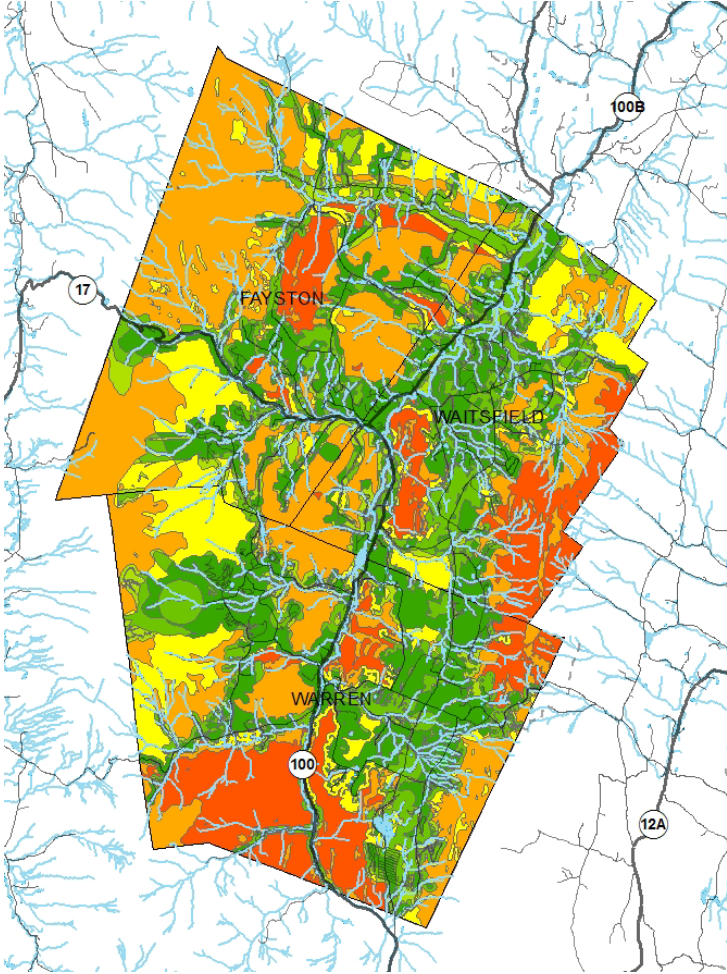


# Ecological Mapping and Build-out Analyses in the Mad River Valley



Prepared by Jens Hawkins-Hilke for the Forest Wildlife and Communities Project

September 2011

# Ecological Mapping and Build-out Analyses in the Mad River Valley

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## I. Introduction

The Mad River Valley is diverse in its natural resources and in its variety of human utilization. From high elevation montane forests to low elevation floodplain the natural communities are varied and interesting. Similarly varied are the human interests here, from ski resorts and backcountry recreation to forestry and farming. Expressing this diversity in mapped form is a challenge that has required several maps to capture different aspects of interest.

Fayston, Waitsfield & Warren have each hired Arrowwood Environmental to do natural resource mapping of their town. This data includes natural communities, wildlife habitats, wetlands and other special features. It includes coarse and fine scale data as well as some management recommendations. Data quality and confidence interval for each dataset varies depending on several factors including the extent to which field verification was allowed by the landowner or paid for by the town. But in general terms, the quality of this data is excellent, and gives the towns a better understanding of the resources available. This source is the best available local data that is specific to the Valley. The next step beyond the scope of this work, is integrating an understanding of these natural resources with the community values of Valley residents to prioritize natural resources most valued for protection and management. Then residents can decide on which tools (non-regulatory and regulatory) are most appropriate for each level of value and to which standards different levels will be held.

The following document describes the methods used in the creation of several different maps for the Mad River Valley. These maps rely heavily on the Arrowwood data as well as on a few available statewide datasets from The Agency of Natural Resources. Each map has a different purpose and a different range of acceptable uses based on the data and assumptions that went into its creation. The intent of this document is to describe this methodology to give a clear explanation of how each map arrives at its findings and give some indication of the range of uses for such a map.

The following document also includes various build-out analyses for the towns of Fayston, Warren, and Waitsfield. Buildout scenarios are a tool for looking at how much development is allowed under current zoning standards as well as in other hypothetical situations. This report includes three different build-out analyses to assist in overall planning:

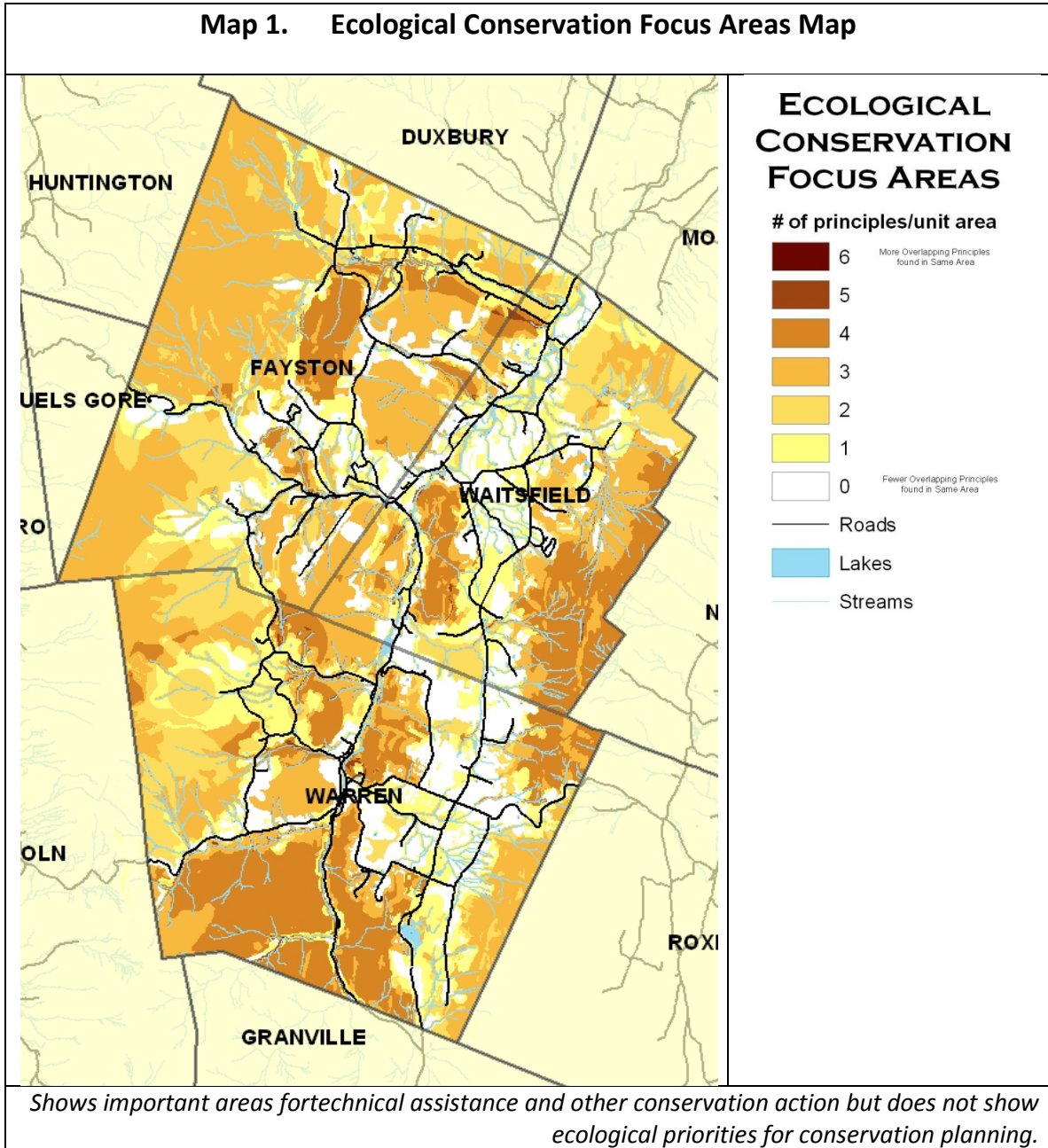
- Maximum buildout at current zoning standards
- Buildout up to the Central Vermont Regional Planning Commission Thresholds for 2020
- Buildout based on traditional trends in Mad River Valley

The build-out models and maps that are included in this report are meant to guide conservation planning in the Mad River Valley. Local government entities such as planning commissions and conservation commissions are encouraged to continue to partner with the Forests, Wildlife and Communities Project to understand how best to interpret the information in this report and develop workable strategies for addressing forest and wildlife habitat conservation.

The Forests, Wildlife, & Communities Project is a collaboration among the Mad River Valley Planning District, local and state conservation organizations, state and federal agencies, and representatives in towns in the Mad River Valley to implement a regional and landscape level approach to wildlife and forestland conservation by engaging and assisting landowners, residents and local officials about community oriented, land-use and landowner based strategies for forestland and wildlife habitat conservation. A Steering Committee, made up of representatives of local planning commissions, conservation commissions, state agencies (Vermont Departments of Forests, Parks, and Recreation and Fish and Wildlife), the U.S. Forest Service, local and state conservation organizations, the Mad River Valley Planning District, and volunteer landowners and citizens, oversees the project. Vermont Natural Resources Council, as the fiscal agent for the project, paid for this report through funding from the U.S. Forest Service, State and Private Forestry Redesign and the National Forest Foundation.

# Ecological Conservation Focus Areas Map

## A. Introduction



The Ecological Conservation Focus Areas map is a simple co-occurrence, an overlapping, of seven ecological principles. It shows areas appropriate for conservation action, such as where to focus technical assistance or where to focus voluntary land acquisition. It provides land managers and conservation organizations with a picture of where to get the most ecologically

rich places in the least land area, which is to say where there are the most ecological principles at play in the landscape. This map does not offer a solution to which lands are most important to maintain our wildlife populations or current biological diversity. It isn't a proposal for reserve design and does not incorporate necessary interconnections between ecological related areas. For example, for this analysis connecting lands and the large forest blocks they connect are treated as separate elements, ignoring the fact that the connecting lands are useless without the forest blocks (and to some extent, vice versa). So, even if land managers decided to protect all lands that meet four or more principles, the result on the landscape would not necessarily maintain the current populations of wildlife or biological diversity. The result would however prove the most cost-efficient use of a conservation organization's resources in securing areas of most biological diversity in the least land area. This map targets the first places for conservation action and technical assistance but is NOT a plan for what areas are important for future sustainability or where town planning needs to focus.

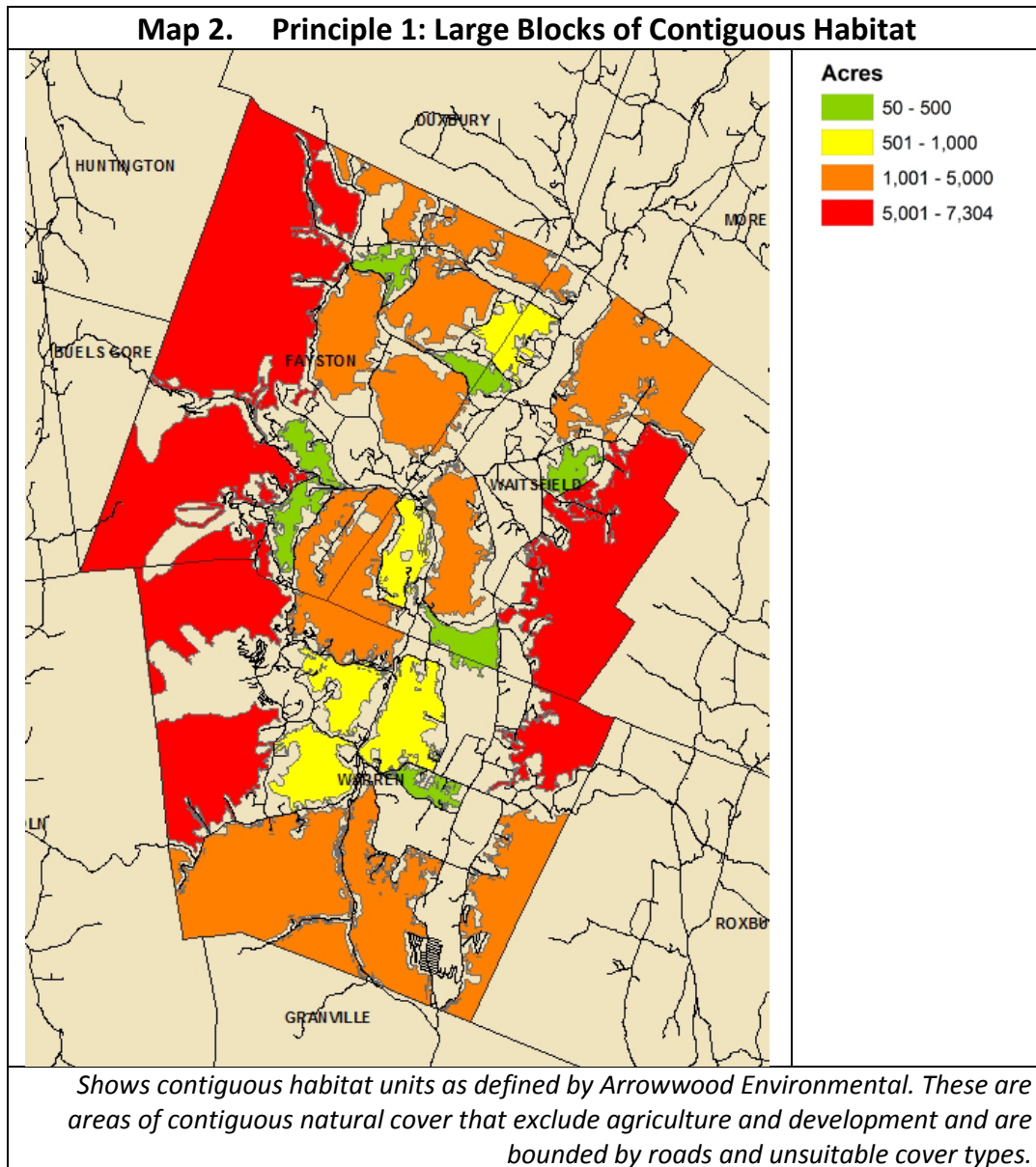
## **B. Methodology**

Each of the seven principles described below were combined into a single shapefile coverage to represent that principle. These seven "layers" were then stacked up to see where they overlap, i.e. where are there the most principles represented in one spot as seen in the Ecological Conservation Focus Areas map above.

## **C. The Seven Basic Ecological Principles**

### **1. Principle 1: Maintain large, intact patches of native vegetation.**

We used Arrowwood Environmental's Contiguous Habitat Units and selected a minimum size of 250 acre to meet this principle. CHUs less than 250 acres were not included in this principle, and so only 25 of the 44 blocks were included. We agreed that 250 ac was an appropriate threshold given the character and distribution of habitat blocks in the Mad River Valley. Arrowwood identified 44 blocks ranging from 50 acres to 7300 acres. Average size is 997 acres and median is 266 acres.

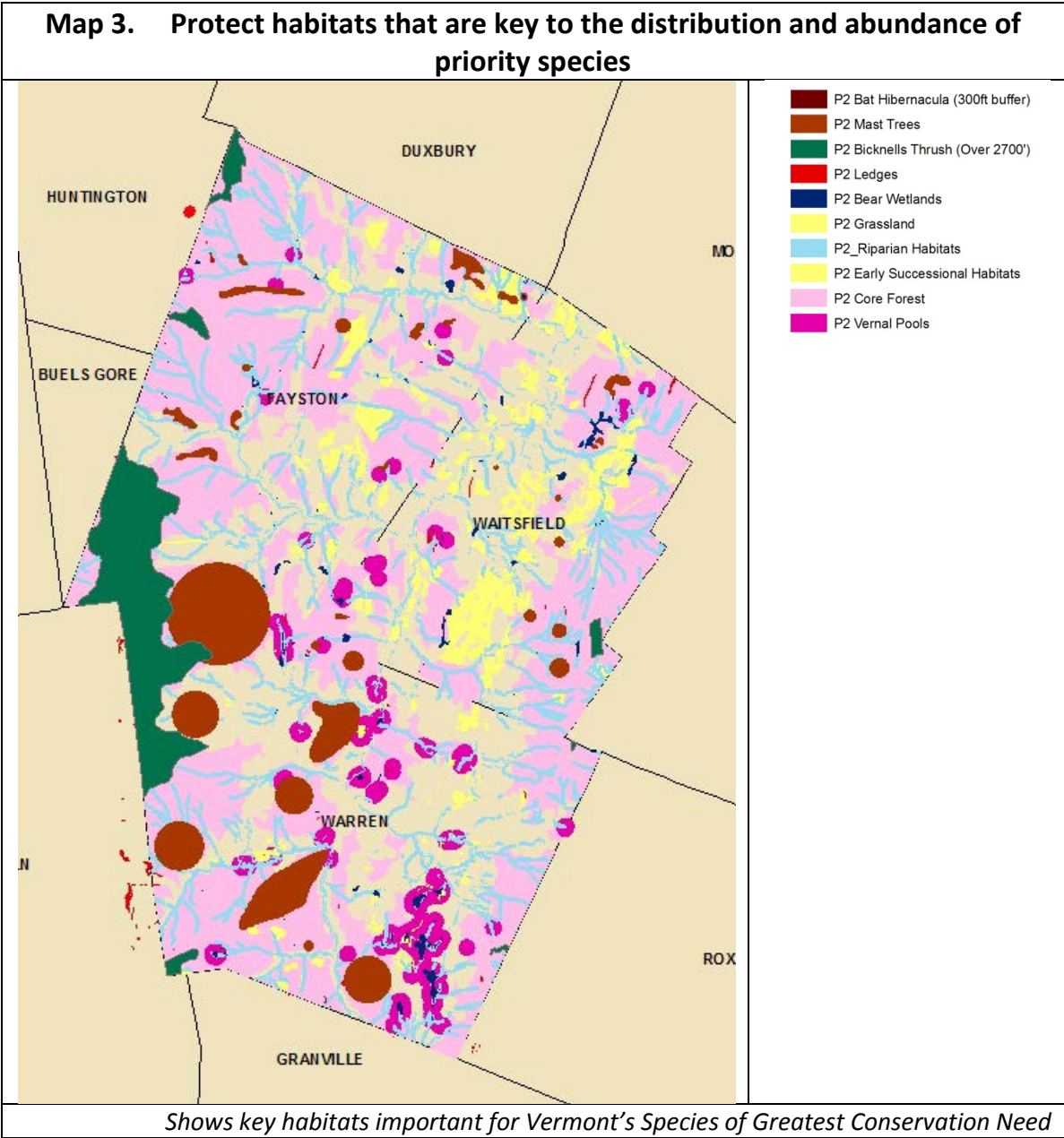


The general pattern of large blocks of habitat in the Mad River Valley is that they are more common on the uplands and away from the center of the three towns. These large blocks of habitat represent the coarse filter, which is to say they are likely to contain significant biological diversity and meet the needs of far ranging and deep forest-dwelling wildlife species.

For the ecological prioritization, all blocks larger than 250 acres were given equal weight to represent this ecological principle.

**2. Principle 2: Protect habitats that are key to the distribution and abundance of priority species (identified in the 2006 Vermont Wildlife Action Plan).**

The home ranges or distribution of Species of Greatest Conservation Need are not well mapped in Vermont’s Wildlife Action plan. Consequently we used a variety of different datasets created by Arrowwood Environmental in their inventories of the three MRV towns to represent the needs of various SGCN. The following is a list of SGCN likely to be found in the MRV followed by the Arrowwod data layer(s) that best represents the needs of that species.



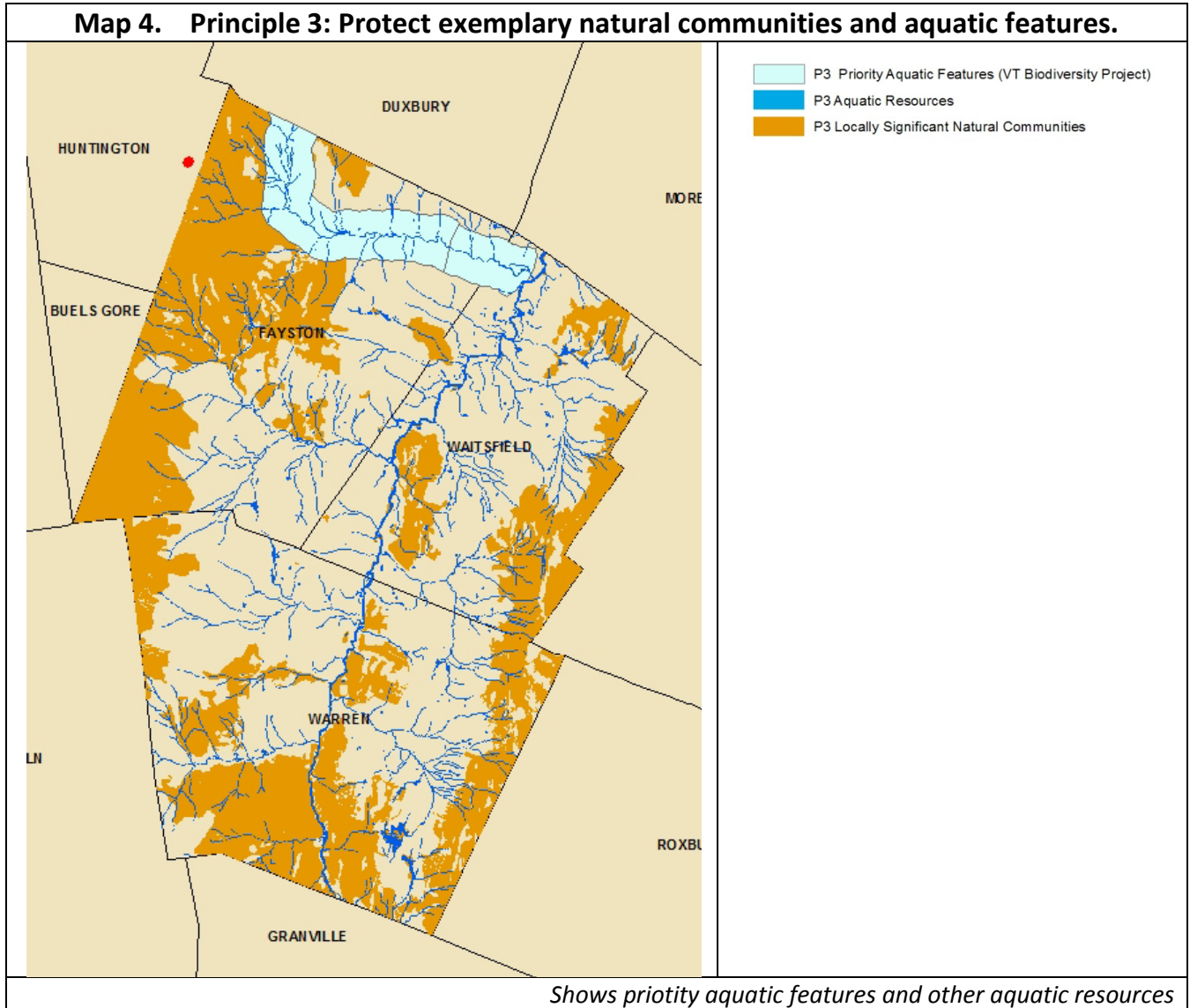


For the ecological prioritization, all of these datasets were merged into a single entity and so were given equal weight to represent this ecological principle.

- Spotted Salamander– *Vernal pools with buffers,*
- Black Bear- *AE Bear Wetlands, Mast Stands, AE Wetland, AE Core Forested Habitat*
- Gray Fox – *AE Early successional Habitat*
- Long-tailed weasel – *AE Forested Riparian Habitat*
- Bobcat – *AE Ledge Talus Cliff, AE Wetland, AE Core Forested Habitat*
- Mink - *AE Forested Riparian Habitat, AE Wetland*
- River Otter- *AE Forested Riparian Habitat, AE Wetland*
- Little brown bat, Big brown bat - *AE Forested Riparian Habitat, Hibernacula with 300' buffer*
- Veery , brown thrashers, Rufous-sided Towhee - *AE Forested Riparian Habitat*
- Canada Warbler *AE Forested Riparian Habitat*
- Upland Sandpiper, Grasshopper Sparrow, Sedge Wren, Henslow's Sparrow, Bobolink, Vesper Sparrow - *AE Grassland Habitat*
- Wood Thrush, Coopers Hawk, Northern Goshawk, Black-throated blue warbler - *AE Core Forested Habitat*
- Northern Harrier – *AE Wetland*
- Red-shouldered Hawk - *AE Forested Riparian Habitat, AE Core Forested Habitat*
- Bicknell's Thrush, Blackpoll Warbler - *all blocks over 2700*
- Field Sparrow, chestnut-sided warbler, American woodcock, Ruffed grouse. – *AE Early successional Habitat*
- Olive-sided Flycatcher - *AE riparian habitat.*

### 3. Principle 3: Protect exemplary natural communities and aquatic features.

To represent this principle we used Arrowwood's Locally Significant Natural Communities. These include all of the state significant natural communities found in the Mad River Valley. These are ranked as



1. S1 or S2 communities (very rare and rare communities) with a rank of A, B or C (Rank is assessed as the Estimated viability or ecological integrity of the occurrence, as determined by size, current condition and landscape context. A = excellent; B = good; C = marginal)
2. S3 or S4 (Uncommon or common) communities with a rank of A or B (Rank is assessed as the Estimated viability or ecological integrity of the occurrence, as

determined by size, current condition and landscape context. A = excellent; B = good)

3. S5 communities (Common communities )with a rank of A. (Rank is assessed as the Estimated viability or ecological integrity of the occurrence, as determined by size, current condition and landscape context. A = excellent)

In addition to the State significant natural communities, Locally significant communities

1. puts the community in a local perspective, taking into account local geology, biophysical region, size and condition of the community
- 2) Wetlands in terms of functions and values. During the functions and values analysis, these sites must rate ‘High’ for multiple criteria to be considered locally significant. “

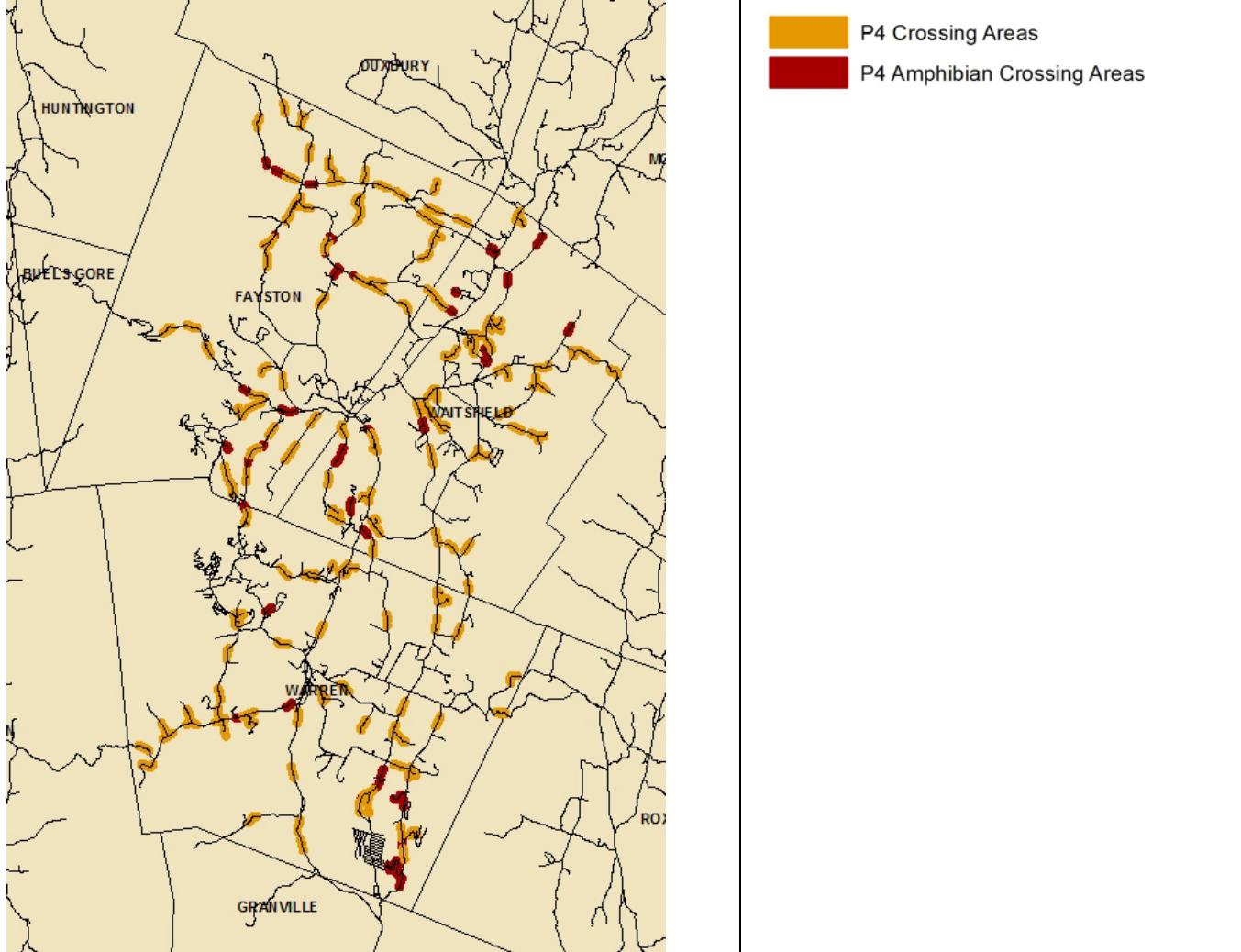
Additionally, this principle includes aquatic resources. We used both riparian areas (Streams buffered at 100’ for Mad River and 50’ for tributaries) as well as mapped wetlands and Vermont Biodiversity Project priority aquatic areas which used fish assemblages to rate certain stream reaches as statewide priorities.

**4. Principle 4: Maintain connections among wildlife habitats for species movement and gene flow.**

We selected road sections within 100m of one of Arrowwood’s identified Road crossing areas (intersect AE crossings & roads. Then buffer 100m. Then intersect buffered area & Linkage Areas). We then buffered these road lengths to 100’ to include roadside area (and not just a linear road section without area) to create road crossing polygons.

As a separate analysis, these identified road sections were then assessed for their Linkage Rating score using The Fish & Wildlife Departments recent connectivity analysis (Sorenson and Osborne, 2010, VT Fish & Wildlife Department)

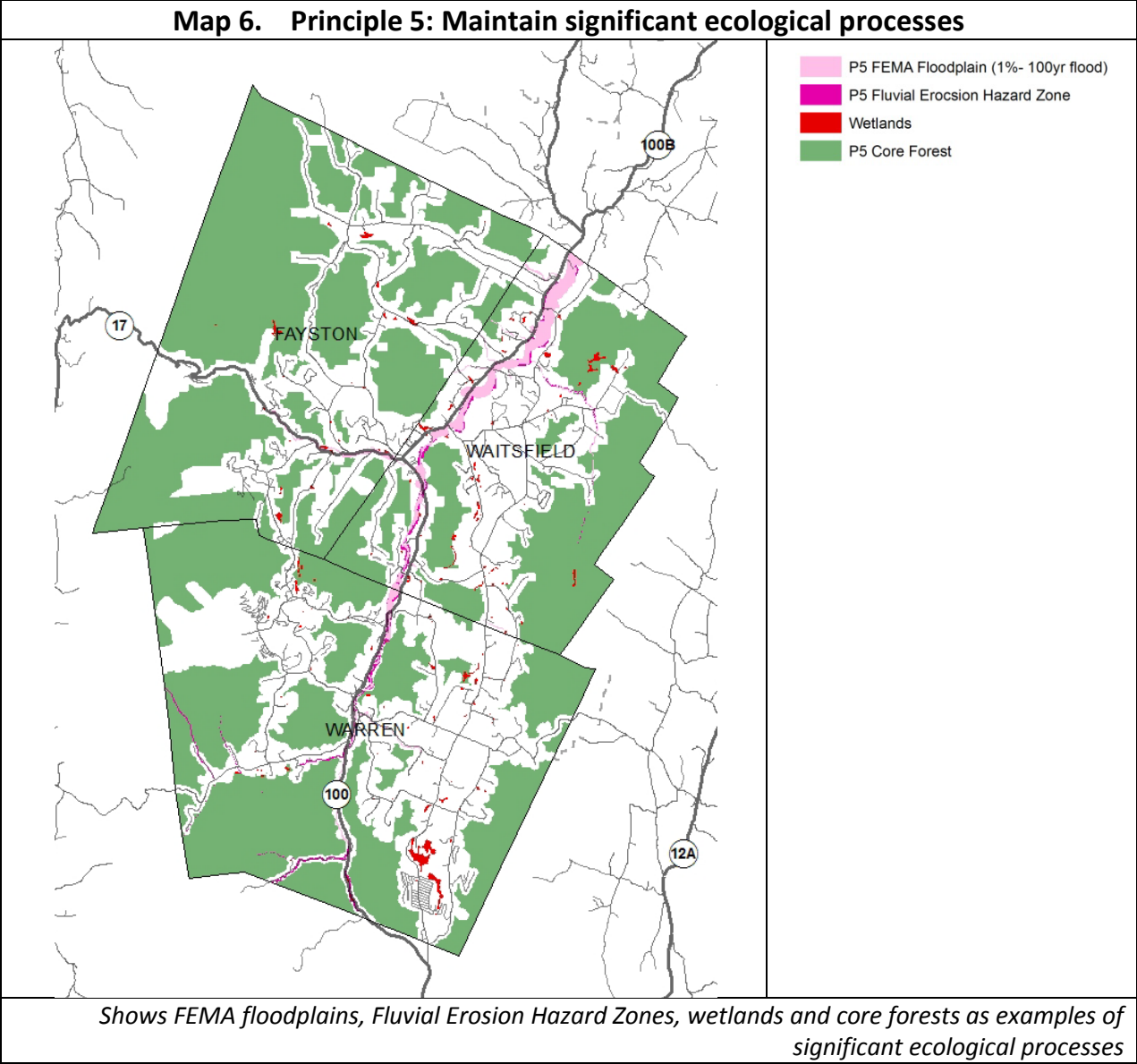
**Map 5. Principle 4: Maintain connections among wildlife habitats for species movement and gene flow**



*Shows areas where wildlife are likely to cross roads. Based on a “dashboard survey” by Arrowwood Environmental.*

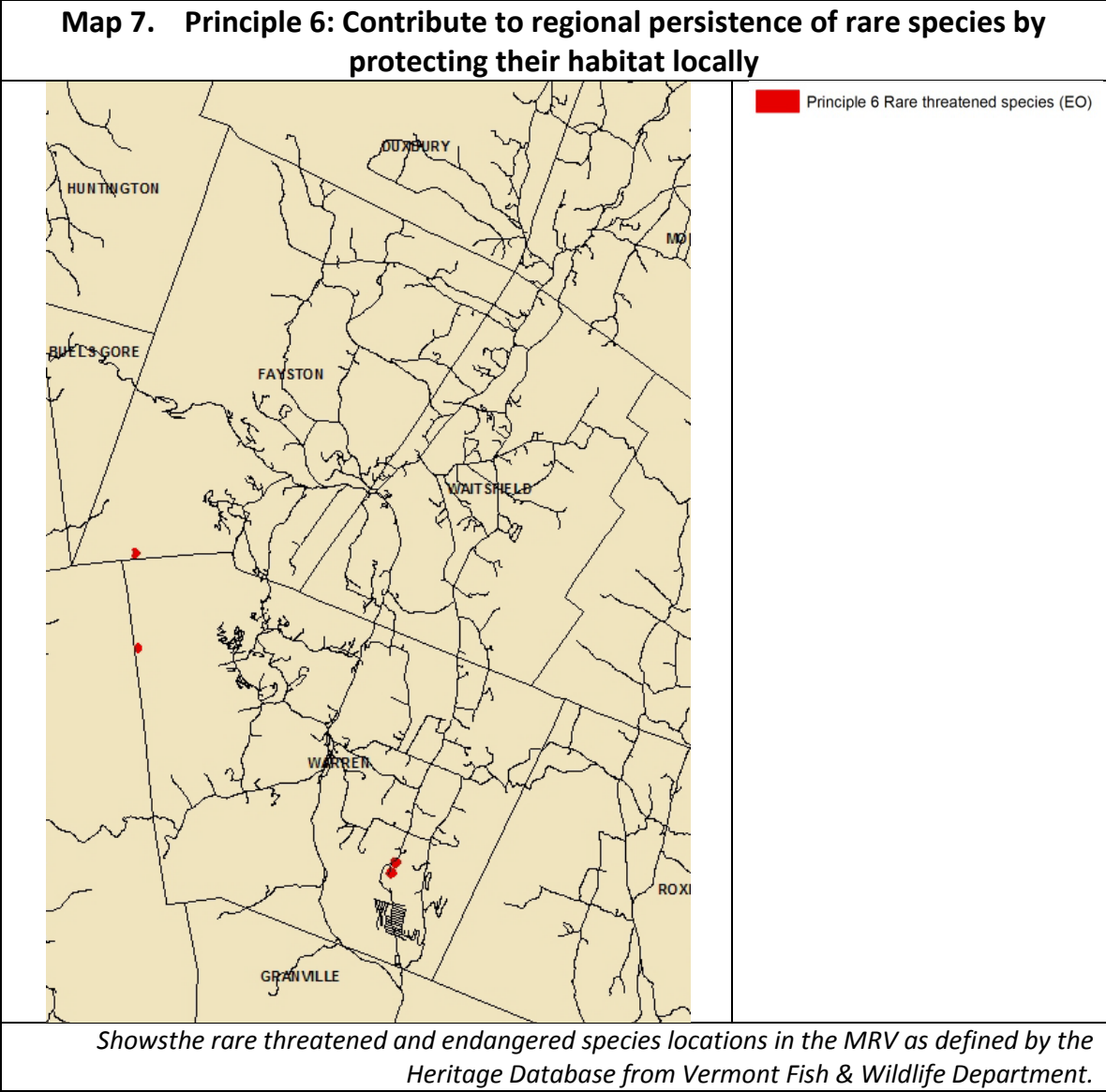
**5. Principle 5: Maintain significant ecological processes (such as wetlands and floodplains recharging groundwater and filtering surface water).**

The concept of a significant ecological process is different from specific ecosystem or species conservation. Process such as fluvial erosion or groundwater recharge may span multiple natural communities as well as into surrounding human communities. Additionally wetlands were included because of their ability to filter surface water and absorb floodwaters.

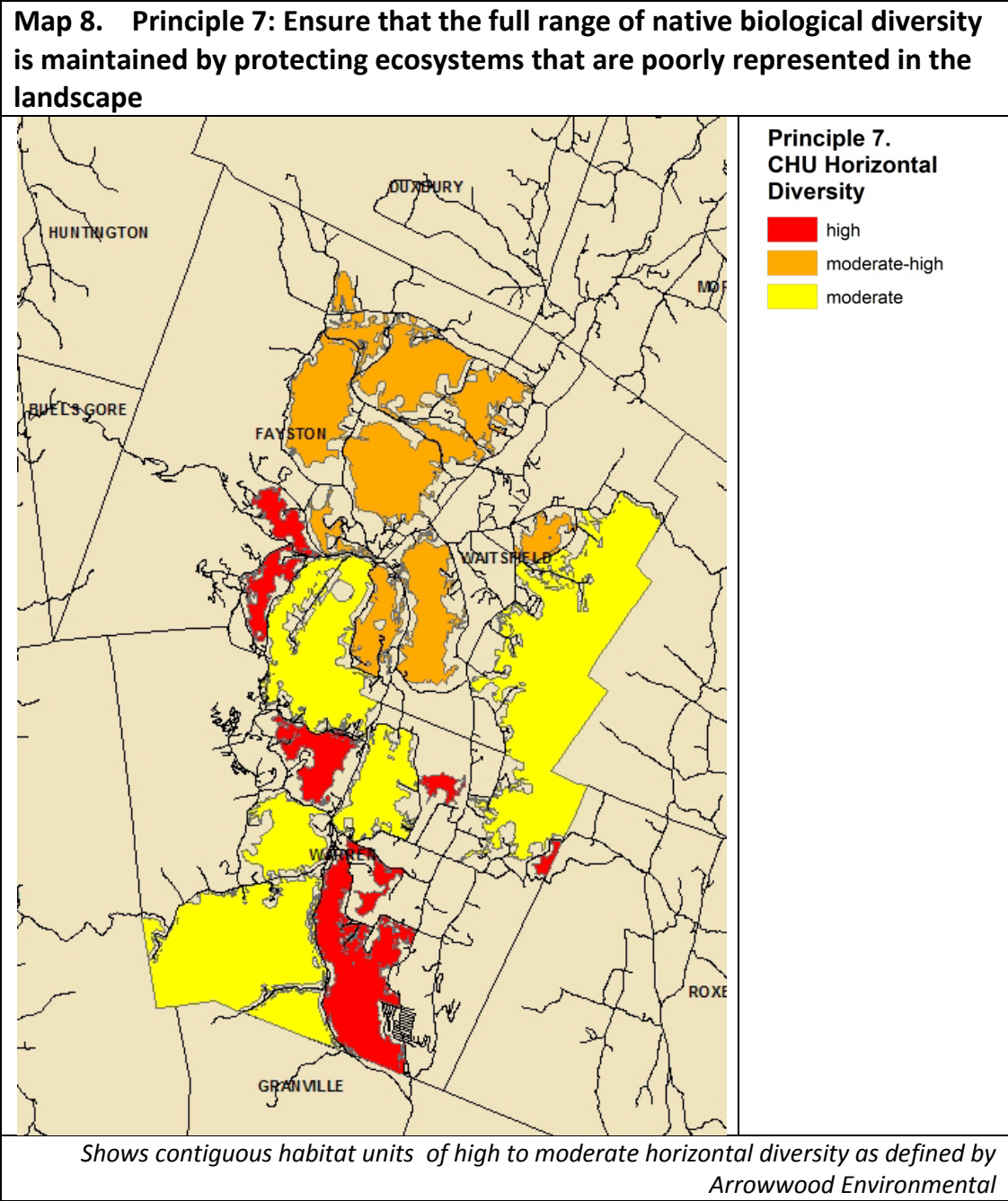


**6. Principle 6: Contribute to regional persistence of rare species by protecting their habitat locally.**

We used the Fish & Wildlife Department's Heritage database to represent rare threatened and endangered species. While this list is NOT exhaustive, since not every area has been checked, it is a decent starting point for representing rare species.



7. Principle 7: Ensure that the full range of native biological diversity is maintained by protecting ecosystems that are poorly represented in the landscape



This principle deals with the concept of representativeness of biological diversity. It is difficult to show all of a town's biological diversity, representing both what

is widespread or common in an area as well as what is rare and different. Both of these need to be included in ecological prioritization.

We used Arrowwood's Contiguous Habitat Units and selected those with greater than "moderate" horizontal diversity. "Horizontal diversity is a measure of the change in vegetative types across an area of undeveloped land (i.e., core areas). In general, the greater the change in vegetative diversity across a core area, the greater the overall species diversity of animals within that area."

Note that the pattern of horizontal diversity in the Mad River Valley is different than the location of the largest blocks of habitat. This type of biological diversity is more closely related to lower elevations, wetlands and diverse natural communities rather than large blocks of contiguous habitat which tend to be more homogenous in the Mad River Valley.

For the ecological prioritization, all blocks with moderate or high horizontal diversity were given equal weight to represent this ecological principle.

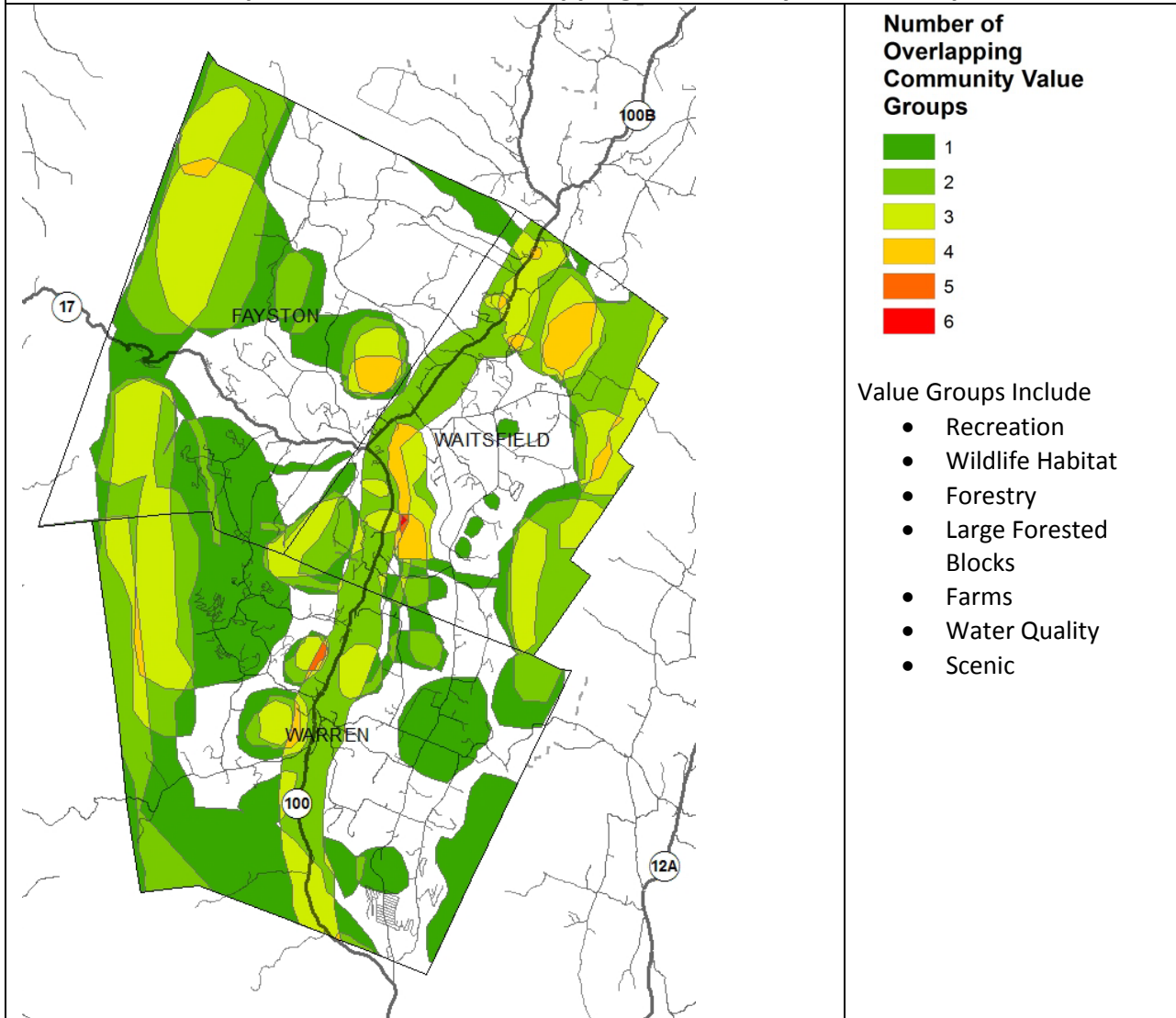


## II. Community Value Mapping

Community Value Mapping is the process of getting community input on what is most important to townspeople. On 4/7/2008 date, the Forest Wildlife and Communities project hosted a session where townspeople from Waitsfield, Warren, Fayston and Moretown gathered together at the Big Picture Theater. Attendees were asked “what do you love about living in the Mad River Valley with respect to natural resources?” Attendees were then randomly divided into small groups. Each small group was supplied with a basemap on which they drew polygons representing different areas of community interest. The results are displayed below and then cross-referenced against areas of ecological importance (see Chapter 1 for the Areas of Ecological Importance map including the seven principles).

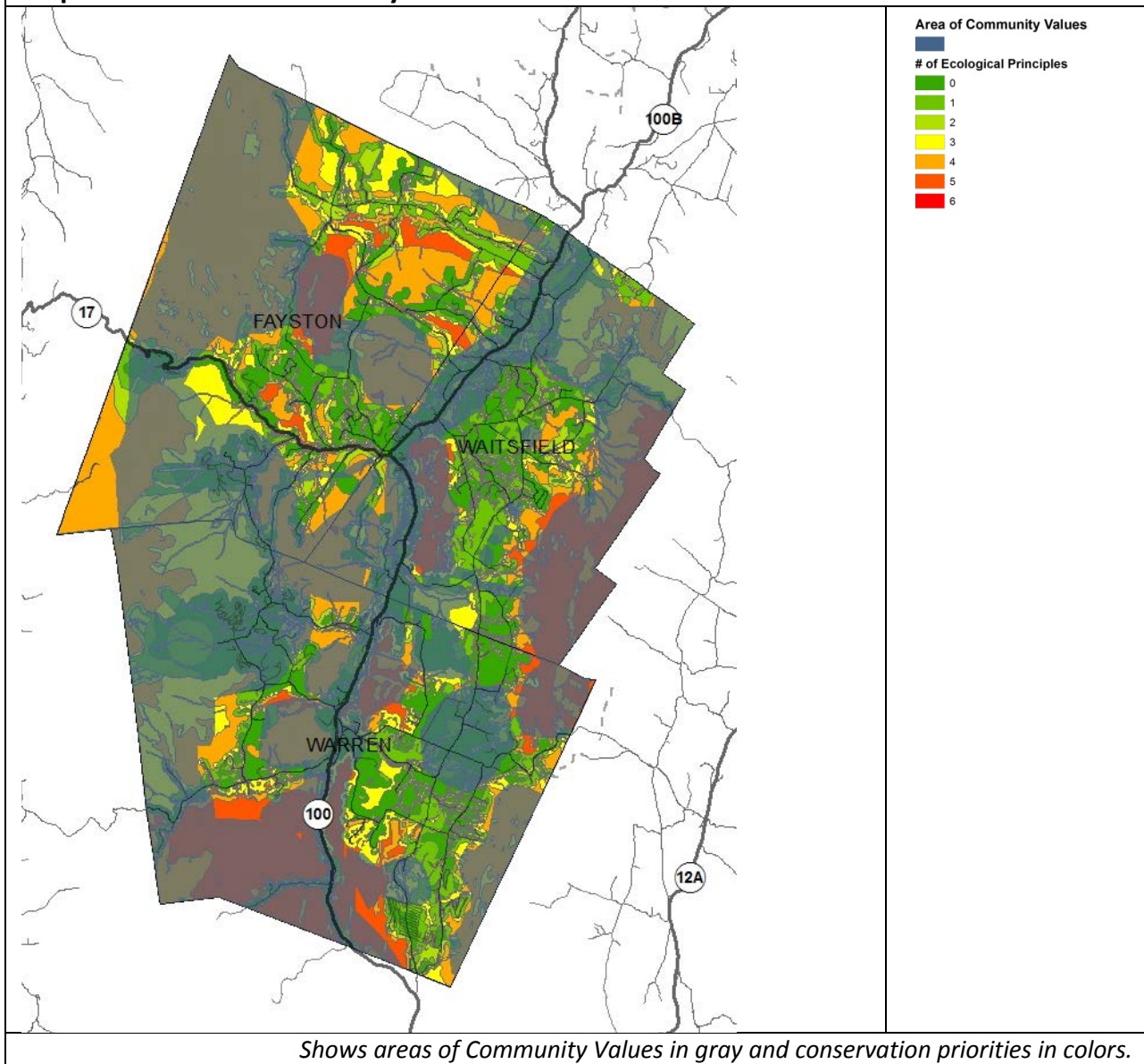
<b>Acreage Summations for Community Values</b>	
65,590	acres in three town area
42,074	acres in all community value lands
12,095	acres in high community valued (>3) lands
8,432	acres in high community valued (>3) lands that meet 3 or more ecological principles
<i>Shows acreage summations for community valued lands cross referenced with ecologically highly valued lands.</i>	

**Map 9. Number of Overlapping Community Value Groups**

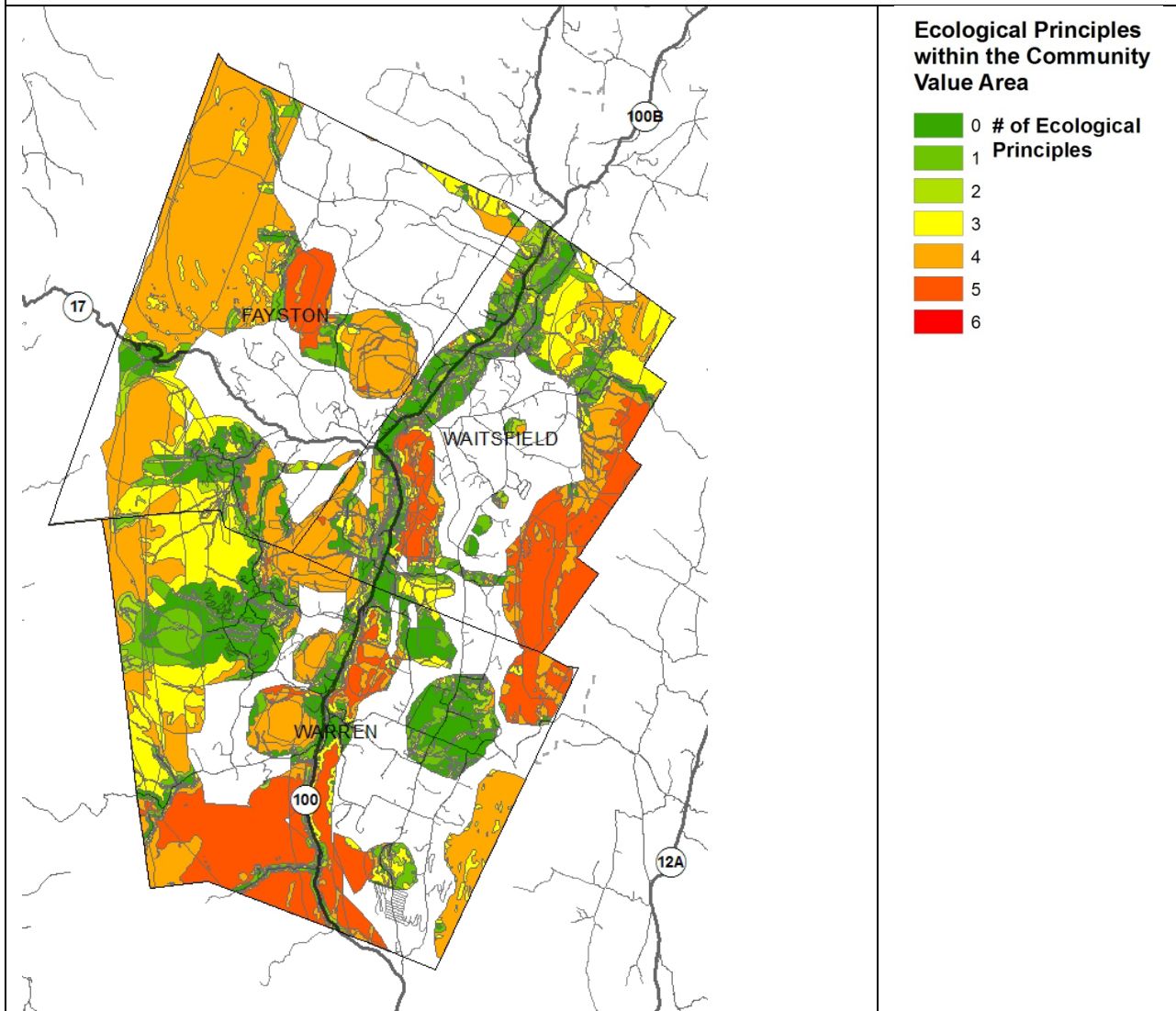


*Shows where different value groups overlap. An individual response from a small group (e.g. "This area is important for the quiet") was categorized as one of seven groups (e.g. cultural). This map overlaps those seven groups to see which areas are important for the most number of value groups.*

**Map 10. Area of Community Values and Conservation Priorities**

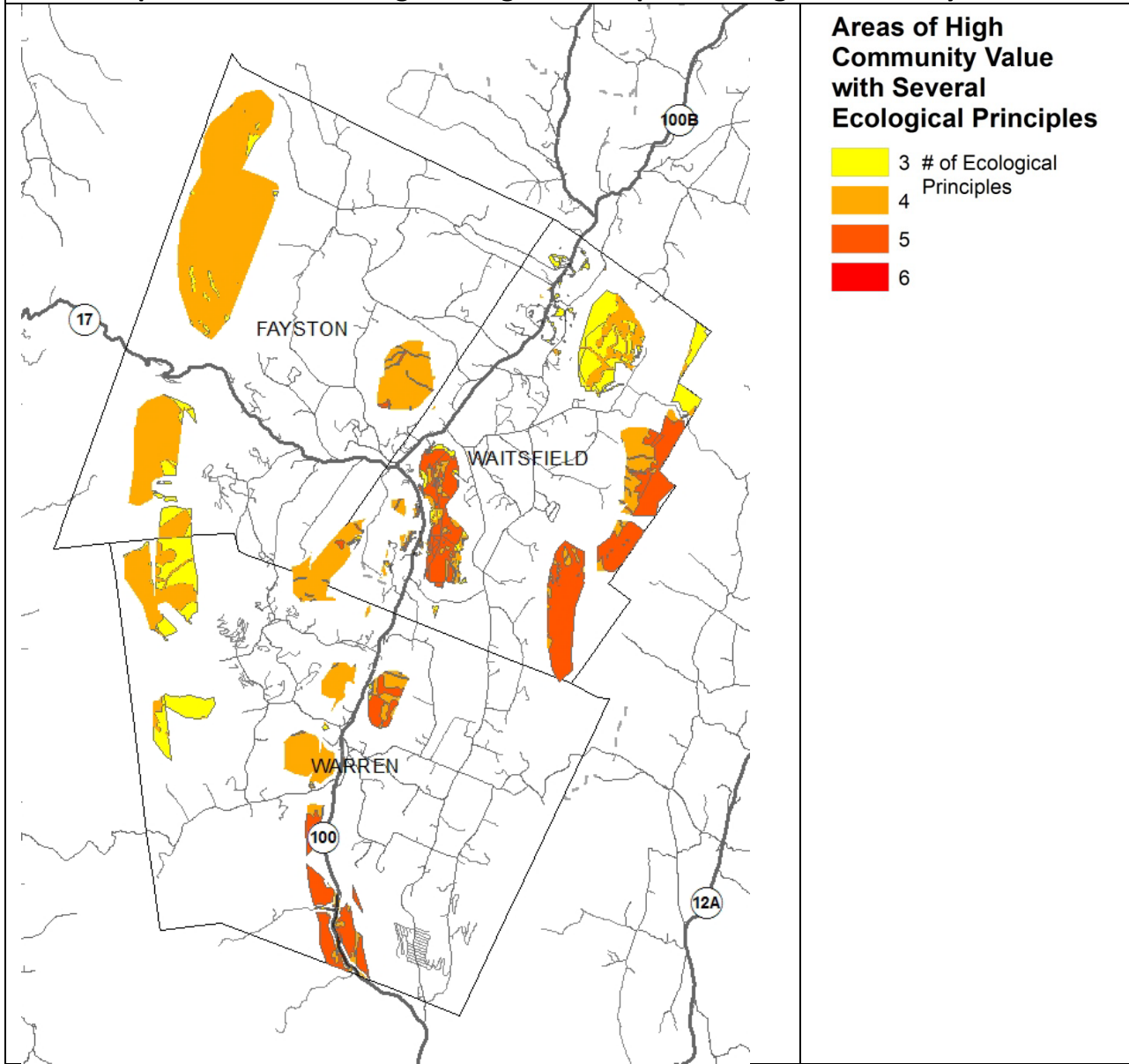


**Map 11. Ecological Principles within the Community Value area**



*This map has removed (shown in white) all areas NOT marked as important for at least one community value group. Within the values area, colors show the number of ecological principles represented in that area. See Map 1.*

**Map 12. Areas with high Ecological Principles and high Community Value**



*Shows areas with high ecological principles (Shown >3) and high community Value (>3 – not shown))*

### III. Tiered Ecological Priorities Map

#### A. Introduction

Tiered Ecological Priorities is intended for municipal & watershed level planning. It is recommended to be used as a tool for municipal governments (planning commissions & other groups) to consider as they craft town plans & implementation strategies. This map is based on the best-available data in 2011. The information can be used to identify priority areas from an ecological perspective, but the map should not replace site-level review. This map shows areas that ecologists have deemed important for conservation. The four levels reflect what are believed to be the most important places for maintaining the region's fish and wildlife populations and biological diversity.

Primary areas are the most fragile and sensitive. They are limited in area, and allow little flexibility in their location and management. They can't be developed or moved (mitigated) without sacrificing current levels of biological diversity.

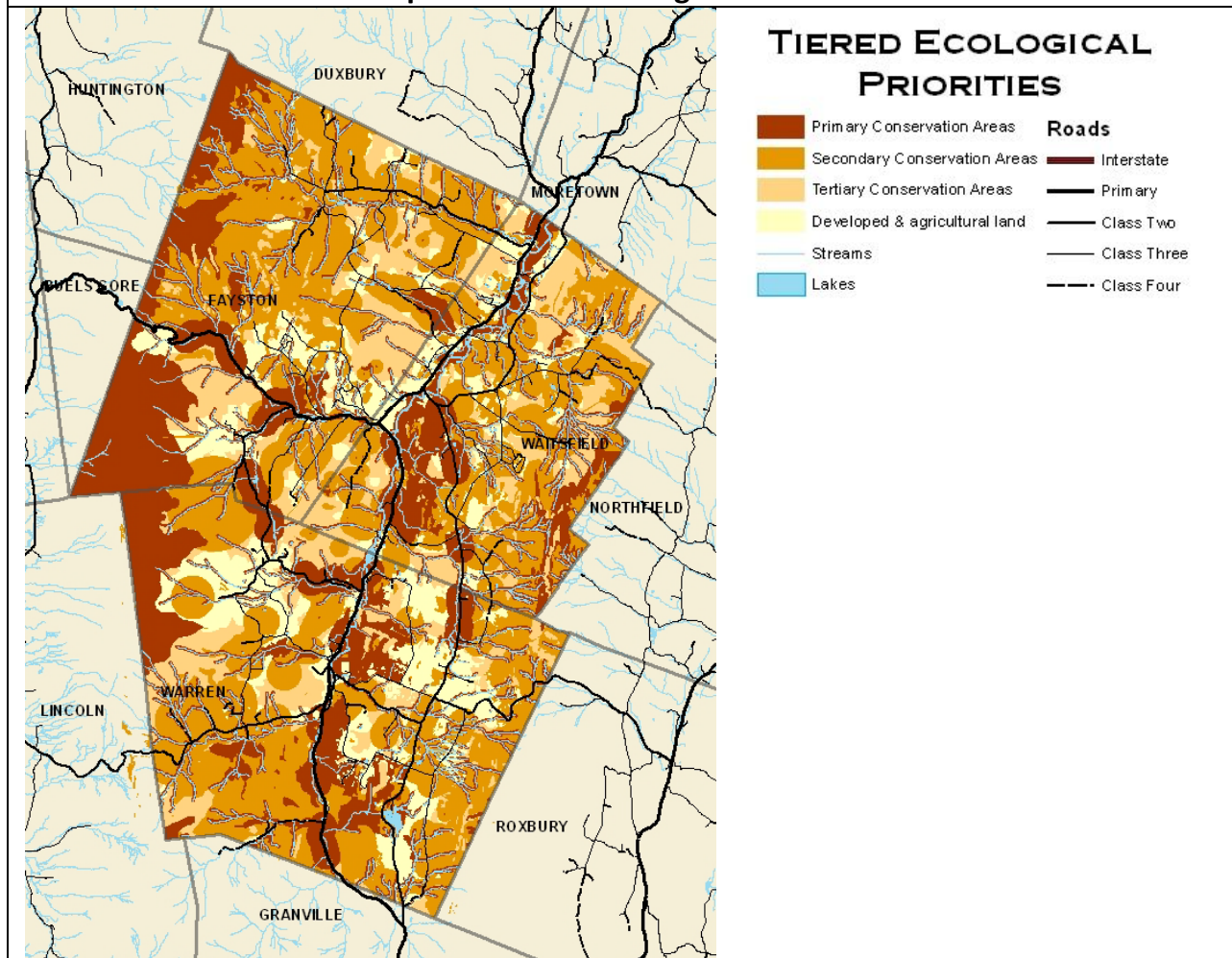
Secondary areas are still very significant ecologically, but are larger areas and hence offer additional flexibility in management. Small portions of this area can be encroached upon or developed without losing their current ecological functions. These areas are sensitive to the impacts of development. It is best to place development near the edges, rather than penetrating into the middle of these sensitive areas.

Tertiary areas are ecologically important as habitat for far-ranging animal species and generally supporting or buffering the more ecologically sensitive areas. Tertiary areas include large habitat blocks identified as Contiguous Habitat Units (CHUs) in natural resource inventories conducted by Arrowwood Environmental (see CHU Map on page 7). When planning at the municipal level, it is helpful to refer to the Contiguous Habitat Unit Map as a companion data set. Development in Tertiary areas should minimize the fragmentation of these habitat units into smaller, more isolated blocks. Therefore, efforts should be made to cluster development around the edges, rather than penetrating into the middle of the blocks.

Developed & agricultural lands include transportation, residential, commercial, and utility lands as well as row crops and pasture. These areas still offer ecological benefits and may contain features that haven't been identified but do provide the most flexibility in development and management from an ecological perspective.

The Tiered Ecological Priority Map is a valuable resource for municipal and watershed level planning. Municipal governments should engage in additional coordination with the Forests, Wildlife, and Communities Project partners and professional planners to develop appropriate planning and zoning strategies to complement this map. Development review standards and other zoning techniques should be developed through a public process that carefully balances natural resource planning with the full suite of public values.

**Map 13. Tiered Ecological Priorities.**



*Shows areas classified by ecological priority and sensitivity. Biologists recommend that the Primary Conservation Areas receive the most protection while secondary and tertiary areas can receive less.*

## B. Methodology

The following list describes which ecologically sensitive areas were classified for each of the three tiers of conservation areas.

### Primary Conservation Areas

- Rare, Threatened, & Endangered species element occurrences
- Wetlands & Streams (with 50' buffers)
- bat hibernacula with 300' buffer
- All lands over 2700' for bicknells thrush
- Riparian habitats as mapped by Arrowwood
- Vernal pool with 100' buffer
- FEMA 100yr floodplain
- Fluvial erosion hazard zone
- S1,S2 S3 natural communities and other locally significant (defined by Arrowwood) Natural communities that have a small or large patch size
- Road crossings (delineated by arrowwood) that occur on rt 100, rt 17, German Flats Rd, East Warren Rd, and Sugarbush access rd
- All lands with natural cover (using 2006 CCAP) within 1/4 mile of the above significant road crossings

### Secondary Conservation Areas

(EXCLUDES ALL LANDS Covered in Primary Conservation Areas)

- Vernal pools with 600' buffer
- Early Successional Habitats (arrowwood)
- Ledges (arrowwood)
- Grassland
- Locally significant natural communities defined by Arrowwood and NOT included in No Touch (=S4 and S5 Natural communities or ones with Matrix patch size)
- Road crossings (delineated by arrowwood) that are NOT included in No touch (= road crossings on smaller roads with less vehicle traffic)
- All lands with natural cover (using 2006 CCAP) within 1/4 mile of the above road crossings

### Tertiary Conservation Areas

(EXCLUDES ALL LANDS Covered in Primary & Secondary Conservation Areas)

- All land included in a contiguous Habitat Unit (of any size) defined by Arrowwood (CHUs)

As described by Arrowwood CHUs are

*"Contiguous Habitat Units are a combination of several different wildlife habitat types combined to form a unit of relatively continuous wildlife habitat. The largest forested area, often the most valuable wildlife habitat is the core area (largely free from most human activities). In constructing CHUs the core areas are combined with early succession habitats, forested riparian habitats, wetlands, deer wintering habitat, mast stands, and ledge or cliff habitats. In some cases, these specific*



wildlife habitat features (like riparian areas) may not add new area (they are already subsumed within the core area boundary) to the already mapped central core, while in other cases (when they are tangential but not within the mapped core area) they add new area and additional acreage to the CHU."

<b>Acreages in Tiered Conservation Areas in Fayston, Waitsfield, &amp; Warren</b>			
	<b>Acres</b>	<b>% of three town area</b>	<b>% of this conservation class NOT DEVELOPABLE under towns' current zoning and regulation</b>
Primary Conservation Areas	23,579	35.95%	<b>75.16%</b>
Secondary Conservation Areas	24,841	37.87%	<b>57.07%</b>
Tertiary Conservation Areas	9,100	13.87%	<b>62.29%</b>
<i>Shows acreages for different tiers of conservation area as well as percentage of that area already protected under current zoning.</i>			

## IV. Buildout Analysis

### A. Introduction

Buildout scenarios are a tool for looking at how much development is allowed under current zoning standards as well as in other hypothetical situations (e.g. if those standards were changed or if new standards were put in place). Buildout scenarios are most useful when compared with one another, rather than simply looking at maximum buildout under current zoning standards, and can be used to fine tune proposed standards to find a balance between allowing for desired development and still protecting natural resources. Output from a buildout can be analyzed by comparing raw data (i.e. the maximum number of allowable units under different scenarios) or through a mapped display (a so-called “measles” map, that places points representing each potential new unit under different scenarios). The latter can be viewed along with mapped natural resource information to add clarity to which resources (and where) will be impacted by current or proposed standards.

This is a RESIDENTIAL BUILDOUT focusing on non-commercial zoning districts. Multi-use and commercial uses are not adequately reflected. Key growth centers were run using current zoning standards but may not show the maximum density they could see. (For example, lot lines for Alpine Village in Warren are unavailable and so use of preexisting lots smaller than the one acre threshold is not shown).

This buildout includes three different scenarios

- Maximum buildout at current zoning standards
- Buildout up to the Central Vermont Regional Planning Commission Thresholds for 2020
- Buildout based on traditional trends in Mad River Valley

## B. Methodology

We used the Community Buildout Analysis extension (ver 2.0) developed for ArcView by Kevin Behm of Addison Regional Planning Commission & C.L. Davis Consulting Co.

### Specific Treatment of Each Town

<b>Treatment of Fayston Zoning in the Buildout Model</b>		
Zoning Districts	Minimum Lot Size	Frontage Requirements
FOREST DISTRICT	No Residential Development	
IRASVILLE COMMERCIAL DISTRICT	No Residential Development	
RECREATION DISTRICT	1ac	125'
RURAL RESIDENTIAL DISTRICT	1ac	100'
RESORT DEVELOPMENT	½ ac	n/a'
SOIL & WATER CONSERVATION DISTRICT	5ac	300'
<i>This chart shows how the zoning districts were treated within the modeling for the buildout. It shows the model's emphasis on residential development outside of growth and commercial centers.</i>		

#### NOTES

- Wetlands, waterbodies, high elevation INCLUDED in density calculations
- No development above 25% slopes
- Wetlands no development allowed including 50' buffer but acreage included in density calculations
- Streams no development allowed including 50' buffer but acreage included in density calculations
- Deeryards at 75% of development capability
- Conserved lands no development allowed but acreage included in density calculations
- No development in 100 year flood zone but acreage included in density calculations

<b>Treatment of Waitsfield Zoning in the Buildout Model</b>		
Zoning Districts	Minimum Lot Size	Frontage Requirements
Village Business District	¼ ac	50'
Village Residential District	½ ac	50'
Irasville Village District	1ac	100'
Limited Business District	1ac	100'
Industrial District	No Residential Development	
Agricultural-Residential District	1ac	90'
Forest Reserve District	<ul style="list-style-type: none"> <li>• 25 acres</li> <li>• No Development above 1700'</li> </ul>	200'
Adaptive Redevelopment Overlay District	Not relevant (treated as underlying District)	
Historic Waitsfield Village Overlay District	Not relevant (treated as underlying District)	
Flood Hazard Area Overly District	No Residential Development	
<p><i>This chart shows how the zoning districts were treated within the modeling for the buildout. It shows the model's emphasis on residential development outside of growth and commercial centers.</i></p>		

**NOTES**

- Deeryards at 75% of development capability
- Wetlands, Steep slopes (>25%), Flood hazard District were NOT included in density calculations
- No residential development above 25% (in subdivision regs)
- Included different stream buffer widths by slope class
- Used 50' buffer on wetlands

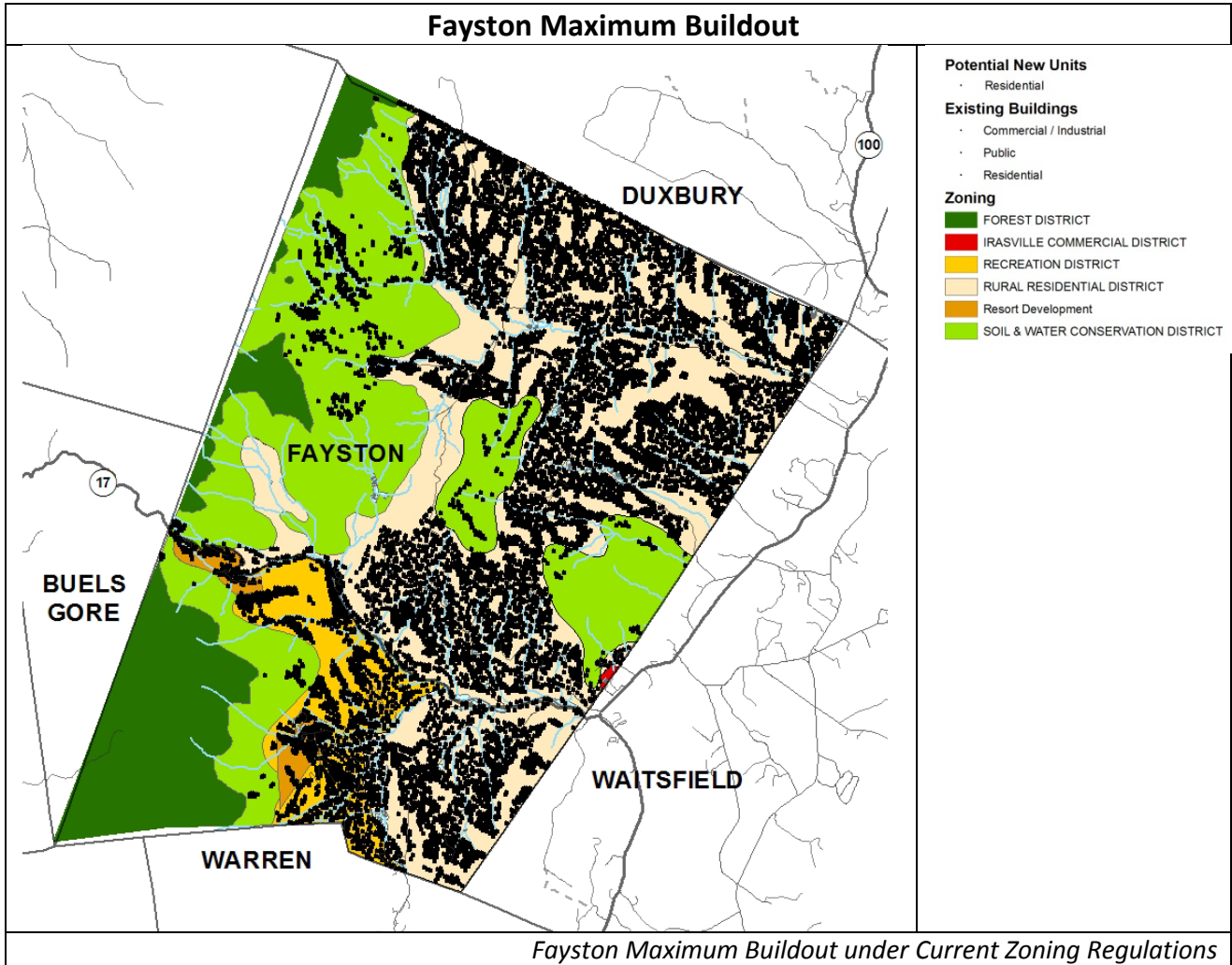
### Treatment of Warren Zoning in the Buildout Model

Zoning Districts	Minimum Lot Size	Frontage Requirements
Forest Reserve	25 ac	200'
Rural Residential	1acre For 1-3 lots 1 unit/acre for 4-20 lots, 1unit/3 acres, for 20+ units 1unit/5acres	200'
Warren Village Historic Residential	(1 acre for single family – 4units/ac for multifamily) no frontage requirements	
Sugarbush Village Residential	7000sq feet	1
Vacation Residential	(1ac for single family dwelling-.33 ac for multi family – 6units/ac affordable housing) 150' – For buildout treated as 1 unit/acre	
Alpine Village Residential 1 ac 75'		
Sugarbush Village Commercial	No Residential Development	
German Flats Commercial	No Residential Development	
Access Road Commercial	No Residential Development	
Warren Village Commercial	No Residential Development	
Airport Commercial	No Residential Development	
Bobbin Mill Commercial	No Residential Development	
Flood Hazard Overlay District	No Residential Development	
Meadowland Overlay District	No Residential Development	
<i>This chart shows how the zoning districts were treated within the modeling for the buildout. It shows the model's emphasis on residential development outside of growth and commercial centers.</i>		

#### NOTES

- Conservation Land included in density calculations but no development allowed
- Slopes included in density calculations but no development allowed
- Deeryards included in density calculations and development allowed at 75% of development capability
- Steep slopes over 25% – no development (in Zoning page 30)
- 50' buff on wetlands area used in density calculations but no development allowed
- 50' buff on streams used in density calculations but no development allowed
- 50' buffer on all ponds greater than 1ac
- No building within 100' of any lake (including Blueberry Lake) > 20ac

### C. Results – Maximum Buildout

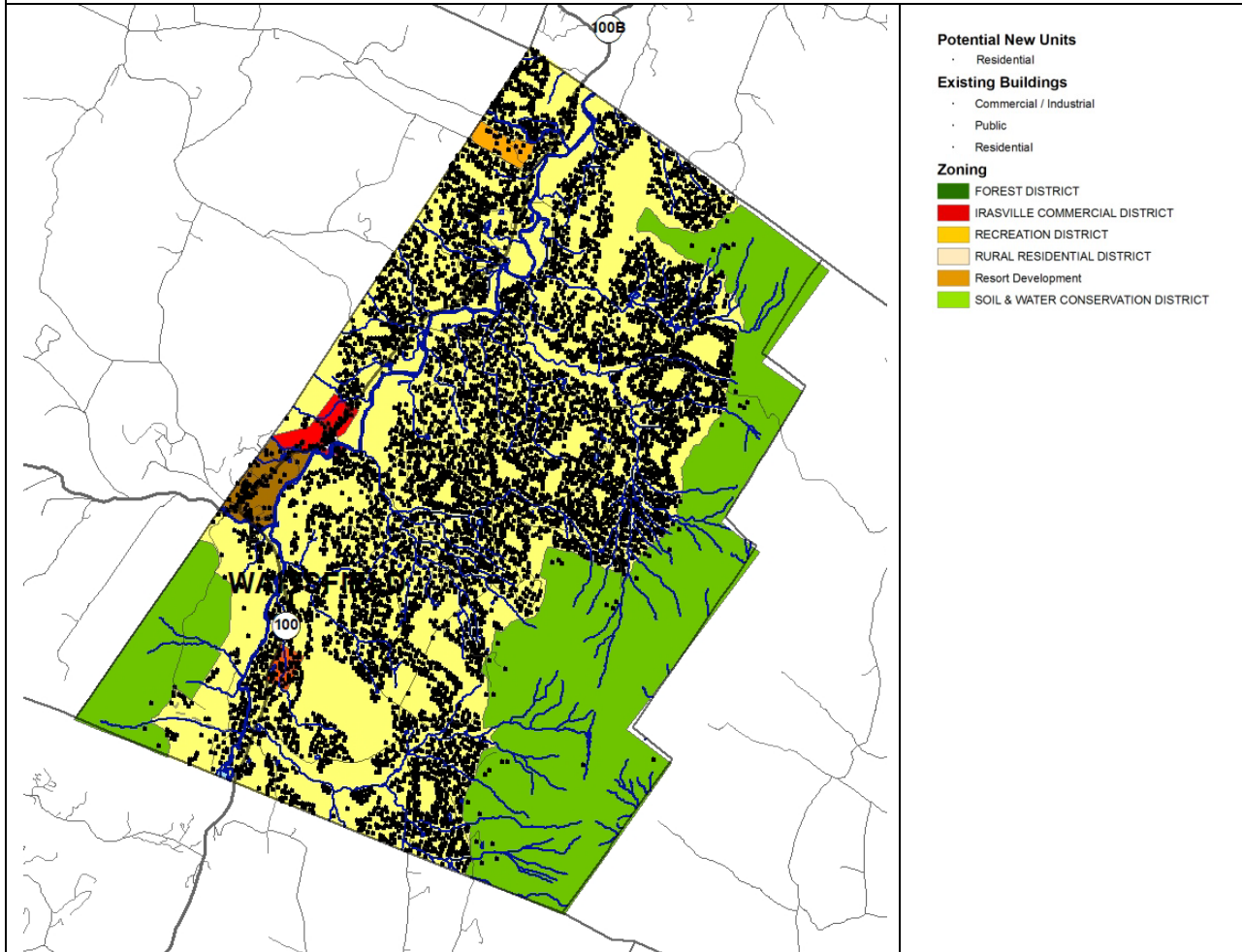


### Fayston Maximum Buildout Model Projections

		Minimum Lot Size	Existing Units	Grand-fathered Units	Density of lost units. Units lost because of areas we specified on the parcel that couldn't be built	Density relocated units. Units relocated because of areas we specified on the parcel that couldn't be built	Maximum number of potential new units. Existing units not included	Potential Unit - Check field should = DevUnit + Denrelunit + Grandfathered Units
DISTRICT	USE	MINACRES	EXISTUNIT	GFUNIT	DENLSTUNIT	DENRELUNIT	DEVUNIT	POTUNIT
FOREST DISTRICT	NoDev	0.000	0	0	0	0	0	<b>0</b>
IRASVILLE COMMERCIAL DISTRICT	NoDev	0.000	0	0	0	0	0	<b>0</b>
RECREATION DISTRICT	Res	1.000	115	39	0	589	705	<b>1,333</b>
RURAL RESIDENTIAL DISTRICT	Res	1.000	715	130	5	2114	6466	<b>8,710</b>
Resort Development	Res	0.500	55	14	17	270	234	<b>518</b>
SOIL & WATER CONSERVATION DISTRICT	Res	5.000	19	7	16	554	134	<b>695</b>
Total		0.000	904	190	38	3527	7539	<b>11,256</b>

	Number of acres that are fully built out	Number of acres in grandfathered lots	Number of acres in parcels that do not meet minimum lot size	Number of acres where density is lost	Number of acres where density is relocated	Number of developable acres
DISTRICT	BUILTACRE	GFACRE	UNDMINACRE	DENLSTACRE	DENRELACRE	DEVACRE
FOREST DISTRICT	0	0	0	0	0	0
IRASVILLE COMMERCIAL DISTRICT	0	0	0	0	0	0
RECREATION DISTRICT	206	32	1	0	614	769
RURAL RESIDENTIAL DISTRICT	1831	166	13	8	2470	6,627
Resort Development	56	6	2	9	138	122
SOIL & WATER CONSERVATION DISTRICT	92	20	60	82	2868	663
Total	2185	224	76	99	6090	8,181

# Waitsfield Maximum Buildout



Waitsfield Maximum Buildout under Current Zoning Regulations

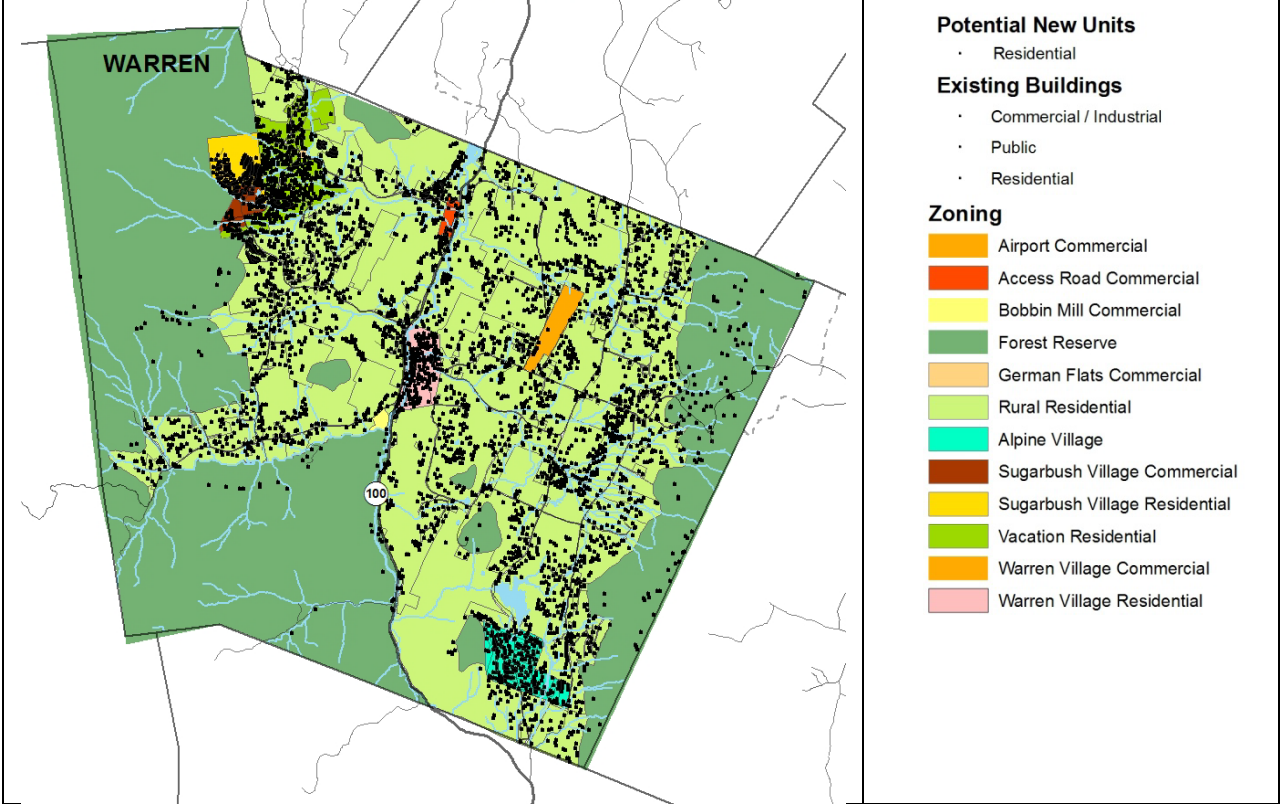


### Waitsfield Maximum Buildout Model Projections

	Minimum Lot Size		Existing Units	Grand-fathered Units	Density of lost units. Units lost because of areas we specified on the parcel that couldn't be built	Density relocated units. Units relocated because of areas we specified on the parcel that couldn't be built	Maximum number of potential new units. Existing units not included	Potential Unit - Check field should = DevUnit + Denrelunit + Grandfathered Units
DISTRICT	USE	MINACRES	EXISTUNIT	GFUNIT	DENLSTUNIT	DENRELUNIT	DEVUNIT	POTUNIT
AGRICULTURAL-RESIDENTIAL DISTRICT	Res	1.000	753	82	1	1071	5980	<b>7,133</b>
FOREST RESERVE DISTRICT	Res	25.000	12	5	3	26	16	<b>47</b>
INDUSTRIAL DISTRICT	NoDev	0.000	0	0	0	0	0	<b>0</b>
IRASVILLE COMMERCIAL DISTRICT	NoDev	0.000	0	0	0	0	0	<b>0</b>
LIMITED BUSINESS ZONE	Res	1.000	3	1	0	1	28	<b>30</b>
VILLAGE Business DISTRICT	NoDev	0.000	0	0	0	0	0	<b>0</b>
VILLAGE RESIDENTIAL	NoDev	0.000	0	0	0	0	0	<b>0</b>
<b>Total</b>		<b>0.000</b>	<b>768</b>	<b>88</b>	<b>4</b>	<b>1098</b>	<b>6024</b>	<b>7,210</b>

	Number of acres that are fully built out	Number of acres in grandfathered lots	Number of acres in parcels that do not meet minimum lot size	Number of acres where density is lost	Number of acres where density is relocated	Number of developable acres
DISTRICT	BUILTACRE	GFACRE	UNDMINACRE	DENLSTACRE	DENRELACRE	DEVACRE
AGRICULTURAL-RESIDENTIAL DISTRICT	848	141	2	1	1270	6,768
FOREST RESERVE DISTRICT	334	108	143	87	853	521
INDUSTRIAL DISTRICT	0	0	0	0	0	0
IRASVILLE COMMERCIAL DISTRICT	0	0	0	0	0	0
LIMITED BUSINESS ZONE	3	1	0	0	4	39
VILLAGE Business DISTRICT	0	0	0	0	0	0
VILLAGE RESIDENTIAL	0	0	0	0	0	0
<b>Total</b>	<b>1185</b>	<b>250</b>	<b>145</b>	<b>88</b>	<b>2127</b>	<b>7,328</b>

### Warren Maximum Buildout



**Potential New Units**

- Residential

**Existing Buildings**

- Commercial / Industrial
- Public
- Residential

**Zoning**

- Airport Commercial
- Access Road Commercial
- Bobbin Mill Commercial
- Forest Reserve
- German Flats Commercial
- Rural Residential
- Alpine Village
- Sugarbush Village Commercial
- Sugarbush Village Residential
- Vacation Residential
- Warren Village Commercial
- Warren Village Residential

*Warren Maximum Buildout under Current Zoning Regulations*

### Warren Maximum Buildout Model Projections

	Minimum Lot Size		Existing Units	Grand-fathered Units	Density of lost units. Units lost because of areas we specified on the parcel that couldn't be built	Density relocated units. Units relocated because of areas we specified on the parcel that couldn't be built	Maximum number of potential new units. Existing units not included	Potential Unit - Check field should = DevUnit + Denrelunit + Grandfathered Units
DISTRICT	USE	MINACRES	EXISTUNIT	GFUNIT	DENLSTUNIT	DENRELUNIT	DEVUNIT	POTUNIT
Airport Commercial	NoDev	0.000	0	0	0	0	0	<b>0</b>
Access Road Commercial	NoDev	0.000	0	0	0	0	0	<b>0</b>
Bobbin Mill Commercial	NoDev	0.000	0	0	0	0	0	<b>0</b>
Forest Reserve	Res	25.000	49	33	1	79	35	<b>147</b>
German Flats Commercial	NoDev	0.000	0	0	0	0	0	<b>0</b>
Rural Residential	Res	1 unit/ac 1 unit/3 ac 1 unit/5 ac	829	148	10	889	1422	<b>2,459</b>
Alpine Village	Res	1.000	82	9	0	12	110	<b>131</b>
Sugarbush Village Commercial	NoDev	0.000	0	0	0	0	0	<b>0</b>
Sugarbush Village Residential	Res	0.160	100	3	79	229	238	<b>470</b>
Vacation Residential	Res	1 unit/ac 3 unit/ac	117	16	1	90	268	<b>374</b>
Warren Village Commercial	NoDev	0.000	0	0	0	0	0	<b>0</b>
Warren Village Residential	Res	1.000	75	17	1	20	77	<b>114</b>
<b>Total</b>		<b>0.000</b>	<b>1252</b>	<b>226</b>	<b>92</b>	<b>1319</b>	<b>2150</b>	<b>3,695</b>

<b>Warren Maximum Buildout Model Projections</b>						
	Number of acres that are fully built out	Number of acres in grandfathered lots	Number of acres in parcels that do not meet minimum lot size	Number of acres where density is lost	Number of acres where density is relocated	Number of developable acres
DISTRICT	BUILTACRE	GFACRE	UNDMINACRE	DENLSTACRE	DENRELACRE	DEVACRE
Airport Commercial	0	0	0	0	0	0
Access Road Commercial	0	0	0	0	0	0
Bobbin Mill Commercial	0	0	0	0	0	0
Forest Reserve	520	586	242	28	2479	1382
Ferman Flats Commercial	0	0	0	0	0	0
Rural Residential	2190	422	47	27	3689	5110
Alpine Village	85	3	3	0	18	119
Sugarbush Village Commercial	0	0	0	0	0	0
Sugarbush Village Residential	21	2	0	14	40	41
Vacation Residential	99	7	4	1	96	281
Warren Village Commercial	0	0	0	0	0	0
Warren Village Residential	52	11	4	1	31	94
<b>Total</b>	<b>2967</b>	<b>1031</b>	<b>300</b>	<b>71</b>	<b>6353</b>	<b>7027</b>

#### **D. Results –Maximum Buildouts effects on Natural Resources**

It is clear that maximum buildout represents a worst-case scenario for what the development could look like in the three Mad River Valley towns. The models themselves involve some inherent assumptions that merit scrutiny and the methodology involves some uncertainty as well (meaning the spatial placement of the potential new units is accurately placed on a parcel in a specific zoning district, but the location within those confines is random).

Nonetheless, it is useful to fully define this scenario and get a sense of what this and other scenarios may have on natural resources and productive forest lands so that municipal officials can understand the effects of different development scenarios. The following charts categorize the number of acres lost to development for a variety of natural resources. Acreages were arrived at by counting the number of potential new units within each natural resource area and the assuming  $\frac{3}{4}$  of an acre cleared envelope for each house. The effects of an individual house are felt well beyond that radius and the cumulative effect of housing in the same area is also underrepresented, but these numbers do begin to give a sense of raw acreage lost to development.

<b>Potential Effect of Maximum Buildout on Conservation Areas and Community Valued Lands</b>				
	Fayston	Waitsfield	Warren	3 town totals
# New Units in PCA (Max Buildout)	1753	1348	779	3,880
acreage of houses assuming 3/4 acre opening	1314	1011	584	2,910
total acres in PCA in that town	8975	5731	8873	23,579
<b>% of Primary Conservation Areas lost to new development</b>	<b>14.65%</b>	<b>17.64%</b>	<b>6.58%</b>	<b>12.34%</b>
# New Units in SCA (Max Buildout)	5326	2765	924	9,015
acreage of houses assuming 3/4 acre opening	3994	2073	693	6,761
total acres in SCA in that town	8996	6013	9748	24,757
<b>% of Secondary Conservation Areas lost to new development</b>	<b>44.40%</b>	<b>34.49%</b>	<b>7.11%</b>	<b>27.31%</b>
# New Units in TCA (Max Buildout)	1794	1169	290	3,253
acreage of houses assuming 3/4 acre opening	1345	876	217	2,439
total acres in TCA in that town	3190	3009	2900	9,099
<b>% of Tertiary Conservation Areas lost to new development</b>	<b>42.18%</b>	<b>29.14%</b>	<b>7.50%</b>	<b>26.81%</b>
CV acreage in that town	12805	11154	18184	42,143
New houses in CV area	4054	3284	1825	9,163
acreage of houses assuming 3/4 acre opening	3040	2463	1368	6,872
<b>% of Community Valued area lost to new development</b>	<b>23.74%</b>	<b>22.08%</b>	<b>7.53%</b>	<b>16.31%</b>
<i>Shows the effect of new development on primary, secondary and tertiary conservation areas.</i>				

### New Development in Productive Forest Land

	Fayston	Waitsfield	Warren	3 town totals
# houses in Productive Forest Land	5268	2596	670	8534
acreage of houses assuming 3/4 acre opening	3951	1947	502.5	6400.5
total acres in Productive forests in that town	8,425.88	5,795.83	5,867.42	20,089.13
In 3 (moerately productive forests)	3,961.92	3,787.32	4,016.24	11,765.48
In 4 (very productive forests)	2,616.86	690.97	1,647.34	4,955.17
In 5 extremely productive forests)	1,847.10	1,317.54	203.84	3,368.48
<b>% of Productive forest land lost to new development</b>	<b>46.89%</b>	<b>33.59%</b>	<b>8.56%</b>	<b>31.86%</b>
<p style="text-align: center;"><i>Shows the effect of new development on productive forest land. Productive forests were assessed using a statewide model of productive forests developed by Vermont Land Trust entitled "Forest Project Prospecting". On the model's five-point scale of productivity, values of 3, 4 and 5 are consideered productive forests for purposes of this anlysis</i></p>				

## **E. Results –Buildout at Current Development Rates**

Rates on current development trends were collected by Veronique Bourg for Vermont Natural Resources Council in the winter of 2010/2011. These data were collected by visiting each of the town clerks and going through all permits for single family homes and subdivisions (expressed as number of lots) issued since 1990. These data represent permits issued and not necessarily houses built. Additionally these data do not include multi-family homes. Nonetheless these data represent the best view we can gather on current housing trends in the Mad River Valley. For each town there are separate charts showing the number of single family homes permitted and the number of subdivisions (expressed as number of lots) permitted for each year. These were added together and divided by 19 (years of data) to determine and approximate rate of annual growth in each town.

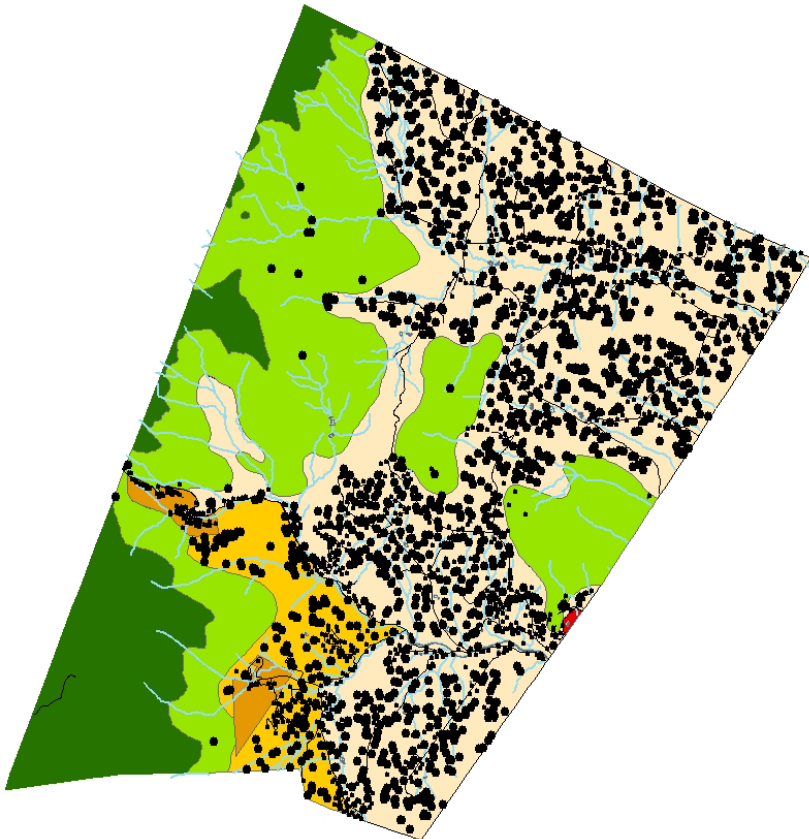


<b>Fayston Single Family homes permitted in the last 20 years</b>							
	Forest District	Irasville Commercial District	Recreation District	Rural Residential District	Resort Development	Soil and Water Conservation District	<b>Total</b>
1990	0	0	0	7	0	0	
1991	0	0	0	5	0	0	
1992	0	0	1	12	0	0	
1993	0	0	0	7	0	0	
1994	0	0	2	9	0	0	
1995	0	0	1	16	0	0	
1996	0	0	2	28	0	0	
1997	0	0	0	9	0	0	
1998	0	0	2	8	0	2	
1999	0	0	0	14	0	0	
2000	0	0	1	11	0	0	
2001	0	0	4	11	0	0	
2002	0	0	3	21	0	0	
2003	0	0	1	19	0	0	
2004	0	1	1	29	0	1	
2005	0	0	2	19	0	0	
2006	0	0	0	11	0	0	
2007	0	0	3	7	0	0	
2008	0	0	0	5	0	0	
2009	0	0	2	4	0	0	
<b>Total</b>	<b>0</b>	<b>1</b>	<b>25</b>	<b>252</b>	<b>0</b>	<b>3</b>	<b>281</b>
% of total Growth	0.00%	0.36%	8.90%	89.68%	0.00%	1.07%	<b>100.00%</b>
<i>Shows the number of single family residents permitted in Fayston from 1990 to 2009.  This does NOT show how many homes were actually built.</i>							

<b>Fayston Subdivision Lots permitted 1990 - 2009</b>							
	Forest District	Irasville Commercial District	Recreation District	Rural Residential District	Resort Development	Soil and Water Conservation District	Total
1990	0	0	6	11	0	0	
1991	0	0	1	2	0	0	
1992	0	0	1	19	0	0	
1993	0	0	0	3	0	0	
1994	0	0	4	3	0	0	
1995	0	0	0	16	0	0	
1996	0	2	1	9	0	0	
1997	0	0	1	12	0	0	
1998	0	0	2	17	0	0	
1999	0	0	0	13	0	0	
2000	0	0	2	5	0	2	
2001	0	0	2	18	0	0	
2002	0	0	1	8	0	0	
2003	0	0	0	12	0	0	
2004	0	0	2	14	0	1	
2005	0	0	3	11	0	0	
2006	0	0	0	14	0	0	
2007	0	0	0	22	0	0	
2008	0	0	0	22	0	0	
2009	0	0	0	9	0	0	
<b>Total</b>	0	2	26	240	0	3	271
Percentage	0.00%	0.74%	9.59%	88.56%	0.00%	1.11%	100%
<i>This chart shows the number of lots permitted through subdivision between 1990 and 2009</i>							

<b>Fayston - Potential New Single Family Units for 20, 30, 40, &amp; 50 years based on Current Trends</b>							
	Forest District	Irasville Commercial District	Recreation District	Rural Residential District	Resort Development	Soil and Water Conservation District	<b>Total</b>
Units per year at current rate	0	0.05	1.25	12.6	0	0.15	14
# new units in 2031	0	1	25	252	0	3	281
# new units in 2041	0	1.5	37.5	378	0	4.5	422
# new units in 2051	0	2	50	504	0	6	562
# new units in 2061	0	2.5	62.5	630	0	7.5	703
<i>Shows the number of potential new single-family units in each of Fayston's zoning districts in 20, 30, 40 and 50 years based on development trends for the last 20 years.</i>							

### Fayston 50 year Buildout using Current Trends



- Potential New Units**
  - Residential
- Existing Buildings**
  - Commercial / Industrial
  - Public
  - Residential
- Zoning**
  - FOREST DISTRICT
  - IRASVILLE COMMERCIAL DISTRICT
  - RECREATION DISTRICT
  - RURAL RESIDENTIAL DISTRICT
  - Resort Development
  - SOIL & WATER CONSERVATION DISTRICT

*Shows the 50 year buildout scenario using current trends. This data includes only, Rural Residential, Soil & Water Conservation & Recreation Districts*

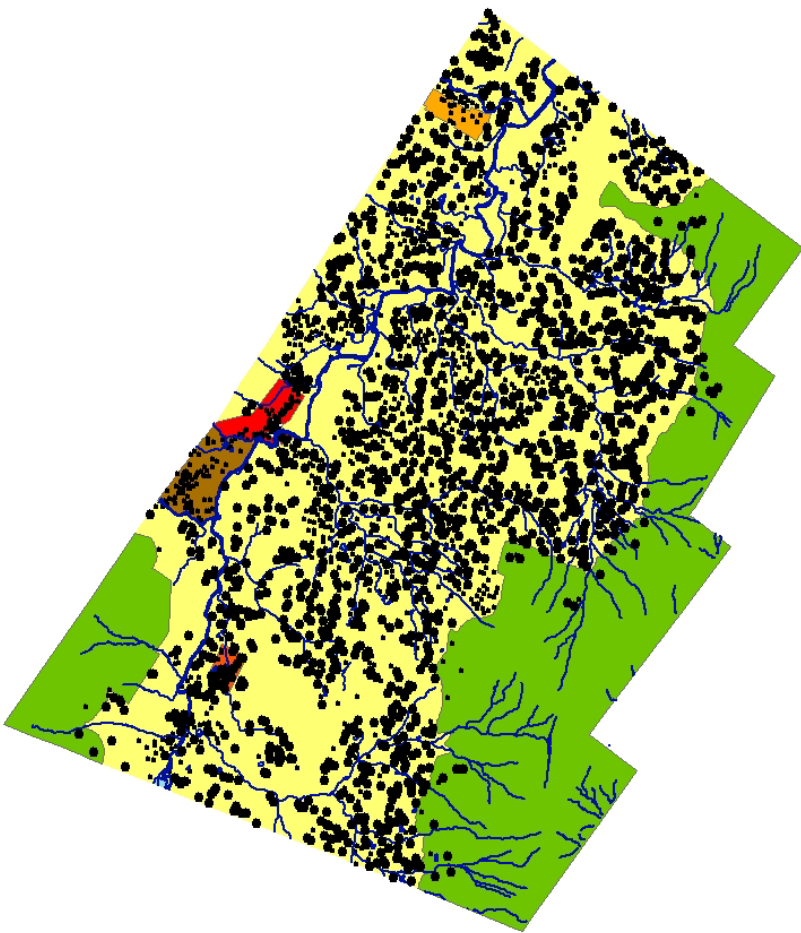
<b>Waitsfield - One or Two Family homes permitted in the last 20 years</b>									
	Forest Reserve District	Irasville Village	Village Business	Village Residential	Agricultural Residential	Commercial Lodging	Limited Business	Industrial	Total
1990	0	1	0	0	6	0	0	0	
1991	0	1	0	1	10	0	0	0	
1992	0	0	0	0	10	0	0	0	
1993	0	1	0	0	7	0	0	0	
1994	0	2	0	1	13	0	0	0	
1995	1	0	0	0	13	0	0	0	
1996	0	1	0	0	20	0	0	0	
1997	0	0	0	0	12	0	0	0	
1998	1	0	0	0	14	1	0	0	
1999	0	0	0	0	9	0	0	0	
2000	1	0	0	0	19	1	0	0	
2001	0	0	0	0	14	0	0	0	
2002	1	0	0	0	14	0	0	0	
2003	0	0	0	0	21	1	0	0	
2004	0	0	0	0	22	1	0	0	
2005	0	0	0	1	6	0	0	0	
2006	0	0	1	1	11	0	0	0	
2007	0	0	0	0	13	0	0	0	
2008	1	0	0	0	2	0	0	0	
2009	0	0	0	0	6	0	0	0	
<b>Total</b>	<b>5</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>242</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>262</b>
% of total growth	1.91%	2.29%	0.38%	1.53%	92.37%	1.53%	0.00%	0.00%	100%
<i>Shows the number of single or two family residents permitted in Waitsfield from 1990 to 2009. This does NOT show how many homes were actually built.</i>									

<b>Waitsfield Subdivision Lots permitted 1990 - 2009</b>									
	Forest Reserve District	Irasville Village	Village Business	Village Residential	Agricultural Residential	Commercial Lodging	Limited Business	Industrial	Total
1990	0	0	0	0	19	2	0	0	
1991	0	0	2	0	19	0	0	0	
1992	0	0	0	0	22	0	0	0	
1993	0	0	0	0	12	0	0	0	
1994	0	1	0	0	6	0	3	0	
1995	0	0	0	0	8	1	2	0	
1996	4	0	0	0	39	0	0	0	
1997	0	2	0	0	34	3	0	0	
1998	0	0	0	0	2	0	0	0	
1999	0	0	0	0	22	0	0	0	
2000	3	0	0	0	7	0	0	0	
2001	0	0	1	0	11	0	1	0	
2002	0	0	0	0	20	0	0	0	
2003	0	0	0	0	36	3	0	0	
2004	0	0	0	0	14	2	0	0	
2005	0	0	0	0	38	0	0	0	
2006	0	0	0	0	2	0	0	0	
2007	0	0	0	0	13	0	0	0	
2008	3	8	0	4	3	0	0	0	
2009	0	0	0	0	1	0	0	0	
Total	10	11	3	4	328	11	6	0	373
%	2.68%	2.95%	0.80%	1.07%	87.94%	2.95%	1.61%	0.00%	100%

*This chart shows the number of lots permitted through subdivision between 1990 and 2009*

<b>Waitsfield - Potential New Units for 20, 30, 40, &amp; 50 years based on Current Trends</b>									
	<b>Forest Reserve District</b>	<b>Irasville Village</b>	<b>Village Business</b>	<b>Village Residential</b>	<b>Agricultural Residential</b>	<b>Commercial Lodging</b>	<b>Limited Business</b>	<b>Industrial</b>	<b>Total</b>
Units per year at current rate	0.25	0.3	0.05	0.2	12.1	0.2	0	0	13.1
# new units in 2031	5	6	1	4	242	4	0	0	262
# new units in 2041	7.5	9	1.5	6	363	6	0	0	393
# new units in 2051	10	12	2	8	484	8	0	0	524
# new units in 2061	12.5	15	2.5	10	605	10	0	0	655
<i>Shows the number of potential new single-family units in each of Waitsfield's zoning districts in 20, 30, 40 and 50 years based on development trends for the last 20 years.</i>									

# Waitsfield 50 year Buildout using Current Trends



- Potential New Units**
  - Residential
- Existing Buildings**
  - Commercial / Industrial
  - Public
  - Residential
- Zoning**
  - FOREST DISTRICT
  - IRASVILLE COMMERCIAL DISTRICT
  - RECREATION DISTRICT
  - RURAL RESIDENTIAL DISTRICT
  - Resort Development
  - SOIL & WATER CONSERVATION DISTRICT

*Shows the 50 year buildout scenario using current trends. This data includes only, Agriculture-Residential, Limited Business, and Forest Reserve districts*



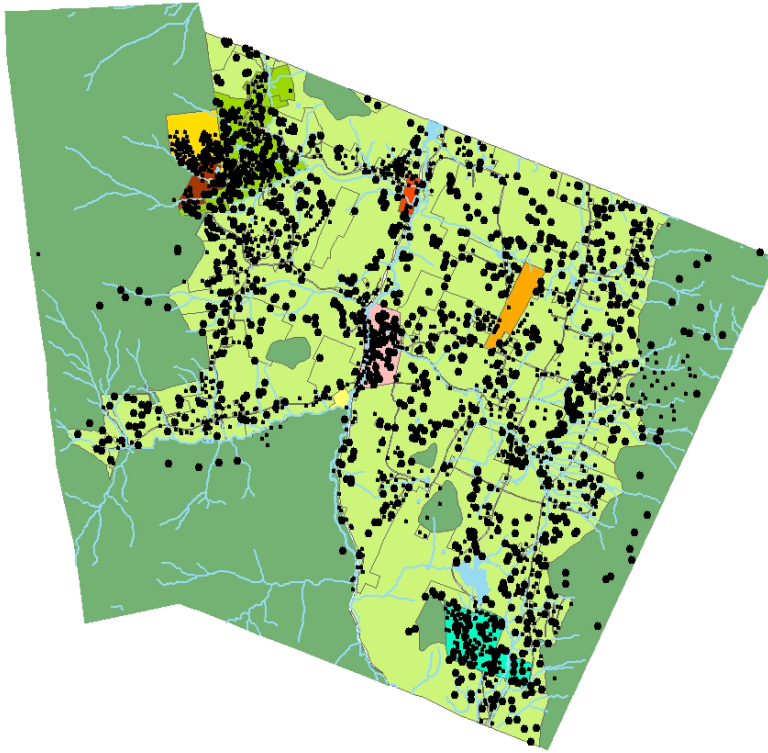
**Warren - Single Family homes permitted in the last 20 years**

	<b>Forest Reserve</b>	<b>Rural Residential</b>	<b>Warren Village Historical Residential</b>	<b>Sugarbush Village Residential</b>	<b>Vacation Residential</b>	<b>Alpine Village</b>	<b>Total</b>
1990	0	13	0	0	0	0	
1991	0	7	1	0	0	0	
1992	1	12	0	1	0	1	
1993	0	9	0	0	0	0	
1994	0	17	0	0	0	0	
1995	1	21	1	0	1	0	
1996	0	23	1	0	1	0	
1997	2	19	0	0	2	0	
1998	0	26	0	0	0	0	
1999	1	10	0	1	1	0	
2000	1	20	1	1	0	0	
2001	3	22	0	3	2	0	
2002	1	22	0	0	0	0	
2003	1	26	1	0	0	1	
2004	1	19	0	1	1	3	
2005	0	13	0	1	1	0	
2006	1	12	3	0	0	3	
2007	0	4	1	0	1	0	
2008	0	7	1	0	0	1	
2009	1	7	0	0	2	0	
<b>Total</b>	<b>14</b>	<b>309</b>	<b>10</b>	<b>8</b>	<b>12</b>	<b>9</b>	<b>362</b>
% of total growth	3.87%	85.36%	2.76%	2.21%	3.31%	2.49%	<b>100%</b>
<p align="center"><i>Shows the number of single or two family residents built in Warren from 1990 to 2009. This does NOT show how many homes were actually built.</i></p>							

<b>Warren Subdivision Lots permitted 1990 - 2009</b>			
	New lots in Rural Residential District (from subdivision permits in the chronological file)	Applications for subdivision (from annual reports) regardless of district	New lots from annual reports regardless of districts
1990	10		10
1991	10		23
1992	16		19
1993	2		
1994			
1995	5		
1996			
1997			
1998			
1999		7	
2000		6	14
2001		4	8
2002		5	6
2003		9	18
2004		9	30
2005		12	30
2006		18	18
2007		19	9
2008		10	10
2009		4	4
<i>This chart shows the number of lots permitted through subdivision between 1990 and 2009</i>			

<b>Warren - Potential New Units for 20, 30, 40, &amp; 50 years based on Current Trends</b>	
	<b>Total</b>
Units per year at current rate	18.1
# new units in 2031	362
# new units in 2041	543
# new units in 2051	724
# new units in 2061	905
Shows the number of potential new single-family units in Warren in 20, 30, 40 and 50 years based on development trends for the last 20 years. This number is based on the best available date, but includes some double counting as well as insufficient data for some years counted.	

### Warren 50 year Buildout using Current Trends



#### Potential New Units

- Residential

#### Existing Buildings

- Commercial / Industrial
- Public
- Residential

#### Zoning

- Airport Commercial
- Access Road Commercial
- Bobbin Mill Commercial
- Forest Reserve
- German Flats Commercial
- Rural Residential
- Alpine Village
- Sugarbush Village Commercial
- Sugarbush Village Residential
- Vacation Residential
- Warren Village Commercial
- Warren Village Residential

Shows the 50 year buildout scenario using current trends.

## **F. Results –Buildout up to Central Vermont Regional Planning Commission recommendations**

The Central Vermont Regional Planning Commission (CVRPC) developed a Regional Housing Distribution Plan as a pro-active regional approach to meeting what they determined to be the future housing needs in the region. The Distribution Plan was derived from the report titled Economic and Demographic Forecast: Central Vermont Planning Region 2000-2020 prepared by Economic and Policy Research, Inc (EPR) for CVRPC. This plan suggests that housing growth in larger towns will slow as the year 2020 approaches and thus encourages growth in less developed towns.

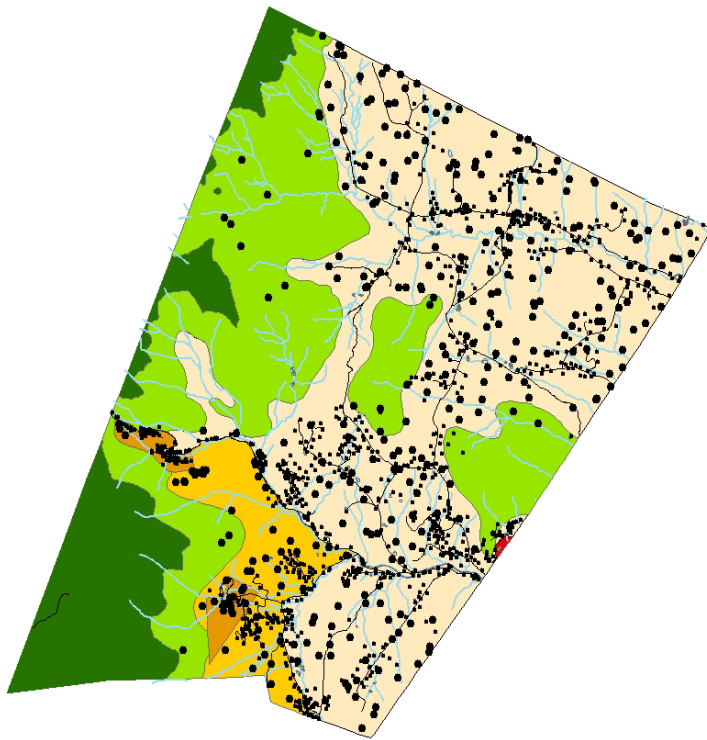
*“ This is in part due to a combination of factors including land costs are cheaper in more rural areas, causing an increase in scattered residential development outside of town and village centers. This pattern of decreasing population in our larger towns has been the basis for future forecasts.) Therefore, the Housing Distribution Plan was formulated with the aim to ensure that all towns continue to contribute similar percentages of the Regional total, or more, as they were in the year 2000 to fulfill the needs of the future. The Regional Housing Distribution Plan results in planning for a total of 8,835 new housing units in Central Vermont between 2000 and 2020.” ( From 2008 CVRPC Regional Plan – Housing 6-16)*

As part of this buildout modeling exercise, the CVRPC plan numbers for the Mad River Valley towns were mapped. Proportion of these numbers for each zoning district was based on the current trends as seen in the charts above (See current trends chapter).

### **CVRPC Regional Housing Distribution Plan Totals for Mad River Valley Towns 2000 - 2020**

- Fayston – 326
- Waitsfield - 312
- Warren – 384

## Fayston Buildout using CVRPC Regional Housing Distribution Plan for 2000 -2020



### Potential New Units

- Residential

### Existing Buildings

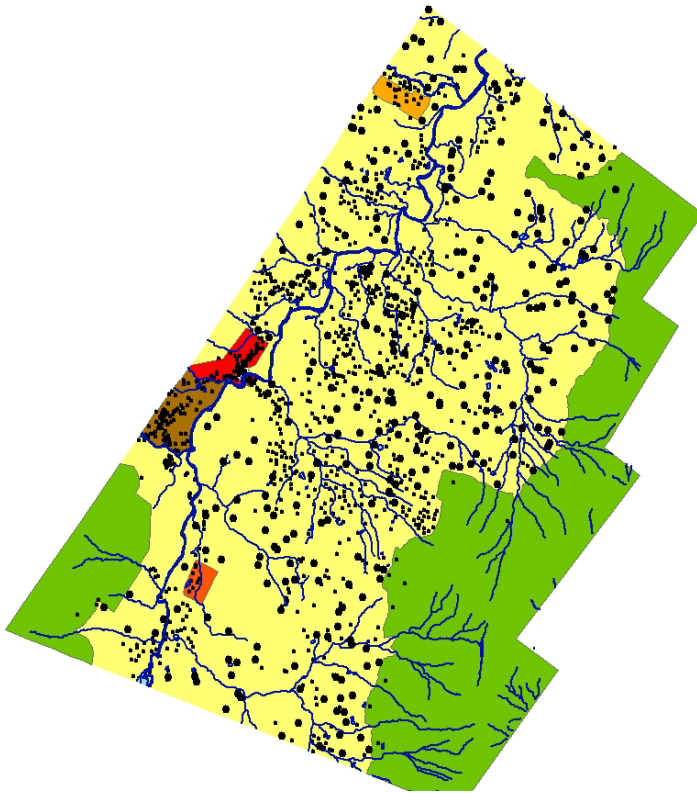
- Commercial / Industrial
- Public
- Residential

### Zoning

- FOREST DISTRICT
- IRASVILLE COMMERCIAL DISTRICT
- RECREATION DISTRICT
- RURAL RESIDENTIAL DISTRICT
- Resort Development
- SOIL & WATER CONSERVATION DISTRICT

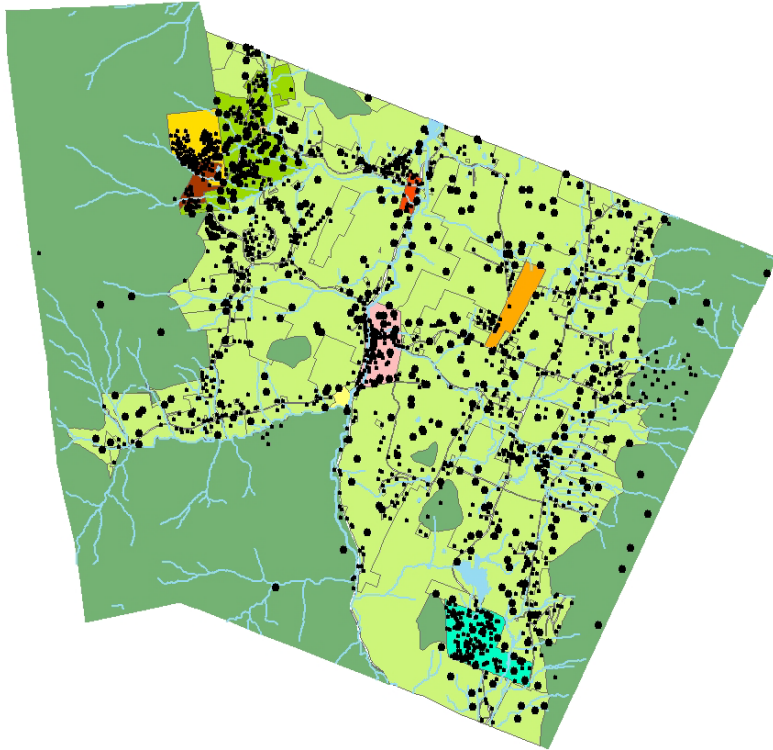
*Shows the model for the number of new units suggested in the CVRPC Regional Housing Distribution Plan  
for 2000 -2020*

## Waitsfield Buildout using CVRPC Regional Housing Distribution Plan for 2000 -2020



*Shows the model for the number of new units suggested in the CVRPC Regional Housing Distribution Plan  
for 2000 -2020*

## Warren Buildout using CVRPC Regional Housing Distribution Plan for 2000 -2020



**Potential New Units**

- Residential

**Existing Buildings**

- Commercial / Industrial
- Public
- Residential

**Zoning**

- Airport Commercial
- Access Road Commercial
- Bobbin Mill Commercial
- Forest Reserve
- German Flats Commercial
- Rural Residential
- Alpine Village
- Sugarbush Village Commercial
- Sugarbush Village Residential
- Vacation Residential
- Warren Village Commercial
- Warren Village Residential

Shows the model for the number of new units suggested in the CVRPC Regional Housing Distribution Plan for 2000 -2020