

WINDHAM REGIONAL PLAN



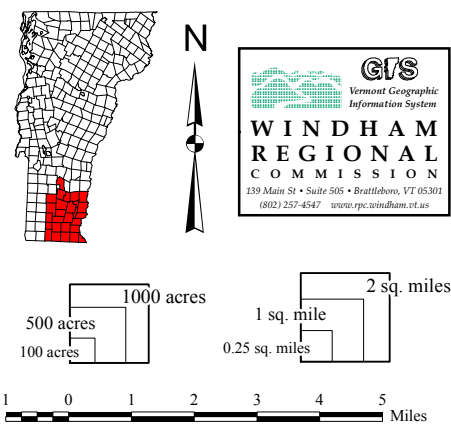
“Sticks & Stones”

Oil on canvas by Jerry Caron

Adopted October 24, 2006

Windham Regional Commission
139 Main Street, Suite 505
Brattleboro, VT 05301
(802) 257-4547

2006 Windham Regional Plan



June 2006; c:\RegPln06\Development.mxd

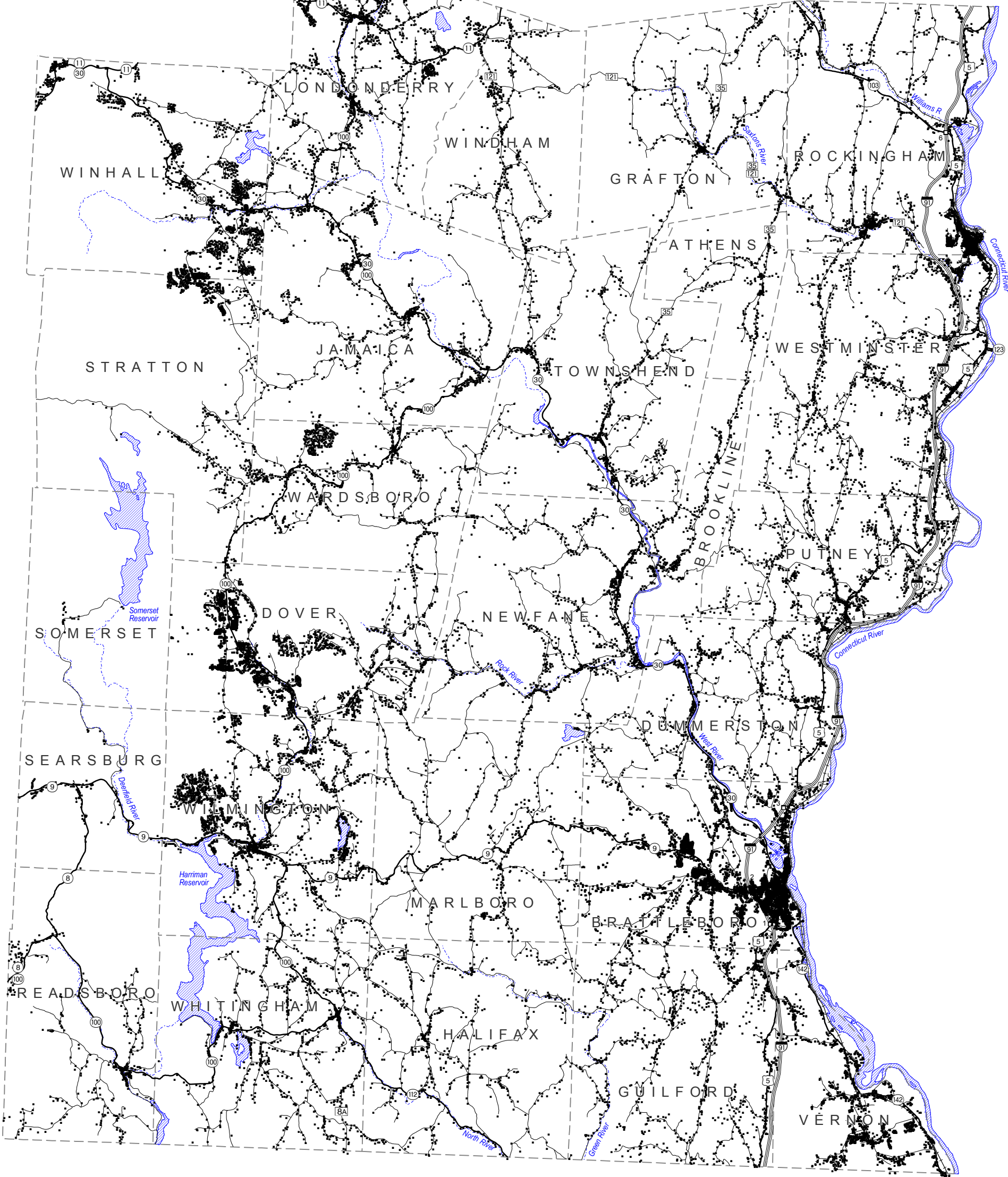
Note: This map should be used for general reference and planning purposes only.

Sources (refer to appendix): 17; also 1, 2, 3.

Regional Development Pattern

This map attempts to show the pattern of development across the Region by displaying structures and major roads. While features other than the structures and roads displayed here can constitute development, defining these other feature and then mapping them would be difficult. By showing roads and structures, the map, taken in a regional context, should give the viewer a general ideal of where in the Windham Region the majority of human activity and land modifications are located.

- Structures
- Interstate highway
- Federal, state, town highway (excluding Class 4 town highways)
- Major river
- Major lake or pond



3.5 ENERGY AND LAND USE PLANNING

Effective land use planning can and should promote energy conservation. Targeting new development toward areas located close to a community's major roads and existing settlements will minimize the energy consumed by commuting and reduce the energy required to deliver essential services to residents and businesses. Decisions concerning capital expenditures on roads and other municipal infrastructure should be mindful of energy conservation.

Promoting revitalization and infill in downtowns and villages will lead to compact development. Such higher density development would provide more opportunities for alternative transportation such as public transit, walking and bicycling and lessen dependence on the automobile.

The siting, design, and construction of buildings strongly influences the amount of energy needed for heating as well as the amount of electricity needed for lighting. Proper subdivision design, building orientation, construction and landscaping provide opportunities to influence energy conservation both in homes and places of work and as people travel between them.

3.6 LAND USE POLICIES

The following policies are organized by land use category, but apply universally where appropriate.

Downtowns and Villages

1. Direct new growth in the form of jobs, housing, commerce, utilities, industry, community facilities, recreational facilities, and cultural activities to downtowns and villages, with consideration of type and scale of development, in order to keep these centers culturally, socially, and economically viable.
2. Promote the economic and community vitality of the central business districts in Brattleboro and Bellows Falls by supporting revitalization efforts that strengthen and improve viability of the downtown areas.
3. Target federal, state, and private funding to support public transit, bridge and highway repair, other transportation needs, installation of sidewalks and lighting, water and sewer, community development, housing, recreation, and other identified downtown or village needs.
4. Rehabilitate existing housing, commercial and industrial buildings and areas.
5. Promote the attractiveness of downtowns and villages through quality building and landscape design and by maintaining public open spaces for scenic and recreation pleasure.
6. Preserve downtown and village character through appropriate design and scale of commercial, industrial, residential, transportation infrastructure and community structures and uses.
7. Revitalize, strengthen and improve the viability of villages and downtowns through using and maintaining existing historic structures whenever possible.
8. Construct or expand utilities including water and sewer when needed to protect health and ground water resources, and to allow appropriate in-fill and development of lands within villages.
9. Adopt clear land use plans and related implementation policies that will maintain village boundaries,

Land Use

preserve historic settlement patterns, and prevent rural sprawl.

10. Promote opportunities for alternative transportation development in village and downtown areas.

High Intensity Mixed Use

1. Encourage communities to develop master plans for the transformation of existing commercial areas and planning for New Town Centers.
2. Utilize access management techniques to ensure proper function, safety and performance of the roadway in designing for high intensity mixed use areas.
3. Promote the attractiveness of high intensity mixed use areas through quality building and landscape design and by maintaining public open spaces for scenic and recreation pleasure.
4. Provide for safe mobility of pedestrians and cyclists in the high intensity mixed use areas.
5. Adopt clear land use plans and related implementation policies that will maintain high intensity mixed use boundaries and prevent rural sprawl.
6. Avoid new areas of strip development and seek means to offset the negative effects of existing strip development.

Resort Centers

1. Direct new growth and development in the form of resort jobs, housing, commerce, recreation, and cultural activities to the existing resort centers.
2. Concentrate growth at resort centers to minimize the trend toward dispersed housing and commercial growth.
3. Manage resource lands to preserve their value for water quality, trails, open space, wildlife habitat protection, and scenic enjoyment.
4. Incorporate public transportation in all plans for transportation improvements in the resort centers.
5. Encourage development of affordable housing for employees within resort centers to minimize commuting and energy use.

Rural Lands

1. Develop hamlets at the density of, and in the settlement pattern of, existing historic hamlets and villages.
2. Direct new residential development and services in rural areas to hamlets in order to prevent rural sprawl.
3. Support the development of, and protect the character of, hamlets through appropriate zoning, site planning, and building design.
4. Direct new hamlet developments away from areas that provide critical access to wildlife habitat and ensure that wildlife habitat does not become fragmented by the elimination of connections and corridors between wildlife areas.

Land Use

5. Develop rural residential lands at densities that will serve to contain rural sprawl, and that are compatible with existing land uses and sensitive to the limitations of the land.
6. Ensure that new development is sensitive to the limitations of the land and avoids important natural resource areas located within the rural residential lands.
7. Direct new rural residential development away from areas that provide critical access to wildlife habitat and ensure, through planning, that wildlife habitat does not become fragmented by the elimination of connections and corridors between wildlife areas.
8. Ensure that new development reflects existing settlement patterns, is low in intensity, and does not conflict with the use and management of forest, agricultural and mineral resource lands, but rather sustains these natural resource commodities.
9. Support a mix of rural land uses including agriculture, housing, home businesses, small-scale commercial and industrial uses, commercial forestry and outdoor recreation, so long as these uses are compatible with one another and do not cause excessive noise, pollution, or disturbance.
10. Manage agricultural and forest lands to promote a long-term sustained yield of crops and timber products.
11. Encourage the use of innovative land-saving techniques - such as cluster development and fixed area density allocation - to protect agriculture, forest, and mineral resource lands from development and fragmentation.
12. Protect green space, particularly along streams and rivers, and other important lands that are valued for trails, open space, wildlife habitat and scenic enjoyment.
13. Encourage the conservation in perpetuity of agricultural lands, including related forest lands and sugar bushes.
14. Encourage full funding of the State Use Value Appraisal Program (Current Use) and enrollment in the program.
15. Protect important natural resources such as fish and wildlife habitats, areas hosting state or federally identified endangered and threatened species, unique and fragile natural areas, wetlands, shore lands, floodplains, aquifer recharge areas, steep slopes, lands over 2,500 foot elevation, ridgelines, essentially undeveloped forest lands which have limited access to an improved public road, and regionally significant scenic corridors and areas.
16. Avoid extension of roads, energy transmission or distribution facilities, or other utility services into or through Resource Lands.
17. Construct corridors for new energy transmission or distribution facilities only when needed, and then only within or adjacent to existing operational energy transmission facility corridors to the maximum extent possible. Minimize their visual impact on ridgelines, slopes and open areas, and avoid important natural and historic resources.
18. Preserve and protect wildlife corridors that join tracts of resource land and important wildlife habitat in order to avoid fragmentation.

Land Use

Growth Centers

In 2006, Vermont adopted Growth Center legislation to enable municipalities to designate growth centers. Designated growth centers can be located in an area of land that is in or adjacent to a designated downtown and village center or new town center. The following policies apply to designated growth centers.

1. Increase capacity and, where needed, extension of infrastructure to serve designated growth center needs.
2. Establish clearly designated growth center boundaries and related local land use regulations.
3. Rehabilitate and use under-utilized land and buildings in growth centers.
4. Encourage cooperation between designated growth centers and neighboring towns on issues related to growth center development, related impacts, and financial issues.
5. Encourage consolidation of regional and town services where it will avoid unnecessary service duplication.

6.6 SCENIC RESOURCES

The region enjoys exceptional scenic quality. Mountain landscapes, farm landscapes, historic villages and towns, ridgelines, the night sky and nighttime landscapes, shorelines, and scenic views and corridors are all highly vulnerable to development. Scenic resource protection measures available to the region's towns include:

- purchase of scenic lands;
- scenic easements, or acquisition of development rights;
- review of the scenic impact of public investment activities;
- designation of scenic roads;
- public education; and
- regulation through zoning and subdivision regulations and the Act 250 development review process.

Maintaining scenic quality requires coordination of these techniques. Many structures such as utility poles, telecommunication towers, wind turbines, cleared powerline rights of way, gas stations, and streetlights are considered by many to be incongruous with our scenic landscape. Careful planning and design will provide development opportunities without adversely affecting the scenic value of the landscape.

Sky Glow

Light pollution or “sky glow” is a cumulative and increasing problem, especially near the urban clusters along the region’s eastern border and near major resort development centers. Light projecting upwards from these areas produces a glow near the horizon which diminishes the natural quality of the nighttime landscape and night sky. As these urbanized areas continue to expand, special consideration needs to be given to lighting design in order to minimize this cumulative adverse effect.

6.7 NATURAL AREAS, FRAGILE AREAS AND WILDLIFE RESOURCES

Natural and fragile areas are landscape features with ecological, educational, scenic, and contemplative value. They provide ecological preserves of relatively unaltered environments that are important to wildlife and the natural heritage of the region.

State Legislation

State legislation provides a means to designate Natural Areas (10 V.S.A. Chapter 83) and Fragile Areas (10 V.S.A. Chapter 158). By law, Natural Areas are owned by the Vermont Department of Forests, Parks and Recreation. Any party can own a Fragile Area, but it must have been determined to be of statewide significance. These designations provide protection and the assurance that the areas will be managed to maintain their natural integrity. Hamilton Falls, on Cobb Brook in Jamaica State Park, is the region's only state-registered Natural Area. Consisting of a 40-50 foot high steep cascade with pools above and below and a mile-long chain of smaller cascades, falls, and pools, the site is exceptional for its geology, botany, setting and pristine water. The only state registered Fragile Area is the J. Maynard Miller Memorial Forest (the Black Gum Swamps) in Vernon. Black gum is a tree species of more southerly latitudes; this disjunct forest community is probably a relic from a warmer postglacial climatic period (between 3,000 and 5,000 years ago) when many southern plants extended their ranges into Vermont.

Natural Resources

Lands Above 2,500 Feet

Although not formally designated as such, areas above 2,500 feet in elevation are often fragile areas in Vermont (see the Ecological Resources Map). Lands above 2,500 feet are especially vulnerable natural environments because of their generally thin soils, steep slopes, sensitive vegetation, important wildlife habitats and often greater than average precipitation and wind. Some 24,800 acres (4 percent) of the Windham Region are above 2,500 feet in elevation.

Ecology

The Windham Region is rich in areas of high ecological value. The Vermont Nongame and Natural Heritage Program track native rare plants and animals and plant communities that are threatened or endangered. These species and communities are considered rare because they have particular habitat requirements, are at the edge of their ranges, or are vulnerable to disturbance or collection. The general locations of these species and habitats are mapped using Geographic Information Systems (GIS) and species descriptions are available through the state program. The Windham Region is home to numerous Natural Heritage sites and species. These species and their habitats deserve an extra level of protection. The Conte Fish and Wildlife Refuge Environmental Impact Statement has identified four areas in the region as nationally important fish and wildlife habitats: the West River including the Rock River, Winhall River and Wardsboro Brook tributaries, primarily due to the potential for Atlantic salmon restoration; Westminster Flats, for its waterfowl habitat; the Retreat Meadows, for its high value wetland ecology; and the Putney Mountain unit for its Northeastern Bulrush habitat.

Fish Habitat

Most of the region's rivers and streams provide important cold-water fish habitats. Shaded stream banks, clean gravel and rocky bottoms, and clean, cool water are necessary to maintain these cold-water fisheries. Lakes, ponds, and larger, slower moving rivers provide warm-water fish habitat. Healthy fisheries are important for both their ecological and economic value. Sedimentation from runoff, bacteria from septic systems, clearing of streambank vegetation, damming of rivers and streams, and lowering in-stream water flows all impact negatively on these important fish habitats. Wetlands, vernal pools and other surface waters also provide specialized habitats for fish, reptiles, amphibians, mammals and migratory birds. Stream buffers and corridors provide important wildlife travel corridors. (Note: For further discussion of fish and wildlife resources, see also Surface Waters in this Chapter).

Remote Forested Areas

The mountainous, forested landscape remote from community centers is the stronghold and haven for the region's large mammals, which include black bear, moose, deer, bobcat, fisher, coyote, otter, and beaver, and high numbers of deer and coyotes, can also be found in the less remote areas. Completing the forest ecosystem are the smaller mammals, reptiles, amphibians, game birds, raptors, and many valued songbirds and insects that depend on the region's diverse forest plant species. A critical state and regional issue is the maintenance of large tracts of connected forestland to support these species. Certain deer wintering areas and bear habitat are regionally significant necessary wildlife habitat (those habitats needed for a species to continue to thrive within that area). For wintering deer, low-lying softwood stands with southern exposures provide critical shelter from deep snow and cold temperatures. Stands of mature beech and oaks, accessible wetlands, and newly regenerated soft mast areas provide important feeding habitats for the black bear. Bear travel corridors supply a necessary link between feeding and breeding areas. These areas are particularly important since food sources and supplies vary from season to season and from year to year. New roads, guardrails, and construction of homes and other forms of development, as well as indiscriminate timber cutting and outbreaks of tree disease, endanger both the quantity and quality of these important wildlife habitats.

6.8 SOILS AND TOPOGRAPHY

Soil Characteristics

Soil characteristics impact land uses such as farming, forestry, mineral extraction, and commercial development. Prime agricultural soils that are rated high for crop production potential are very limited in the region, and are located primarily in the river valleys. Since most primary agricultural soils are flat and well drained, these soils are targets for development. Soils suitable for sand and gravel extraction are also limited within the region. Many of the region's soils can be shallow, unstable, highly erodible, wet or poorly drained. Wet soils may cause basement flooding and failure of footings, foundations, underground piping and septic systems. Road construction on wet sites can be damaging and prohibitively expensive. Drainage of excessively wet soils is often not an acceptable solution because of expense, rate of failure and potential for environmental damage. Any of these features alone, or in combination with steep slopes and/or high elevations, are potentially critical factors in determining appropriate land use in the region.

Earthquake Risk

Southeastern Vermont is considered to be at moderate risk of a moderate strength earthquake. This assessment is based on the historical occurrence of earthquakes nearby. Unstable soil factors can accentuate soil movement and increase subsequent earthquake damage.

Sewage Disposal

Development in the region has traditionally been encouraged on soils suitable for in-ground sewage disposal systems. Permeable soils are often closely associated with sites having high potential for aquifer recharge, and pollution of subsurface and surface waters may result from development on these soils. The travel time of liquid wastes, the rate of absorption and the location of groundwater and surface waters are all important factors to consider in planning development on permeable soils.

Mineral Resources

Mineral resources include deposits of sand, gravel, and other minerals, such as granite, slate, limestone, sulfide, uranium, iron ores, and ultramafics (sulfide, talc, soapstone, and serpentine). With the exception of sand and gravel operations, the proportion of the industry utilizing mineral resources has steadily declined in the region. This decline and abandonment of mining industries is primarily due to decreasing demand, changes in economic value, and local opposition to mining operations, rather than exhaustion of the region's reserves. Public and private interests often are in conflict over extraction of mineral resources, and the balancing the need to use these resources with public's right to minimize potential nuisances will be an increasingly visible issue.

Sand and gravel deposits of varying quality, as shown on the Sand and Gravel Resource Map, are scattered throughout the region and are the principal mineral resources being extracted. Sand occurs in good quality deposits with large reserves along the Connecticut River Valley and near most of the larger tributaries. Deposits of good quality gravel, however, are usually small. The region's good quality, accessible gravel reserve is low.

Sand and gravel are economically important regional resources and significant portions of them occur in only a few towns: Brattleboro, Dummerston, Vernon, Halifax, Guilford, Newfane, and Jamaica. Few towns own and operate their gravel pits even though they experience a steady demand for highway construction and maintenance of unpaved roads. In resort towns during periods when vacation housing and commercial construction are taking place, demand for sand and gravel significantly increases. The increased excavation activity at the pits and the transport of material is known to bring about impacts that negatively affect community resources (roads and bridges), neighborhoods, water quality, and air quality, which in turn may generate or renew local opposition to the utilization of the resources. As the region

Natural Resources

grows, sand and gravel deposits will continue to be extracted for construction, fill, erosion control, and highway maintenance.

6.9 ENERGY AND NATURAL RESOURCES

Energy—its predicted supply, its cost, and the environmental impacts of how it is obtained and used—all have a direct relationship to our stewardship of the land and its resources.

Energy generation always has environmental implications. Air quality is a major concern whenever fossil fuels are used, whether to generate electricity, for space heating, or for transportation. Water quality and aquatic life are affected by hydro dams. The management of used nuclear fuel has ultra-long term implications. All thermal electric power plants waste about two units of heat energy into the water or air for every one of electrical energy produced, regardless of the fuel. It is therefore essential that people use conservation and efficiency measures to lessen the rate of growth in the amount of energy that people consume in the region.

Regional fuel sources also deserve consideration in a number of ways. Wood harvested for fuel represents an important part of the working landscape and of the regional economy, but its combustion presents some immediate air quality concerns; energy generation facilities using biomass fuel must ensure sustainable and air quality-neutral sources and processes. Hydropower from existing dams presents clean and renewable electric power, but solar heating of pooled water and obstructed fish passageways present significant drawbacks. Wind is newly viewed as a natural resource as wind-powered electric generation is poised to expand across much of New England, but it carries with it potential impacts on wildlife, soils and groundwater, and on scenic resources. As Barry Commoner noted thirty-five years ago—in his *fourth law of ecology*—“there is no such thing as a free lunch.”³²

6.10 NATURAL RESOURCE POLICIES

Surface Waters

1. Maintain undisturbed buffers of vegetation along watercourses, lakes, ponds, wetlands, and vernal pools in order to protect shorelines, provide shading to prevent undue increase in stream temperatures, minimize effects of erosion, sedimentation and other sources of pollution, and maintain scenic, recreational, and habitat values.
2. Maintain or enhance existing chemical, physical, and biological quality of the region’s surface waters.
3. Evaluate the licensing or re-licensing of hydroelectric power generating facilities on a case-by-case basis and endorse only those where beneficial values and uses of the affected waters are appropriately maintained.
4. Maintain any designated Class I wetlands in their natural condition. Ensure that any permitted alterations to Class II and Class III wetlands do not significantly diminish their functional, ecological,

³² Commoner, Barry. *The Closing Circle*. Knopf, 1971. Four laws of ecology: (1) Everything is Connected to Everything Else. There is one ecosphere for all living organisms and what affects one, affects all. (2) Everything Must Go Somewhere. There is no “waste” in nature and there is no “away” to which things can be thrown. (3) Nature Knows Best. Humankind has fashioned technology to improve upon nature, but such change in a natural system is likely to be detrimental to that system. (4) There Is No Such Thing as a Free Lunch. In nature, both sides of the equation must balance, for every gain there is a cost, and all debts are eventually paid.

Natural Resources

or aesthetic values. Wetland mapping prepared by the National Wetlands Inventory, showing Class I and II wetlands, available in digital GIS format for each town, should be field-checked and verified.

5. Evaluate inter-basin transfers of water on a case-by-case basis and endorse only those proposals where it can be demonstrated that the water quality in both the sending and receiving basins will not be significantly lowered, the water table and stream flow in the sending basin will not be detrimentally lowered, and peak flows in the receiving basin will not be detrimentally increased. For purposes of this policy, a basin is the drainage area of a watercourse that is at least 1,000 acres in area.
6. Support identification, recognition, and appropriate management of waters with exceptional natural, ecological, recreational, cultural, or scenic values.
7. Support surface water classification and management strategies which are consistent with the municipal and regional land use planning objectives for the affected watershed, and which will effectively maintain existing water quality.
8. Maintain water flows in streams at levels that support a full range of in-stream uses and values.
9. Identify and address any adverse environmental impacts of development proposals that could impede the flow of flood waters, alter the stream channel or its floodplain, or otherwise endanger the health, safety, and welfare of the public.
10. Protect surface waters from run-off and sedimentation caused by agriculture, forestry, recreation, and development activities through the use of:
 - Acceptable Agricultural Practices (AAP's);
 - Acceptable Management Practices (AMP's) for forestry; and
 - Best Management Practices (BMP's), for erosion control.

Groundwater

1. Maintain or enhance existing chemical, physical and biological quality of the region's groundwater.
2. Support the design and construction of on-site sewage disposal systems in consultation with a qualified professional in accordance with applicable state and local regulations.
3. Support uniform design and administration of on-site sewage disposal systems and encourage the development of alternative systems.
4. Avoid contamination of groundwater from the drilling of wells through the use of proper well-drilling technology and appropriate well placement.
5. Require small-quantity generators of hazardous waste to have storage and disposal plans demonstrating that water contamination risks have been minimized.
6. Water withdrawal from underground sources should be carefully monitored to ensure that aquifers and surface waters are not significantly depleted and that water is properly allocated. Promulgation of specific laws and regulations to control water withdrawal and to ensure minimum flows is encouraged.

Natural Resources

Air Quality

1. Prohibit any development or activity that significantly degrades air quality.
2. Support efforts to reduce regionally generated air pollutants from vehicles, two-stroke engines, and wood and coal burning appliances.
3. Encourage all new development to follow the energy conservation guidelines developed by the Vermont Public Service Department for Act 250 permits.
4. Support economic activities that attract clean industries.
5. The use of wood stoves incorporating catalytic combusters should be encouraged.

Forest Resources

Resource Protection

1. Support productive forestry in large parcels, contiguous blocks of parcels, and forested corridors linking blocks and maintain accessibility to those parcels. Doing so will contribute to the long-term ecological health and economic vitality of the region's forestlands.
2. Discourage the fragmentation of large parcels of forestland for development or other conversion to non-forest uses.
3. Support the work of land trusts in placing and encouraging sustainable management of forested parcels under conservation easements, of governmental organizations designating forested lands as resource and conservation lands, and of other organizations whose purpose it is to enhance and conserve forestlands and their resources.

Economic Contribution

4. Promote the development of markets for locally produced forest products and encourage local artisans and the growth of a value-added forest-products industry so that complete timber processing, from timber cutting to finished product, can remain in the region.
5. Support the development of industrial use of lower grade timber to allow forestland owners to undertake timber stand improvements profitably.

Appropriate Management

6. Encourage public, industrial, and private landowners to maintain and enhance forest resources on their lands and to follow sustainable forest management practices that provide habitat for diverse natural species, avoid high grading of timberlands, and follow Acceptable Management Practices.
7. Support the eradication of exotic invasive plants that impede natural forest regeneration in the region, especially glossy buckthorn, Norway maple, Japanese barberry, tartarian honeysuckle, Morrow (fly) honeysuckle and oriental bittersweet.
8. Encourage access to forest lands (with permission of the landowner) for responsible hunting in order to control the deer population, and for recreational hiking.
9. Encourage landowner participation in Vermont's Use Value Appraisal (Current Use) Program and support the Vermont legislature's continuation of this program on a fully funded basis.

Natural Resources

Landowner and Public Education

10. Support landowner and forest-worker educational programs and organizations that teach or demonstrate sustainable forestry and Acceptable Management Practices or that provide educational opportunities to the general public to understand and appreciate the environmental, economic, and recreational benefits offered by the region's forest resource.
11. Encourage employment by private landowners of professional forest managers.

Scenic Resources

1. Improve sites that diminish a scenic view, particularly along state and federal highways and within scenic corridors.
2. Encourage scenic easements and implement appraisal practices that encourage donation of scenic easements to public and private natural resource/conservation agencies and organizations.
3. The scale, siting, design, and management of new development shall maintain or enhance the landscape and shall protect high quality scenic landscapes and scenic corridors.
4. Minimize visual impacts of communication towers and other high-elevation or ridgeline structures through co-location, design, siting, and color choice. Design and site communication and other high-elevation towers so that they do not require nighttime illumination.
5. Illuminate structures and exterior areas only at levels necessary to ensure safety and security of persons and property.
6. Arrange all exterior lighting so that the light source (lamp) is not directly visible from public roads, adjacent residences or distant vantage points. Shield exterior lighting so that the light does not project above the lamp.
7. Discourage exterior area illumination of regionally prominent physical features and landscapes. Ensure that any such illumination will not significantly reduce the natural appearance of the nighttime landscape, will not be obtrusive in the viewshed, and will not distract unduly from the nighttime horizon or night sky.
8. Plan new or improved roads to maintain or enhance scenic resources.
9. Screen new development from I-91 and other scenic roads to the greatest extent practicable using vernacular perimeter plantings of hedges, hedgerows, and street trees.

Natural Areas, Fragile Areas and Wildlife Resources

1. Protect Natural Areas, Fragile Areas, and critical plant and animal habitats. If necessary, protect these areas from indiscriminate publicity by mapping them only in very general terms.
2. Protect important ecosystems and maintain or enhance the habitat needs and travel corridors required by the region's larger mammals.
3. Protect Natural and Fragile Areas from development. When development is proposed near a natural or fragile area, a buffer strip designed in consultation with the appropriate state agency, must be designated and maintained between the development and natural or fragile area.

Natural Resources

4. Support state, federal, and conservation group acquisition of land and/or conservation easements to protect critical wildlife habitats and encourage designation of State Natural and Fragile Areas for significant features and resources.
5. Support local, regional, state and federal programs and incentives that encourage private and public landowners to recognize the economic importance of protecting, maintaining and enhancing fish and wildlife habitats and ecosystems.

Soils and Topography

1. Take special precautions on slopes to avoid environmental damage, including negative consequences associated with erosion and landslides.
 - Minimize areas of earth disturbance, grading, and vegetation clearing on slopes over 15 percent;
 - Avoid intensive development (other than appropriately designed recreational trails and ski lifts) in areas predominated by slopes exceeding 25 percent or above 2,500 feet in elevation; and
 - Design developments on slopes over 15 percent so as to minimize the potential impacts of slides and earthquakes.
2. Use detailed site studies to determine suitability for development where steep slopes occur with shallow soils. Ensure that all development proposals on such soils provide and conform to an erosion control plan for construction phases of the development and a site drainage plan.
3. Avoid development on wet soils.
4. Avoid development on mucks, clays, silts, and other unstable soils that offer poor support for foundations or footings and are subject to slippage. Conduct extensive site investigation to determine suitability for any development on unstable soils.

Mineral Resources

1. Develop land with high potential for the extraction of mineral and earth resources so as to not interfere with the subsequent extraction or processing of the resource.
2. Extraction of mineral resources shall not interfere with or have negative impacts on groundwater, air quality (dust and noise), and special community resources (historic sites, recreation areas, or scenic areas). Extraction sites must handle truck traffic without creating unsafe conditions for adjoining landowners.
3. Ensure that effective site rehabilitation plans are provided and implemented.

Community Resources

2. Facilitate the orderly development of needed public and private recreational facilities.
3. Encourage public opportunities for multiple use recreation and public access to recreation lands and waters, where the uses do not compete.
4. Maintain high environmental quality in the development of outdoor recreation facilities.
5. Recognize the recreational potential of watercourses and shorelines and provide facilities for water-oriented day use.
7. Develop multi-purpose trail corridors using abandoned railroad beds, Class 4 roads and other public rights-of-way. Protect existing trail corridors.
8. Encourage federal, state, and local acquisition of land and facilities well-suited for outdoor recreation, provided that adequate financial and management arrangements are made with the involved local governments.
9. Support United States Forest Service acquisition, other than by eminent domain, of private in-holdings within and selected lands adjacent to the Green Mountain National Forest, provided that adequate payments in lieu of taxes are made to the affected local governments.
10. Plan and provide recreational opportunities for the disabled and elderly.
11. Provide separate areas or facilities for conflicting uses of recreational resources. For example, swimmers and motorboats should not compete for the use of the same resource when such conflicts create safety hazards or significantly impair the use or enjoyment of the resource.

Cultural and Historic Resources

1. Support efforts to maintain and enhance the region's libraries.
2. Strengthen the role of cultural and artistic disciplines in public education.
3. Encourage community-based facilities and organizations which will support cultural needs, along with improvements in marketing and distribution of the arts.
4. Support organizational and communication networks serving the region to promote the enhancement of cultural opportunities.
5. Protect places of outstanding educational, aesthetic, archeological, or historical value from development that unreasonably impairs their character and quality.
6. Discourage development that would adversely affect cultural resources, including their destruction or alteration, alteration of surroundings, or the introduction of non-harmonious visual, audible, or atmospheric elements.
7. Encourage rehabilitation of significant historic sites and structures. Emphasize adaptive use of historic resources whenever it is economically viable.

Community Resources

8. Encourage development that preserves the historic and architectural character of town and village centers and the rural landscape.
9. Seek public uses and/or ownership to preserve significant historic sites or structures.
10. Support local, regional, and state non-profit historic preservation trusts.

Transportation

and the allowable traffic operations in each category. VTrans, in coordination with the Regional Planning Commissions, analyzed traffic volume, speed limits, density of existing access points, and functional class along the entire length of each state and Class 1 town highway. Based on the criteria for each category set forth in the guidelines, all highways were broken into various segments and designated as an Access Category 1-6. All selectboards in towns with state highway were notified of the proposed access category designations, provided with category descriptions and a map of their town's highways and comments or concerns were requested.

Scenic Roads and Vermont Byways

Scenic Roads are an important recreational and tourism resource and, as such, should be protected. Currently, only a few scenic roads have been officially designated in Vermont under the Scenic Highway Law (Public Act No. 58 of 1977) and none by towns in this region. However, many town plans identify roadways that exhibit particular qualities and that occupy a special place in a community's landscape, history or culture. Attributes of a "scenic road" may typically include forest patterns or significant stands of trees, scenic terrain, and distant views, road surface or road layout characteristics, nearby surface waters, picturesque farms or villages, stone walls and cemeteries, or unique man-made and natural objects.

The Vermont Byways Program acknowledges that many varied attributes of a given road may deserve recognition and protection. A "Vermont Byway" is a highway or other public road that has special scenic, historic, recreational, cultural, archeological, and/or natural qualities and that is formally designated by the Vermont Scenery Preservation Council and Vermont Transportation Board in order to enable management practices and programs that focus on any or all of those qualities. The Connecticut River Byway (VT 142 and US 5) and the Molly Stark Trail (VT 9), both designated Vermont Byways, traverse the region. The Connecticut River Byway, designated a National Scenic Byway in 2005, is located on both sides of the Connecticut River in New Hampshire and Vermont and stretches from their borders with Massachusetts to the Canadian border. The Molly Stark Trail Scenic Byway encompasses all of VT 9 from the Vermont border with New York to New Hampshire.

Aesthetics, Preservation and Design of the Highway System

In response to the concern that the roadway and bridge designs need to be "sensitive to the social and environmental context of Vermont"⁷⁵ the State of Vermont adopted Vermont State Design Standards for roadway design. The State of Vermont also established a Historic Bridge program to protect historic transportation structures. To further address the issues of aesthetics and livability in the communities adjacent to the roadways, VTrans currently has a Traffic Calming Protocol that agencies need to follow when considering traffic calming projects on state highways and when using federal and state dollars for such projects. The WRC has been active and supportive of these innovative programs and will continue to review transportation projects to assure compatibility with the Regional Plan.

9.2 FREIGHT TRANSPORTATION

According to the US Department of Transportation, trucking remains the dominant mode to transport freight. From 2005 to 2020, within New England, freight traffic is anticipated to grow 79 percent. While freight encompasses truck, rail, water, and air, Vermont's statewide mode share for all movements consists of 90.4 percent by truck, 8.3 percent by rail, and 1.3 percent by other.⁷⁶

⁷⁵ Vermont State Design Standards, October 1997.

⁷⁶ Vermont Freight Study, 2001.