



CHESTER

PLANNING WITH WILDLIFE IN MIND



Monica Przyperhart
Community Wildlife Program
Vermont Fish & Wildlife Department

The Vermont Fish & Wildlife Department

*The mission of the Vermont Fish & Wildlife Department is the
conservation of our fish, wildlife, plants and their habitats
for the people of Vermont*



What we conserve



Natural communities



Fish



Habitat



Invertebrates



Wildlife



Plants

Who we serve



Wildlife watchers



Future generations



Anglers



Hunters and trappers



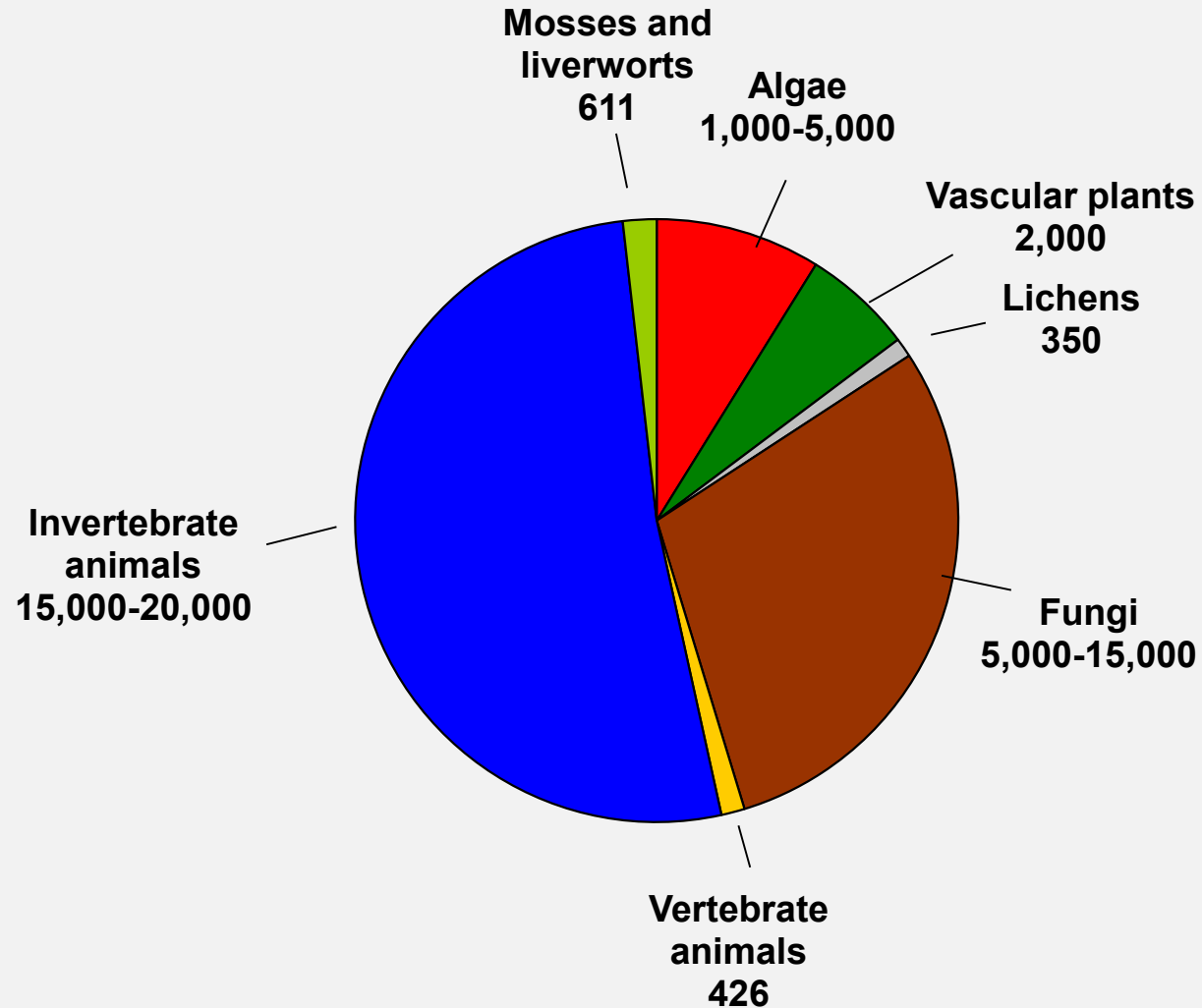
Communities



Landowners

There are ~ 24,000 to 43,500 species in Vermont.

How do we protect them all?



**Elfin
Skimmer**

A photograph of a dense forest with tall, slender trees and a thick canopy of green leaves. Sunlight filters through the trees, creating dappled light on the forest floor. The text "Forest!" is overlaid in a large, white, sans-serif font with a slight shadow effect.

Forest!



Economic benefits of
recreation and tourism

Prevent erosion and
reduce flooding

Provide working
lands for forest
industry

Provide land for
hunting, fishing,
wildlife viewing
(and \$\$)

Clean air &
water

Benefits of Large Forests

Transmit fewer tick-
borne illnesses

Scenery

Biological
diversity

Sequester carbon and
absorb harmful gases

**12% of Vermont's GDP
20,000 jobs.**

**Fall foliage tourism is
25% of the tourist
income to Vermont**

**Forest products
add \$1.5 billion**

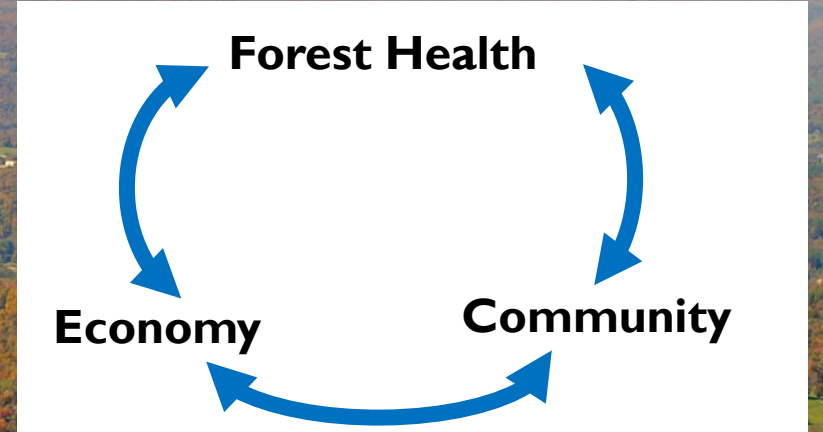
Forests power Vermont's Economy

**Hunting, fishing,
and wildlife
viewing = \$685
million**

**Forest recreation
and tourism provide
\$1.9 billion to
Vermont annually**

**Intact wetlands and
riparian areas reduce
damage from floods**

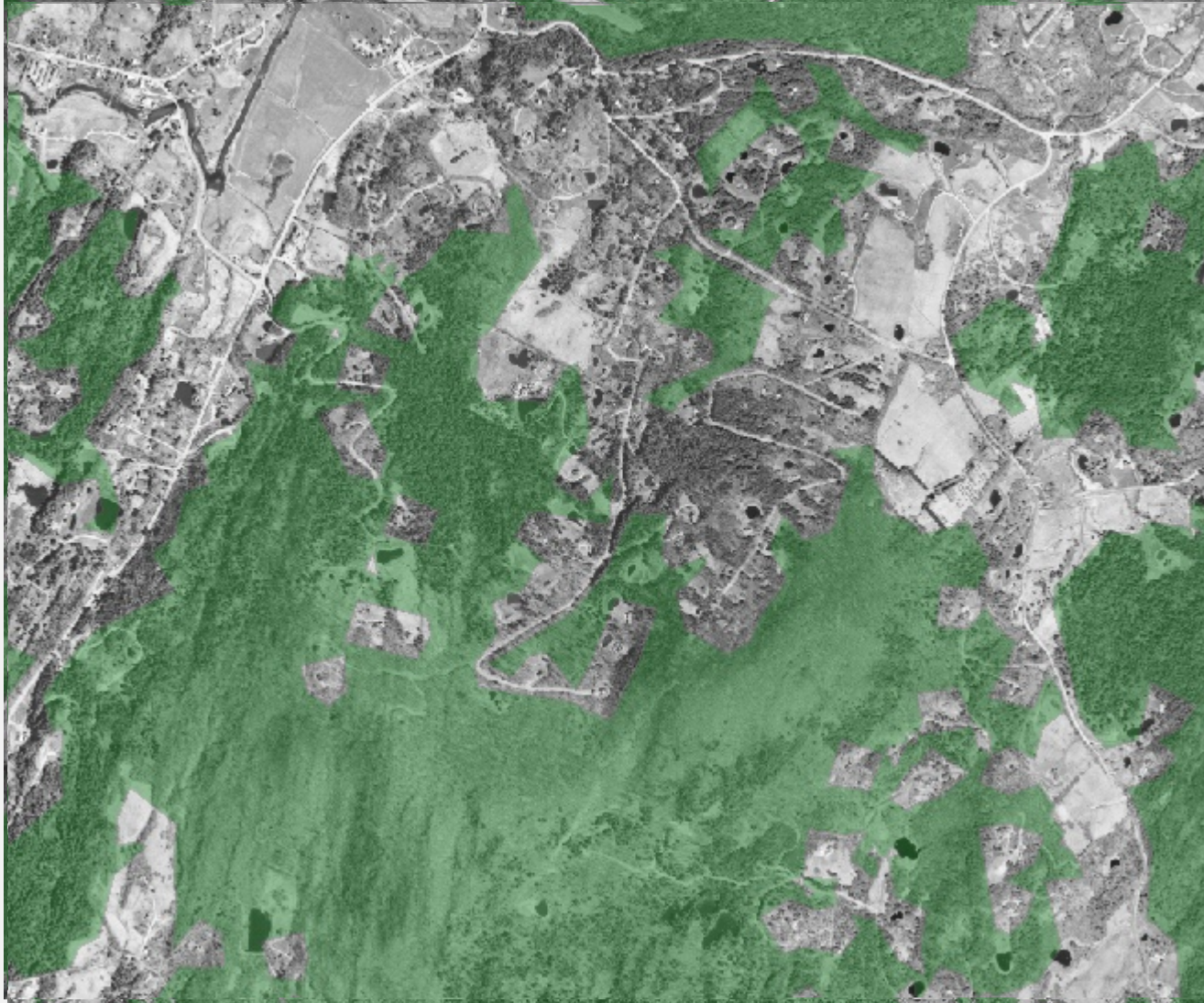
WORKING FORESTS



Goal: To Maintain Function
(Ecological, Economic *and* for Community Values)

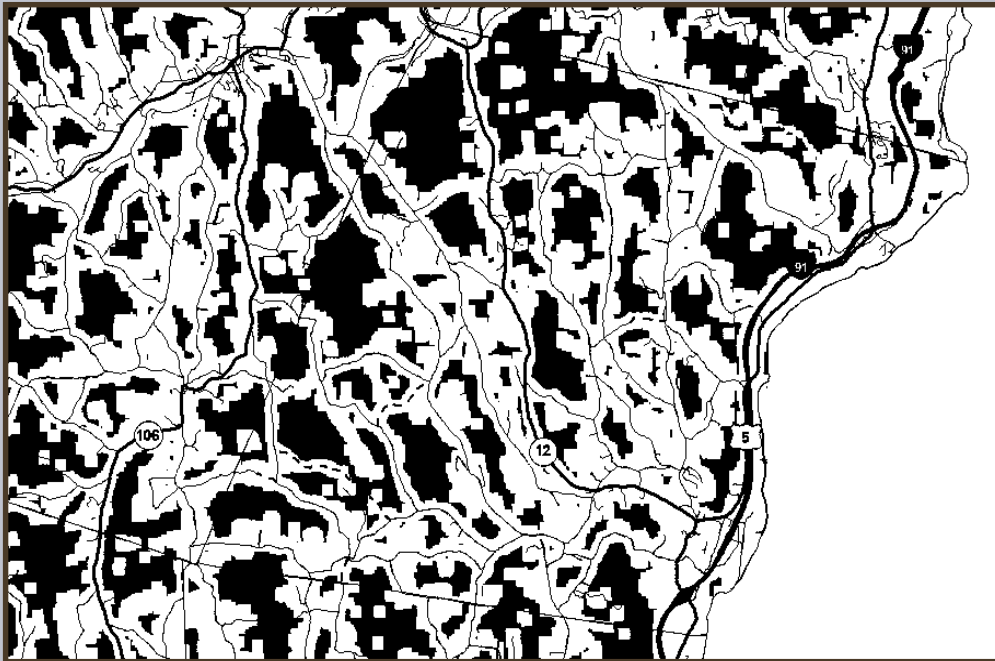
LOSING WILDLIFE HABITAT & WORKING FOREST

1981

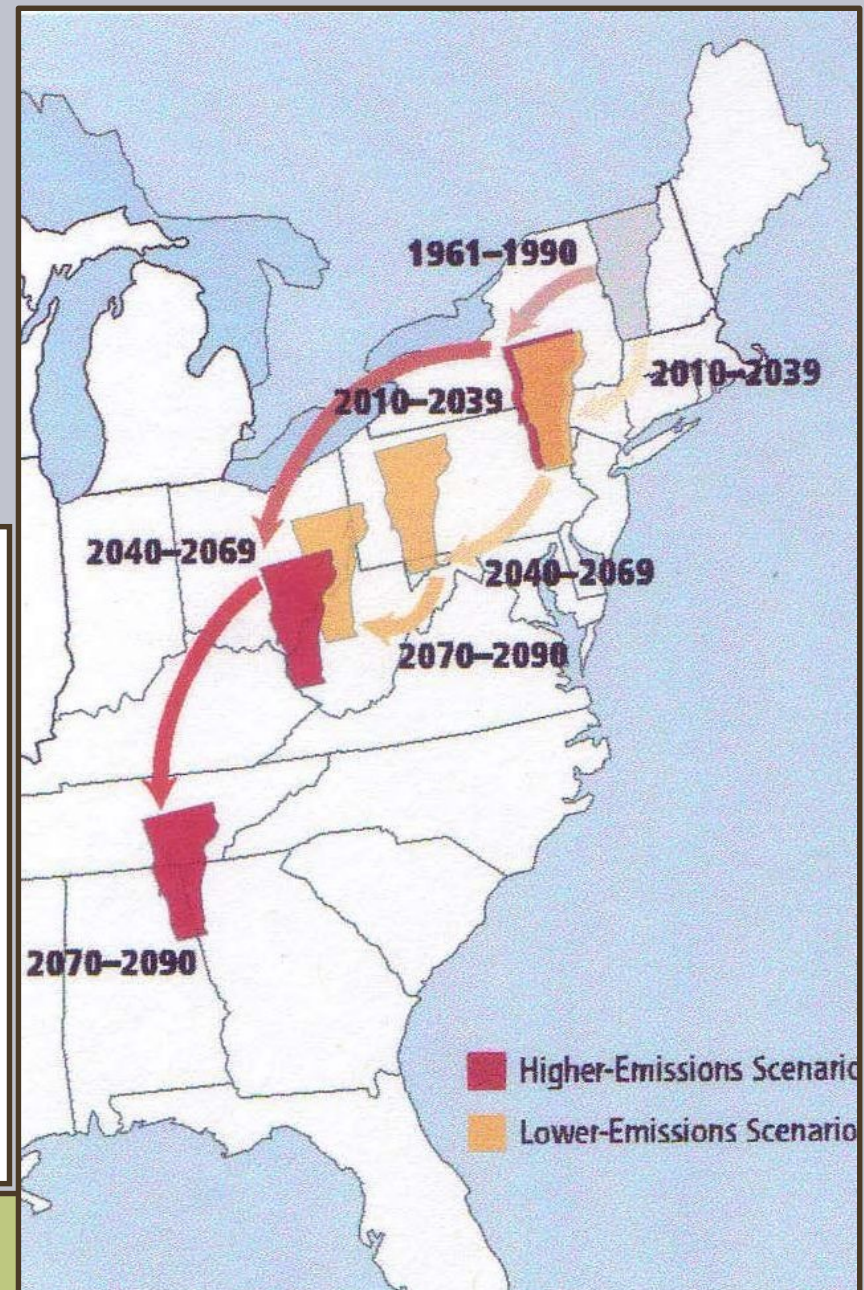


Fragmentation + A CHANGING CLIMATE

= a **BIG** challenge



Fragmented Forest Blocks in Hartland, VT



From Union of Concerned Scientists – Confronting Climate Change in the Northeast (NECIA 2007)

MUNICIPAL PLANS - 24 V.S.A. §4382

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.

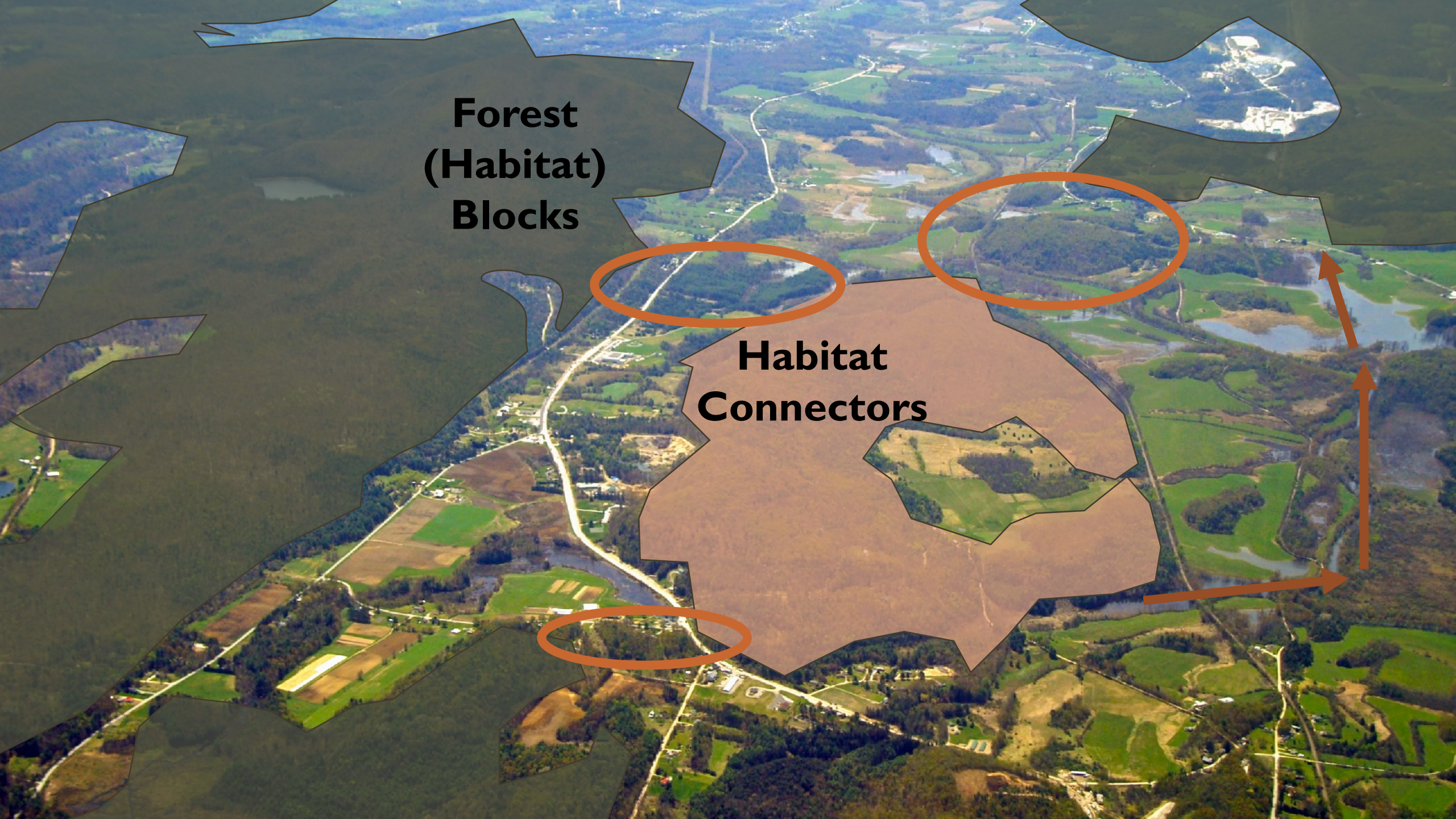
ACT 171 ANR GUIDANCE DOCUMENT

See Agency of Natural Resources
Forest Blocks and Habitat Connectors

[http://anr.vermont.gov/Planning/Forest
_Blocks_And_Habitat_Connectors](http://anr.vermont.gov/Planning/Forest_Blocks_And_Habitat_Connectors)



Tim Seaver



**Forest
(Habitat)
Blocks**

**Habitat
Connectors**

Forest Blocks








FOREST/HABITAT BLOCKS

*Areas of natural
cover*

(no roads or
development)



Block Size (in acres)

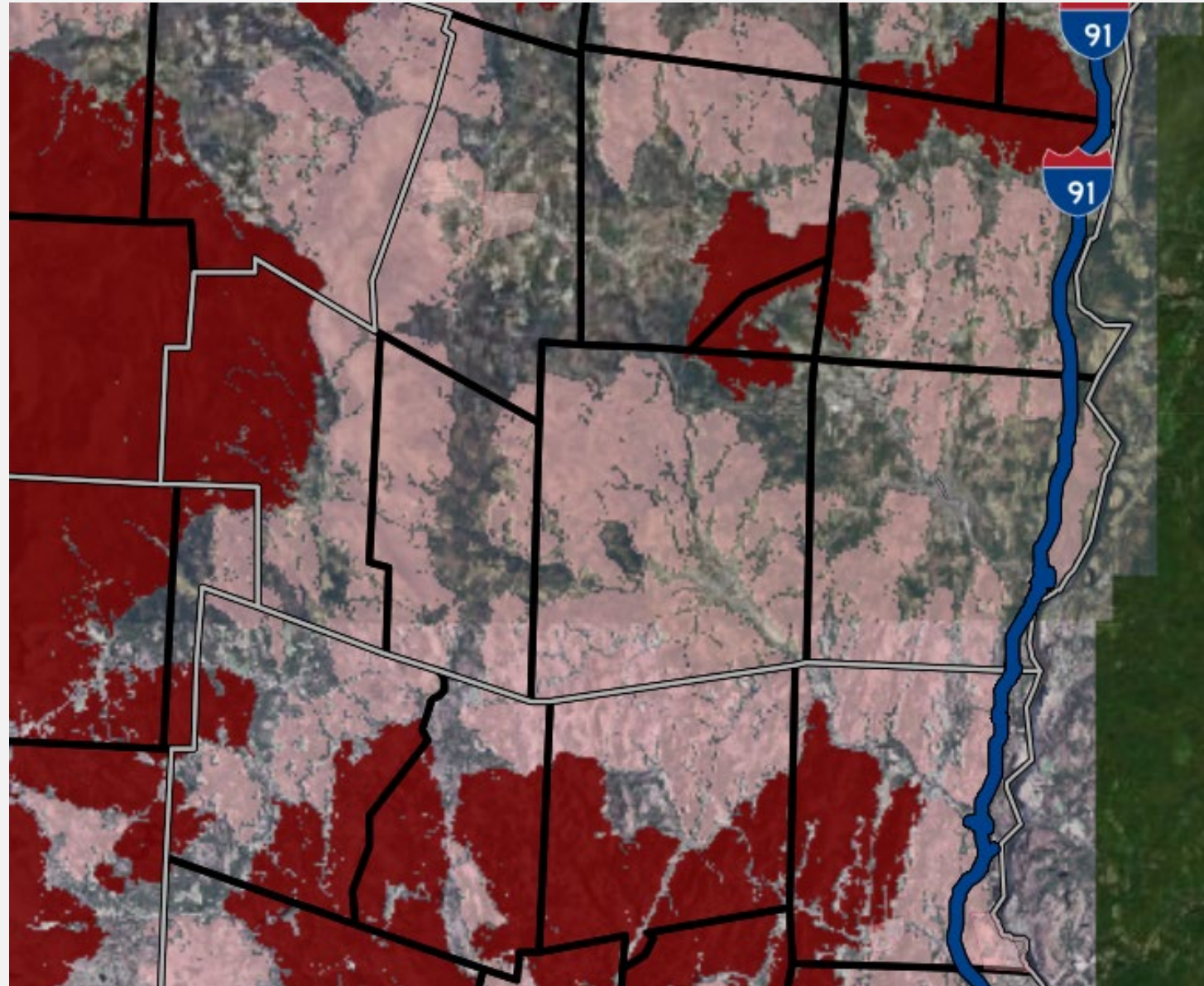
	20 - 500
	501 - 5,000
	5,001 - 10,000
	10,001 - 50,000
	50,001 - 154,565



Interior Forest



- ☒  Highest Priority Interior Forest Blocks
- ☒  Priority Interior Forest Blocks



INTERIOR FOREST BLOCKS

Habitat Blocks

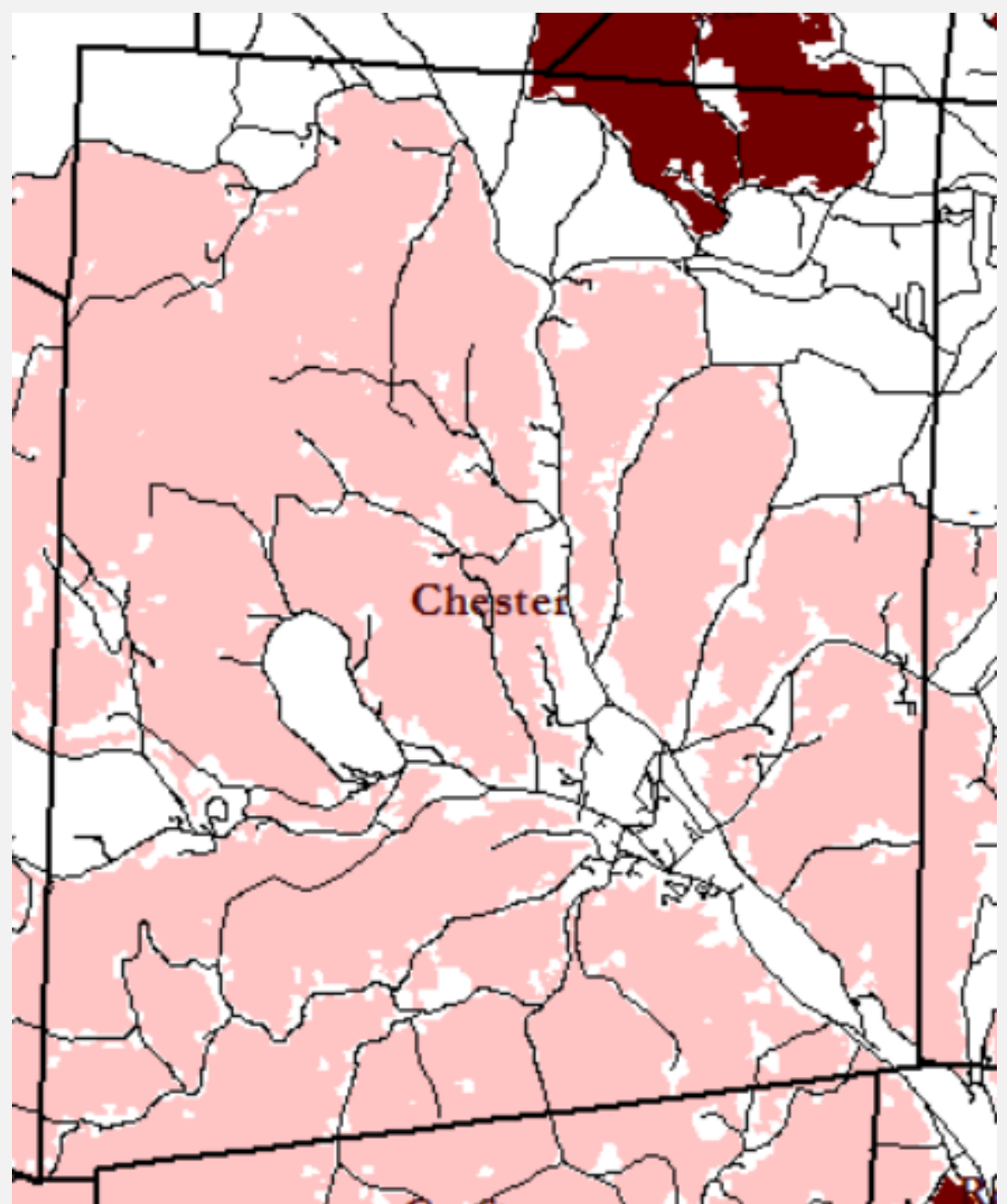
*Most Important
as FOREST HABITAT*



Highest Priority Interior Forest
Blocks





Priority Interior Forest Blocks




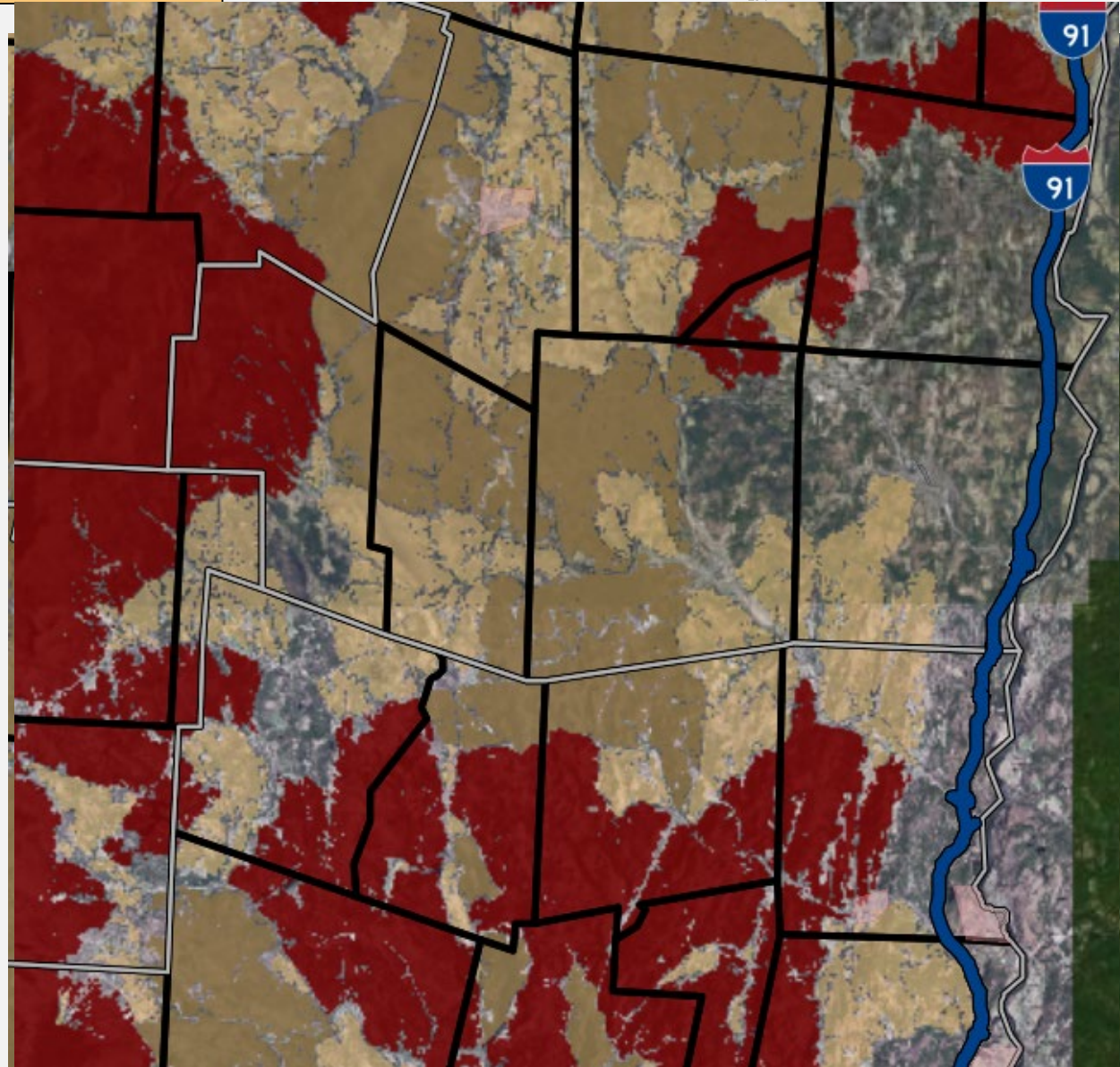
Connectivity Blocks



☒  Highest Priority Interior Forest
Blocks

☒  Highest Priority Connectivity
Blocks


☒  Priority Connectivity Blocks





CONNECTIVITY BLOCKS (+ INTERIOR FOREST BLOCKS)

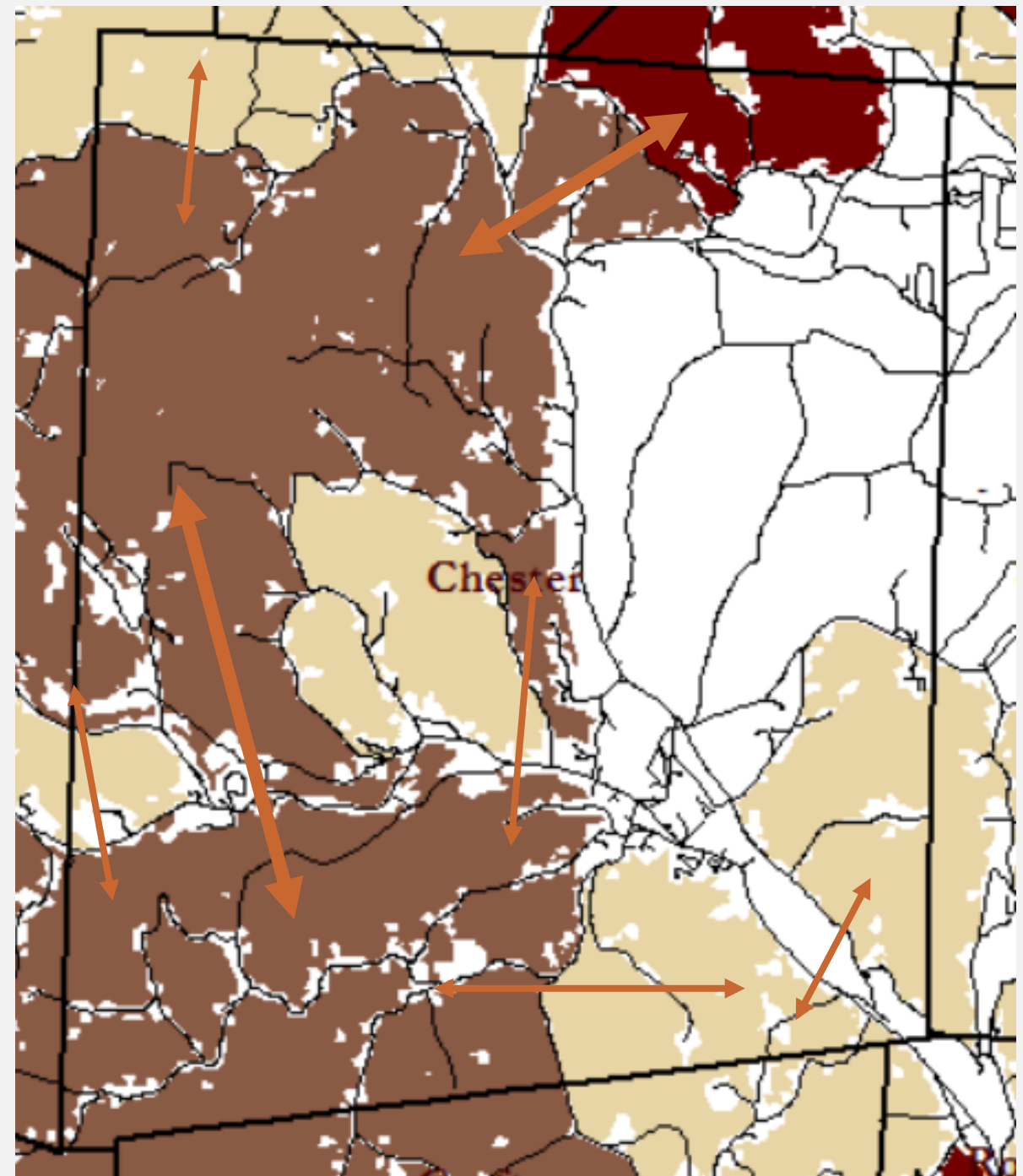
Habitat Blocks

Most Important
for
CONNECTIVITY

✓  Highest Priority Interior Forest
Blocks

✓  Highest Priority Connectivity
Blocks


✓  Priority Connectivity Blocks



PHYSICAL LANDSCAPES

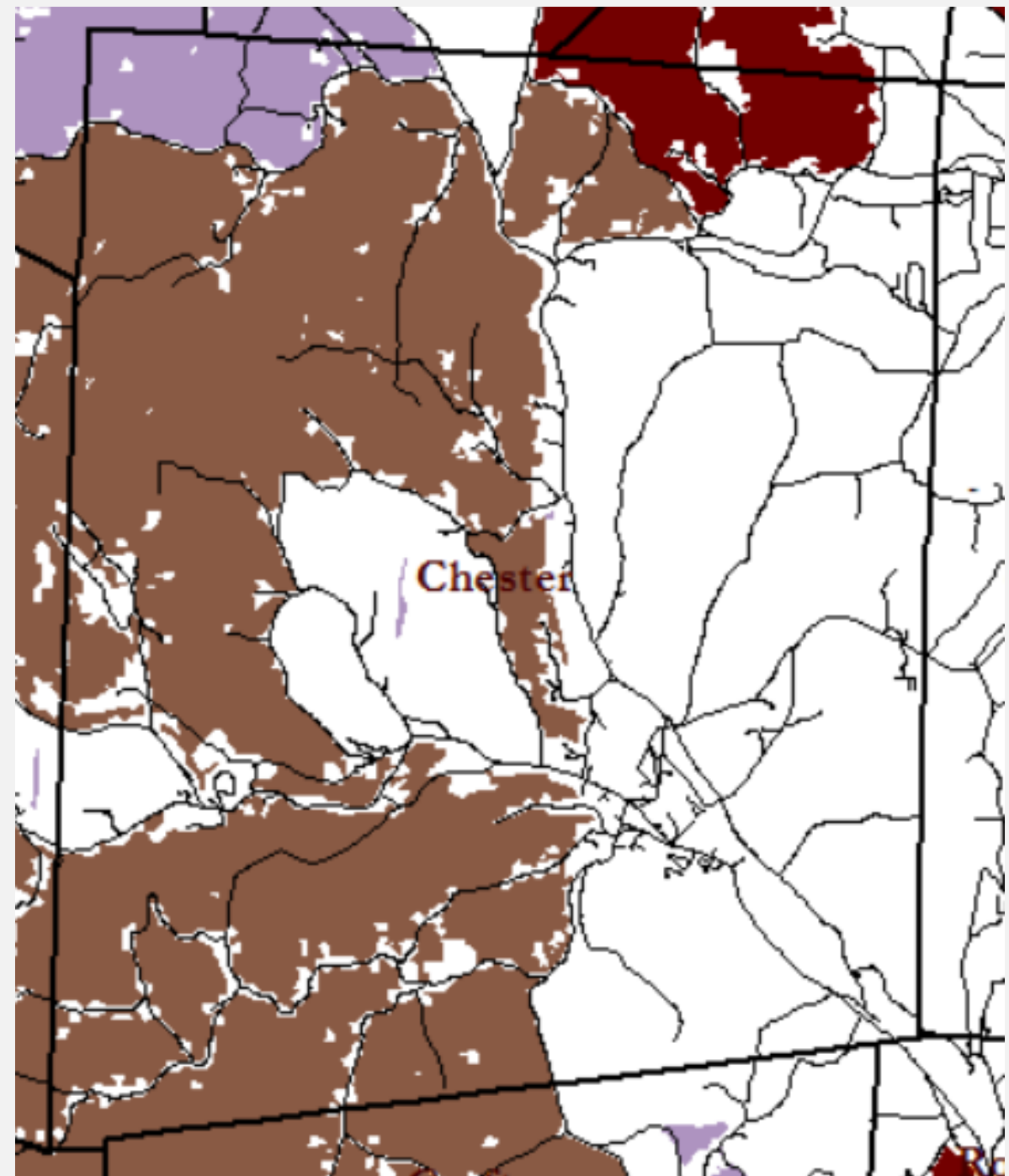
Habitat Blocks

Most Important
for
BIODIVERSITY

 Highest Priority Interior Forest Blocks

 Highest Priority Connectivity Blocks


 Physical Landscape Diversity Blocks



FOREST/HABITAT BLOCKS


This is a PROCESS

Only the TOWN can decide what to
include!

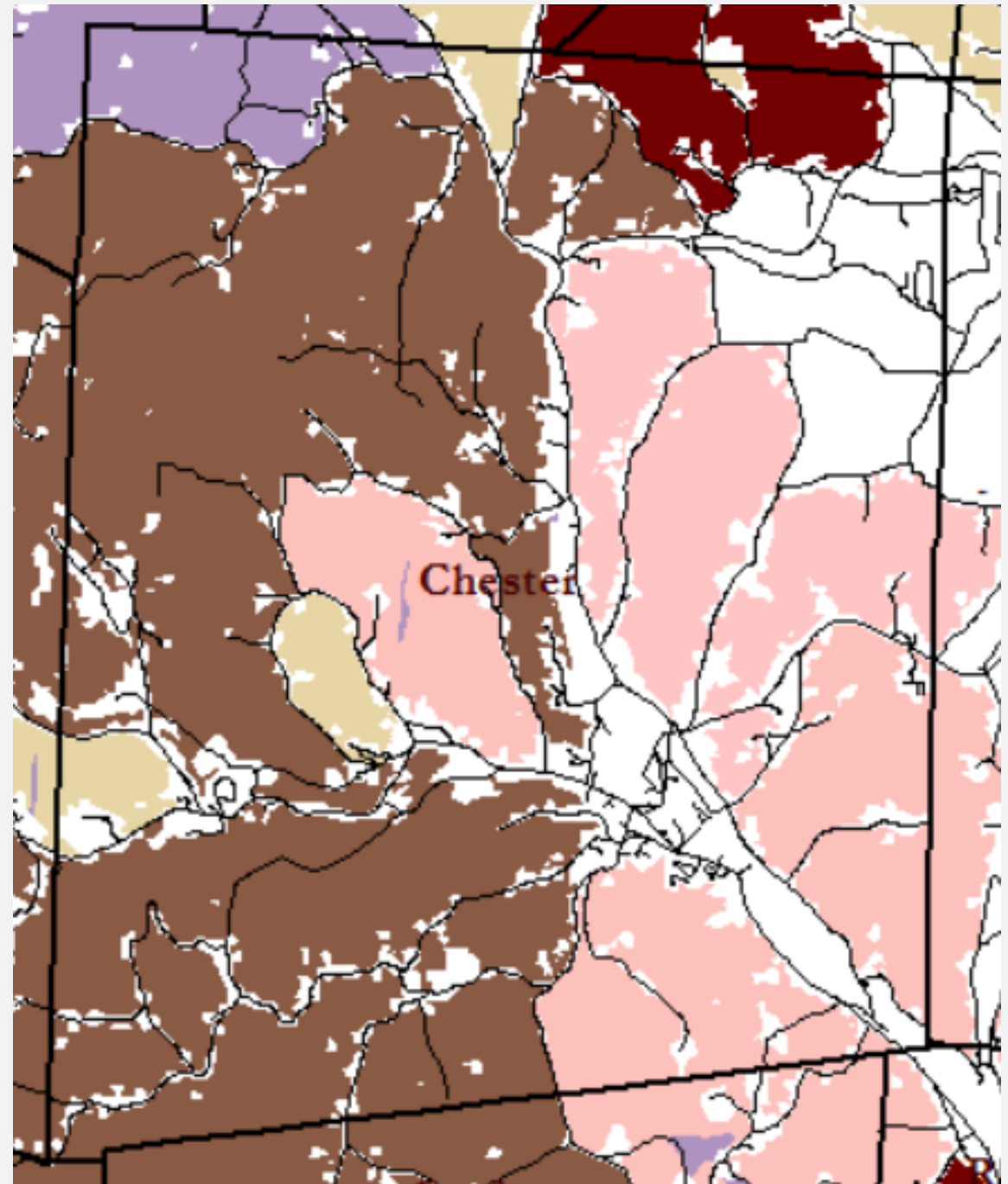
 Highest Priority Interior Forest Blocks

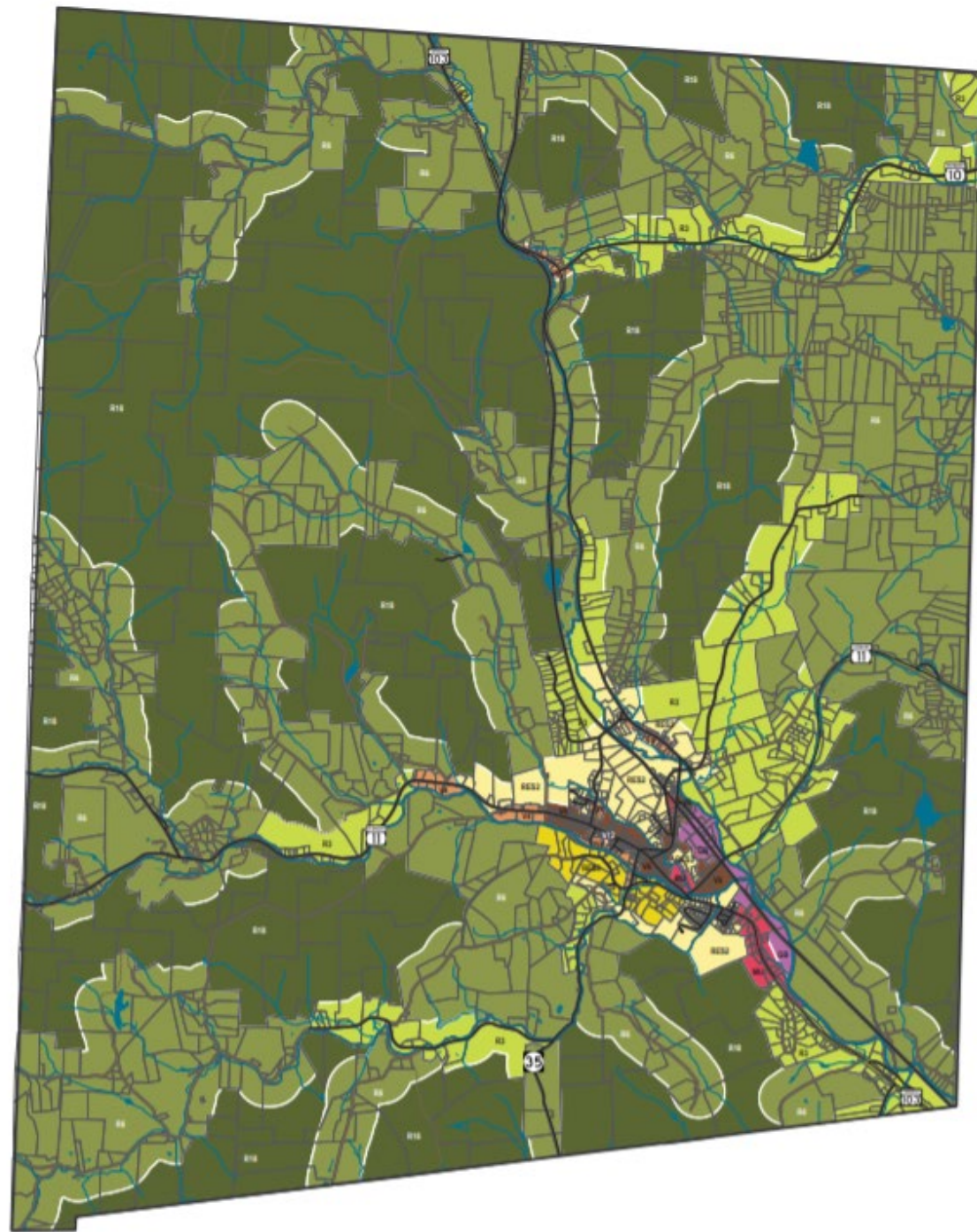
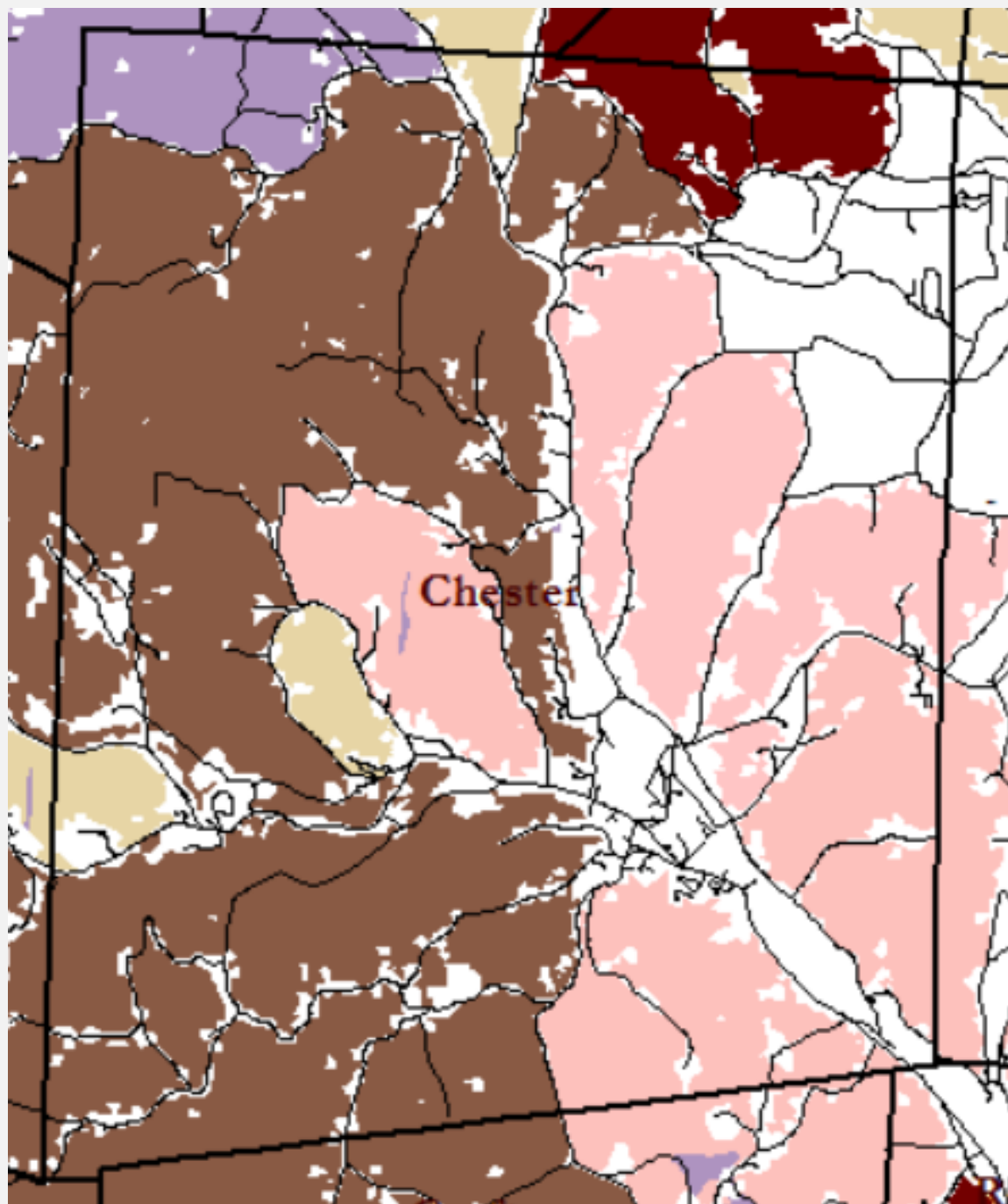
 Highest Priority Connectivity Blocks

 Physical Landscape Diversity Blocks

 Priority Connectivity Blocks

 Priority Interior Forest Blocks

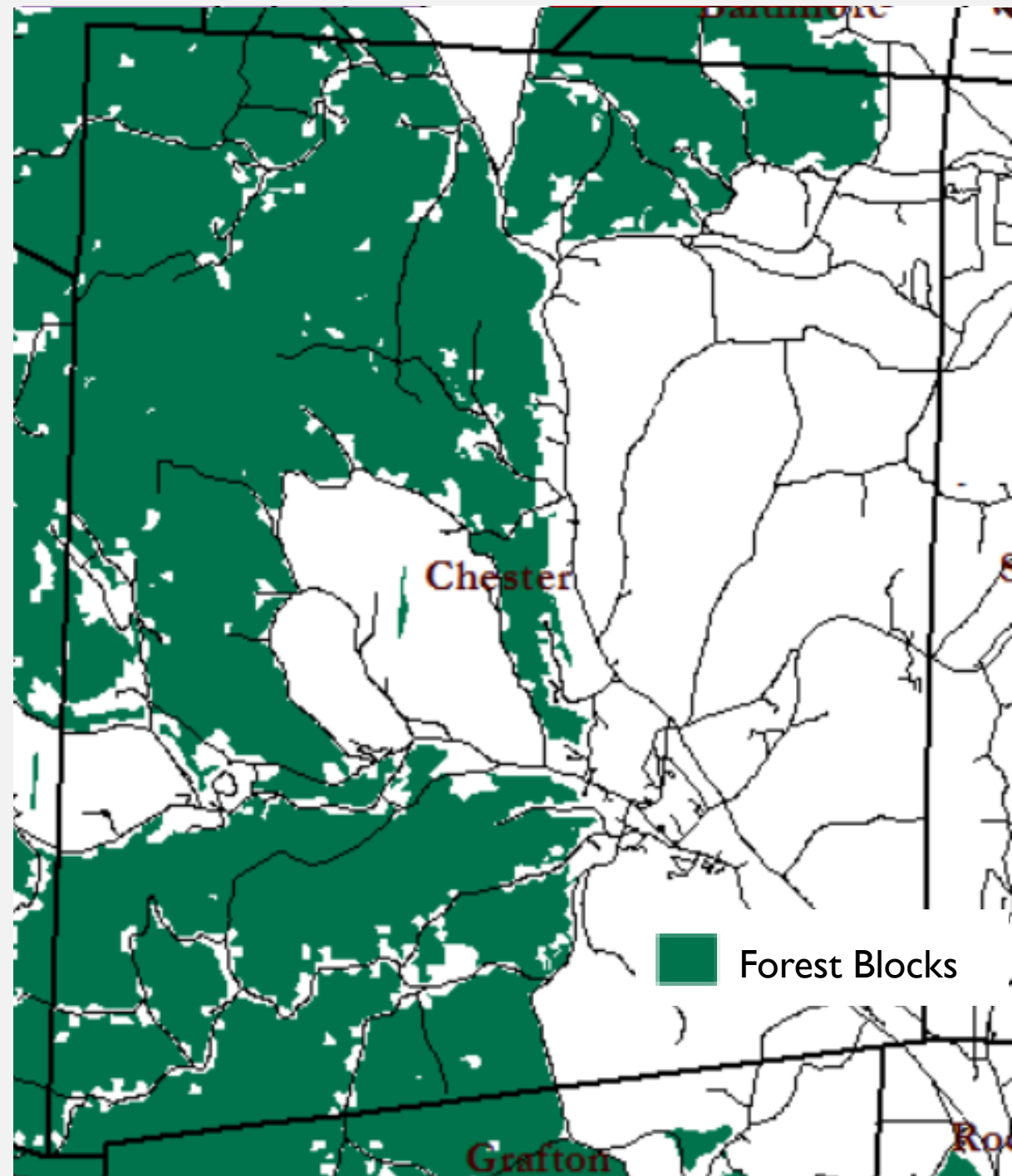


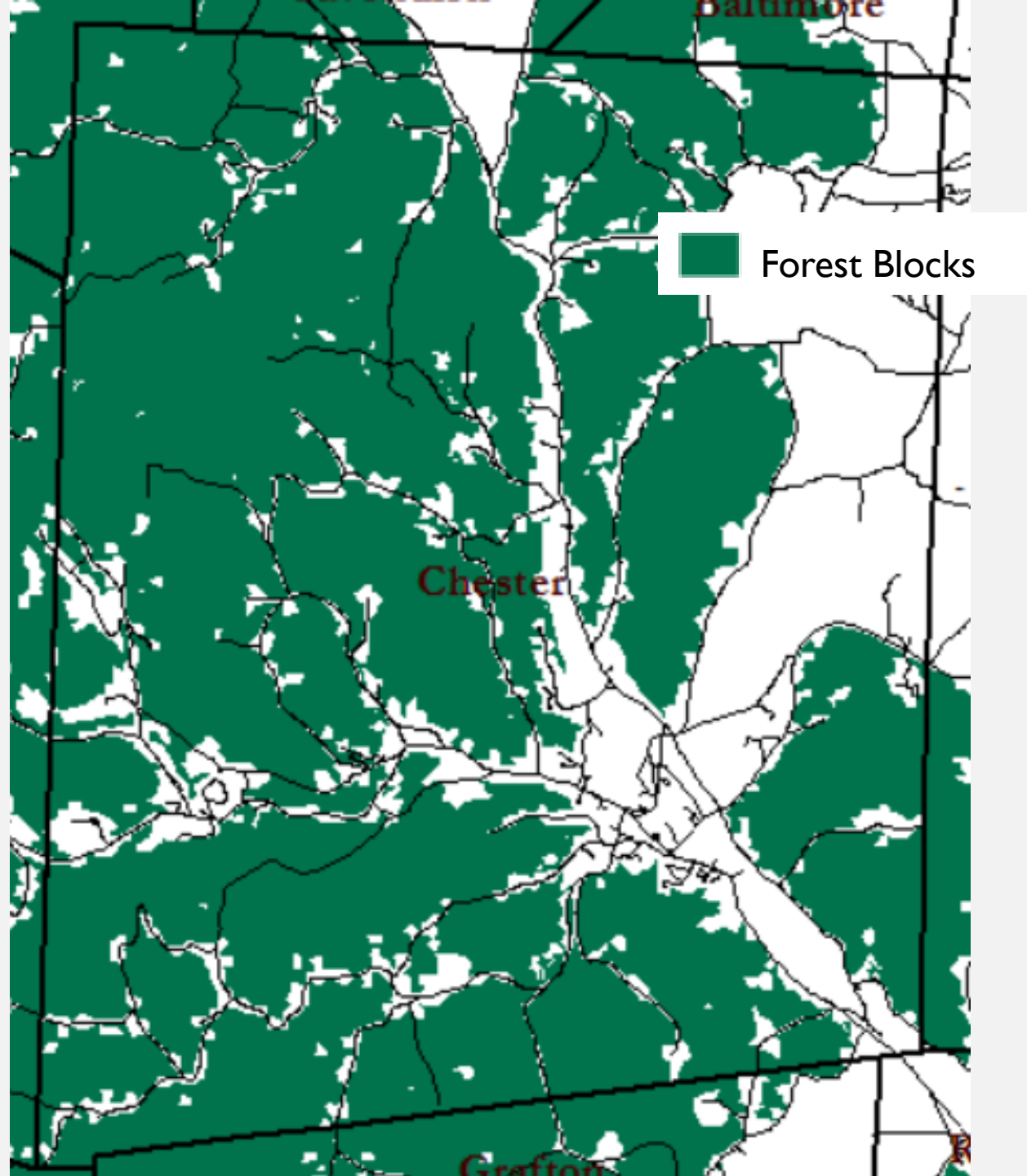
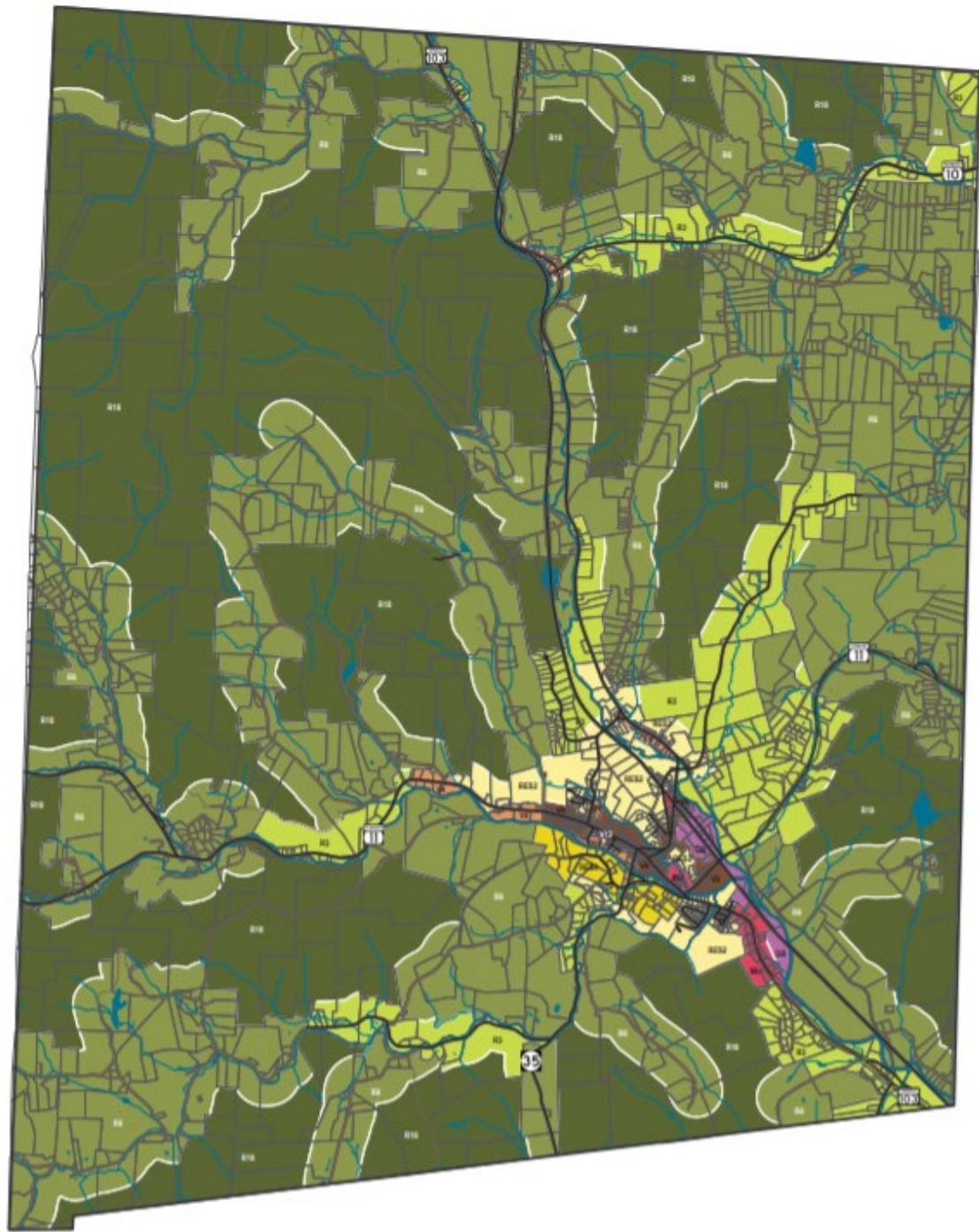


FOREST/HABITAT
BLOCKS

ONCE YOU DECIDE...

YOU MAY WANT TO
SIMPLIFY

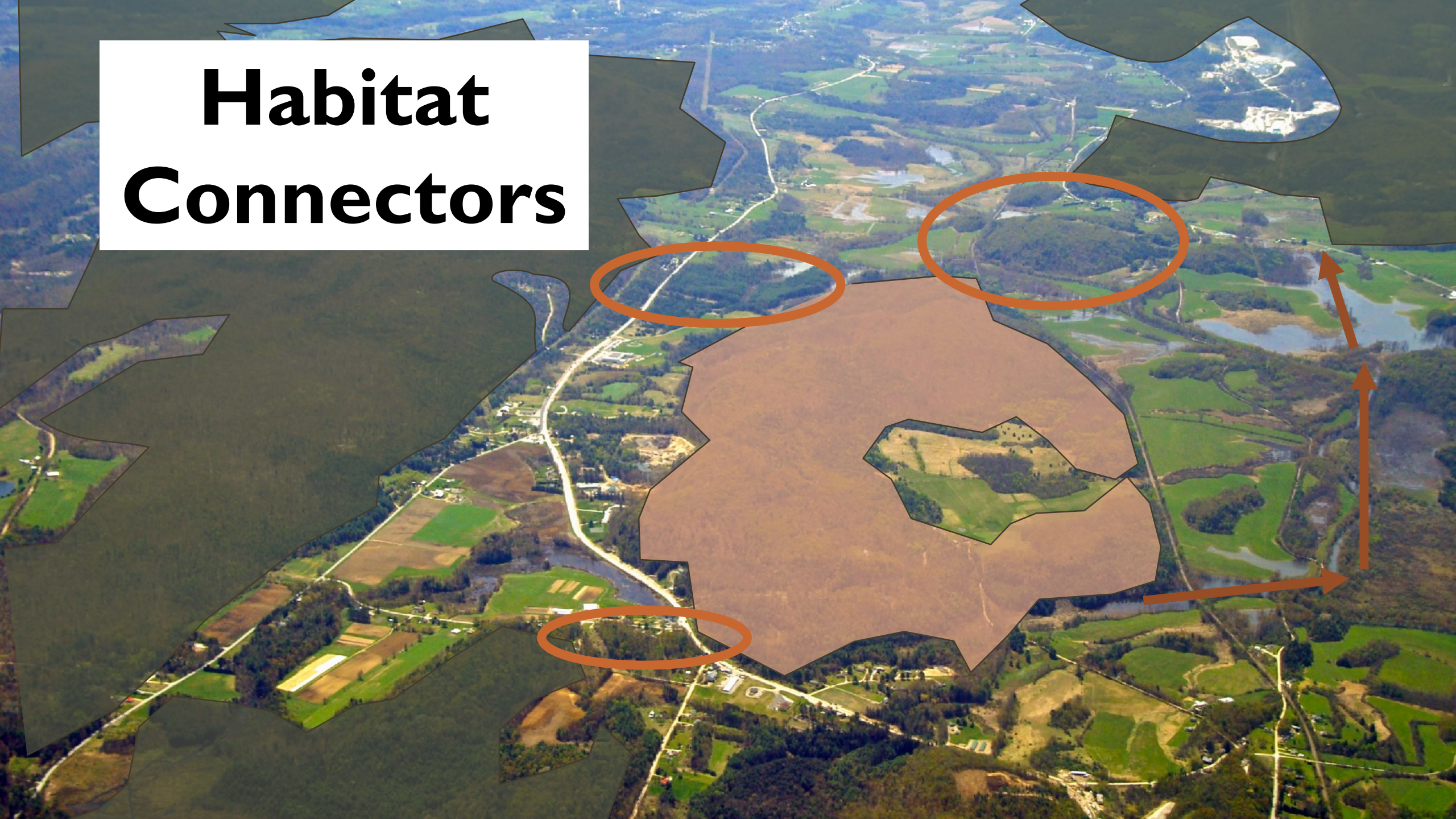




CONSIDER COMMUNITY VALUES!



Habitat Connectors



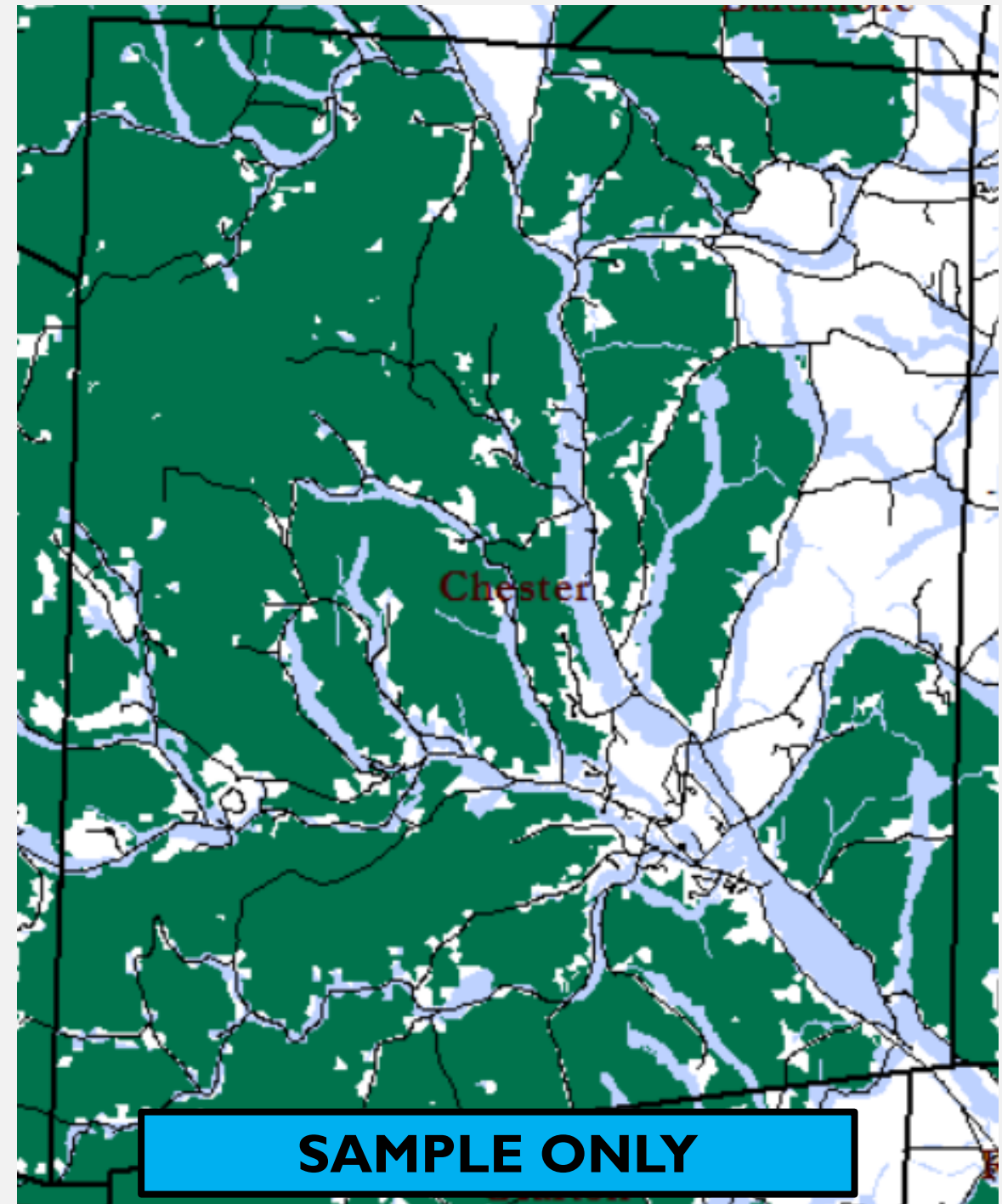
SURFACE WATERS & RIPARIAN AREAS

*Streams, Rivers,
Lakes, Ponds*

and their
surrounding
vegetation



Highest Priority Surface Water and Riparian Areas

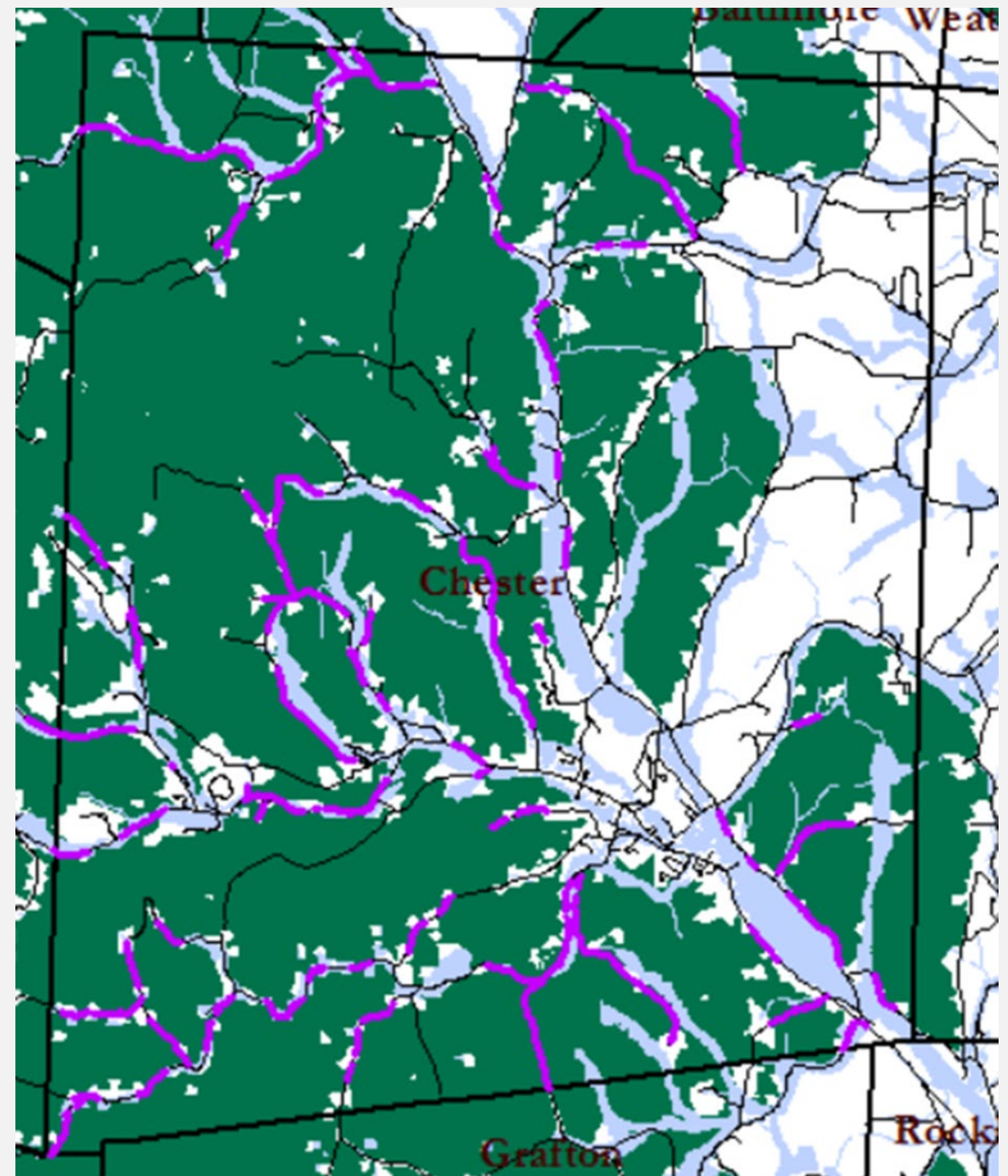


SAMPLE ONLY

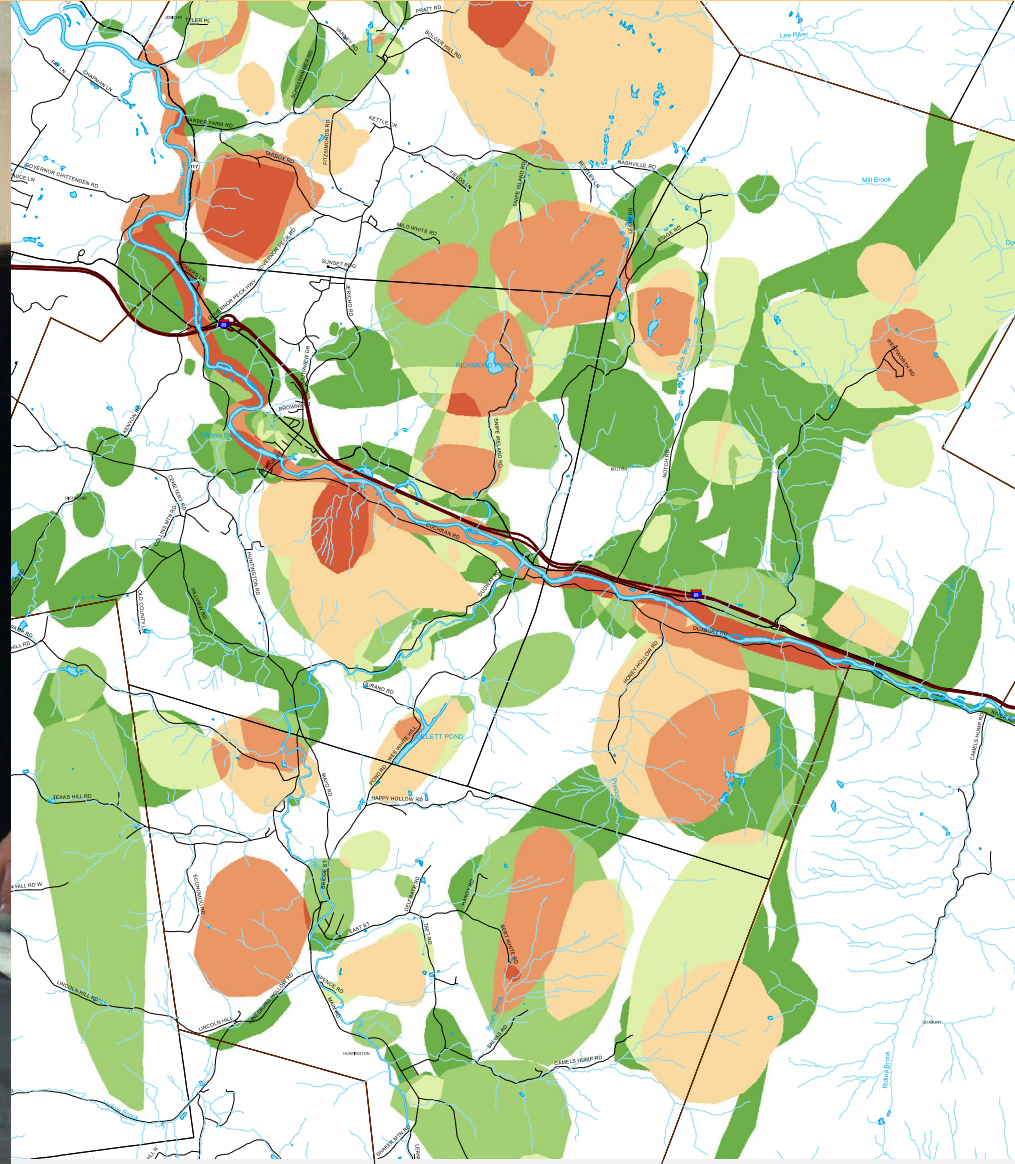
WILDLIFE ROAD CROSSINGS

*Where wildlife are
MOST LIKELY to
cross roads*

Highest Priority Wildlife Road Crossings



Community Values Mapping

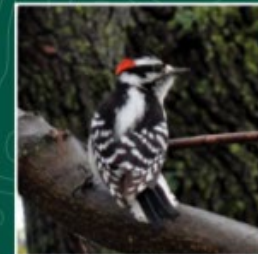


SO...
WHAT DO WE
DO
WITH THIS INFORMATION?

***Printed
or Online***

Mapping Vermont's Natural Heritage

*A Mapping and Conservation Guide for
Municipal and Regional Planners in Vermont*




Citizen Education

Check definitions,
standards, & purpose
statements

PROVIDE BASELINE PROTECTION

Establish a Conservation
Commission and/or
Conservation Fund

A logging truck is parked in a snowy forest. The truck's bed is filled with a large pile of cut logs. A person wearing a red hat is visible on the truck. The background shows snow-covered trees and a winter landscape.

Encourage support for businesses that use local forest products.

Institute a local products purchasing policy for municipal purchases.

SUPPORT WORKING FORESTS

Encourage management plans and/or Current Use

Connect landowners to incentives programs

Forest/ Habitat Blocks

There is substantial leeway in many regulatory strategies. Bylaws may restrict conflicting activities altogether in important resource areas, include a site design or development review process to *minimize* impact, OR focus on a process that encourages or requires *discussion/education* about impacts to important resources but ultimately permits activities.

Conservation Goal	Conservation Strategies for Priority Habitat Blocks (by Acreage)	
	Nonregulatory Strategies	Regulatory Strategies
Provide baseline protection	Adopt language in the town plan, including statements about the importance of large forest blocks and policies on how they should be managed, protected, and restored.	Check clarity of definitions in zoning bylaws and update if needed.
	Provide citizen educational opportunities.	Review standards in zoning (subdivision, CU, or use standards), and update if needed.
	Work with neighboring communities and/or the regional planning commission to plan for forest conservation at a regional scale.	Review purpose statements in zoning and update if needed.
Provide stewardship of forestland	Encourage residents to work with a forester to create forest management plans. ⁸	Establish an impact fee program . ⁹
	Encourage enrollment in Current Use (or local tax stabilization program). ¹⁰	
	Connect landowners with supporting organizations, such as Vermont Coverts, ¹¹ Vermont Woodlands Association, ¹² the Natural Resources Conservation Service, ¹³ or your local Natural Resources Conservation District. ¹⁴	
Avoid fragmentation	Encourage residents to enroll in Current Use (or local tax stabilization program). ¹⁵	Allow a greater development density in defined growth areas (like village or commercial districts) than in rural land (through a Forest, Conservation, or Rural Residential Zoning District).
	Encourage citizens to engage in estate planning.	Establish or expand a Wildlife Habitat or Wildlife Corridor Overlay District .
	Encourage residents to conserve their forestlands in important areas. ¹⁶	Establish building envelopes, clearing standards, or limits on driveway length in bylaws to limit the impact of development.
	Create or expand a Town Forest. ¹⁷	Establish or improve Subdivision Regulations .
		Establish road and trail standards. ¹⁸
Provide support for working forests	Encourage residents to enroll in certification programs that promote long-term support for land management. ¹⁹	Institute local forest products purchasing policy (for municipal purchases).
	Encourage support for businesses that use local forest products.	Ensure that regulations include standards that allow for continued access to working forests and associated infrastructure (e.g., log landing areas). ²⁰

Additional information on most strategies can be found in [Community Strategies for Vermont's Forests and Wildlife](#).

An aerial photograph of a rural landscape showing a mix of green fields, brown forested areas, and winding roads. A central white box with a black border contains the text 'AVOID FRAGMENTATION'. Surrounding this box are six text blocks providing recommendations for land management. The background image illustrates the concept of land fragmentation by showing how natural areas are broken up by roads and development.

Maintain blocks to be
as large as possible.

Maintain connections
between blocks.

Adopt or evaluate
subdivision regs.

Consider a
conservation or
forest district.

Encourage land
conservation in
important areas.

Encourage estate
planning.

Limit driveway length or
establish building
envelopes/clearing standards.

AVOID FRAGMENTATION



Riparian Areas

Maintain/enhance
vegetation along
streams and rivers.

Conservation Goal	Conservation Strategies for Water and Riparian Areas	
	Nonregulatory Strategies	Regulatory Strategies
Learn more	Learn about river planning, management, and protection through the Vermont Department of Environmental Conservation. ²	N/A
	Learn about managing and protecting lakes and ponds through the Vermont Department of Environmental Conservation. ³	
Provide baseline protection	Adopt language in the town plan, including statements about the importance of riparian areas policies on how they should be managed, protected, and restored.	Check clarity of definitions in zoning bylaws and update if needed. ⁴
Protect surface waters and riparian areas	Support the creation of River Corridor Easements ⁵ (conservation easements that allow rivers to change course naturally, without human interference).	Require forested riparian buffers in the general standards section of your bylaws, to apply in all districts, or in River Corridor bylaws, if you have them. ⁶
	Connect owners of riparian land to incentives programs for wildlife-friendly management practices, such as USDA or USFWS Partners for Fish and Wildlife.	Establish standards for minor activities (footpaths, etc.) acceptable within the riparian area.
		Add standards in subdivision regulations or zoning (River Corridor, Flood Hazard, Lakeshore Overlay, or Forest District) that require clustering or setting back development away from riparian areas, river meanders, or floodplains.
		Require minimum setbacks from waterways in zoning and subdivision regulations.
Enhance Riparian Quality	Assist landowners in restoring riparian habitats. ⁸	Require restoration of riparian habitat in site plan or subdivision review by designating “no-mow” zones, allowing for regeneration of woody vegetation, or by planting native species.
	Create an invasive species control program for riparian areas. ⁹	
	Connect landowners to incentives programs, such as through USDA or USFWS Partners for Fish and Wildlife.	
Maintain Water Quality	Assist landowners in reducing stormwater runoff. ¹⁰	Recommend or require vegetated buffers to filter pollutants before they reach waterways.
	Encourage residents to reduce use of chemical lawn care products.	
	Identify ways to reduce flood damage to major infrastructure. ¹¹	
	Support public awareness of the <i>Acceptable Management Standards for Maintaining Water Quality of Logging Jobs in Vermont</i> . ¹²	

Most of these conservation tools are explained in detail in [Community Strategies for Vermont's Forests and Wildlife \(vnrc.org/programs/forests-wildlife/guide\)](#).



Wildlife Road Crossings

There is substantial leeway in many regulatory strategies. Bylaws may restrict conflicting activities altogether in important resource areas, include a site design or development review process to *minimize* impact, OR focus on a process that encourages or requires *discussion/education* about impacts to important resources but ultimately permits activities.

Conservation Goal	Conservation Strategies for Wildlife Road Crossings	
	Nonregulatory Strategies	Regulatory Strategies
Seek additional information	Conduct field inventories and improve maps of roads used as wildlife crossings.	
Protect habitat around wildlife crossings	Adopt language in the town plan, including statements about what resources are important, and policies on how they should be managed, protected, and restored.	Check clarity of definitions in zoning bylaws and update if needed. ¹⁵
	Encourage residents to conserve their land through conservation easements, particularly when crossings are part of larger parcels that have additional conservation values. ¹⁶	Require vegetated buffers around wildlife crossings in the general standards section of your bylaws, to apply in all districts. ¹⁷
	Connect landowners to incentives programs, such as through USDA or USFWS Partners for Fish and Wildlife.	
	Encourage residents to enroll in Current Use.	Adopt road management standards to allow vegetation to remain up to the road.
	Encourage residents to manage their land so as to leave vegetation right up to the road.	
	Provide citizen educational opportunities.	
Limit fragmentation	When conducting planning efforts, consider wildlife road crossings and connectivity blocks together.	Establish or improve a Conservation District.
		Establish or improve a Wildlife Corridor or Wildlife Habitat Overlay District that includes both areas of habitat and important wildlife road crossings. ¹⁸
		Review or establish an access management plan and consider limiting curb cuts in important wildlife crossing areas through site plan review or other standards within the zoning. ¹⁹
Reduce danger to humans and wildlife	Work with road officials to provide appropriate signage and install/remove structures (fences, guardrails, and so on) to guide animals to cross in safer areas (under bridges, on straighter road segments, and so on).	Establish traffic rules that ensure the safety of humans and wildlife along roadways in which wildlife are most likely to cross.
	As needed, upgrade culverts and road infrastructure to VTrans standards. VTrans requires that all crossings include full-width banks and natural, at-grade bottom substrates to facilitate aquatic and terrestrial organism passage. ²⁰	Adopt road management standards to avoid guardrails, the removal of roadside vegetation, or deep roadside ditching in crossings wherever possible.

A black bear is captured in the middle of crossing a paved road. The bear is dark in color and is moving from left to right. The background consists of a dense forest with green trees and foliage. The road surface is light-colored and appears to be asphalt. The overall scene is a naturalistic depiction of wildlife in a rural or forested setting.

Identify crossings

Protect habitat around crossings

Create a monitoring program

Encourage land conservation or wildlife-friendly management in important areas.

MAINTAIN CROSSINGS

Establish an overlay district.

Review curb cuts in standards.

Encourage landowners to retain vegetation up to the road in crossing areas. Adopt road management standards for town roads.



THANK YOU!

monica.przyperhart@Vermont.gov