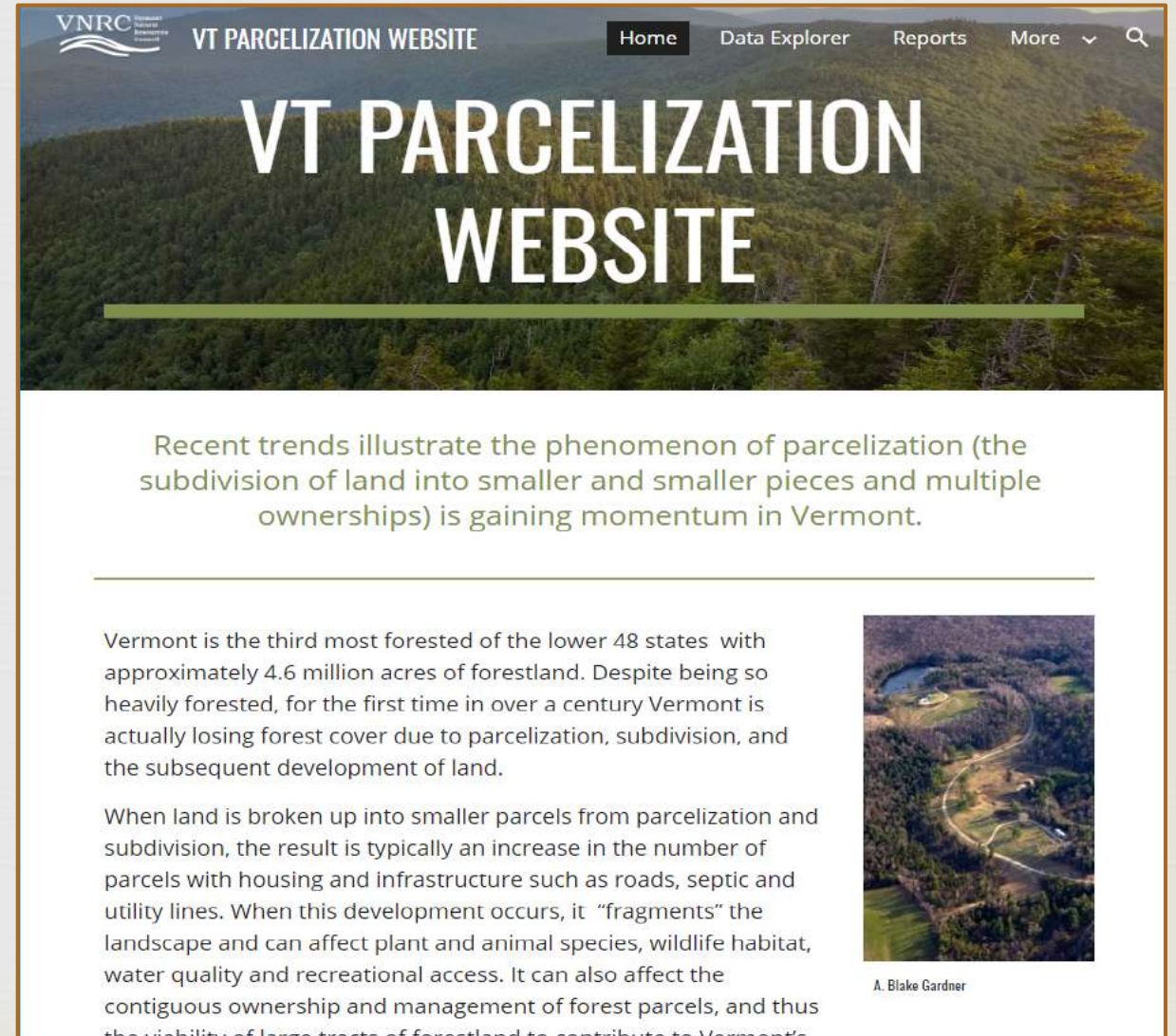
Most dwellings are built on smaller parcels compared to larger parcels.



Parcelization Website

Available at: vtforesttrends.vnrc.org

- Explore parcelization data at the town, county, regional, or statewide level using different tools:
- Generate geographically-specific reports.
- Download the raw data.
- Download parcelization reports.



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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EXPLORE CHANGE OVER TIME - BAR GRAPH

Geography

- 1) TOWN
- 2) COUNTY
- 3) RPC
- 4) STATE

Town | County | Region

Vermont

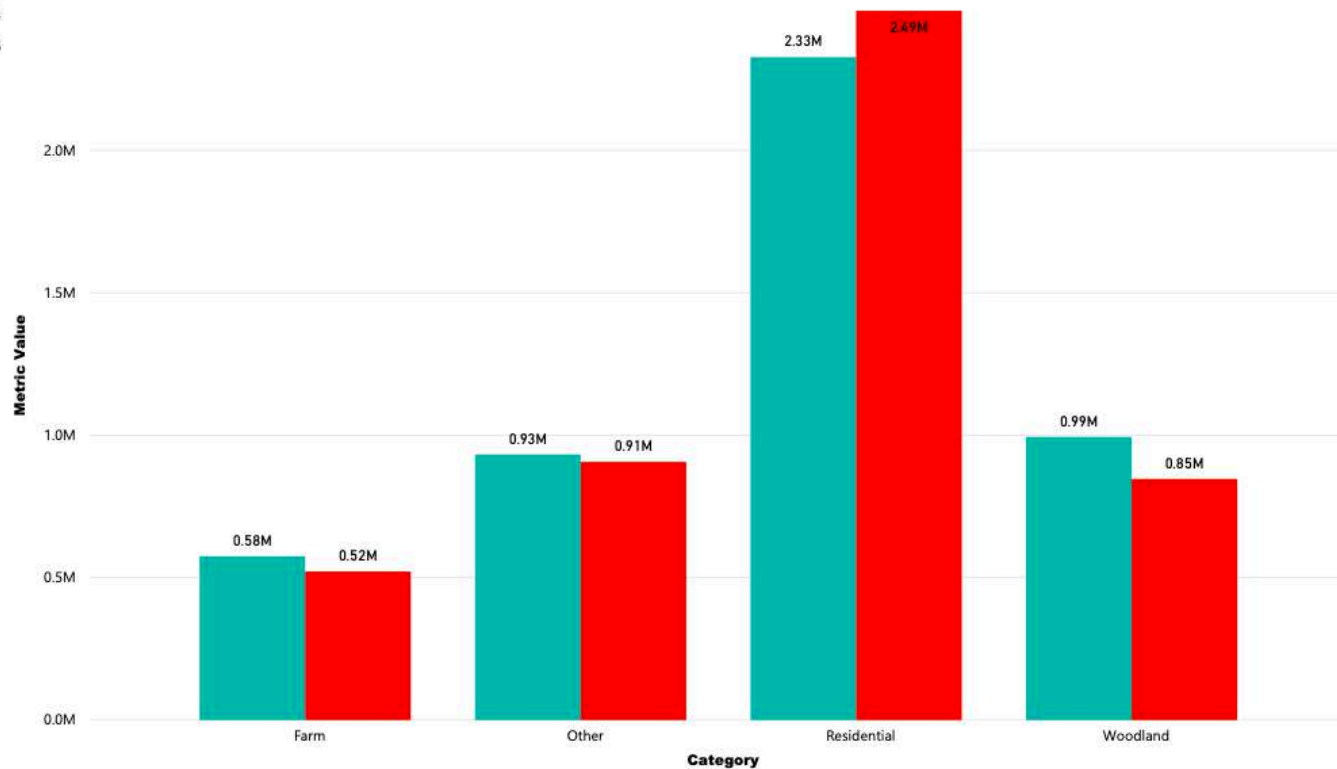
Metric

Acreage in parcels by type

Years

- 2016
- 2015
- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004

- 2004
- 2016





EXPLORE PERCENT CHANGE OVER TIME

Geography

- 1) TOWN
- 2) COUNTY
- 3) RPC
- 4) STATE

Start Year

2004

End Year

2016

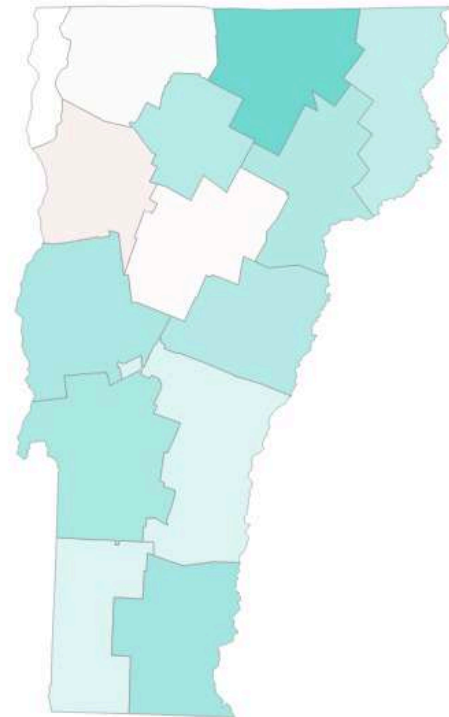
Type of Metric

Parcel Type

Metric

Acreage in parcels: WOODLAND

Percentage Difference



| Name | Start Year | Start Value | End Year | End Value | Percentage Difference |
|------------|------------|-------------|----------|-----------|-----------------------|
| Addison | 2004 | 36379 | 2016 | 29166 | -19.8 % |
| Bennington | 2004 | 64308 | 2016 | 59254 | -7.9 % |
| Caledonia | 2004 | 55519 | 2016 | 45412 | -18.2 % |
| Chittenden | 2004 | 22676 | 2016 | 23514 | 3.7 % |
| Essex | 2004 | 237373 | 2016 | 202242 | -14.8 % |
| Franklin | 2004 | 40624 | 2016 | 40321 | -0.7 % |
| Grand Isle | 2004 | 0 | 2016 | 0 | 0 % |
| Lamoille | 2004 | 76854 | 2016 | 63665 | -17.2 % |
| Orange | 2004 | 77934 | 2016 | 64352 | -17.4 % |
| Orleans | 2004 | 82696 | 2016 | 54586 | -34.0 % |
| Rutland | 2004 | 80795 | 2016 | 64953 | -19.6 % |
| Washington | 2004 | 57905 | 2016 | 58367 | 0.8 % |
| Windham | 2004 | 94566 | 2016 | 74107 | -21.6 % |
| Windsor | 2004 | 82672 | 2016 | 76220 | -7.8 % |



Recommendations for State Policy

Recommendations for state policy and investments

- Support diversified strategies to reduce the pressures on landowners to subdivide land.
- Boost investment in land conservation and landowner incentives for conservation easements.
- Increase support to woodland landowners for succession planning to minimize the subdivision of land.
- Continue to support working forests by funding the Current Use Program and the administration of new forestland enrollment.
- Provide full statutory funding for the Vermont Housing and Conservation Board (VHCB), and adequate funding for the Working Lands Enterprise Initiative.
- Support outreach efforts and public policy to encourage the aggregation of land for conservation purposes.
- Address the gaps in Act 250 and strengthen it to play a more meaningful role in reviewing the impacts of development on forestland.

Recommendations for Local Action and Research

Recommendations for local actions

- Municipalities that have zoning and subdivision regulations should review and strengthen natural resource policies to reduce forest fragmentation, with a particular focus on their rural residential type districts.
- Municipalities that do not have subdivision regulations should adopt them in order to minimize the fragmenting impacts of subdivision on forestland.

Recommendations for future research

- Conduct additional research to understand how dwellings and associated infrastructure impact the functions and integrity of forests.
- Utilize digital parcel maps, future LIDAR and other remote sensing data, and available modeling to understand any relationships between subdivision of land and subsequent development and forest loss/fragmentation.
- Maintain and enhance the parcelization website on an annual basis to aid land conservation, land use planning, technical assistance, and policy making.

Q & A

Thank you!

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