Central Vermont Regional Planning Commission

Regional Plan Committee

June 4, 2024 at 4:00 pm

To join Zoom meeting:
https://us02web.zoom.us/j/87815276521?pwd=Mmw5U080SGpCTUFNVHZFSERQUlI0dz09
Meeting ID: 878 1527 6521, Passcode: 783374
One tap mobile 1(929)436-2866 or 1(301)715-8592

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AGENDA

4:00 pm[2]	**Adjustments to the Agenda**
	Public Comment
4:05	**Approval of Minutes** (Action - enclosed)[3]
4:10 pm	**Update on 2025 Regional Plan structure + Regional Plan Overview document**
4:25 pm	**Committee feedback:**
	Chapter outlines
	Natural Systems chapter planners draft
	Equity Integration Tool
5:10 pm	**Next steps**
5:30 pm	**Adjourn**

Next meeting: July 2, 2024 (🇺🇸 Tentative 🇺🇸)

[1] Dial-in telephone numbers are "Toll" numbers. Fees may be charged to the person calling in dependent on their phone service.
[2] All times are approximate unless otherwise advertised
[3] Anticipated action item.

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CENTRAL VERMONT REGIONAL PLANNING COMMISSION
Regional Plan Committee
Draft Minutes
April 2, 2024 4:00 – 5:30 pm

Via Zoom

Committee Members:

X	Alice Peal, Waitsfield Alternate Rep
	Rich Turner, Williamstown Rep
X	Doug Greason, Waterbury Rep
X	Mike Miller, Montpelier Alternate Rep
	John Brabant, Calais Rep

Staff: Christian Meyer, Sam Lash, Will Pitkin, Eli Toohey, Niki Sabado (in person)

Adjustment to the Agenda

No adjustments.

Public Comment

D. Greason moved to accept March 2024 meeting minutes, M. Miller seconded. Accepted unanimously.

Discussion – Regional Plan Re-adoption Assessment Report

Commissioners provided broad feedback on draft assessment report, overall positive.

M. Miller asked for clarification on how much of the material in the meeting packet was previously written vs. new material.

S. Lash stated that much of the energy chapter was new and provided further details on how the chapter was developed and what requirements it sought to meet.

Discussed what would remain the same or nearly the same in the readopted interim regional plan vs. in the new regional plan to be written: goals and policies will remain the same (other than those required to be modified to remain in compliance with state law) for the readoption and then be modified in the next version of the plan.

C. Meyer led discussion to the housing needs assessment and provided background on how CVRPC constructed the estimate, including factors and analysis, then presented the estimates of housing units needed by census tract within the CVRPC region.

D. Greason suggested that the interim readopted plan should emphasize that the housing needs estimate is interim and that the State will provide official estimates shortly, A. Peal agreed.

The group provided further direction on how the assessment could be improved for the development of a new plan.

S. Lash began discussion on draft energy chapter and noted state requirements that energy section provide targets on electric, thermal, and transportation sectors and referenced limitations of data for those sectors. S. Lash stated that, although the energy chapter was more up-to-date than many of the other chapters, it is intended to be a placeholder and the upcoming new plan will feature more data and even more in-depth analysis.

S. Lash provided a big-picture summary of trends in the region's energy sector, including the region's progress toward meeting state energy goals, followed by a breakdown of individual municipalities' progress toward the state goals and how those estimates were produced.

S. Lash asked committee to consider if state goals that reduce wood consumption for residential thermal energy were appropriate for the region. The Committee discussed the role of wood heat in a residential heating mix.

M. Miller requested that Montpelier's district heating facility be included in the energy chapter, at least as a discussion point, and noted that the district heating had gotten more use since the July 2023 flood because many residents whose basement furnaces were flooded were interested.

S. Lash detailed the current composition of the region's renewable energy generation portfolio and compared that to targets for future generation. Committee discussed implementation barriers to different sources and how to overcome those barriers and find ways to make those sources more environmentally friendly and appealing to the region's residents.

S. Lash spoke about the resilience benefits of distributed smaller renewable energy projects that may be able to provide electricity to places that are likely to experience extended and/or frequent outages and noted the amount of supporting infrastructure necessary to realize those possible resilience benefits.

M. Miller noted the distinction between "green" and "renewable" energy.

M. Miller moved to recommend CVRPC staff commence the public hearing process for the Proposed Regional Plan Assessment Report, D. Greason seconded the motion, the motion carried.

D. Greason moved to adjourn, M. Miller seconded, all in favor, motion carried.

CENTRAL VERMONT REGIONAL PLANNING COMMISSION
Regional Plan Committee
Discussion Notes
April 2, 2024 4:00 – 5:30 pm

Via Zoom

Committee Members:

X	Alice Peal, Waitsfield Alternate Rep
	Rich Turner, Williamstown Rep
X	Doug Greason, Waterbury Rep
	Mike Miller, Montpelier Alternate Rep
	John Brabant, Calais Rep

Staff: Christian Meyer, Will Pitkin, Eli Toohey, Niki Sabado (in person)

Adjustment to the Agenda

No adjustments.

Public Comment

None.

Quorum not present, so cannot accept April 2024 meeting minutes.

Discussion – Regional Plan Strategy

W. Pitkin stated that, in light of previous conversation with A. Peal and internal staff discussion, the current strategy is to have Flooding as either the topic of a standalone chapter or combined with Emergency Management. This is instead of having Flooding as a section of the Climate chapter, as proposed in the meeting packet previously distributed to the committee.

N. Sabado discussed proposed work plan for developing the new regional plan, including timeline and roles for staff/Regional Plan Committee/Board of Commissioners.

A. Peal requested clarification on who stakeholders are in regional plan development. E. Toohey stated that stakeholders who CVRPC is contacting include members of local organizations who are content experts in the topics of the regional plan. C. Meyer added that staff are targeting stakeholder groups who can provide more insight and speak to the interests of many people in the region.

A. Peal stated that she wanted stakeholders, especially for specific issues such as flooding and housing, to include state and municipal government officials who have had to interact directly with important new laws, such as the HOME Act through bylaw updates.

D. Greason expressed concern over the speed of the proposed timeline, especially staff's ability to complete chapter drafts within five months and the Regional Plan Committee's ability to edit multiple chapters per meeting over the upcoming months. C. Meyer stated that the ultimate deadline that determines the schedule is to start public comment period 60 days before the end of June 2025.

Committee and staff discussed expectations of how much editing would be needed for each chapter draft. A. Peal and D. Greason expected that incorporating policy changes and statutory requirement changes into the regional plan would require more committee input and may require more additional passes from editors than minor tweaks.

A. Peal stated that she anticipated difficult chapters that would require extra committee review would include Housing, Climate Change, Natural Resources, and Flooding because there are significant state-level policy changes currently in the works.

D. Greason and A. Peal suggested that chapters that are in an early but good state could be sent to D. Greason and A. Peal for initial committee edits, then staff could incorporate that input before distributing the drafts to the entire Regional Plan Committee. D. Greason additionally suggested that staff include a time period that they want chapter drafts back, discussed feasible timelines.

D. Greason emphasized that updates to statutory requirements have very specific language and asked whether we want to have chapters and their content more directly mirror those requirements? Specifically, the statutes require "elements" – and asked whether the new plan will continue to have the word "element" in every chapter title and expressed concern that including "element" in the title of some chapters would imply that other elements were not being addressed. C. Meyer also stated that updates to state legislation may bring readers from outside of the region and it may help to demonstrate the plan's compliance to requirements if the elements are clearly identified. A. Peal and D. Greason expressed a preference to not include the word "element" in titles.

Discussion about chapter grouping and organization of different topics. E. Toohey explained evolution of proposed chapter list as staff continue to draft chapters and have internal meetings and that preliminary chapter list in meeting packet was still under revision and an area where staff sought committee input.

D. Greason asked how staff planned to incorporate equity considerations into chapters. E. Toohey spoke on staff's approach for integrating equity, including an equity tool currently in development, along with input from stakeholders.

E. Toohey stated that staff would share the existing database of stakeholders with the committee and will seek any input if committee members know of experts who staff should contact.

Committee members and staff agreed that staff will send the list of stakeholders and the outlines for each chapter to committee members for feedback prior to next meeting.

Staff and committee addressed concerns over specific issues including definitions and transparency in methods of data analysis and determining trends.

D. Greason moved to adjourn, A. Peal seconded, all in favor, motion carried.

Central Vermont Regional Planning Commission

MEMO

Date: May 31, 2024
To: Regional Plan Committee
From: Will Pitkin, Planner
Re: 2025 Regional Plan Rewrite Strategy

For the Tuesday, June 4 Regional Plan Committee meeting, there are no action items on the agenda aside from accepting the April meeting minutes (there was not a quorum present on May 7, although notes from the May discussion are also included in this packet). On Tuesday, we will discuss the strategy for writing the 2025 regional plan.

At the May 7 discussion, staff proposed that the new regional plan place a greater emphasis than past regional plans on: integrating equity, integrating stakeholder input, and readability. The committee members present at that discussion generally expressed support for the proposed direction that the regional plan was moving in; however, the specifics of how to move in that direction were still a work in progress.

Since May 7, staff have developed the Equity Integration Tool that was described at that discussion. This tool is intended for chapter authors to help integrate equity considerations early in the writing process and then as a checklist to review after the chapter drafts are complete.

At the May discussion, staff proposed increasing readability by shortening the body of the regional plan and moving much of the supporting data and analysis to an appendix. Upon further internal discussion, staff believe that enhancing readability without watering down the quality of the analysis would be better achieved by keeping the regional plan closer to the format of prior regional plans and creating a separate document in addition to the regional plan. Staff recommend creating a standalone “Regional Plan Overview” document that is brief, accessible, and forward-looking.

Attached are: April meeting minutes; May discussion notes; the Equity Integration Tool; a current list of regional plan chapters; an outline of the Energy chapter (new); outlines of the Housing, Transportation, Infrastructure, Economy, Working Landscape, and Natural Systems chapters (previously emailed on May 14); and a planners draft of the Natural Systems chapter (new).

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Equity Integration Tool

Proposed Uses:

- Chapter-by-Chapter review (Regional Plan)
    - Not every standard necessarily has to be met by every chapter, this is intended to be a drafting tool even more than a "rubric" to pass drafts through- to help integrate stakeholder identification and consideration throughout our planning process(es). It is intended to identify recommendations not to check all the boxes on the first pass nor even get to all boxes checked this iteration of the regional plan but instead to help us move towards the latter genuinely.
- Regional Plan ("last check" as a whole)
- Inform the Regional Plan Stakeholder Engagement Processes

Source: adapted from Guiding Principles for a Just Transition & Scoring Rubric
(Vermont Climate Action Plan)

Frontline Communities: Historically marginalized communities disproportionally burdened by a policy, project or event and systematically lack access to its benefits due to geographic proximity and/or those who experience discrimination and encounter additional barriers to accessing resources. Often experiencing the first and worst effects of climate change.

Intersectionality: framework/approach that considers the intersections and layering of groups' and individuals' multiple identities and circumstances and how they result in unique combinations of discrimination and privilege. Examples of these identities include gender, race, sexual orientation, ethnicity, class, disability, age, income, immigration status, homeowner/renter/unhoused, employment status, among many others.

Working towards identifying Frontline/Impacted Communities in Central VT:

The following is an adapted list of frontline communities identified by the VT Just Transitions Sub Committee of the VT Climate Council. This is list is in no way complete but is an attempt to capture a snapshot of frontline communities in the Region. In reviewing your chapter circle "yes" or "no" to indicate whether the chapter, goals and strategies consider needs, barriers, impacts of/to the groups identified in the following table.

The intent is for staff to correct and expand this list with the populations identified/discussed in their chapters. Note that each chapter is likely to only include a few of the populations listed below and certain chapters may include more than others. This review will help us, together as a staff:

- Evaluate groups frequently identified as key frontline communities in our chapters, and evaluate those not mentioned to decide whether there is a planning gap in our region
- Check for cohesion on terms and definitions across the entire plan, collectivity build out the Definitions spreadsheet for the Regional Plan.

The chapter, goals and strategies consider needs, barriers, impacts of/to the following groups:		
People of Color: Black/African-American, Brown, Latinx, Asian, Pacific Islander, and Indigenous communities and Native nations	Yes	No
People with disabilities/chronic illness: visible and invisible; electrically-dependent	Yes	No
Women: non-male identifying individuals	Yes	No
Immigrants: regardless of immigration status	Yes	No
LGBTQIAP+ individuals: Lesbian, gay, bisexual, transgender, queer, intersex, asexual, pansexual	Yes	No
Older Vermonters: sixty-five or older	Yes	No
Young Vermonters: below voting age	Yes	No
Single Care Givers: single earner household with dependents	Yes	No
Formerly incarcerated individuals: regardless of conviction	Yes	No
Rural communities: Population < 2,500 who may be experiencing high outage frequencies; infrastructure gaps, low access to services, food resources, etc.	Yes	No
Renters: regardless of structure/space (excluding "Airbnb" style tourism)	Yes	No
People living with low or very low incomes/fixed incomes: Considering multiple socio-economic thresholds, family size, and earner types (consistency across chapters is necessary)	Yes	No
People displaced due to severe weather: from within or out of state	Yes	No
Outdoor/Agricultural laborers	Yes	No
Recent graduates of the foster care system	Yes	No
Unions/Organized Labor	Yes	No
Unhoused/unsheltered	Yes	No
Active or Recovering Substance Use Disorders	Yes	No
Energy Burdened (may get subsumed into another but for now)	Yes	No
Additional:	Yes	No
Seasonal Workers	Yes	No
Business Owner (impacted by flood events, covid)	Yes	No
	Yes	No
	Yes	No
	Yes	No
	Yes	No
	Yes	No

Reminders:

- No one individual can speak for an entire stakeholder population (tokenism)
- Level playing field: acknowledge historic planning efforts have not been equitable (context can be helpful)
- Listen; be mindful of your own perspectives and potential assumptions- better to identify unknowns/gaps/questions than fill in with default

Equity Integration Tool

Identification & Definitions	**Please select N, Y w/edits, or Y and include page numbers/references to where in the text each standard is met**
1. Frontline communities are identified and well-defined in chapter, goals and strategies:	N Y w/edits Y
	Comments and recommendations:
2. Chapter, including explicit goals and strategies, addresses existing and potential inequities as well as intersectionality:	N Y w/edits Y
	Comments and recommendations:
Other:	N Y w/edits Y
	Comments and recommendations:
Analyzing Burdens and Benefits	**Please select N, Y w/edits, or Y and include page numbers/references to where in the text each standard is met**
3. Chapter, goals and strategies clearly identify how frontline communities are prioritized to receive benefits of recommendations/actions:	N Y w/edits Y
	Comments and recommendations:
4. Chapter, goals and strategies identify who/what bears the burdens of recommendations/actions and includes solutions to shield frontline communities from bearing them:	N Y w/edits Y

	Comments and recommendations:
Other:	N Y w/edits Y
	Comments and recommendations:
Ensuring Equitable & Just Engagement	**Please select N, Y w/edits, or Y and include page numbers/references to where in the text each standard is met**
5. Chapter, goals and strategies commit to the inclusion of frontline communities in identification, design, and implementation of goals/strategies	N Y w/edits Y
	Comments and recommendations:
6. Community and municipal priorities/feedback are incorporated into the chapter, goals and strategies	N Y w/edits Y
	Comments and recommendations:
Other:	N Y w/edits Y
	Comments and recommendations:
Funding & Data	**Please select N, Y w/edits, or Y and include page numbers/references to where in the text each standard is met**
7. Chapter integrates data that is representative and meaningful to frontline communities, and/or addresses data limitations and gaps regarding frontline communities	N Y w/edits Y
	Comments and recommendations:
8. Chapter, goals and strategies promote transparency in planning and funding processes	N Y w/edits Y
	Comments and recommendations:
Other	N Y w/edits Y

	Comments and recommendations:
Implementation & Outcomes	**Please select N, Y w/edits, or Y and include page numbers/references to where in the text each standard is met**
9. Discussions of frontline communities result in explicit implementation pathways (including gaps/barriers):	N Y w/edits Y
	Comments and recommendations:
10. Chapter, goals and strategies provide specific, quantifiable commitments or mechanisms to creating equitable outcomes for frontline communities and their environments, including nonhuman living beings	N Y w/edits Y
	Comments and recommendations:
Other	N Y w/edits Y
	Comments and recommendations:

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Other	N Y w/edits Y
	Comments and recommendations:

Regional Plan Chapter List – 5/31/2024

- Climate
- Flood Resilience
- Housing
- Energy
- Transportation
- Infrastructure
- Economic Development (Tentatively to Include Working Landscape)
- Natural Systems
- Land Use

Enhanced Energy Outline

CVRPC Regional Plan 2025 Update

This outline addresses both the Energy Chapter and the Energy Elements that will be included in other chapters (and are required for the regional plan to be submitted and approved in terms of meeting the standards of an enhanced energy plan per Act 174)(see Enhanced Energy Plan 2024 update currently up for Public Comment: https://centralvtplanning.org/wp-content/uploads/2024/04/Readoption-Assessment-Report-Full-240410.pdf)

Energy Chapter

Introduction:
- Overarching policies and goals
- Plan functions and municipal enhanced energy planning summary (existing)
- Energy Burden, Energy Equity, Energy Independence, Energy Resilience
- Approach to this plan

Summary Regional Energy Use (all sectors, trends)
- Municipal Use:
  - Act 172 and summary of municipal building & facility use, needs and aggregate projects
  - Act 174 municipal priorities
- Municipal Roles

Directions/Policy (1 page of highlights, some may be inset boxes throughout plan)
- Regional Strategies re State Goals to electrify thermal sector:
  - Wasteheat Recovery (reducing thermal load to be electrified)
  - District Heating Systems
  - Ground Source Pumps
  - Combo high efficiency cord wood stoves with heat pumps
- Storage
- Building Energy Standards
- Clean Heat Standard

Renewable Energy Generation, Storage, and Energy Infrastructure Siting and Planning

Regional Approach/Policies
- Inset boxes environmental, community, and financial benefits
- Municipal Roles
- Integration Landuse

Known & Possible Constraints

Renewable Energy Targets and Resource Potential Areas

Preferred Sites (Types and Project Characteristics)

Grid Capacity and Infrastructure Needs

Landuse (opportunities/co-benefits; cohesion natural and working lands, housing/target growth areas, etc)

Changes in Technology

Infrastructure Chapter- Energy Elements

Introduction- Energy
- Electric Distribution Utilities
- Electric Transmission
- Efficiency Utility

Existing Infrastructure
- Existing Generation and Storage
- Current Use Estimates

Electric Sector Demand Growth and Targets
- Reliability and Resilience
- Implications for Landuse
- Scaling Infrastructure and Energy Planning

Housing Chapter- Energy Elements

Residential Energy Use (and Burdens)

- Current Use Estimate: focus on thermal sector

Residential Energy Targets & Discussion

- Weatherization
- System Conversion (Fuel Switching)
- Other

Highlight key discussions elsewhere: energy burden, smart growth (land use), RBES, resilience and reliability (interaction climate change and emergency management)

Economy Chapter (or where most appropriate)

Commercial/Industrial Energy Use

- Current Use Estimate: focus thermal sector

Commercial Energy Targets/Discussion

- Weatherization
- System Conversion (Fuel Switching)
- Other

Workforce Development, Green Workforce, key regional industry

Highlight key discussions elsewhere: smart growth (land use), CBES, resilience and reliability (interaction climate change and emergency management),

Transportation Chapter

Current Transportation Sector Energy Use estimates (focused LDV)

Targets (focused LDV)

EV&Charging Infrastructure

Land Use Implications: Smart Growth, Walk/Bike/Roll, reducing VMT, GHG emissions, fossil fuel use

Future Directions: MDV&HDV, other

Housing

- State Requirements
- Aspiration
- Introduction (include continuum here)
- Goals
- Housing Stock and Characteristics
    - Housing Stock CVRPC Planning Area
    - Population CVRPC Planning Area
    - Housing Stock by Municipality
    - Population by Municipality
- Household Composition (incl. aging populations; elderly homelessness inclusion not represented currently)
- Affordable Housing Shortage
- Housing Cost Burden
- Housing and Transportation Index (chart statistics accuracy)
- Housing Cost Factors (affordable housing inclusion; cost per unit - mobile home vs apartment)
- Vacancy Rates
- Housing Targets (staff to look at restrictive forces – look at other towns; wastewater capacity; ratio rural vs towns, cost of community service analysis-research; cluster development; plan for predictable growth rural and town areas)
- Homelessness (community services main incl.)
- Conclusion

Transportation

- *Aspirations*
- *Goals*
- *Strategies*
- The System: Coordination with Other Partners
- The System: Roadway Classification – Function and Jurisdiction
- Climate Impacts and Vehicle Emissions
- Commuter Patterns
    - Commuter Patterns: Central Vermont Residents
    - Commuter Patterns: Central Vermont Workforce
    - Commuter Patterns: Mode of Transportation
- Transportation Demand Management
- Transit
    - Intra-Regional Transit
    - Montpelier Transit Center
    - Rural Community Transportation
    - Active Transportation (Bicycle and Pedestrian Infrastructure)
- Inter-Regional Transportation: Passenger
    - Automobile Traveler Services
    - Busing beyond the Region
    - Passenger Rail
    - Aviation
- Inter-Regional Transportation: Freight
    - Truck-Borne Freight
    - Rail Freight Network
    - Air Freight
    - Inter-Modal Transfer Centers
- Safety
- Putting the "Fun" in Funding
- Outreach Partners (included in chapter or just note to self?)
- Energy Elements (included in chapter or just note to self?)

Infrastructure

- Public Works
    - Water
    - Wastewater
    - Waste (not municipally-run)
- Energy
    - Electricity
        - Distribution Utilities
        - Electric Transmission
        - Efficiency Utility
        - Existing Generation and Storage Facilities
        - Key Challenge
- Communications
    - Telephone
    - Cable
    - Radio
    - Television
    - Newspapers
- Social Infrastructure/Services
    - Education
    - Childcare
    - Cultural Resources
        - Libraries
        - Recreation
        - Museums
        - Theaters
    - Healthcare

(*Insert health equity food access info)

        - Hospitals and Clinics
        - Dental Care
        - Nursing Homes and Residential Care Home Facilities
        - Mental Health Care
        - Substance Use Recovery Resources
- Dams (RP committee advise on this – Flood Resilience chapter?)
- Emergency Management (move to social service-confirm)
    - Police
    - Fire
    - EMS

Economy

- Intro
  - Triple Whammy (Online, Pandemic, Flood) - Callout Box?
  - Equity: Frontline Communities Now Include Business Owners
- Goals
- Comprehensive Economic Development Strategy (CEDS)
  - CEDS Goals
- Population and Workforce/ Employment Trends
  - Population
    - Aging Workforce
  - Gender Parity
  - Race and Ethnicity of Workforce
  - Workforce Housing
- Education
- Access to Childcare
- Participation and Employment
- Household Income
- Employment by Sector
  - Creative and Recreational Economy (Move from Infrastructure and Natural Systems/Working Landscape)
- Productive Resources and Tourism
- Downtown, Village Center and New Town Center Designations
- Goals and Strategies

Tie-ins (remember to focus on what CVRPC's role is, if any):

COVID: childcare, gender parity, downtown businesses, housing (influx of out-of-state remote workers)

Flooding: downtown businesses and what relief was available

Working Landscapes/Recreational Economy: Ecological Systems?

Availability of Infrastructure (Water/Wastewater, Transportaton): Impact on Economic Development

Working Landscape:

Preserve an economically viable working landscape of farms and forests, with increased local food production and access to healthy food.

- Introduction
- Goals

- Prime Agriculture
- Grasslands
- Diversification of Crops
- Maple Syrup
- Cannabis/Hemp
- Productive Forest Soils
- Use Value Appraisal / Current Use
- Mineral Extraction
- Recreation and Tourism
- Hunting, Trapping, and Fishing
- Scenic Resources

- Conclusion
- Goals & Strategies
- References
- State Requirements

**Section structure: Where are we at? Where do we want to be? How will we get there?

Natural Systems: (inventory & policy)

Protect ecologically functioning natural systems and sustainably manage natural resources including wildlife, habitat and water resources.

- Introduction
    - Integrate health equity
    - Include synopsis of inventory / analysis (brian)
- Goals

Terrestrial Resources

- Forest Blocks
- Natural Communities
- Forest Trends
- Wildlife & Habitat
- Habitat Connectors/Connectivity Blocks
- Wildlife Road Crossings
- Elevation & Slope
- Rare, Threatened, and Endangered Species
- Invasive Species

Aquatic Resources

- Watershed
- Act 76
- Surface Water
- Lakes & Ponds
- Wetlands
- Groundwater

- Act 171
- Community Resilience and Biodiversity Protection Act

- Conclusion
- Goals & Strategies
- State Requirements
- References

**Section structure: flip municipal data / action items to beginning and subject information / additional resources to the end

- Flag definitions and other data that may end up in appendix (brian review)

Natural Systems

Protect ecologically functioning natural systems and sustainably manage natural resources including wildlife, habitat and water resources.

The Region's natural systems are ecologically connected and appreciated for their services and intrinsic values. Some of the critical ecological functions that natural systems provide include clean water, flood control, air purification, and carbon sequestration. Natural landscapes and intact forests also provide scenic values, recreational opportunities, and economic sustainability. Expanding access to the many benefits of Vermont's functioning natural systems to include those who have been historically marginalized will support adjacent state and regional goals of environmental justice and healthy populations. Environmental justice cannot be achieved without social justice and the voices of frontline communities included in the planning process.

The following goals and strategies focus on planning for the future of the Region's natural systems. Improving access and maintaining our natural resources is a shared goal across the Region's municipalities. Desired outcomes include improving the health of our forests, waterways, and atmosphere. Preserving biodiversity in the face of climate change requires planners to think outside of traditional boundaries to include neighboring bioregions in coordination with state and federal agencies. Locally, the identification of valued natural resources is critical in developing protective measures and implementing innovative conservation strategies.

Goal 1: Conservation and management of diverse natural areas and wildlife habitats.

Goal 1: Conservation and protection of surface and groundwater resources.

The following pages outline the multiple layers that make up the Region's natural systems. Terrestrial and Aquatic resources are each made up of layers of the landscape that range from natural communities to individual species. An ecologically functioning landscape relies on the natural interactions of species with the landscape. Each layer of the landscape faces unique threats to natural processes such as forest fragmentation, loss of biodiversity, invasive species, and increase of flooding events. Conservation at the broadest scales will ensure that critical species and their habitats are maintained for future generations. Local planning efforts represent how municipalities in the Region are working to protect our most valuable natural resources.

Commented [LF1]: @Brian Voigt We talked about a one-pager inventory synopsis for the intro. We may be able to draw on data from the below sections but we may want to find some more current numbers where we can.

Terrestrial Resources

The Region is transected by several north-south running mountain chains including the Green Mountains to the west, the Northfield Range to the south, the Worcester Range to the north central, Irish Hills to the south central, Woodbury Mountain to the north and the Groton Range to the east. The Winooski River Valley is an exception to this pattern, cutting across the mountains as it flows west to

Lake Champlain. Large blocks of connected forest remain in the foothills and along the spine of the mountain chains; however, the river valleys are some of the most developed areas of the Region and are the most prone to habitat fragmentation.

Forest Blocks: Conservation at the landscape levels involves identifying and planning for intact forest blocks. Town plans across the Region highlight the importance of mapping natural resources and identifying priority forest blocks to inform forest management. Town goals and policies support educating residents on the importance of forest blocks, habitat connectors, and riparian buffers. This includes engaging communities in the management process for priority forest blocks such as Camel's Hump State Forest, Mount Mansfield State Forest, Green Mountain National Forest, the Worcester Range, and Shutesville Hill Wildlife Corridor.

Most town plans in the Region promote the use of regulatory and nonregulatory land use planning strategies to protect these valued natural resources. Conservation organizations like the Forest Legacy Program and the Vermont Land Trust have worked with towns and willing landowners to purchase strategic easements and keep priority forest blocks conserved and connected. Conservation reserve funds are another strategy utilized in certain towns for ease of land acquisition. Common zoning practices to conserve priority forest blocks include cluster development, conservation subdivisions, overlay districts, setbacks requirements, and a thorough development review process. Collaboration between conservation and planning commissions across towns is essential for protecting valued natural resources that span municipal boundaries.

A forest block is an area of continuous forest and other habitats unfragmented by roads, development, or agriculture (Sorenson and Osborne 2014). Highest priority and priority forest blocks are state designated areas critical to keeping our forests intact, connected, and diverse. The Vermont Conservation Design was developed by The Vermont Fish & Wildlife Department with the goal of maintaining and enhancing an ecologically functional landscape. This is a statewide prioritization tool for conservation planning that is free and publicly accessible through the BioFinder[1] website.

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-Insert map of highest priority forest blocks and significant natural communities

Natural Communities: Town-wide natural community inventories are an extremely useful planning tool for community-led natural resources prioritization. Since natural communities do not follow political boundaries and professional consultants can be costly, collaborating with neighboring towns is a practical way of making these inventories more accessible. In 2008, the Mad River Valley Planning District, consisting of Fayston, Waitsfield, and Warren, hired Arrowwood Environmental to complete an inventory of natural communities in all three towns. This report allowed each town to implement conservation measures addressing wildlife connectivity, upland natural communities, and rare and uncommon species on the local and regional scale. The following towns include conducting natural community inventories as a priority goal in their town plans: Calais, Duxbury, Fayston, Marshfield, Northfield, Plainfield, Williamstown. For more information on natural community mapping the Vermont

BioFinder 4: https://anrmaps.vermont.gov/websites/BioFinder4/

Fish and Wildlife Department has published a guide to community-based planning for conservation, Conserving Vermont's Natural History[1].

A natural community is an interacting assemblage of plants and animals, their physical environment, and the natural processes that affect them (*Conserving Vermont's Natural Heritage* 2013). The Region's diverse landscapes and elevations contribute to varied natural communities including but not limited to: Rich Northern Hardwood Forests, Montane Spruce-Fir Forest, Hemlock Forests, and a variety of productive wetland communities such as Northern White Cedar Swamps. Significant natural communities, as ranked by the Vermont Fish and Wildlife Department, cover over 53,000 acres, approximately 10% of the Region. These forested areas contain habitat essential to various wildlife species and help protect and replenish surface and groundwater supplies. They also perform an important atmospheric cleansing function protecting the quality of the air we breathe. Many recreational pursuits are dependent on, or enhanced by, forestland, as is the aesthetic quality of the Region. The table below breaks down forested areas by tree types. The majority of forestland in the Region is dominated by beech, maple and birch, with spruce-fir found at higher elevations.

Commented [LF3]: move to definitions?

Forest Types by percentage in Central Vermont (USDA Forest Service, 2012)

Commented [LF4]: Is there current data available? Should this go to the appendix?

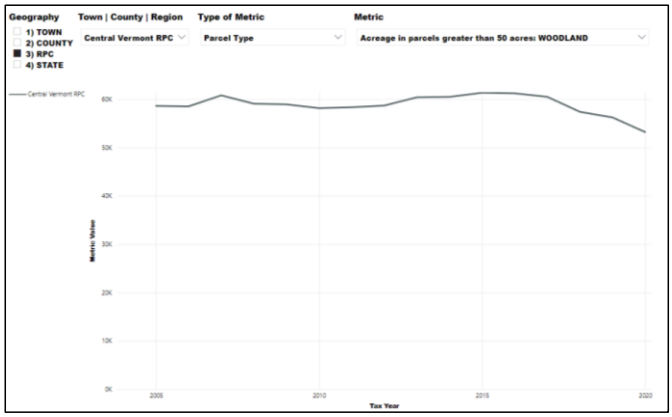
	Washington County	Orange County	Vermont
White/Red/Jack Pine	**12.1**	**25.8**	**9.2**
Spruce/Fir	**5.4**	**8.5**	**7.3**
Exotic Softwoods	**0.3**	**1.7**	**0.3**
Oak/Pine	**2.8**	**0.5**	**2.0**
Oak/Hickory	**0.0**	**3.1**	**3.1**
Elm/Ash/Cottonwood	**0.0**	**0.0**	**1.7**
Maple/Beech/Birch	**71.6**	**57.0**	**71.2**
Aspen/Birch	**7.7**	**3.4**	**5.2**

Forest Trends: With only 3 to 5 percent of all development projects in Vermont regulated by Act 250, Vermont is losing about 6,500 acres of undeveloped land every year, an area roughly the size of Montpelier (*Fish and Wildlife Budget* 2022). This trend has serious implications for the increasing number of plants and wildlife migrating north through Vermont in response to climate change. Non-regulatory strategies are necessary to reduce forest losses and minimize habitat loss and fragmentation.

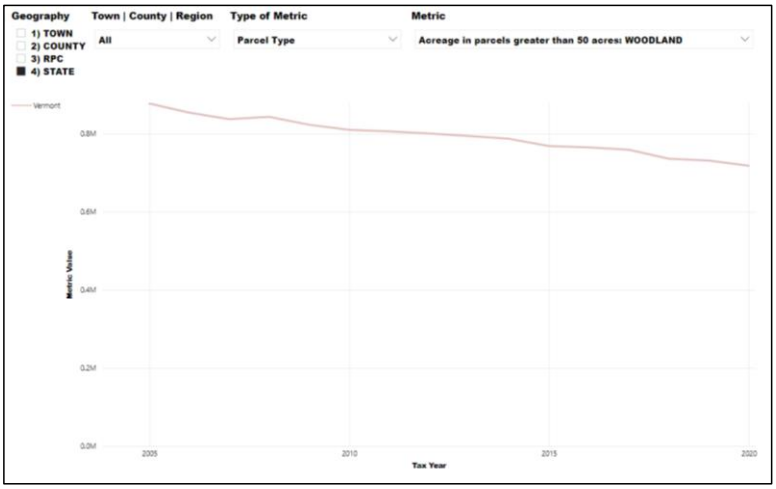
[1] Conserving Vermont's Natural Heritage: https://vtfishandwildlife.com/sites/fishandwildlife/files/documents/Get%20Involved/Partner%20in%20Conservation/Conserving_Vermont's_Natural_Heritage.pdf

Key strategies include natural community inventories, conservation easements, and the Use Value Appraisal Program. Private landowners can contribute by considering their regional context, taking actions to keep forests intact, and engaging in estate planning. Programs like Vermont Coverts: Woodlands for Wildlife[1] and the Forest Legacy Program[2] work with interested landowners to prevent fragmentation and teach responsible forest stewardship.

Rural sprawl is a development pattern that increasingly threatens the remaining connected forests that surround our valley towns. Between 2005 and 2020, the total acreage of woodland parcels larger than 50 acres declined by 9.2% in the Region and by 18.2% in the State, according to the Vermont Natural Resources Council.



[1] Vermont Coverts: Woodlands for Wildlife: https://vtcoverts.org/passing-lands.html
[2] Forest Legacy Program: https://fpr.vermont.gov/state_lands/acquisition/forest-legacy-program



https://vtforesttrends.vnrc.org/explorer

Forest fragmentation refers to the creation of gaps in the forest and barriers to wildlife movement, such as housing and commercial development, roads, and power lines, resulting in the direct loss or inaccessibility of important habitat. According to the USDA Forest Inventory and Analysis[1] Vermont has lost approximately 4,191 acres of forestland between the years of 2005 and 2019 (See table below). The reduction in size of forest patches by roads and associated development can render forest habitats unsuitable for certain species of native plants and animals (Vermont Fish and Wildlife Department, *Conserving Vermont,* 2013)**.**

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[1] https://www.fs.usda.gov/research/treesearch/60981

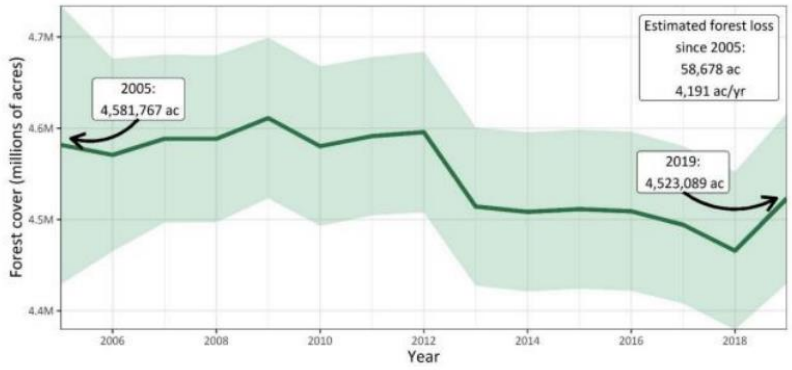


Figure 2: Estimated forest loss in Vermont 2005–2019 (Kosiba, 2021)

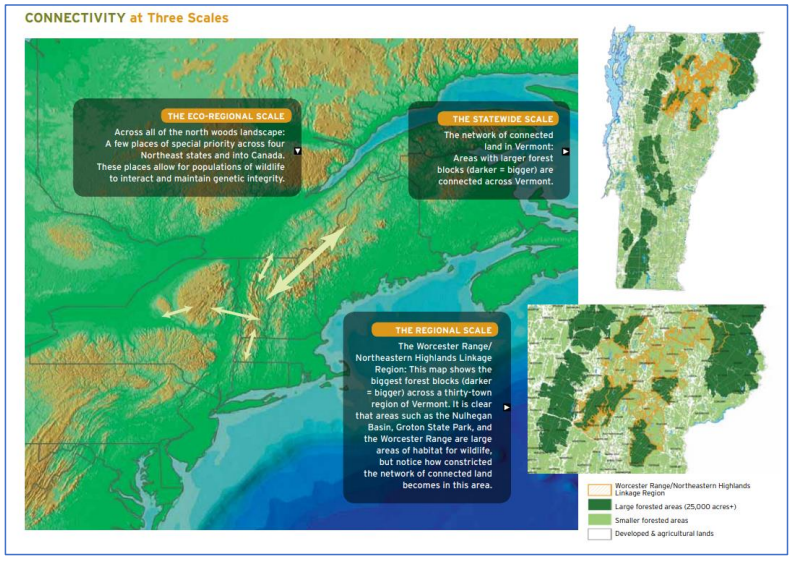
Act 171: Act 171 amended municipal and regional planning goals to manage priority forest blocks and habitat connectors and encourage the use of locally grown forest products. Beginning in 2018, municipalities seeking to have their plans approved by their Regional Planning Commission must include additional information on the future land use map and language that identifies state, regional or locally significant forest blocks and habitat connectors. Plans may also include specific policies on how the community will take steps to reduce forest fragmentation, enhance forest health, and support essential ecological functions. Most towns have chosen to create a town forest management plan and work with Consulting Foresters to address thinning, harvesting, access rights, recreation, and wildlife habitat. For an updated list of towns with forest management plans contact your County Forester. The Agency of Natural Resources has published the Act 171 Guidance document[1] to support municipal and regional planning efforts for forest integrity.

Wildlife & Habitat: Native wildlife species provide numerous values to the Region. Their presence in the landscape is valued intrinsically and is a symbol of sustainability. Wildlife viewing, photography, hunting and trapping are some of the recreational and economic values associated with large forests and healthy wildlife populations. Conserving large, forested areas is essential for maintaining the greatest species diversity possible and allowing for wildlife movement across the landscape. Certain species have such specific needs that their habitat must be considered at the local level. The Agency of Natural Resources has labeled significant habitats that include: deer wintering habitat; wetlands; habitat for rare, threatened, or endangered species; significant natural communities; and feeding / denning habitats for black bears. Protecting these significant habitats from degradation, conversion, and fragmentation is a priority outlined in town plans across the Region.

Commented [LF6]: I don't think much is said in this section. Replace with map?

[1] Act 171 Guidance:
https://anr.vermont.gov/sites/anr/files/co/planning/documents/guidance/Act171Guidance.pdf

Habitat Connectors/Connectivity Blocks: The Region is at a crossroads for wildlife on the move throughout the Northeast U.S. and Canada. The Nature Conservancy estimates species in North America are shifting their ranges 11 miles north and 26 feet in elevation each decade (Miller 2020). This means we not only need to plan for where wildlife is now, but for where they are going to be soon and the paths they will take to get there. Habitat connectors or connectivity blocks are the network of forests that together provide wildlife connectivity across the region (Sorenson and Zaino 2018). Connectivity across the landscape allows for regional genetic exchange and adaptation to unpredictable habitat shifts resulting from climate change. Connectivity blocks act as stepping-stones for wildlife moving between larger forest blocks. The Worcester Range is a key connectivity block linking New York's Adirondacks with the Northeast Kingdom and beyond (Staying Connected Initiative, et al).



Map credit: https://anr.vermont.gov/sites/anr/files/2022-11/enduringplacefinal.pdf

Insert BioFinder map of Highest Priority Connectivity Blocks

Wildlife Road Crossings: One of the top five most important wildlife crossings in the state is known as the Shutesville Hill Wildlife Corridor[1]. This wildlife crossing occurs along Route 100 on the Waterbury-Stowe town line and is the only viable connection between the Green Mountains and the Worcester

[1] Shutesville Hill Wildlife Corridor: https://www.shutesville.com/connectivity

Range. The Waterbury and Stowe town plans recommend protecting Shutesville Hill through zoning and subdivision practices, conservation easements, accompanied by ongoing public outreach and education. The Vermont Fish and Wildlife Department has mapped priority road crossings statewide on the interactive BioFinder map. Towns can build off this data using local knowledge of where and when wildlife is seen along roadways. Removing fencing, installing wildlife shelves, and replacing undersized culverts are all actions that increase connectivity for wildlife. In 2023 a Federal Wildlife Crossings Pilot Program granted the Vermont Agency of Transportation $1.6 million to fund the design of a wildlife friendly bridge allowing crossing under I-89 and Route 2 in western Waterbury. This is a key crossing that would connect the north and south Green Mountains and allow for wildlife movement from the Taconic Mountains in Massachusetts all the way to the mountains of Quebec (*Wildlife Crossing* 2023).

Insert map of Shutesville Hill / game camera photo

Elevation and Slope: As part of the Northern Green Mountain and Northern Vermont Piedmont biophysical regions, Central Vermont is characterized by high elevations and steep slopes. Areas of high elevation and steep slopes are important for resource protection and subject to additional land use regulations. Elevations above 2,500 feet are regulated by Act 250 and slopes between a 15-25% grade are considered "steep" with a greater risk of erosion. Certain towns have chosen a lower elevation of 1,750 feet above which they prohibit development. Below is a list of the benefits of regulating land use at areas of high elevation and steep slopes:

1. Rare, threatened, and endangered species – Certain species that are rare or nonexistent at lower elevations are found in our Region's alpine environments. As the climate warms, more plants and animals will continue to shift to higher elevations to meet their habitat needs.
2. Watershed planning – High elevation areas also play an important role in the watershed as the starting point for precipitation that flows into the valleys.
3. Water quality – Soils in these areas are often more sensitive to erosion due to shallow bedrock, gravity, and exposure to extreme weather. Disturbance of these soils is more likely to impact water quality, as soils and their nutrients are washed into surface waters. Additional sediment in rivers can lead to bank destabilization, streambank erosion, and harmful nutrient loading. Protection of high elevations and restoration of steep slopes and eroding areas is a critical piece in maintaining and improving water quality.
4. Landslides – Understanding where and when slopes in the Region have failed is necessary to plan for future landslides. For local data a Landslide Inventory of Washington County was published by Norwich University professor George Springston in 2017. Statewide information on when and where landslides have occurred can be accessed with the Vermont Open Geodata Portal's interactive Landslides map.

Insert slope map: Percent of each town subject to slope restrictions (from zoning bylaws) / Percent of each town off-limits to development due to elevation restrictions

Rare, Threatened, and Endangered Species: Towns interested in planning for rare, threatened, and endangered species should combine the state's data with local inventories for a more complete understanding of where and when these species occur. In the Region alone, there are nearly 600 different locations in which vulnerable species and their habitats are found, covering approximately 8,600 acres or 1.5% of the Region. Natural community inventories can alert communities to the presence of these vulnerable species and in some cases lead to overlay districts protecting critical habitats.

Rare, threatened, and endangered species serve important roles in maintaining ecological integrity; sometimes, the details of this role may not be known until a species is lost or becomes extinct. The Vermont Fish & Wildlife Department Natural Heritage Inventory[1] tracks these species (*Rare and Uncommon Species* 2019) and the BioFinder mapping tool uses updated Natural Heritage Inventory data to display their known habitat boundaries. To track annual changes to the federal and state endangered and threatened species list, please visit the state's Endangered and Threatened Species[2] webpage.

Invasive Species: On the municipal level there are more opportunities to expand education of invasive species and increase best management practices. Towns can set guidelines for invasive management on municipal property and connect landowners with technical assistance providers like the Winooski Natural Resources Conservation District. Certain towns have taken a proactive approach to invasive management and with assistance from CVRPC have released Ash Tree Management Plans. Consulting foresters are also available for this work and in 2020 the Town of Waterbury worked with Redstart Natural Resource Management to complete an Emerald Ash Borer Preparedness Plan[3]. The Vermont Urban & Community Forestry Program also offers municipal assistance for towns interested in creating an Ash tree management strategy. For invasive species lists, reporting resources, and guides to writing invasive species management plans visit www.vtinvasives.org.

Three common ways to combat invasive species are eradication on specific sites, education and enforcement, and policy advocacy at the state level. The Department of Forests, Parks & Recreation Barre District manages approximately 90,000 acres or 17% of Central Vermont and works to mitigate the spread and effect of invasive plants. The Department of Environmental Conservation hosts the Public Access Greeter Program to prevent the spread of aquatic invasive species. Greeters are stationed at boat launches statewide including the Waterbury Reservoir to inspect incoming boats for invasive aquatic hitchhikers.

[1] Vermont Fish & Wildlife Department Natural Heritage Inventory: https://vtfishandwildlife.com/conserve/conservation-planning/natural-heritage-inventory
[2] Endangered and Threatened Species: https://vtfishandwildlife.com/conserve/endangered-and-threatened-species
[3] Emerald Ash Borer Preparedness Plan: https://www.waterburyvt.com/fileadmin/files/Ordinance_files/Plans/Emerald_Ash_Borer_Preparedness_Plan.pdf?be6afe1658327168b960fbc8f73ba0a1514f6950

Invasive species are plants, animals, and other organisms introduced to a non-native ecosystem that cause harm to the environment, economy, or human health (*Invasive Species* 2023*).* Non-native, invasive plants and pests present a variety of threats to forest and aquatic health in Vermont and the Northeast. Invasive plants such as bush honeysuckles, buckthorn, autumn olive, and Japanese barberry crowd out native plants and are expensive and difficult to control. Invasive plants outcompete natives species by extending their growing season and capitalizing on natural disturbances. Along river corridors and rural roads Japanese knotweed has become one of the largest invasive concerns in the Region. Aquatic invasive plants detected in the Region's lakes and ponds include Eurasian watermilfoil, curly-leaf pondweed, and brittle naiad.

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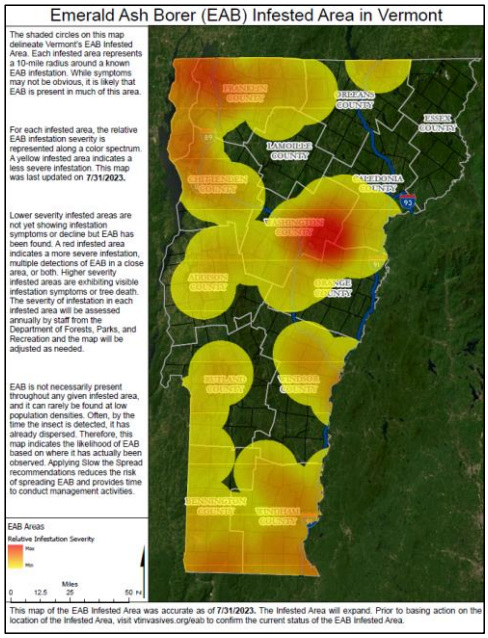
Non-native invasive insects are also on the move into Vermont forests. Invasive insects of concern in Vermont are the emerald ash borer, Asian long-horned beetle, and hemlock wooly adelgid. These species cause extensive mortality of certain native tree species with wide-ranging negative implications for the health of our wildlife and forests. For municipal forests and streets trees the emerald ash borer presents an immediate threat. As indicated in the map below, the Region has some of the most severe cases of known emerald ash borer in the state.

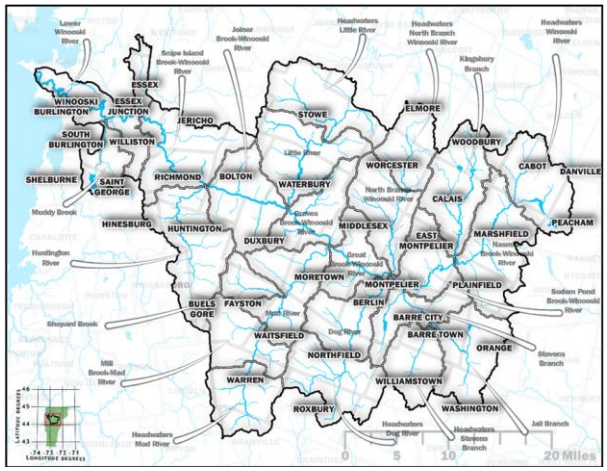


Map credit: https://vtinvasives.org/sites/default/files/images/RiskAreaMap_073123.pdf

Aquatic Resources

The Region predominantly drains into the Winooski River and is the largest tributary watershed to Lake Champlain covering approximately 10% of Vermont. The Winooski River begins in the northeast corner of Washington County in Cabot and runs for approximately 90 miles northwesterly before flowing into Lake Champlain just north of Burlington in Colchester. The basin occupies all of Washington County, a little less than half of Chittenden County and smaller parts of Lamoille, Orange, Caledonia, and Addison counties. CVRPC's regional boundary closely matches the upper portion of the Winooski River Basin.

2024 Tactical Basin Plan; Map of Winooski River Basin



Watershed: watershed scale process that regional, and working towards a goal. The Tactical Basin every five years guidebook to restore surface waters. strategies focus through participation implementation partners and the Basin's Clean Water Service Provider.

Planning on the is a holistic involves local, state partners together common Winooski River Plan[1] is updated and is a strategic protect and Vermont's Proposed on meeting goals voluntary and project by watershed

Town plans throughout the Region share similar priorities for protecting water resources. River corridor and shoreland overlay districts are widely used to increase protection. Collaboration with the basin's

[1] 2024 Winooski River Tactical Basin Plan: https://dec.vermont.gov/sites/dec/files/WID/WPP/Winooski_TBP_2023_signedFinal.pdf

watershed partners is critical in protecting and restoring our shared water resources. Some of the organization's towns have partnered with to restore riparian habitat and implement town wide water quality projects include; Friends of the Winooski, Friends of the Mad River, Mad River Watershed Conservation Partnership, Vermont River Conservancy, and the Winooski Natural Resource Conservation District.
CVRPC has been involved with assessment and planning for the Winooski River and its major tributaries along with partners including Friends of the Winooski River, Friends of the Mad River, Vermont River Conservancy, Vermont Natural Resources Council, Winooski Natural Resource Conservation District, the DEC River Management Program, and the municipalities of Central Vermont.

Act 76: In 2019, the Vermont General Assembly approved the Clean Water Service Delivery Act, also known as Act 76. Act 76 provides a long-term funding source for water quality projects, prioritizes financial support for voluntary projects, and establishes a network of decentralized Clean Water Service Providers (CWSPs) and Basin Water Quality Councils (BWQCs) to identify and implement voluntary projects. CWSPs have multifaceted responsibilities. Their role includes establishing partnerships with non-profit groups and landowners, creating and supporting BWQCs, and identifying and implementing projects to meet Phosphorus reduction targets established to clean up Lake Champlain. CWSPs are also responsible for verifying and inspecting projects over time and ensuring consistency with Tactical Basin Plans. CVRPC has been selected to serve as the Clean Water Service Provider for the Winooski Basin.

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Surface Water: The Region's ample water resources shape the landscape, support the larger ecosystem, and influence local land use decisions. Surface waters include rivers, lakes, and wetlands that offer recreational opportunities such as fishing, swimming, boating, wildlife observation and hunting. Wetlands are some of the most biodiverse places in the state and provide habitat for a variety of aquatic and riparian plant and animal communities. Vegetative buffers on shorelines protect water resources by reducing flood waters, ice damage, sediment loading and bank erosion. The quality of these waters is directly connected to the health of the Region's population and economy. The Vermont Water Quality Standards[1] are updated every three years and establish water quality classes and management objectives.

-Insert Table of acres of surface waters & buffered area by town
-Insert Map of 303d waters & watersheds (2024 TBP)

Lakes & Ponds: Communities looking to address the major threats to water quality can work with the Department of Environmental Conservation adopt a Lake Watershed Action Plan. Currently, there are no lakes or ponds in the Winooski River Basin that have undergone a comprehensive Lake Watershed Action Plan. The 2024 Tactical Basin Plan identifies Nelson Pond in Calais and Sabin Pond in Woodbury as candidates for Lake Watershed Action Plans due to increasing nutrient trends, fair shoreline conditions, and moderately disturbed watersheds. The Department of Environmental Conservation

[1] Vermont Water Quality Standards: https://dec.vermont.gov/watershed/map/assessment/waterqualitystandards%22%20%EF%B7%9FHYPERLINK%20%22https:/dec.vermont.gov/watershed/map/assessment/waterqualitystandards

offers funding and has released Technical Guidelines for Conducting Lake Watershed Action Plans[1]. Funding is also available through the Lake Champlain Basin Fund and the basin's Clean Water Service Provider. In any lake or pond pollution reduction effort, community support is essential for success and communication with landowners early and often is a must.

The Region is home to over 65 lakes and ponds, totaling over 2,300 acres of surface water. The largest water bodies are over 180 acres and include Waterbury Reservoir, Berlin Pond, East Long Pond in Woodbury, and Wrightsville Reservoir in Middlesex. Woodbury and Calais contain the most lakes and ponds of the Region's towns. The Town of Woodbury alone contains over 40% of the Region's lakes and ponds acreage. Overall, our Region's lakes and ponds have highly populated shorelines due to poorly planned development.

Wetlands: Wetland conservation is critical for preventing the loss of remaining intact wetlands, and wetland restoration is essential for rehabilitating those that have already been degraded or lost. Wetland restoration includes assessing areas of degraded or converted wetlands and areas of saturated soils for restoration potential and implementing restoration projects where feasible. Recommendations for wetland restoration can be found in Stream Geomorphic Assessments, River Corridor Plans, and the Tactical Basin Plan.

Wetlands are areas of land inundated or saturated with water for varying periods of time during the year and providing a variety of benefits including productive and diverse biological communities, surface and underground water purification, flood storage during wet periods, and reservoir recharge during dry spells. Wetlands in Vermont are classified as Class I, II, or III based on the value of the functions they perform. Class I wetlands are considered irreplaceable and given the highest level of protection. Class I and II wetlands are both protected by the Vermont Wetland Rules[13]. Chickering Fen is currently the Region's only Class 1 wetland. Kettle Pond has been proposed to study for possible upward reclassification (Basin 8 StoryMap 2023). The VT Wetlands Inventory Map[2] is a tool for locating classified wetlands and vernal pools.

-Insert Map of class I and II wetlands in the Region

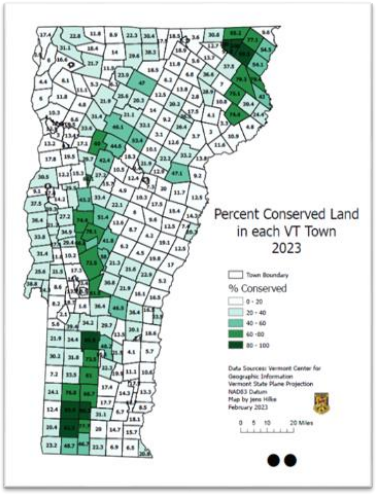
Groundwater: Well over half of the Region's residents, and many of its businesses, receive their water from groundwater sources. In our rural areas, this figure rises to almost 100%. The supply of groundwater is threatened in some locations because of increased impermeable surfaces in aquifer recharge areas. Sources of groundwater contamination in the Region include domestic sewage, landfills, improper disposal of hazardous wastes, leaky underground storage tanks, pesticides and fertilizers. The State of Vermont has adopted a proactive approach to groundwater management. This strategy includes identifying critical recharge zones or Wellhead Protection Areas (WHPAs) and establishing land use guidelines to reduce potential contamination on these sites. The Department of Environmental Conservation requires water providers to develop a Source Protection Plan to minimize the

[1] Technical Guidelines for Conducting Lake Watershed Action Plans: https://dec.vermont.gov/sites/dec/files/wsm/lakes/Lakewise/docs/LWAP%20Technical%20Guidance%20Doc%202023%20Version%205.pdf

[2] Wetlands Inventory Map: https://anrmaps.vermont.gov/websites/WetlandProjects/default.html

contamination risk within WHPAs. The state's Natural Resources Atlas[1] is an online mapping tool that can be used to locate groundwater sources including private wells.

Community Resilience and Biodiversity Protection Act 59: As Vermont's strategy for conservation evolves the Region's role in contributing to statewide targets needs to be considered by all member municipalities. Targets include state, federal, municipal, and private lands. Private lands account for about 80% of Vermont and willing landowners are essential to meeting these targets (*Performance-Based Budget* 2022). The VT Fish and Wildlife Department released the following preliminary conservation map below to show the percent of conserved land by town, although it is still unknown which of these lands will count towards the new targets (Giles). According to these figures the average town in the Central Vermont is approximately 20% conserved. Certain towns in Central Vermont have already set goals encouraging or requiring conservation subdivisions to guide development into preferred areas while protecting natural resources. The town plan of Williamstown encourages conservation subdivisions for future development. The Warren town plan sets the goal of requiring conservation subdivision design to protect natural resources and preserve open space. Calais and Marshfield share the goal of developing a town wide plan for placement of planned unit developments and clustered subdivisions. Innovative solutions such as conservation or clustered subdivisions simultaneously protect natural resources and open space while providing housing and opportunities for energy development. Dual land uses will be necessary in order to achieve these visionary conservation, housing, and energy development goals.



The Community Resilience and Biodiversity Protection Act highlights conservation strategies such as supporting private landowner education, technical assistance, sustainable forest management programs, conservation easements, and fee acquisitions focused on passive management. The bill also

[1] Natural Resources Atlas: https://anrmaps.vermont.gov/websites/anra5/

recognizes the intersection of conservation with statewide housing and environmental justice goals in the following sections:

(16) The Vermont Housing Finance Agency's 2020 Housing Needs Assessment projected an urgent pre-pandemic need for new housing. Strategic investment in conservation is consistent with construction of housing in Vermont's villages and town centers.

"(17) The land and waters, forests and farms, and ecosystems and natural communities in Vermont are the traditional and unceded home of the Abenaki people. Access to land and land-based enterprises has excluded Black, Indigenous, and Persons of Color (BIPOC) Vermonters and others from historically marginalized and disadvantaged communities in the centuries of European settlement. Efforts to increase land conservation must also include opportunities to increase access to land and land-based enterprise for Indigenous People and all who come from historically marginalized and disadvantaged communities."

Commented [LF9]: Maybe this language is in a pop-out box?

Conclusion: The following goals and corresponding strategies are focused on planning for the future of the Region's natural systems. Conserving our natural resources must be addressed at multiple scales. The proposed strategies call for the protection and restoration of the Region at the landscape, natural communities, and species levels. Education and access to natural areas is an overarching goal focused on strengthening human-land connections and overall health across the Region.

Natural Systems Goals and Strategies:

Goal 1: Conservation and management of diverse natural areas and wildlife habitats.

Strategy 1: Enhance mapping and identification of the location and extent of critical resource areas, contiguous wildlife habitat and corridors, and vulnerabilities of these resources.

A. Encourage the inclusion of critical resource areas information and mapping in local plans. (Municipalities should not be limited by the definitions and designations included here, as it is recognized that this Plan may not include all locally significant sites).
B. Provide technical assistance to municipalities through training and workshops to increase local capacity to utilize state mapping tools such as the ANR Atlas and BioFinder.
C. Support the Vermont Agency of Natural Resources and Department of Housing and Conservation in the inventory and implementation phases of the Conservation Strategy Initiative to meet the targets established in the Community Resilience and Biodiversity Protection Act.
D. Work closely with partners such as The Nature Conservancy, the Staying Connected Initiative and Vermont Fish and Wildlife to understand and support the region's unique role in allowing for national and international wildlife movement in response to climate change.

Strategy 2: Continue and enhance environmental and outdoor educational offerings, particularly those targeted to youth, via community and school-based learning opportunities to strive for broader

public understanding of complex environmental issues and for the health and well-being of residents.

Strategy 3: Promote the protection critical landscape scale resource areas. Landscape scale resource areas may include interior forest blocks, connectivity blocks, geological diversity blocks, areas of high elevation and steep slopes, surface waters and riparian areas.

A. Educate towns and the public on the importance of landscape scale conservation.
B. Preserve critical resource areas by identifying key sites and by assisting towns in incorporating provisions in their town plans and land use regulations to protect them (and, as appropriate, restore them).

Strategy 4: Promote the protection of species and community scale resources. Species and community resources may include rare, threatened or endangered species, significant natural communities, wildlife road crossings, wetlands and vernal pools.

A. Encourage local programs for the purchase of development rights, conservation easements or fee simple acquisition to protect contiguous areas of active or potential wildlife habitat.
B. Development and associated infrastructure (roads, driveways, utilities, etc.) should be designed and sited in a manner to preserve contiguous areas of active or potential wildlife habitat.
C. Encourage use of mandatory clustering, planned unit development, variable lot sizing and/or conservation subdivision design to conserve identified wildlife corridors.
D. Support communities in working with interested landowners to foster participation in State and Federal programs such as Forest Legacy, Vermont Coverts, and the Wildlife Habitat Incentive Program.

Strategy 5: Prevent the spread of invasive species and forest pests.

A. Work with Conservation Commissions and local partners to implement coordinated invasive species and forest pest education, detection, prevention and control measures.
B. Support the DEC in promoting the expansion of the Vermont Invasive Patrollers and Public Access Greeters Programs through trainings and outreach.
C. Assist municipalities in integrating invasive species management into town planning such as adopting an Ash Tree Management Plan.

Goal 2: Conservation and protection of surface and groundwater resources.

Strategy 1: Encourage the improved identification and mapping of surface and groundwater resources.

A. Work with State and Federal partners, such as U.S. Geological Survey, VT Geological Survey, and the Agency of Natural Resources, in delineating groundwater supply, aquifers, and groundwater protection areas.
B. Support towns in identifying wetlands and vernal pools that are not already mapped by the State of Vermont.

Strategy 2: Support the betterment of surface water quality in the Region

A. As the Winooski Basin Clean Water Service Provider, work with the Basin Planner and watershed organizations to identify, design, and implement priority cost-efficient Phosphorus reduction projects to meet the targets outlined in the Lake Champlain Total Maximum Daily Load.
B. Promote the protection and maintenance of native vegetated buffer strips in riparian zones and shoreland areas in accordance with Best Management Practices outlined in the Vermont Handbook for Shoreland Development and VT Agency of Natural Resources Guidance.
C. Encourage and help acquire conservation easements along waterways according to priorities identified in River Corridor Plans.
D. Support the DEC Lake Wise Program and development of Lake Watershed Action Plans
E. Encourage the preservation of functional and productive wetlands. Site design decisions should be made to mitigate against the possible adverse impacts of development on the Region's wetlands.
F. Partner with the VT Dam Taskforce to help remove dams not serving a useful purpose. Help identify dams that are not serving a useful purpose and that should be listed for removal in conformance with state and federal rules and regulations.

Strategy 3: Protect ground water quality and ensure adequate, safe drinking water supply.

A. Encourage and support all towns to maintain or create regulations to ensure that land use near ground water sources will not contaminate public water supplies or wells.
B. Disseminate information regarding guidelines for failed septic systems put forth by the Vermont Agency of Natural Resources and financial resources for repair or replacement.
C. Through participation in state permitting processes, require hazardous waste to be disposed of properly (in accordance with State and Federal regulations, etc.) to prevent any degradation of groundwater.
D. Encourage application and implementation of wastewater treatment technologies that will help protect and improve water quality and address wastewater PFAS effluent results of the Department of Environmental Conservation 2022 PFAS Monitoring Report[1].
E. Provide education and training to municipalities to advance the Department of Environmental Conservation 2023 PFAS Road Map2
F. Support towns in applying for funding sources to better their groundwater quality.

Strategy 4: Partner with and assist towns and organizations in implementing the Winooski River Tactical Basin Plan and in keeping it current by helping to identify issues and high priority projects.

Strategy 5: Encourage enhanced educational opportunities on watershed functions, and voluntary engagement in protection and restoration efforts.

[1]2021 PFAS monitoring results: https://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/2021-PFAS-Surface-Water-Fish-Tissue-and-WWTF-Effluent-Monitoring-Report.pdf
[2] 2023 PFAS Road: https://dec.vermont.gov/sites/dec/files/documents/DEC-PFAS-Roadmap-December-2023-Final.pdf

A. Encourage towns to support the work of the Winooski Natural Resource Conservation District by encouraging voluntary participation in conservation programs and identifying conservation priorities in the Region.
B. Encourage towns to collaborate with organizations such as the Friends of the Winooski River and Friends of the Mad River and engage in watershed protection and restoration efforts, such as water quality monitoring.
C. Support efforts to mitigate the spread of riparian and aquatic invasive species. Assist towns in applying for grants, such as the Vermont Aquatic Nuisance Species Grant-in-Aid program, to combat aquatic invasive species.
D. Engage municipal leaders, government agencies, and non-profit organizations in opportunities to cooperate and coordinate to improve water quality.

State Requirements	CVRPC Goals & Strategies	Other Chapters
State Planning requirements: **# (6) statement of policies on the:**		
6(A) preservation of rare and irreplaceable natural areas, scenic and historic features and resources; and	Goal 1.3(B)	Working Lands
6(B) protection and improvement of the quality of waters of the State to be used in the development and furtherance of the applicable basin plans established by the Secretary of Natural Resources under 10 V.S.A. § 1253.	Goal 2.2(A-E), Goal 2.3(A-F), Goal 2.4	
State Planning Goal # (5) To identify, protect, and preserve important natural and historic features of the Vermont landscape,		
5(A) including: significant natural and fragile areas;	Goal 1.4(A-D)	
5(B) outstanding water resources, including lakes, rivers, aquifers, shorelands, and wetlands;	Goal 2.2(B-E), 2.3(A)	
5(C) significant scenic roads, waterways, and views;	Goal 2.5 (A,B)	Working Lands
State Planning Goal # (6): To maintain and improve the quality of air, water, wildlife, forests, and other land resources.		

6(A) Vermont's air, water, wildlife, mineral, and land resources should be planned for use and development according to the principles set forth in 10 V.S.A. § 6086(a).	Goal 1.1 (C)	Working Lands
6(B) Vermont's water quality should be maintained and improved according to the policies and actions developed in the basin plans established by the Secretary of Natural Resources under 10 V.S.A. § 1253.	Goal	
6(C) Vermont's forestlands should be managed so as to maintain and improve forest blocks and habitat connectors.	Goal 1.3(A,B)	

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