

Appendix A: Strategies and Components

The chart spanning the next several pages matches ecological components with appropriate regulatory and non-regulatory protection strategies. More information about most strategies can be found in [Community Strategies for Vermont's Forests and Wildlife](#).

Scale	Component	Conservation Goal	Conservation Strategies	
			<i>Nonregulatory Strategies</i>	<i>Regulatory Strategies</i>
ALL	General strategies for baseline protection	Seek additional information	Conduct field inventories and improve maps. ¹	
			Adopt language in the town plan, including statements about what resources are important, and policies on how they should be managed, protected, and restored.	Check clarity of definitions in zoning bylaws and update if needed. ²
		Protect the resource	Conduct targeted outreach to landowners that connects them with resources on their land and options for managing these resources. ³	Review standards in zoning (subdivision, CU, or use standards), and update if needed. ⁴
			Provide citizen educational opportunities.	Review purpose statements in zoning and update if needed.
			Establish a Conservation Commission. ⁵	
			Create or expand a Conservation Fund for Special Projects. ⁶	Establish or improve subdivision regulations. ⁷
			Encourage landowners to enroll in Current Use. ⁸	
			Encourage residents to conserve land containing important features. ⁹	Review minimum lot size requirements to determine whether lot sizes and site design requirements support the natural resource goals of each zoning district (i.e., 2- to 5-acre lot sizes can cause fragmentation even if open space remains.)
			Work with neighboring communities and/or the regional planning commission to plan for natural resources protections at a regional scale.	
			Create or expand a Town Forest. ¹⁰	

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LANDSCAPE	Forest (Interior Forest and Connectivity Blocks)	Provide stewardship of forestland	Encourage residents to work with a forester to create forest management plans. ¹¹	Establish an impact fee program. ¹²
			Encourage enrollment in Current Use (or local tax stabilization program). ¹³	
			Connect landowners with supporting organizations, such as Vermont Coverts, ¹⁴ Vermont Woodlands Association, ¹⁵ the Natural Resources Conservation Service, ¹⁶ or your local Natural Resources Conservation District. ¹⁷	
		Avoid fragmentation	Encourage residents to enroll in Current Use (or local tax stabilization program). ¹⁸	Allow a greater development density in defined growth areas (like village or commercial districts) than in rural land (through a Forest, Conservation, or Rural Residential Zoning District).
			Encourage citizens to engage in estate planning.	Establish or expand a Wildlife Habitat or Wildlife Corridor Overlay District.
			Encourage residents to conserve their forestlands in important areas. ¹⁹	Establish building envelopes, clearing standards, or limits on driveway length in bylaws to limit the impact of development.
			Create or expand a Town Forest. ²⁰	Establish road and trail standards. ²¹
		Review rural residential-type districts to determine whether lot sizes and site design requirements allow for continued function of rural land (i.e., 2- to 5-acre lot sizes can cause fragmentation even if open space remains.)		

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LANDSCAPE	Forest (Interior Forest and Connectivity Blocks)	Provide support for working forests	Encourage residents to enroll in certification programs that promote long-term support for land management. ²²	Institute local forest products purchasing policy (for municipal purchases).
			Encourage support for businesses that use local forest products.	Ensure that regulations include standards that allow for continued access to working forests and associated infrastructure (e.g., log landing areas). ²³
	Physical Landscape Diversity	Include physical landscapes in conservation efforts	Protect forest blocks and waterways that contain important physical landscapes (see Forest Blocks above and Surface Waters and Riparian Areas below).	
			Compare maps of physical landscape diversity to conserved lands. Prioritize under-represented features in conservation efforts.	When feasible, locate building envelopes outside physically diverse areas.
			Encourage land conservation among owners of physically diverse land. ²⁴	
			Encourage owners of physically diverse land to enroll in Current Use (or local tax stabilization program).	
			Conduct planning efforts so as to avoid development in these areas.	

Scale	Component	Conservation Goal	Conservation Strategies	
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LANDSCAPE	Surface Water and Riparian Areas	Protect surface waters and riparian areas	Support the creation of River Corridor Easements ²⁵ (conservation easements that allow rivers to change course naturally, without human interference).	Require forested riparian buffers in the general standards section of your bylaws, to apply in all districts, or in River Corridor bylaws, if you have them. ²⁶
				Establish standards for minor activities (footpaths, etc.) acceptable within the riparian area.
			Connect landowners to incentives programs for wildlife-friendly management practices, such as through USDA or USFWS Partners for Fish and Wildlife.	Add standards in subdivision regulations or zoning (River Corridor, Flood Hazard, Lakeshore Overlay, or Forest District) that require clustering or setting back development away from riparian areas, river meanders, or floodplains.
				Require minimum setbacks from waterways in zoning and subdivision regulations.
			Adopt town road management standards to comply with Vermont's Clean Water Act. ²⁷	
		Enhance Riparian Quality	Assist landowners in restoring riparian habitats. ²⁸	Require restoration of riparian habitat in site plan or subdivision review by designating "no-mow" zones, allowing for regeneration of woody vegetation, or by planting native species.
			Create an invasive species control program. ²⁹	
			Connect landowners to incentives programs, such as through USDA or USFWS Partners for Fish and Wildlife.	
		Maintain Water Quality	Assist landowners in reducing stormwater runoff. ³⁰	Recommend or require vegetated buffers to filter pollutants before they reach waterways.
			Encourage residents and businesses to reduce use of chemical lawn care products.	
			Identify ways to reduce flood damage to major infrastructure. ³¹	
			Support public awareness of the <i>Acceptable Management Standards for Maintaining Water Quality of Logging Jobs in Vermont</i> . ³²	

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LANDSCAPE	Grasslands and Shrublands	Ensure that management is compatible with wildlife	Practice management compatible with nesting birds on town-owned grasslands (the fields around schools or recreation fields, etc.). ³³	In site plan review, require that developments follow sound grassland bird management guidelines. ³⁴
			Connect landowners to incentives programs for wildlife-friendly management practices, such as USDA, ³⁵ USFWS Partners for Fish and Wildlife, ³⁶ or the Bobolink Project. ³⁷	
			Establish a monitoring program for grassland birds.	
		Maintain or protect habitat	Ensure that grasslands and shrublands are represented in local conservation efforts.	
COMMUNITIES AND SPECIES	Wildlife Road Crossings	Protect habitat around wildlife crossings	Encourage residents to conserve their land through conservation easements, particularly when crossings are part of larger parcels that have additional conservation values. ³⁸	Require vegetated buffers around wildlife crossings in the general standards section of your bylaws, to apply in all districts. ³⁹
			Connect landowners to incentives programs, such as through USDA or USFWS Partners for Fish and Wildlife.	
			Encourage residents to enroll in Current Use. ⁴⁰	
		Encourage residents and businesses to manage their land so as to leave vegetation right up to the road.	Adopt road management standards to allow vegetation to remain up to the road.	

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COMMUNITIES AND SPECIES	Wildlife Road Crossings	Limit fragmentation	When conducting planning efforts, consider wildlife road crossings and connectivity blocks together.	Establish or improve a Conservation District. ⁴¹	
				Establish or improve a Wildlife Corridor or Wildlife Habitat Overlay District that includes both areas of habitat and important wildlife road crossings. ⁴²	
				Review or establish an access management plan, and consider limiting curb cuts in important wildlife crossing areas through site plan review or other standards within the zoning. ⁴³	
		Reduce danger to humans and wildlife	Work with road officials to provide appropriate signage (to educate drivers) and install structures to guide animals to cross in safer areas (under bridges, on straighter road segments, etc.).	Establish traffic rules that ensure the safety of humans and wildlife along town roads on which wildlife are most likely to cross.	
				As needed, upgrade culverts and road infrastructure to VTrans standards. VTrans requires that all crossings include full-width banks and natural, at-grade bottom substrates to facilitate aquatic and terrestrial organism passage.*	Adopt road management standards to avoid guardrails, the removal of roadside vegetation, or deep roadside ditching in crossings wherever possible.
	Species and Natural Communities (Rare, Uncommon, or Representative)	Protect significant species and natural communities	Protect habitat blocks that contain important species, habitats, or natural communities (see Forest Blocks above).	Create a Conservation or Wildlife Habitat Overlay District that protects significant wildlife habitat and a surrounding buffer. ⁴⁵	
			Encourage landowners to conserve land that supports rare or uncommon species or natural communities. ⁴⁴		
			Encourage landowners to enroll in Current Use and enroll eligible areas as Ecologically Significant Treatment Areas (ESTAS). ⁴⁶		
			Create or expand a Town Forest. ⁴⁷		
Manage invasive species		Provide landowners with opportunities to learn about management options for invasive species. ⁴⁸	Adopt a mowing policy in which town roadsides with invasive species are mowed before they go to seed.		

* See: www.floodready.vermont.gov/improve_infrastructure/roads_culverts

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COMMUNITIES AND SPECIES	Species and Natural Communities	Restore degraded habitat	Connect landowners with incentives programs (USDA, USFWS, etc.) that aid in restoring significant natural communities or habitat. ⁴⁹	
	Vernal Pools	Protect vernal pools and associated amphibian populations.	Protect habitat blocks that contain vernal pools (see Forest Blocks above).	
			Write management plans for town-owned land designed to protect vernal pools. ⁵⁰	Require buffers in the general standards section of your bylaws, to apply in all districts. ⁵¹
				Create a Wildlife Habitat Overlay District that includes vernal pools and surrounding habitat ⁵²
			Improve maps of vernal pools.	Encourage subdivision and site plan designs in zoning or subdivision regulations that cluster development away from vernal pools. ⁵³
				Require minimum setbacks in zoning or subdivision regulations.
				Seek to add vernal pools as Class II wetlands on inventory maps (where they are often missing).
			Protect or restore forested habitat between vernal pools	Include a map in your town plan to show possible dispersal corridors between pools.
	Target high priority corridors in land conservation efforts.			

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COMMUNITIES AND SPECIES	Wetlands	Protect wetlands and surrounding habitat	Encourage residents and/or businesses to conserve their wetlands through conservation easements. ⁵⁴	Petition for reclassification of significant wetlands to Class I. If wetlands are not mapped, seek to add them as Class II wetlands on inventory maps. ⁵⁵
			Encourage residents to enroll their wetlands in Current Use, in an Ecologically Significant Treatment Area (ESTA). ⁵⁶	Require buffers through the general standards section of your bylaws, to apply in all districts. ⁵⁷
			Encourage landowners to work with a foresters to choose forest management practices that protect wet soils and fragile species.	Require development design that clusters development away from wetlands and their buffers in subdivision and zoning regulations. ⁵⁸
			Support public awareness of Vermont's Wetlands Rules. ⁵⁹	Incorporate minimum setbacks from wetlands in zoning and subdivision regulations.
		Restore wetlands	Restore wetlands on town-owned lands. ⁶⁰	Create town road management standards to maintain and restore natural vegetation and hydrology. ⁶¹
			Connect landowners with incentives programs (USDA, USFWS, etc.) to aid in restoring wetland habitat. ⁶²	
	Mast Stands	Protect mast stands	Protect habitat blocks that contain mast stands (see Forest Blocks above).	
			Encourage residents to conserve forestland through conservation easements. ⁶³	*Establish or improve a Wildlife Habitat Overlay District.
			Connect landowners with educational resources, such as landowner habitat management guidelines ⁶⁴ or mast production area guidelines. ⁶⁵	
		<i>*Improving inventory information is necessary before implementing any of the regulatory strategies above. State-level maps do not provide enough spatial accuracy for these actions.</i>		

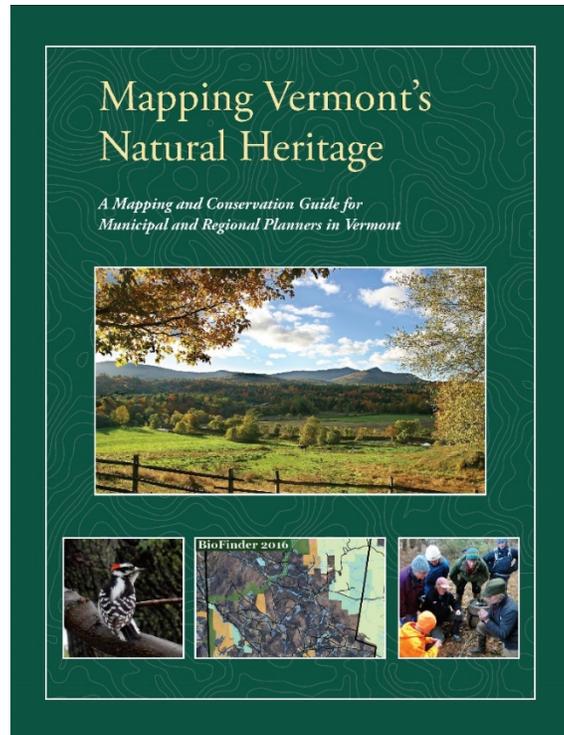
Scale	Component	Conservation Goal	Conservation Strategies	
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COMMUNITIES AND SPECIES	Mast Stands	Protect mast stands	Connect landowners with incentives programs (particularly USDA) to aid with possible financial and technical assistance. ⁶⁶	*Establish development design standards that cluster development away from mast stands and a surrounding buffer. ⁶⁷
			Encourage residents to enroll in Current Use, using Ecologically Significant Treatment Areas (ESTAs) ⁶⁸ or working with a forester to plan for the long-term health of the mast stand.	*Require buffers around mast stands.
			<i>*Improving inventory information is necessary before implementing any of the regulatory strategies above. State-level maps do not provide enough spatial accuracy for these actions.</i>	
	Local Wildlife Resources (Deer Wintering Areas, Clayplain Fragments, Bat Habitat, etc.)	Protect wildlife resources	Protect habitat blocks that contain important resources (see Forest Blocks above).	
			Encourage residents to conserve their land through conservation easements. ⁶⁹	Establish or improve a Wildlife Habitat Overlay District. ⁷⁰
			Encourage residents to enroll their land in Current Use, using Ecologically Significant Treatment Areas (ESTAs) in appropriate locations ⁷¹ or working with a forester to plan for the long-term health of the resource.	Establish development design standards that cluster development away from resources. ⁷²
			Require buffers around these resources.	

One Size Doesn't Fit All

When considering any of the strategies in this chart, remember each can be adapted to match the needs and personality of your community. For example, when we say, “Encourage residents to conserve their land,” one town might create a community recognition award for residents who conserve their land, while another might write letters to landowners of areas identified as high priorities and describe potential conservation opportunities. There is room for creativity in any approach!

Mapping Vermont's Natural Heritage

This is one chapter of a larger publication called *Mapping Vermont's Natural Heritage: A Mapping and Conservation Guide for Municipal and Regional Planners in Vermont*. Please visit <https://anr.vermont.gov/node/986> for additional information or to see the entire guide.



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