

Forest Integrity

Tools and Resources for Complying with Act 171

Presented by Clare Rock, Senior Planner
June 8, 2021



Act 171:

Amended Vermont Planning Statutes

To encourage and allow municipalities to address protection of forest blocks and habitat connectors

While also supporting the local forest products industry

Went into effect Jan 1 , 2018

Why?

Vermont is experiencing overall loss of forest cover

Its happening incrementally

Threatens the forest's ecological health, function, and value

Practicing forestry becomes operationally impractical, economically nonviable, and culturally unacceptable

Loss of the corresponding and significant contributions that forestry makes to our own economy and culture

ANR Act 171 Guidance Documents:

<https://anr.vermont.gov/sites/anr/files/co/planning/documents/guidance/Act171Guidance.pdf>



Benefits:

Forest Products Economy

Tourism / Recreation

Flood Protection

Clean Water Supply

Clean Air

Wildlife Habitat

Biological Diversity

Climate Change Mitigation

Public Health

Cultural Heritage

Threats:
parcelization
forest fragmentation



Google

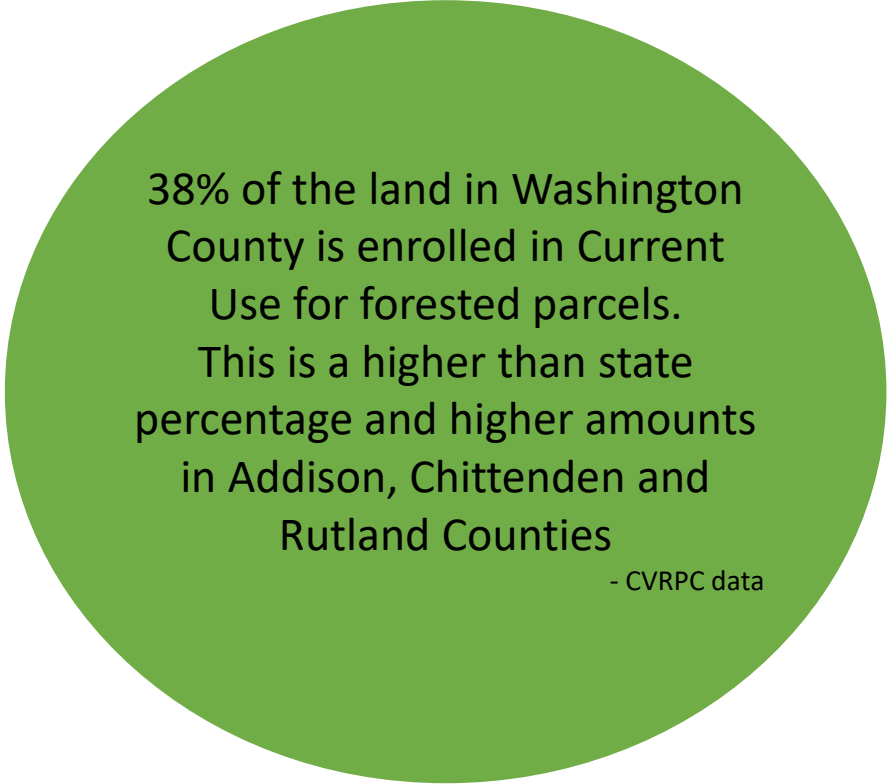
VNRC Report:

Tracking Parcelization Over Time: Updating the Vermont Database to Inform Planning and Policy, Phase III Report

“According to the U.S. Forest Service, Vermont may have lost 102,000 acres of forestland from 2012 to 2017.”

(some of the) Key Findings

- The amount of land in larger parcels is shrinking, while the amount of land in smaller parcels is increasing.
- The number of acres in the “residential” category is increasing, while “farm” and “woodland” acreage is decreasing, with “woodland” parcel acreage decreasing the fastest.
- Parcels less than 50 acres in size with dwellings increased by 8.8% over the study period. More specifically, the number of parcels with dwellings in the 2-5 and 5-10 acre size categories increased by 15.3% and 22.8%, respectively.
- The Use Value Appraisal (UVA) Program is playing a role in protecting large woodland parcels.



38% of the land in Washington County is enrolled in Current Use for forested parcels. This is a higher than state percentage and higher amounts in Addison, Chittenden and Rutland Counties

- CVRPC data



Geography

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

Town | County | Region

Central Vermont R... ▼

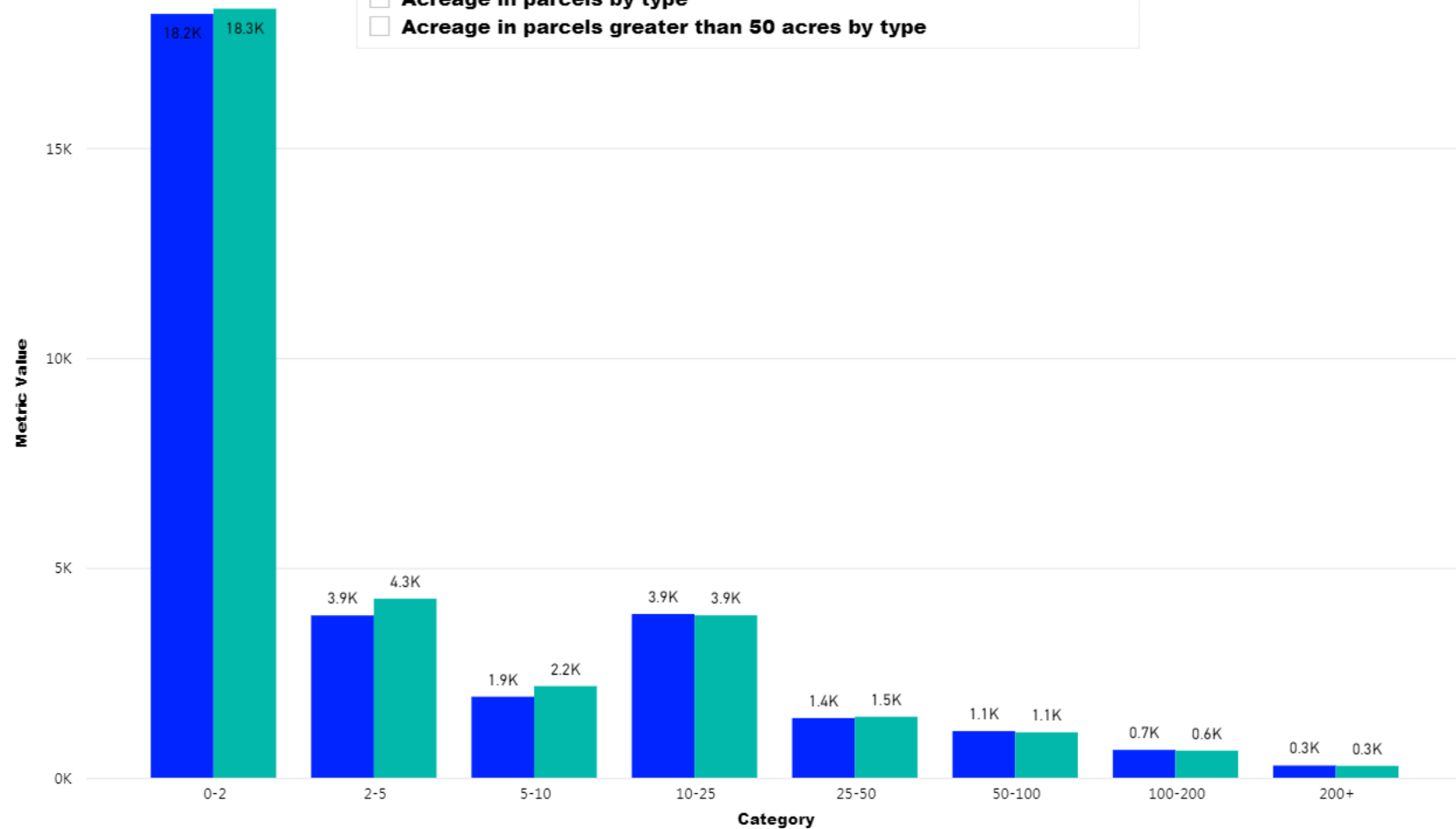
Metric

Parcels by Size

- ☐ # of acres by parcel size
- ☐ # of parcels with dwellings by parcel size
- ☒ # Parcels by Size
- ☐ Acreage in parcels by type
- ☐ Acreage in parcels greater than 50 acres by type

Years

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





VT PARCELIZATION WEBSITE

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Geography

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

Town | County | Region

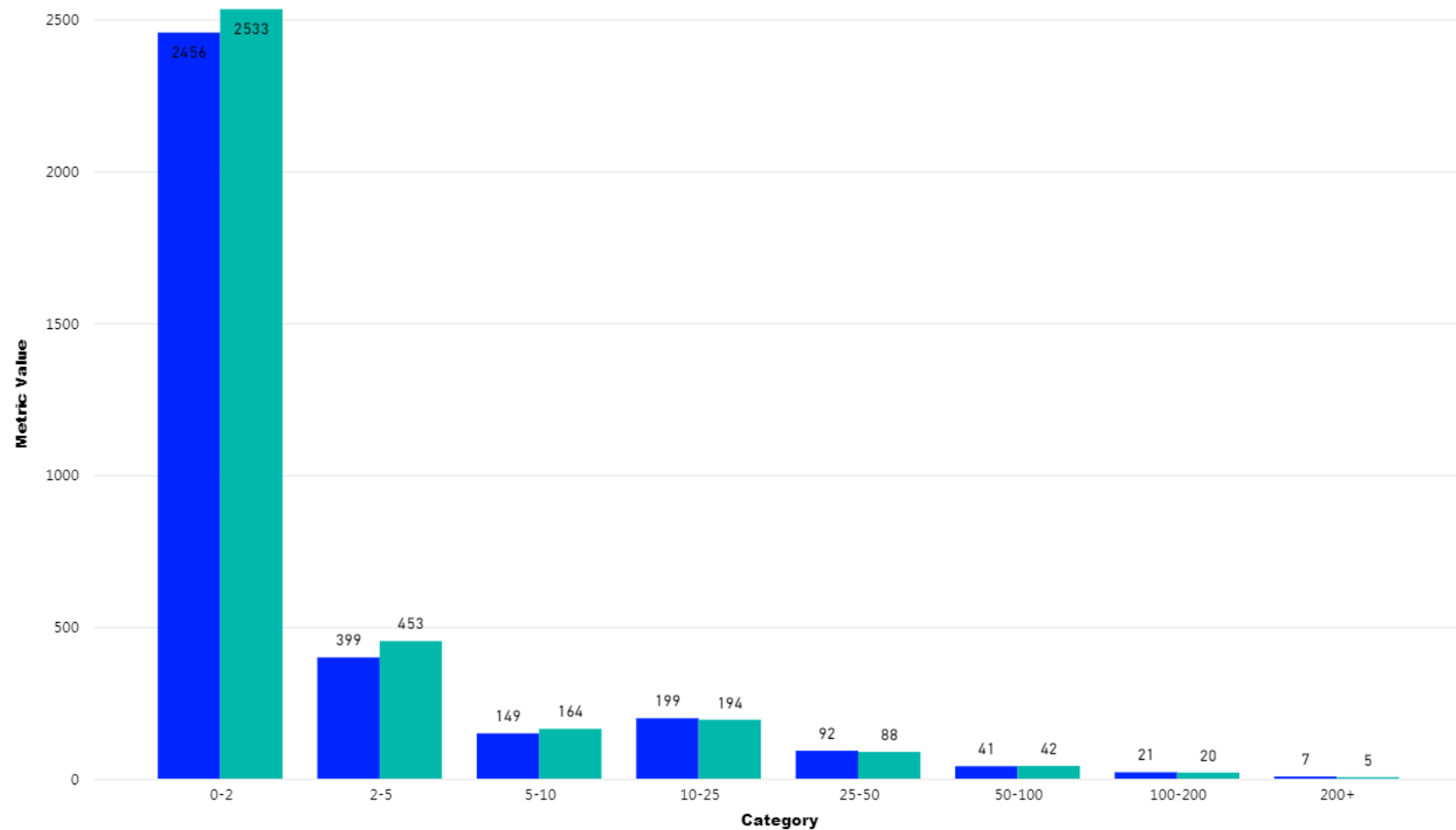
Barre Town

Metric

Parcels by Size

Years

- ☐ 2016
- ☒ 2015
- ☐ 2014
- ☐ 2013
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Town | County | Region

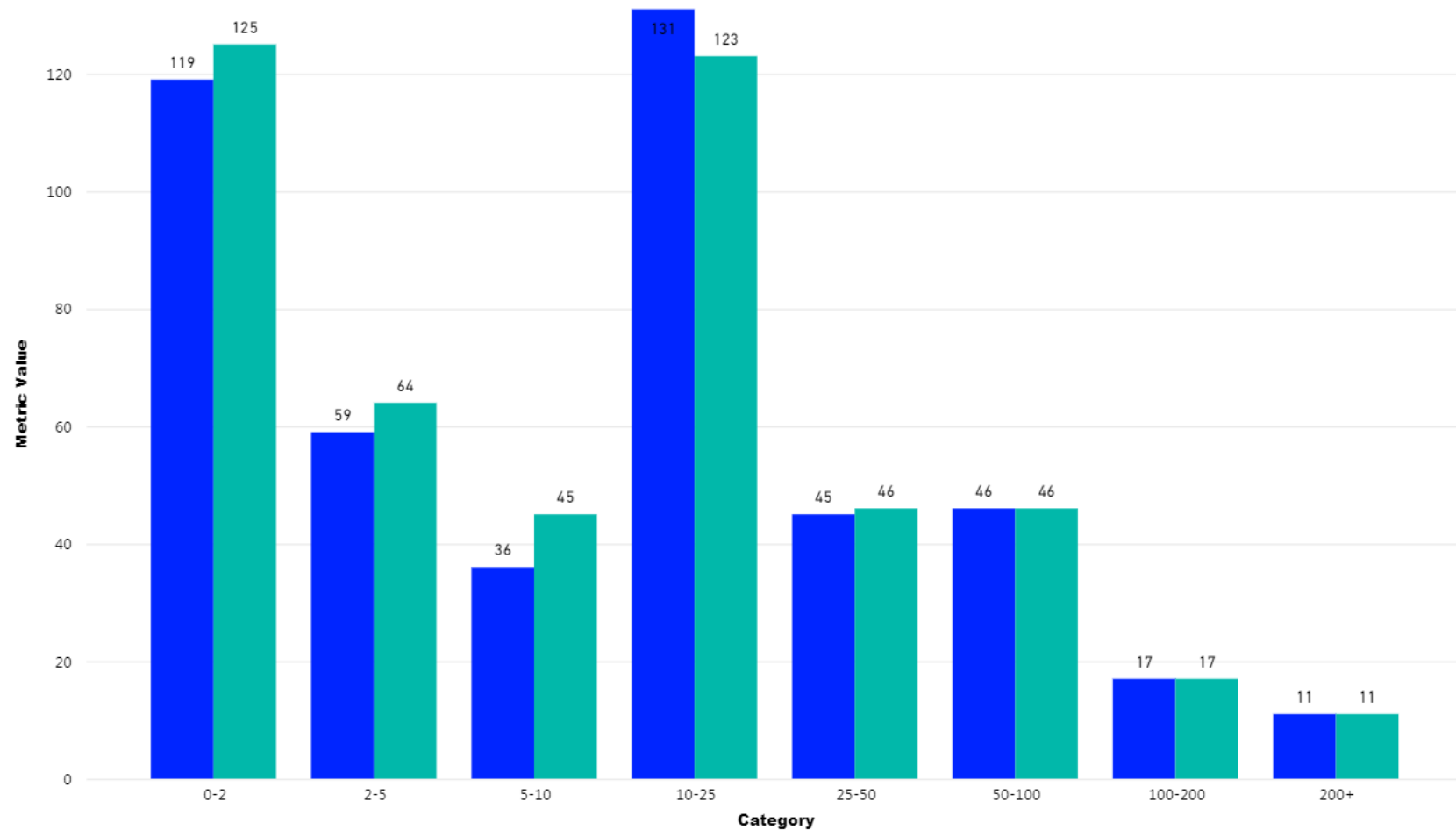
Worcester

Metric

Parcels by Size

Years

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





Vermont Forest Indicators Dashboard

Combining dozens of key datasets into a snapshot of the overall status of Vermont's forests

[Home](#)[Structure ▾](#)[Condition ▾](#)[Services ▾](#)[Stressors ▾](#)[About](#)

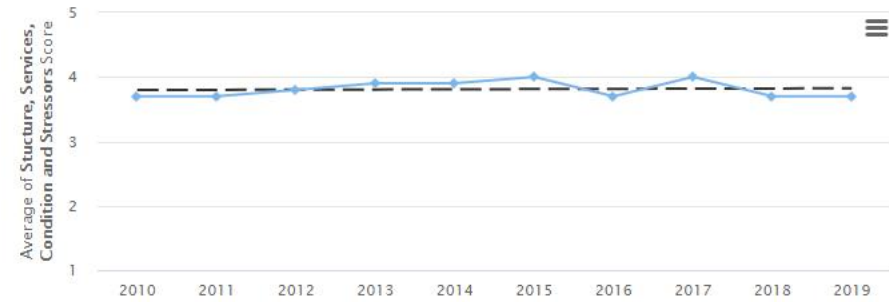
Overall Forest Indicators Score

3.7 /5 ↔

Score is trending **flat** over time

The overall status of Vermont's forests based on its stressors, condition, services and structure

Download Summary



Structure

3.5 /5 ↔

Score is trending **flat** over time

The size, density, diversity and arrangement of trees in the forest, and the pattern of that forest on the landscape.

[Indicator Snapshot](#)

Open

Condition

3.5 /5 ↔

Score is trending **flat** over time

The overall health of the trees within the forest and the lushness of the forest canopy across the landscape.

[Indicator Snapshot](#)

Open

Services

4.2 /5 ↑

Score is trending **up** over time

The many economic, social, ecological, and aesthetic services forests provide.

[Indicator Snapshot](#)

Open

Stressors

3.7 /5 ↔

Score is trending **flat** over time

Stress agents acting on forests, impacting growth, regeneration and survivorship.

[Indicator Snapshot](#)

Open



Vermont Forest Indicators Dashboard

Combining dozens of key datasets into a snapshot of the overall status of Vermont's forests

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STRUCTURE INDICATORS

↔	Forest Cover	latest score 4/5 score trend is flat over time
↓	Hardwood Regeneration	latest score 2.8/5 score trend is down over time
↔	Softwood Regeneration	latest score 4.7/5 score trend is flat over time
↑	Stand Complexity	latest score 4.7/5 score trend is up over time
↔	Mean Forest Patch Size	latest score 2/5 score trend is flat over time
↔	Forest Connectivity	latest score 1.8/5 score trend is flat over time
↔	Tree Species Diversity	latest score 4.1/5 score trend is flat over time
↓	Stand Age Diversity	latest score 4.4/5 score trend is down over time

[Score](#) [Data](#)

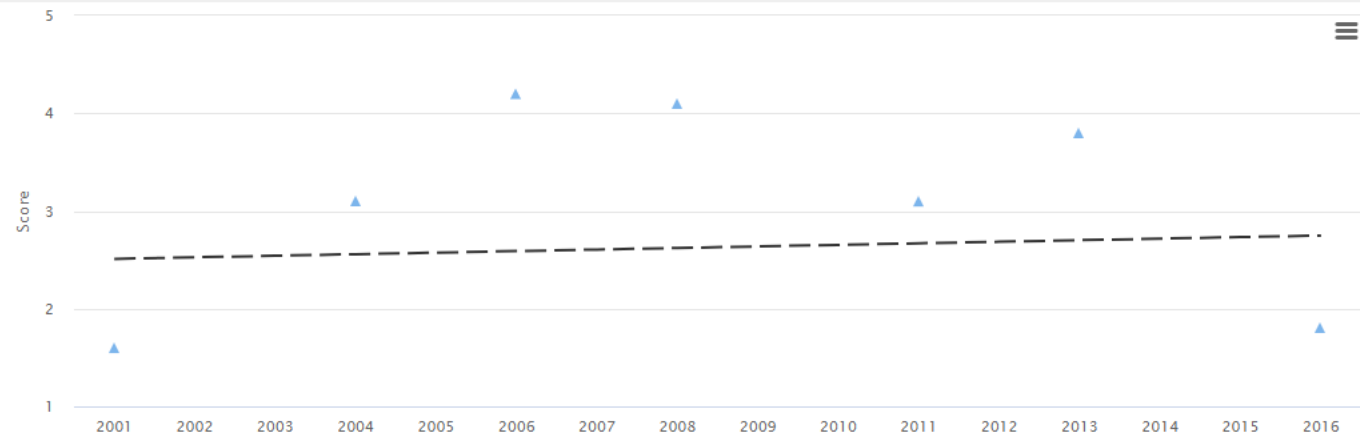
Forest Connectivity

[How is this calculated?](#)

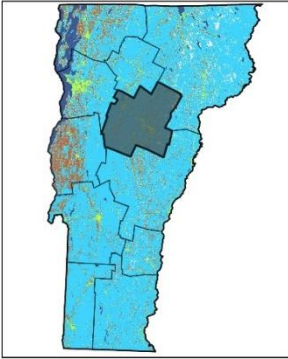
Latest Score: **1.8/5** ↔ in 2016

score trend is flat over time

Weight: 12%



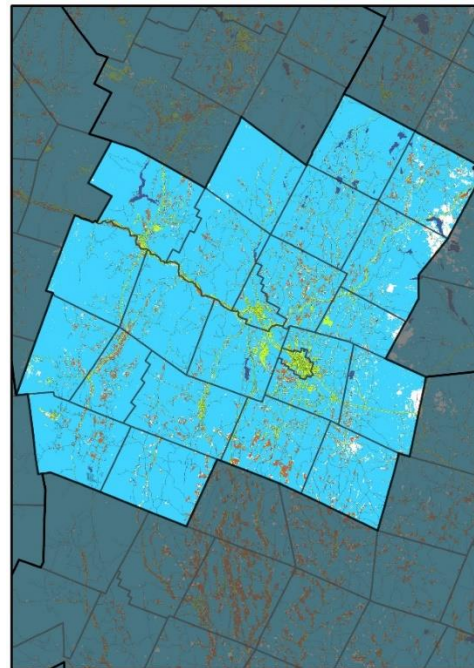
- > [What is Forest Connectivity?](#)
- > [Interpreting Forest Connectivity](#)
- > [Calculating Forest Connectivity Score](#)
- > [Methods for Calculating Forest Connectivity](#)
- > [FEMC Archive Resources](#)



Central Vermont Regional Planning Commission

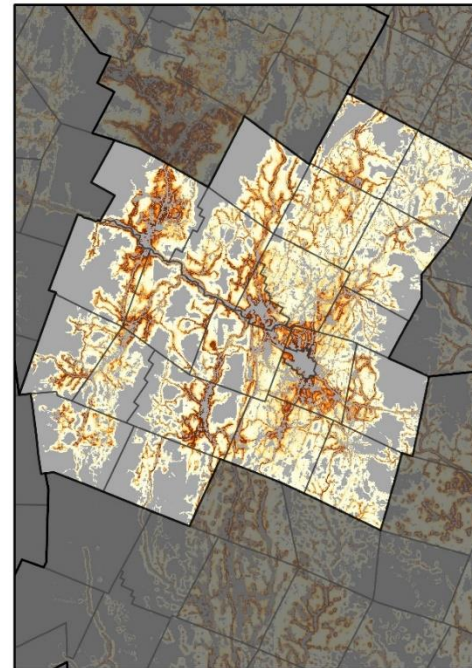
The Central Vermont Regional Planning Commission experienced relatively high rates of forest loss in the 1985-2000 period but slowed significantly in the 2000-2015 economic slump. While its locations of highest conversion risk are centered around Montpelier and Waterbury, continued fragmentation of high priority forest connectivity blocks highlight other areas that may be a priority for planning efforts..

Forest Cover (2015)



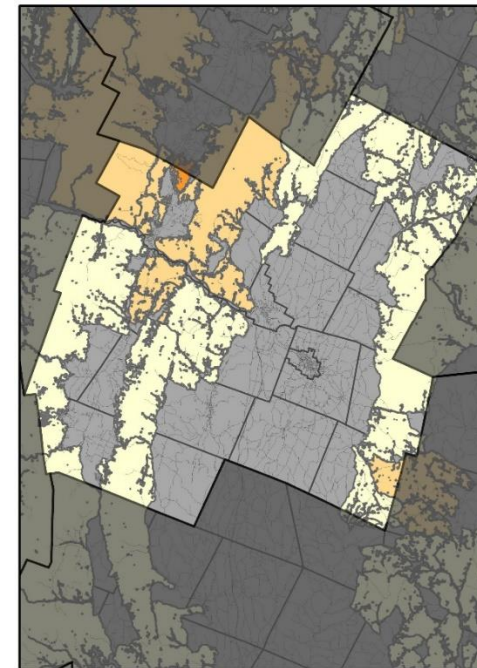
Landcover
 Blue: Water
 Light Blue: Forest
 Brown: Non-forest Vegetation

Probability of Conversion (2030)



Conversion Risk Low High

Risks to High Priority Forests (2030)



Drivers of Conversion

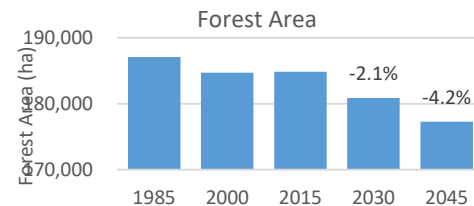
Driver	Rank
Dist. Urban	1
Dist. Major Road	2
Elevation	3
Dist. Interstate	4
Dist. Developed LC	5

The CV RPC has been losing approximately 1% of its forest cover to development each decade.

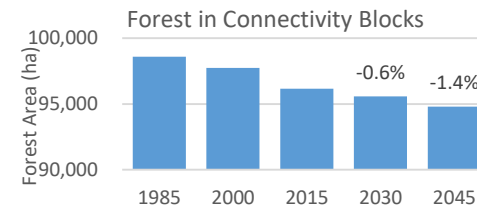
Areas at highest risk are closest to urban centers, major roads and the instate, as well as lower elevation locations.

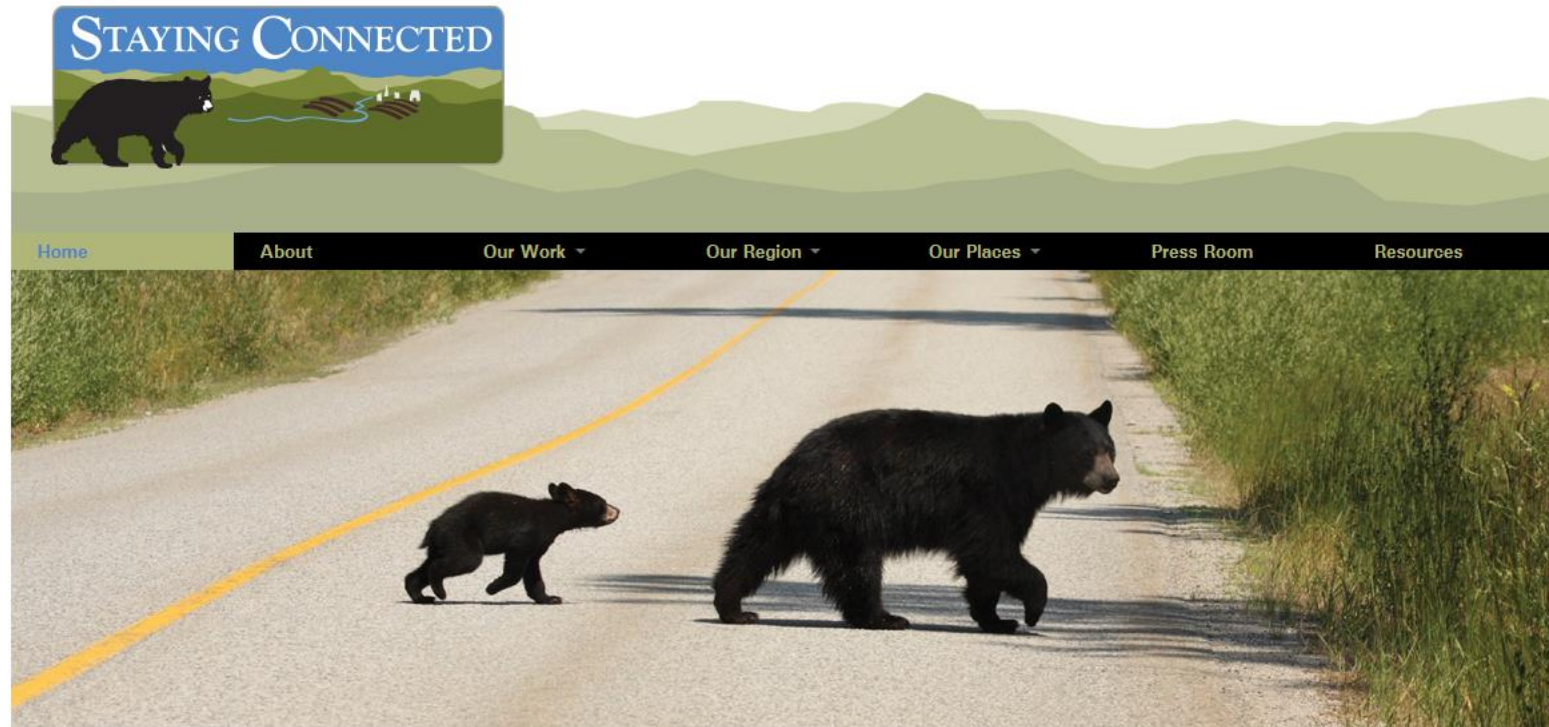
Percent Forest Converted to Developed

1985-2000	2000-2015
2.8%	0.4%



By 2045, over 4% of additional forest cover is projected to be lost from 2015 baselines, with only a 1% decrease in high-quality forest connectivity blocks.





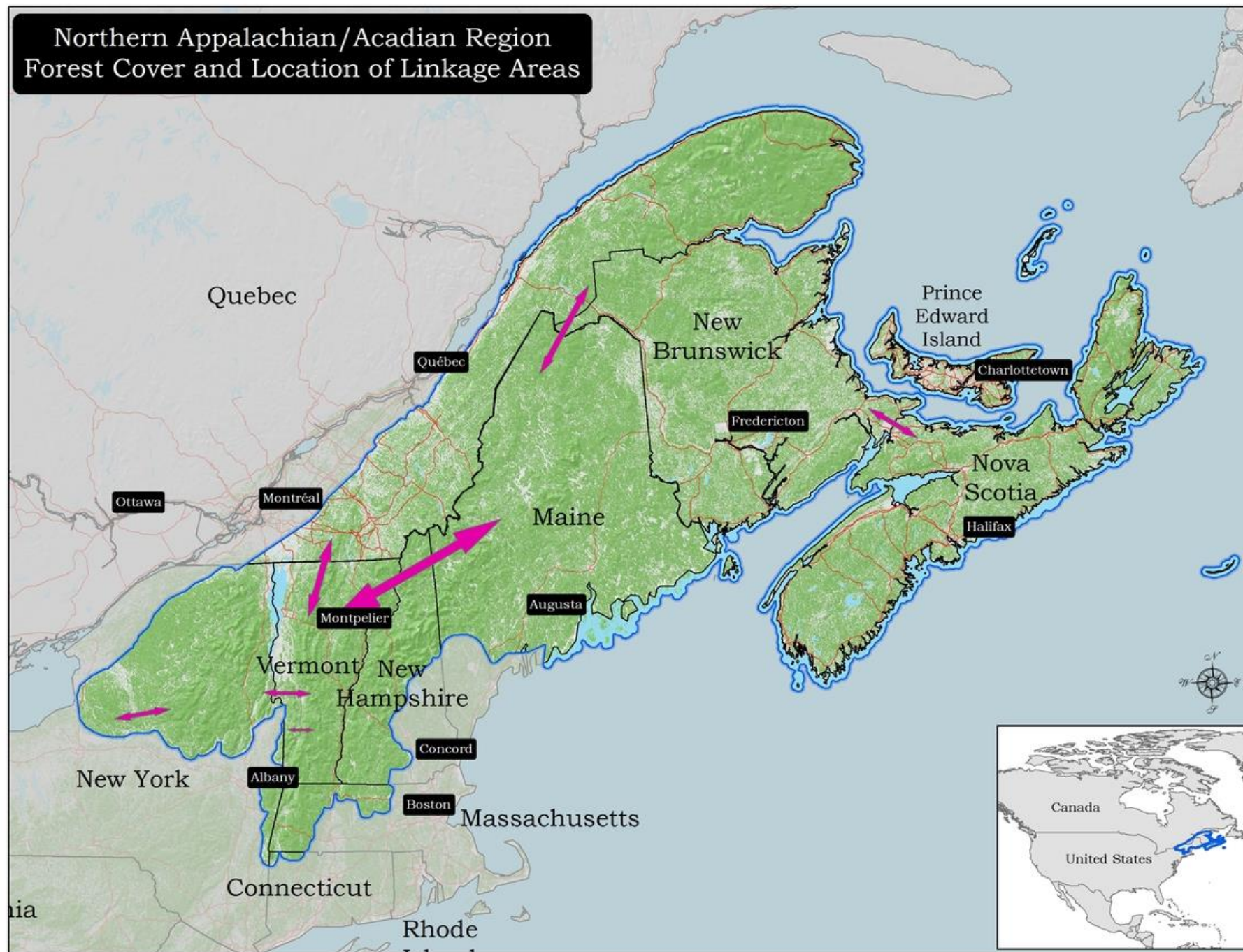
People

Habitat

For the well-being of wildlife and human communities, connections matter.

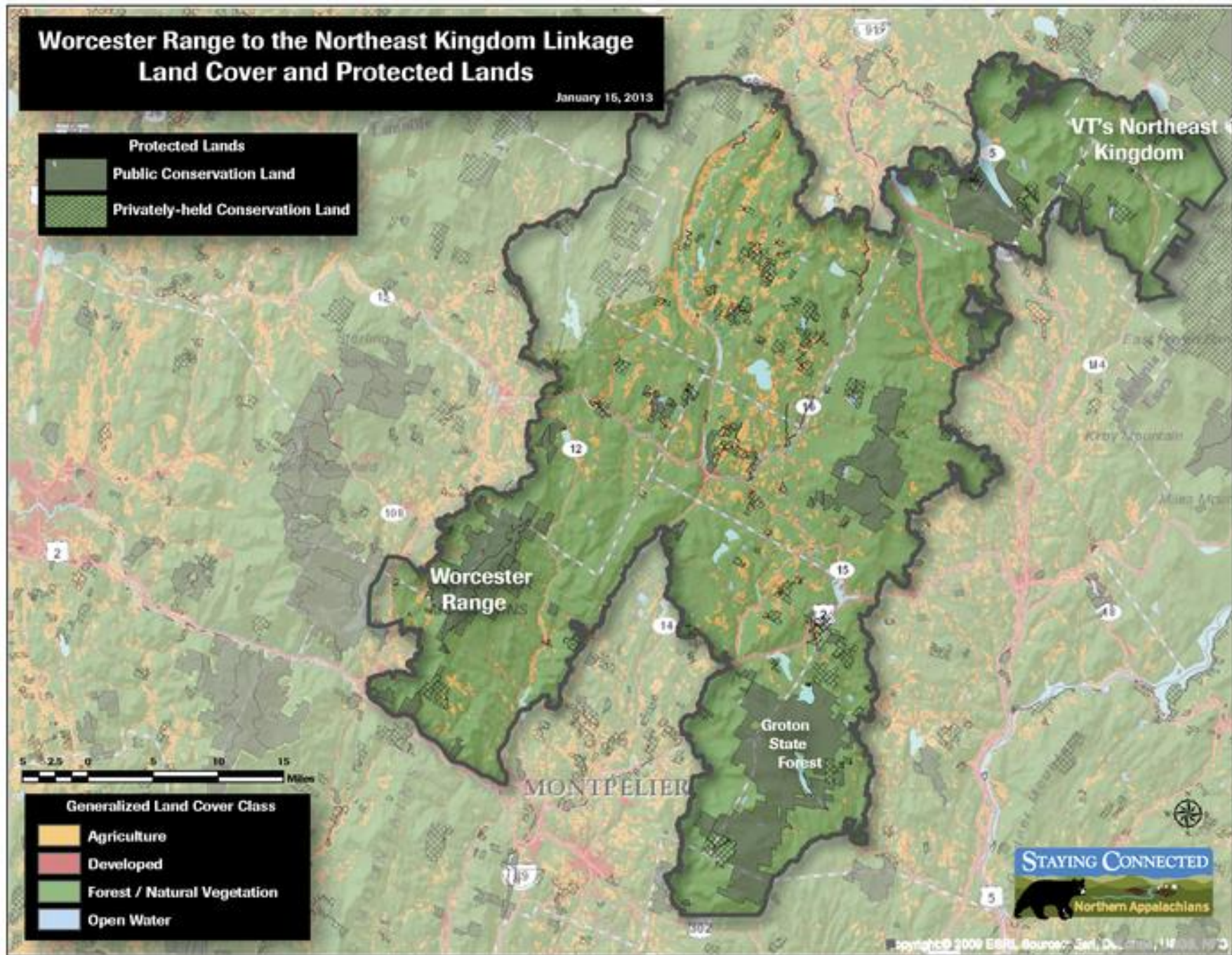
<http://stayingconnectedinitiative.org/about/>

Northern Appalachian/Acadian Region Forest Cover and Location of Linkage Areas



Worcester Range to the Northeast Kingdom Linkage Land Cover and Protected Lands

January 16, 2013

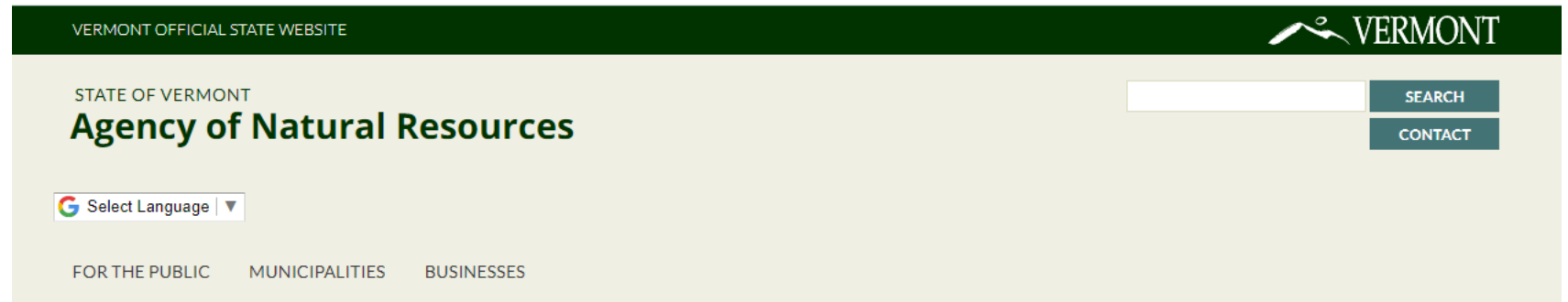




Webinar:
Implementing Act 171: Land Use
Planning to Address Forest
Fragmentation. Presented by
Jens Hilke (VT Fish & Wildlife),
Clare Rock (CVRPC)
Jamey Fidel (VNRC)
March 2018

<https://www.youtube.com/watch?v=Nwe98OS33tQ>

BioFinder
Vermont Agency of Natural Resources



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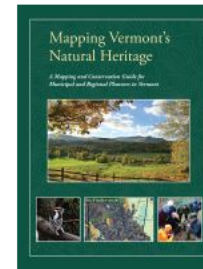
Emergency information regarding COVID-19

MAPPING VERMONT'S NATURAL HERITAGE

[Map](#) << [Using BioFinder](#) << [Interpreting Results](#) << [Creating BioFinder & VT Conservation Design](#)



Vermont Fish and Wildlife Department is pleased to share *Mapping*



Vermont's Natural Heritage, a guide for municipal and regional planners. This guide supplements the work of the Department's [Community Wildlife Program](#), which offers technical assistance and support to communities seeking conservation strategies for Vermont's species, habitats, and the networks of land and water that support our natural resources. Because every community has a different set of resources to work with, and because the goals and values of every community require a different set of solutions, this guide was created to empower communities with the information and resources necessary to find conservation strategies that work for them.

If you would like a hard copy of the guide, please contact jens.hilke@vermont.gov. You can also [download the entire guide here](#), or see one chapter at a time with the links below.

The guide starts with an Introduction and is accompanied by a seven map set that has been compiled for every town in Vermont. Create these maps on [BioFinder](#), or you can download pdfs formatted for each town in Vermont below.

<https://anr.vermont.gov/node/986>

Adopted post Jan. 1 2018:

Barre City

Barre Town

Berlin

Duxbury

East Montpelier

Fayston

Marshfield

Middlesex

Northfield

Orange

Plainfield

Warren

Waterbury

Soon to be adopted:

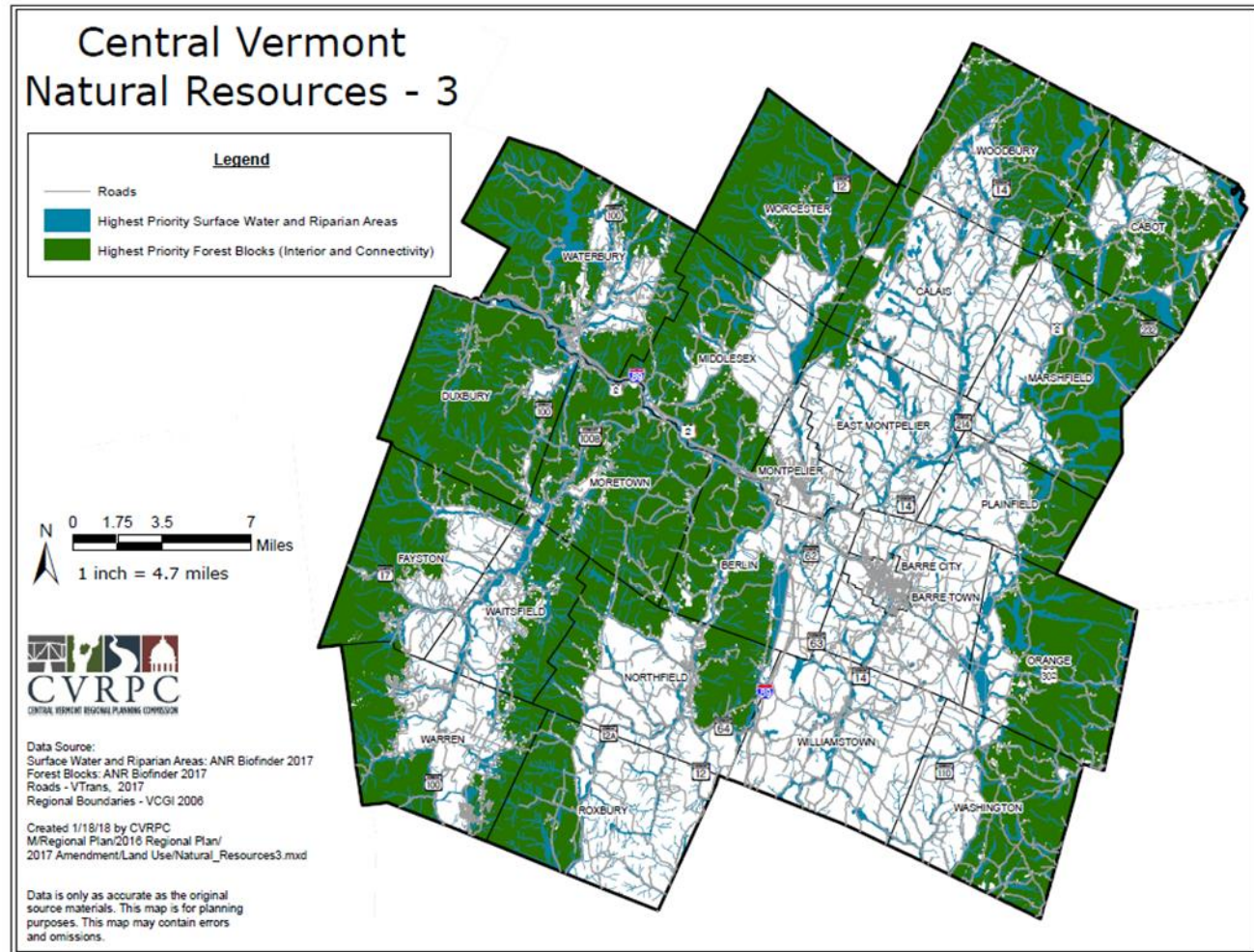
Roxbury

Waitsfield

Washington

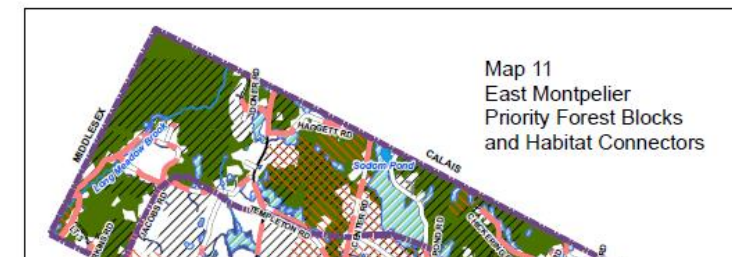
Woodbury

Worcester

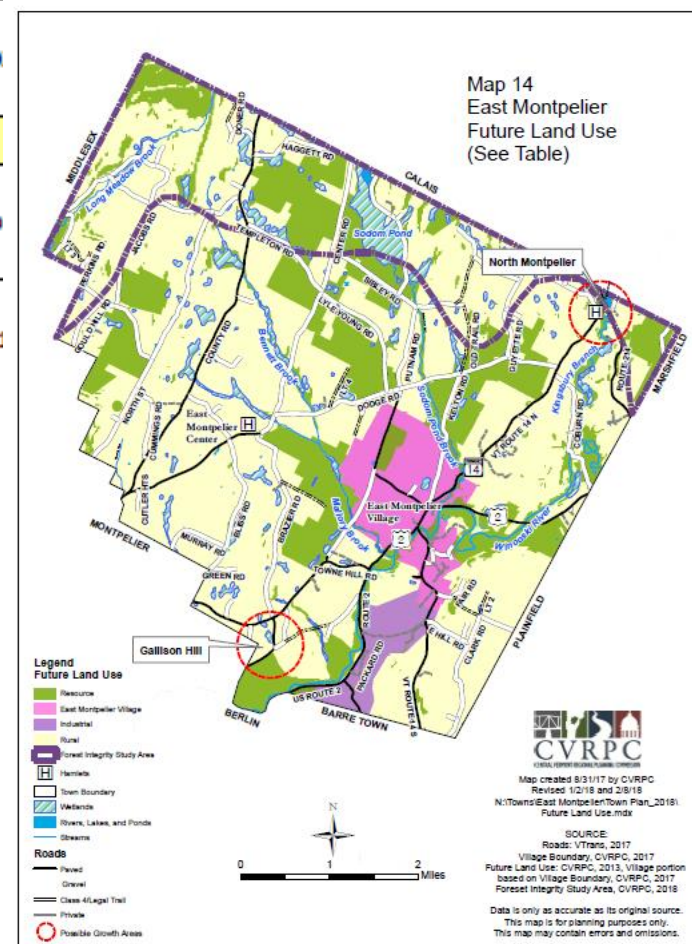


Incorporated into 2018 Regional Plan update

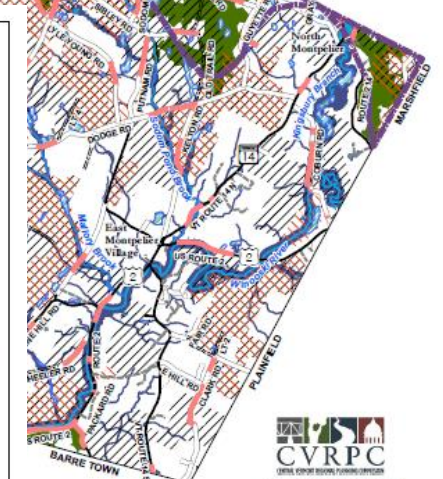
➤ Goal 9.7: Protect forest integrity.				
✓ Action 9.7.1: Review and update <i>Land Use and Development Regulations</i> to promote protection of priority forest blocks and riparian wildlife connectivity.	High	PC, SB	Municipal Planning Grant	2018-2020
✓ Action 9.7.2: Evaluate and implement non-regulatory approaches to promote forest integrity.	High	PC, SB		20
➤ Goal 9.8: Ensure that existing forest areas are managed for long-term sustainability.				
✓ Action 9.8.1: Work with landowners and conservation partners to conserve the town's most valued forestland.	Moderate	PC, TA, SB		0
✓ Action 9.8.2: Provide workshops on stewardship and management of forest lands.	Moderate	SB, TW, VT Woodlands Assoc.		20



Map 11
East Montpelier
Priority Forest Blocks
and Habitat Connectors



Map 14
East Montpelier
Future Land Use
(See Table)



Map created 8/31/17 by CVRPC
Revised 12/27/17 and 2/8/18
N:\Towns\East Montpelier\Town Plan_2018\1
PriorityForestBlocks-HadCon.mxd

SOURCE:
Habitat Forest Blocks, Wildlife Crossings, and
Riparian Wildlife Connectivity: VT Biofinder, 2016
Forest Integrity Study Area: CVRPC, 2018
Surface Waters, Vermont Hydrography
Dataset, VGI, 2008
Roads: VTrans, 2017
VLT Conserved Lands: VGI, 2016
Town and State Conserved Lands: VT Conserved
Lands Database, VGI, 2009
Current Use Properties: US Value Appraisal Parcels,
VT Dept. of Forest, Parks, and Recreation, 2016.

Data is only as accurate as its original source.
This map is for planning purposes only.
This map may contain errors and omissions.



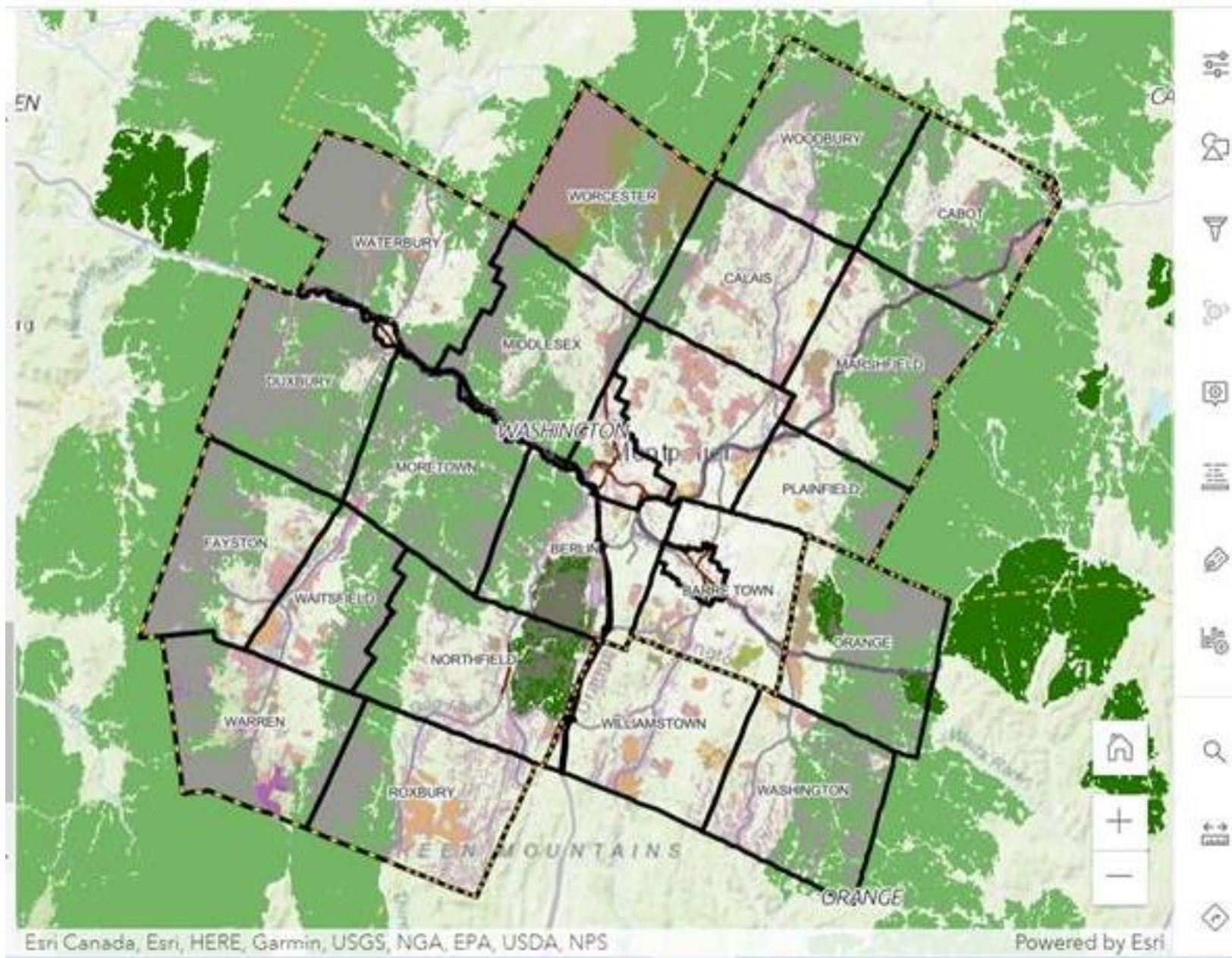
Map created 8/31/17 by CVRPC
Revised 1/2/18 and 2/8/18
N:\Towns\East Montpelier\Town Plan_2018\1
Future Land Use.mxd

SOURCE:
Roads: VTrans, 2017
Village Boundary, CVRPC, 2017
Future Land Use: CVRPC, 2013, Village portion
based on Village Boundary, CVRPC, 2017
Forest Integrity Study Area, CVRPC, 2018

Data is only as accurate as its original source.
This map is for planning purposes only.
This map may contain errors and omissions.



Legend
Future Land Use
Resource
East Montpelier Village
Industrial
Rural
Forest Integrity Study Area
Habitat
Town Boundary
Wetlands
Rivers, Lakes, and Ponds
Streams
Roads
Paved
Gravel
Class 4/5 Legal Trail
Private
Possible Growth Areas



Regional Analysis:

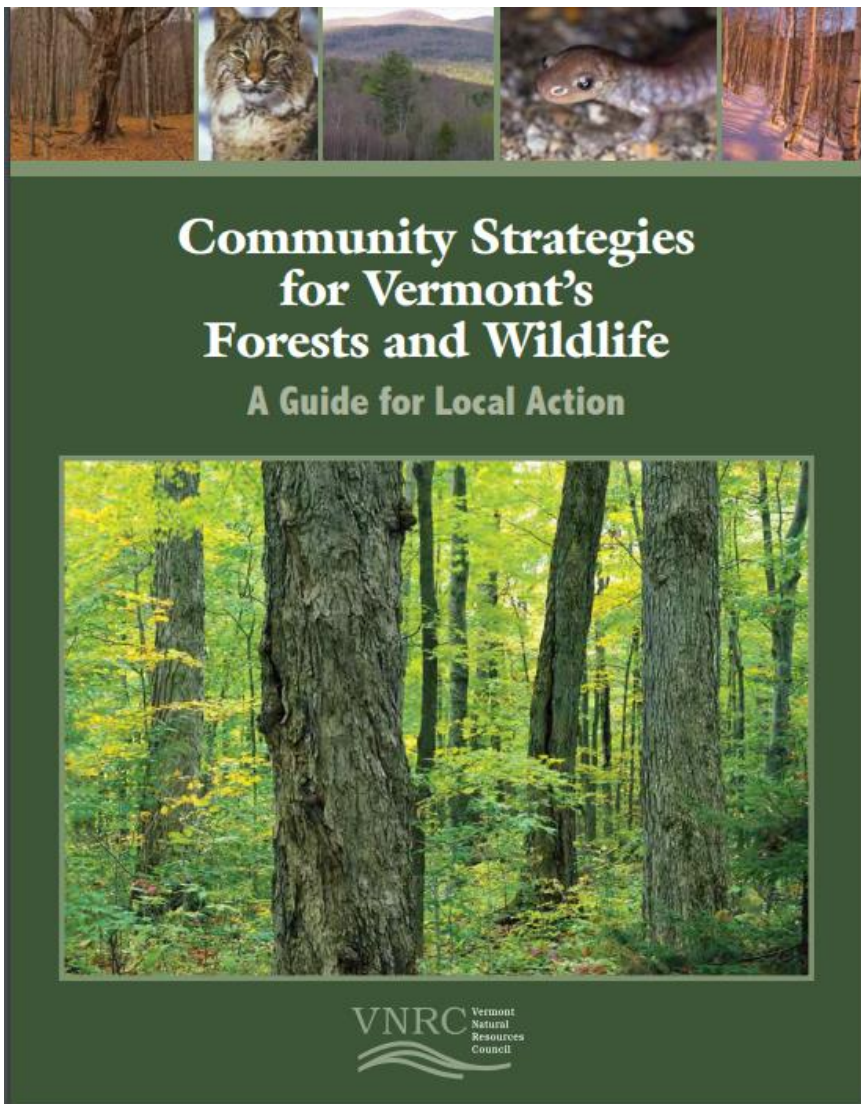
- BioFinder Data
- Municipally identified forest blocks
- Municipal Future Land Use Districts
- FEMC info

To:

- Identify regional progress
- Inform regional plan update



Put your Plan
into Action!



... also supporting the local forest products industry

supporting the forest products economy

Identifying municipal actions for supporting forest products economy


Sept 30, 2020
CVRPC
P&Z Présentation

Look for the update coming soon!

<https://vnrc.org/wp-content/uploads/2019/08/VNRC-Forestland-Conservation-10-1-links.pdf>


Resources:
[https://anr.vermont.gov/Planning/Forest Blocks And Habitat Connectors](https://anr.vermont.gov/Planning/Forest_Blocks_And_Habitat_Connectors)

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Agency of Natural Resources

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Act 250 and Section 248 Guidance Documents

Act 250 and ANR

Section 248 and ANR

Act 171 Forest Blocks and Habitat Connectors

NRB, PUC, PSD Links

CPG Application Fee Form

Maps and Mapping

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ACT 171 AND PLANNING FOR FOREST BLOCKS AND HABITAT CONNECTORS

Act 171 amended Vermont Planning Statutes to encourage and allow municipalities to address protection of forest blocks and habitat connectors while supporting the local forest products industry. Learn more about how to identify regionally and locally significant forest blocks and habitat connectors by reviewing the resources linked below.

Guidance Documents

- [Planning: A Key Step Towards Protectng Forest and Wildlife Resources](#). Outlines a suggested process to help towns implement the requirements of Act 171. Released by the Vermont Agency of Natural Resources in March 2018.
- [The Municipal Plan: State Planning Manual Module 1](#). Guides towns to create plans that present clear and concise visions for their communities. Released by the Agency of Commerce and Community Development in April 2017.
- [Municipal Plans: Tools for Improving the Planning Process](#). A five-step outline of how towns can make effective plans that matter. Released by the Agency of Commerce and Community Development.
- [Community Strategies for Vermont's Forests and Wildlife: A Guide for Local Action](#). Proactive solutions to reduce forest fragmentation and parcelization in Vermont. Released by the Vermont Natural Resources Council in September 2013.
- [Mapping Vermont's Natural Heritage: A Mapping and Conservation Guide for Municipal and Regional](#)

FOR Reference:

STATE PLANNING GOALS - 24 V.S.A. §4302: RELEVANT AND **NEW** LANGUAGE

(6) To maintain and improve the quality of air, water, wildlife, forests, and other land resources

(C) Vermont's forestlands should be managed so as to maintain and improve forest blocks and habitat connectors.

(9) To encourage and strengthen agricultural and forest industries.

(A) Strategies to protect long-term viability of agricultural and forestlands should be encouraged and should include maintaining low overall density.

(B) The manufacture and marketing of value-added agricultural and forest products should be encouraged.

(C) The use of locally-grown food products should be encouraged.

(D) Sound forest and agricultural management practices should be encouraged.

(E) Public investment should be planned so as to minimize development pressure on agricultural and forest land.

REGIONAL PLANS - 24 V.S.A. §4348: RELEVANT AND **NEW** LANGUAGE

(2) A land use element, which shall consist of a map and statement of present and prospective land uses, that: (A) Indicates those areas proposed for forests, recreation, agriculture (using the agricultural lands identification process established in 6 V.S.A. §8), residence, commerce, industry, public, and semipublic uses, open spaces, areas reserved for flood plain, and areas identified by the State, regional planning commissions, or municipalities that require special consideration for aquifer protection; for wetland protection; **for the maintenance of forest blocks, wildlife habitat, and habitat connectors**; or for other conservation purposes.

(F) Indicates those areas that are important as forest blocks and habitat connectors and plans for land development in those areas to minimize forest fragmentation and promote the health, viability, and ecological function of forests. A plan may include specific policies to encourage the active management of those areas for wildlife habitat, water quality, timber production, recreation, or other values or functions identified by the regional planning commission.

MUNICIPAL PLANS - 24 V.S.A. §4382: RELEVANT AND **NEW** LANGUAGE

(2) A land use plan, which shall consist of a map and statement of present and prospective land uses, that:

(A) Indicates those areas proposed for forests, recreation, agriculture (using the agricultural lands identification process established in 6 V.S.A. §8), residence, commerce, industry, public, and semipublic uses, and open spaces, areas reserved for flood plain, and areas identified by the State, the regional planning commission, or the municipality that require special consideration for aquifer protection; for wetland protection; **for the maintenance of forest blocks, wildlife habitat, and habitat connectors**; or for other conservation purposes.

(D) Indicates those areas that are important as forest blocks and habitat connectors and plans for land development in those areas to minimize forest fragmentation and promote the health, viability, and ecological function of forests. A plan may include specific policies to encourage the active management of those areas for wildlife habitat, water quality, timber production, recreation, or other values or functions identified by the municipality.