TOWN OF ERVING

2010 OPEN SPACE AND RECREATION PLAN

June 2010

Prepared by the

ERVING OPEN SPACE PLANNING COMMITTEE

and the

FRANKLIN REGIONAL COUNCIL OF GOVERNMENTS

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SECTION 1

PLAN SUMMARY

The Erving Open Space and Recreation Plan (OSRP) focuses the interest and motivation of community members towards the identification, prioritization, conservation and protection of Erving's natural, recreational, and historical resources in the face of new development. Its purpose is to provide a framework for decisions dealing with land uses that may impact valuable natural resources and the lands that contain unique historical, recreational, and scenic values.

The 2010 Erving Open Space and Recreation Plan (OSRP) represents the understanding of Erving residents of the interdependence of forests, streams, swamps, wetlands, agricultural fields, scenic views, and significant historical structures and landscapes with the Town's rural character. The OSRP illustrates the role that all parks have in providing safe spaces to recreate and that undeveloped open spaces have in providing wildlife habitat, in ensuring that residents have access to forests and fields to walk, hike, and view nature.

The Seven-Year Action Plan gives concrete substance to the goals and objectives, which were developed from the results of the 2009 Open Space and Recreation Survey and from community members' understanding and input of their Town's vast, yet vulnerable, natural resource base. The 2010 Erving Open Space and Recreation Plan prioritizes actions that will:

- Create an officially appointed Open Space Committee.
- Prioritize Town sponsored land protection projects that conserve forestland, drinking water, streams, ponds, open fields, scenic views, wildlife habitat, and wetlands.
- Develop multi-user (walking, hiking, bicycling, cross country skiing) trail systems that tie into existing ones (i.e. the trail connecting Erving Center and Farley along the Millers River in Wendell), which can be safely accessed from publicly owned land or private lands with trail easements.
- Work closely with the Conservation Commission, private conservation land trusts, and state agencies to identify and facilitate the acquisition of land and easements for conservation areas and trails for walking, biking, hiking, rock climbing, bird watching, and other recreational activities.
- Support the Recreation Commission to be more effective in providing needed recreational facilities and programming for all of Erving's residents, especially teens, adults, and seniors.

- Coordinate with regional and state land protection efforts, in and around Erving, to ensure the continued conservation of important natural, recreational, and open space resources.
- Improve access to parks and open space for all residents by coordinating with all relevant Town boards and committees.
- Improve access to parks and open space by the physically disabled and the elderly by coordinating with all relevant Town boards and committees.
- Identify, promote and help protect historically significant areas and landscapes, such as cemeteries and historic structures
- Seek to permanently protect from development all lands that contain unusual plant communities and rare and endangered species habitat.

SECTION 2

INTRODUCTION

A. STATEMENT OF PURPOSE

The purpose of this plan is to provide an accurate and thorough basis for decision-making involving the current and future open space and recreation needs of the residents of Erving. This plan brings together and builds upon the planning efforts of the past twenty years, beginning with the 1990 Open Space and Recreation Plan and the Master Plan and continuing to the 2002 OSRP and 2002 Master Plan.

This 2010 OSRP is based on the 2002 OSRP, but has been revised and updated to reflect current thinking and consensus in Town on the most important recreation and natural resource needs and the best solutions for addressing them. The detailed Seven-Year Action Plan provides a step-by-step guide that when carried out by an Open Space Planning Committee and other town boards and commissions will successfully implement the Town's open space and recreation goals and objectives.

B. PLANNING PROCESS AND PUBLIC PARTICIPATION

An Open Space and Recreation Survey was developed and reviewed by Erving residents. The survey was mailed to all residents in Town via the Town Newsletter and distributed at a special Town Meeting. The rate of return of the completed surveys was 7 percent. The results were used to inform discussions by the Open Space Planning Committee in its development of Sections: 6 – Community Goals, 7 – Analysis of Needs, and 8 – Goals and Objectives.

There have been seven public meetings of the Erving Open Space Planning Committee, including the Public Forum, which was held on November 30, 2009. The following boards and commissions were represented on the Open Space Planning Committee:

- Conservation Commission;
- Select Board; and
- Planning Board.

The Franklin Regional Council of Governments (FRCOG) also provided assistance to the Town in updating the Plan by coordinating meetings, producing maps, and writing sections of the plan based on input received at the Open Space Committee meetings and at the Public Forum. The regular working meetings were posted at Town Hall. Before

each meeting, members were sent drafts of sections of the plan to read. This form of work review was a significant and consistent vehicle for public participation in the development of the Open Space and Recreation Plan. Comments on these sections were discussed at the meetings and incorporated into the revised versions of the chapters.

Any comments expressed at the Public Forum were recorded and included in Section 10 – Public Comments. Any ideas, comments, and corrections pertaining to different sections of the plan and the action steps have also been included in the final version of the Erving Open Space and Recreation Plan. As part of additional public outreach, the draft plan was posted on FRCOG's website to obtain further feedback from the community, especially for those residents that were not able to attend the Public Forum.

SECTION 3

COMMUNITY SETTING

The Town of Erving contains rural landscapes that have been developed and affected by its human inhabitants over the past several hundred years. Planning for open space in Erving must account for the complex relationships between people, the open spaces, and the natural resources upon which they depend. Continued growth without consideration of the natural systems such as biodiversity and the water cycle, will reduce the quality of life for future generations.

The information provided in this section, Community Setting, inventories and assesses the human and land use components of the landscape, moving from the present, to the past, and then to the potential future, based on current development trends. The Regional Context gives a snapshot of Erving today, and identifies the ways in which the location of the Town within the region has affected its growth, its quality of open space, and its recreational resources. History of the Community looks back at the manner in which the human inhabitants settled and developed the landscape. Next, using statistical information and analysis, Population Characteristics shows the reader who the people of Erving are today and how population and economic trends may affect the Town in the future. Finally, Growth and Development Patterns describes how the Town of Erving has developed over time and the potential future impacts that the current zoning may have on open space, drinking water supplies, and municipal services.

A. REGIONAL CONTEXT

Regional Context concentrates on the location of the Town of Erving relative to natural and socio-economic resources and demonstrates the significant influence that physical location can have on Erving's community characteristics. This includes the quality and quantity of open space in the Town as well as its recreational resources. Regional Context also considers the impact that different land uses, located within the Town of Erving and in surrounding communities, have on regional open space and recreational resources. Finally, potential regional strategies for environmental and open space protection are offered.

The Town of Erving (14.24 square miles) lies in the eastern part of Franklin County in the rugged highlands east of the Connecticut River. It is bounded by the Towns of Northfield and Warwick on the north, Orange and Warwick on the east, Wendell on the south, Montague on the southwest, and Gill on the northwest. The principal highway serving Erving is State Route 2, referred to as the Mohawk Trail, a major east-west thoroughfare, passing along Erving's southern border and paralleling the boundary

between Erving, Wendell and Montague. Route 63, on the western edge of Erving, is the only north-south route in Franklin County located east of the Connecticut River. The Millers River also passes along Erving's southern border parallel to Route 2.

A.1 Natural Resources Context

In order to plan for the protection of open spaces, natural resources, and its rural character, the Town of Erving should consider the roles these resources play across the landscape. A pond for example may be regionally important due to the presence of rare species habitat, or because the pond helps to link a regional chain of wetlands that support amphibian population movements. Erving's major natural resources and topographical characteristics include its abundant contiguous forestland, high elevations, and the Millers River. The regionally important natural resources include the Quabbin Reservation and the Millers and Connecticut River Watersheds. Erving's residents also enjoy the presence of Laurel Lake located on its western border with Warwick. Laurel Lake, located in Erving State Forest, is a great site for swimming, boating, and fishing. Regionally important local resources present both opportunities and challenges to open space planning.

A.1.1 Contiguous Forestland

Forests constitute the most abundant and one of the most important natural resources in Town of Erving. These forests, including many large tracts of uninhabited or roadless land, provide Erving its rugged and rural character. Some of this land lies within Erving State Forest.

Erving State Forest includes approximately 2,524 acres of forested hills, streams, ponds, old roads and trails in two separate blocks within Erving. It is broken up into two main sections east of the Northfield Mountain Reservoir. The largest contiguous block of the State Forest is the easternmost section, which includes the Laurel Lake recreation area. This eastern section of the State Forest is also the southern end of an uninterrupted stretch of permanently protected contiguous forestland that begins in the north with the Mt. Grace State Forest in the Town of Warwick, Massachusetts. The Hermit Mountain section of Erving State Forest is the westernmost section and is located between the FirstLight Hydro Generating Company's Northfield Mountain Reservoir property and Mountain Road. The Department of Conservation and Recreation (DCR) manages Erving State Forest for recreation, forest products and wildlife habitat protection. It is one of the most popular recreation and wilderness areas used by residents of Erving and surrounding towns.

In western Erving, FirstLight Power Resources owns approximately 1,760 acres of contiguous forestland. This area is comprised of the Northfield Mountain Reservoir and the Northfield Mountain Environmental and Recreation Center. Roughly 800 acres are

developed for recreation, approximately 600 acres are in undeveloped recreation, and the Reservoir itself is comprised of 342 acres.

A.1.2 The Quabbin Reservation

The Quabbin Reservoir and surrounding lands, which comprise the Quabbin Reservation, are owned by the Commonwealth of Massachusetts and managed by the Department of Conservation and Recreation. These lands provide an important ecosystem service for the people of the metropolitan Boston area by helping to maintain the quantity and quality of their drinking water supply. An indirect benefit of these more than 56,000 acres of protected land is the wildlife habitat they provide. Nowhere else in Massachusetts can you find a larger block of contiguous forestland permanently protected from development. The contiguous forested areas in Erving extend the habitats of many mammals and birds, which require larger home ranges including Black Bear, Fisher, Mink, River Otter, Bobcat, Moose, Bald Eagle, Sharp-shinned Hawk, Cooper's Hawk, Northern Goshawk, Broad-winged Hawk, Red-tailed Hawk, American Kestral, Peregrine Falcon, Wild Turkey, Great Horned Owl, Barred Owl, Long-eared Owl, Northern Saw-whet Owl, Pileated Woodpecker, Belted Kingfisher, and Northern Harrier.

A.1.3 Millers and Connecticut River Watersheds

Erving represents the convergence of two major watersheds in Eastern Franklin County: the Millers and Connecticut River Watersheds. The relative importance of the first watershed lay in the impact of the Millers River on the development of Erving and surrounding communities and vice versa. The Connecticut River Watershed is important to Erving due in part to the presence of anadromous fish and the Silvio O. Conte National Fish and Wildlife Refuge.

Millers River Watershed: Erving is located in the western portion of the Millers River Watershed, which includes portions of seventeen Massachusetts communities and four towns in New Hampshire. The Millers River Watershed is located in north central Massachusetts and southwestern New Hampshire. It is bordered on the north by the Ashuelot River Watershed, on the east by the Nashua River Watershed, on the west by the Connecticut River Watershed, and on the south by the Chicopee River Watershed. From its tributaries of origin in New Hampshire, the Millers River flows south, then gradually west, ultimately flowing into the Connecticut River. The Millers River drains a regional landscape that is 392 square miles in size, 320 of which are in Massachusetts (DEP; 1995). The total river length is fifty-one (51) miles, forty-four (44) of which are in Massachusetts. Although the Millers River fluctuates between sluggish and rapid flows, there is an average drop of twenty-two (22) feet per mile. This feature made the Millers River and its main tributaries a magnet for manufacturing and hydroelectric power generation, which provided the impetus for initiation of industrial activities in neighboring towns in the late 1700's.

One of the main landscape level issues for the Millers River is the continued presence of dangerous levels of mercury and poly-chlorinated biphenyls (PCB's), which are buried in the stream sediments of the Millers River. The river is classified as Class "B" (appropriate for swimming and fishing), however this classification is a goal and does not necessarily mean the river meets these standards. The Massachusetts Department of Public Health's Fish Consumption Advisory for the Millers River Watershed currently warns against the consumption of several types of fish caught in the Millers River. The full extent of the PCB's contamination of the sediments is under continued study by the Massachusetts Department of Environmental Protection. Continued water quality improvements are needed to help mitigate the negative long-term impact that PCB contamination could have on the recreational potential of the Millers River for the Town of Erving and surrounding communities.

Connecticut River Watershed: The Connecticut River Watershed is the largest river ecosystem in New England. The River enters Massachusetts through the Town of Northfield and drains all or part of forty-five (45) municipalities before entering the State of Connecticut where it eventually empties into Long Island Sound at Old Saybrook. The Connecticut River itself, creates a portion of the western boundary of the Town of Erving.

As an American Heritage River, the Connecticut can receive special attention from federal agencies for the cultural, economic and environmental values it possesses. The Connecticut River Watershed was designated the "Silvio O. Conte National Fish and Wildlife Refuge" by an act of Congress in 1991. This refuge is the first of its kind, encompassing an entire watershed ecosystem and is a benchmark in environmental conservation. The Massachusetts Executive Office of Energy and Environmental Affairs has outlined watershed priorities for this watershed that include: protecting and creating riparian buffer zones along waterways within the watershed; reducing the negative effects of non-point source pollution, primarily storm runoff; reducing the barriers to migratory fish passage; and improving upon the limited amount of water quality data available within the Watershed.

A.1.4 Major Landscape-Level Patterns

The major landscape-level patterns existing in and around the Town of Erving include large patches of contiguous forest, hills, wetlands, both clusters of built environments and scattered residential development, and river corridors that focus the energy of the watershed's water flows and the movement of its human inhabitants. These patterns have impacted development of the landscape, but in some cases they are also the result of human use of the land.

Erving's large contiguous areas of forest are more important and valuable today to statewide conservation efforts because when compared to the high cost of land in the

eastern part of Massachusetts, Erving and other surrounding towns are considered by conservationists to still enjoy relatively low development pressures. This condition is likely temporary, which has prompted regional land protection initiatives that seek the permanent protection of the remaining large parcels of open space. Hills and wetlands produce unique patches of wildlife habitat that offer resources to wildlife and by their nature limit human development. A mix of forests, hills with steep slopes and wetlands including beaver-modified areas, provide changes in soils and microclimates that help to ensure a continuous diversity of plants and animal life.

The Millers River to the south is a westward flowing river. The river has played a significant role in the community's development and is now known for mostly scenic, wildlife, and recreation values. It accompanies commuters traveling on Rte. 2 in the south. Land uses abutting and upstream of the Millers River have an impact on the quality of the water. The Millers River still acts as the disposal system for residential and industrial waste streams, albeit in a manner that complies with all permitting. It is a river that has been plagued with contaminants (polychlorinated bi-phenyls (PCBs) and mercury) that limit the full and free use of the Millers River resources by residents and tourists.

The degree of forest continuity, integrity of hilltops and wetlands, pattern of residential development, and the purity of the water in the Millers River all are beyond the control of any one community. Erving could promote the conservation of all its significant open space and natural resources, but if surrounding towns fail to protect land, plan growth, or continue to clean the Millers River, Erving's impact on the resources that disregard political boundaries (water, wildlife populations, scenic views, trails, etc.) will be insignificant. Erving needs to take an active role in the conservation of regionally important natural resources, whether they occur in the Town or not.

A.2 Socio-Economic Context

Historically, farming, logging, waterpower, manufacturing, the railroad, and the Mohawk Trail, all had an influence on the development and growth of the Town of Erving. Erving's industrial development has been tied to the use of the Millers River and other smaller fast flowing streams. The mid-nineteenth century saw Erving develop into a strong manufacturing community. Furniture was a specialty product shared with the neighboring town of Orange. Regional rail connections developed along the Millers River and Erving Center expanded into the civic and commercial hub of the Town. During the late Industrial Period, the growing dominance of the furniture industry in Worcester County provided a deterrent to the expansion of the industry in Erving. It was at this time that paper mills began to replace the furniture industry with the development of facilities along the Millers River. Erving was one of the few towns in Franklin County to continue its growth through the Early Modern period. This growth was presumably associated with expansion of the paper mill industry.

Currently, Erving is divided into three distinct villages within the Town, each clustered around Route 2 and the Millers River. From west to east, the villages are Erving Center, Farley, and Ervingside. Like many of the communities in the western and eastern edges of Franklin County, until recently there has not been the same level of pressure to develop the open spaces of Erving for residential development in comparison to communities along the Interstate 91 corridor. However, development pressures from Boston suburbs, where land values are higher relative to areas further from the city, have been moving west through Worcester County and can be expected to impact eastern Franklin County in the coming years. Growing population trends in Erving, discussed in more detail below, indicate that development pressure is already occurring, though at a moderate rate. Erving has an opportunity to prioritize land and proactively protect natural, open space, and recreation resources in advance of future growth.

A.3 Regional Open Space and Recreation Opportunities and Issues

A parcel of land that is permanently protected from development can create real value for a community by being a potential site for recreational activities, by conserving habitat for wildlife and fisheries, and by protecting the integrity of first and second order streams, which are the most extensive and vulnerable water resources within a watershed. If the parcel of land is located within the recharge areas of the public water supply it can also contribute to protecting wells from contamination by point and non-point source pollution. When abutting parcels of land are permanently protected over time, based on a plan, the result can be a network of open spaces that can cover thousands of acres. When land is protected to link the open spaces of each community, together this can create a regional greenway.

Currently, Erving is part of a potential regional greenway. There is a circular belt of permanently protected open space that stretches northwest from the 60,000 acre Quabbin Reservation through New Salem, Wendell, Erving and western Orange into Warwick. The eastern half of the circular belt continues up to the state line through Royalston, extends south to Tully Mountain in North Orange, Tully Lake, Birch Hill and Harvard Forest in Petersham. Another network connects the western part of the belt in Erving and western Orange through Erving, Wendell, Montague, and Sunderland to the Connecticut River. Within these networks of open spaces there are eleven (11) state forests or reservations that are popular for activities such as camping, fishing, hiking, and swimming. These include Erving State Forest, Wendell State Forest to the south of Erving, Orange State Forest to the east, Warwick State Forest to the northeast, Montague State Forest to the southwest, and the Shutesbury and New Salem State Forests which lie to the south of Erving. According to the Mount Grace Land Conservation Trust, these lands together are the single largest continuous tract of protected land in southern New England (See Figure 3-1).

Other protected open space and natural resources in the region, of which Erving residents may take advantage, include the Metacomet-Monadnock (M&M) Hiking Trail, which

passes along the Millers River and through Erving State Forest. The Quabbin Reservoir, Lake Wyola, Lake Mattawa, Laurel Lake, Tully Lake, and the Northfield Mountain Recreation Area are other nearby regional attractions used by outdoor enthusiasts throughout the region and the State. Clearly, there are many critical natural and recreational resources that can only be conserved for current and future generations by the permanent protection of land encompassing resource networks that cross town boundaries. In addition, because of the presence of this potential greenway, there may be more opportunities for the Town of Erving to protect key parcels that add to this regional resource.

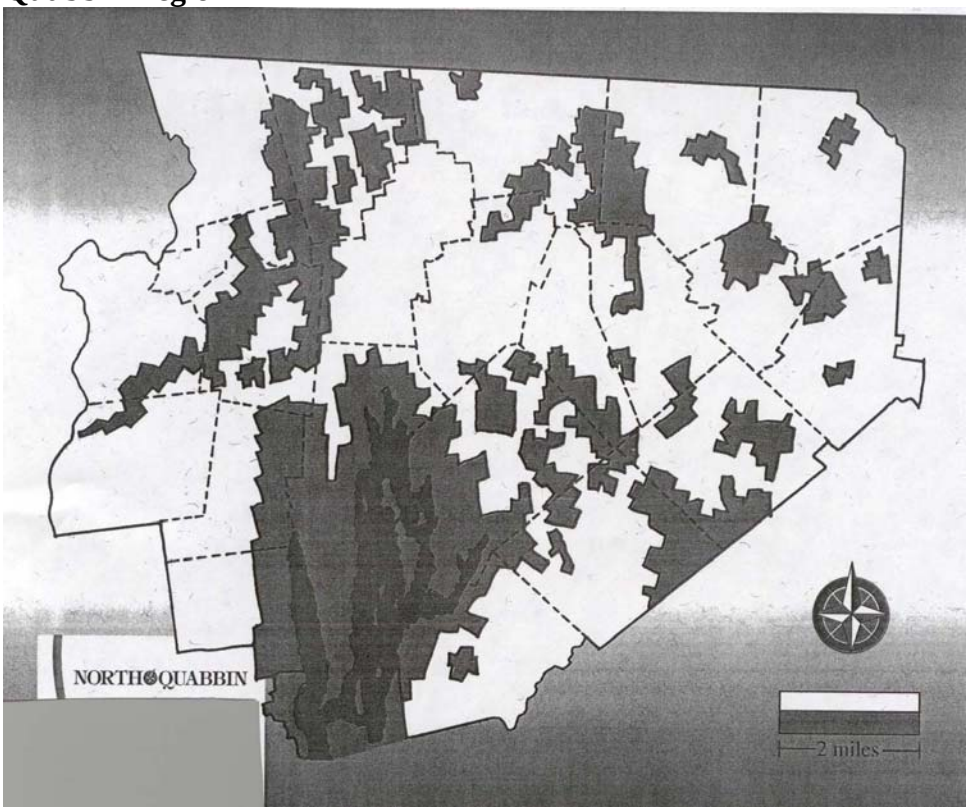
A.4 Regional Strategies for the Protection of Open Space, Natural and Recreational Resources

Actions that impact the quality of open space, natural, and recreational resources in Erving and surrounding communities take place at different political levels. At stake is the future of the region's wildlife, fisheries, recreational, and scenic resources and all the values associated with them. Regional efforts are needed because regional planning agencies, land trusts, and watershed/landscape planning groups together can attract political and funding resources of which individual towns may not be capable. Towns on the other hand have the power to implement changes in land use patterns directly through local zoning and open space protection.

The main regional issues developed in this first part of Section 3, Regional Context include: 1) the presence of large corridors of protected open space; 2) current land protection opportunities presented by lower land values and population growth relative to other parts of Massachusetts; 3) the need for continued monitoring and clean-up of the Millers River; and 4) the need for addressing the potential negative impacts of future growth and sprawling development patterns on the open space, natural, and recreational resources in Erving and surrounding communities.

Land protection opportunities currently exist within the Town of Erving and the region as a whole because of two factors: low property values, and the presence of large blocks and corridors of protected open space (See Figure 3-1). Regional groups like the North Quabbin Regional Landscape Partnership (NQRLP), the Millers River Basin Team, and the Millers River Watershed Council have the attention of state conservation agencies like the Department of Conservation and Recreation. This is because these groups represent many local constituencies and the region currently is one of the last areas in the State with large contiguous forested blocks with significant biodiversity. According to the Mount Grace Land Conservation Trust, the Nature Conservancy has identified the North Quabbin as one of the two areas in Massachusetts most suitable for designation as a large-scale priority region within which land protection at the landscape scale could be accomplished. The Town of Erving should work with this group and others to identify and sponsor land protection efforts that conserve regional open space and recreation resources in Erving.

Figure 3-1: Large Blocks of Permanently Protected Open Space in the North Quabbin Region



Clean up of the Millers and Connecticut River Watersheds is currently being addressed by the Department of Environmental Protection. New zoning bylaws adopted in 2005 include a Groundwater Protection District to protect the Town's drinking water supply. The Massachusetts Wetlands Protection Act protects wetlands and the public interests they serve by requiring review of proposed work within 100 feet of wetland resource areas by a community's Conservation Commission. Towns also have the option to adopt a more stringent local wetlands protection bylaw than mandated by the Act.

The Franklin County Regional Open Space Project (2000), an initiative of the Franklin Regional Council of Governments (FRCOG), identified potential regional greenway areas which should be given priority status for land protection. The report encourages communities to limit development impacts in these areas through a number of techniques. A large amount of land in Erving was identified as potential greenway areas, and the town has an opportunity to further contribute to a regional open space network by working to protect these areas.

The Commonwealth has completed The Statewide Comprehensive Outdoor Recreation Plan (SCORP), *Massachusetts Outdoors 2006*, an update of the SCORP 2000 five-year plan. SCORP plans are developed by individual states to be eligible for federal Land and

Water Conservation Fund (LWCF) grants and serve as a tool for states to use in planning for future needs and uses of outdoor resources for public recreation and relaxation. Erving's forests are mentioned in the plan as an important part of the regional system of protected land that contributes to recreational opportunities in the Connecticut River Valley:

> *"Another profound element of the protected land supply pattern in this region is the extensive state forest and wildlife management area system extending north from Mt. Toby, through the Wendell State Forest, and up through Erving, Northfield and Warwick".*

The SCORP also provides information about use of and demand for outdoor recreational resources in the Connecticut River Valley region that may be relevant to Erving's open space and recreational planning efforts. When assessing resource use in this region, the SCORP notes that rivers and streams, historic and cultural sites, lakes and ponds, forests, coastal beaches and shorelines, and mountains, all have 40% participation rates or greater. When reporting on satisfaction levels of users of resources in this region, residents report being most satisfied with historic and cultural sites, mountains, and trails and greenways resources. Somewhat lower than statewide levels of satisfaction were reported in this region for rivers and streams, and lakes and ponds. Rivers and streams were the area where Connecticut Valley Region residents who use these facilities were least satisfied overall. When considering new recreational projects, the Town may want to consider the following response from regional residents about future needs and interest from the SCORP:

> *"In contrast to demand (or present use patterns), respondents in this region place the highest priority for new facilities on road biking (14.5%), walking (13.9%), swimming (13.8%), playground (11.3%), hiking (10.0%), and mountain biking (10.3%)".*

The Franklin County Bikeway is a project under implementation by the Franklin Regional Council of Governments with the aim to provide a biking network throughout Franklin County, linking employment, recreational, and educational destinations. Bicycling opportunities are limited in Erving. The Bikeway includes "The Northfield Connector", which follows Dorsey Road along the western border of Erving. This portion of the bikeway utilizes shared roadway and provides a link to the Northfield Mountain Recreation Center. Future plans for expanding the network through Erving are in preliminary stages, including a proposed route that would connect Erving's village centers with the town of Wendell to the south.

The Franklin Regional Council of Governments recently completed a corridor management plan for the 29-mile eastern portion of the Mohawk Trail Scenic Byway from Greenfield to Athol. The vision for this 2009 Plan is to expand economic, tourism and recreational opportunities along the Byway while educating people about the Byway and preserving its unique scenic qualities, natural resources, historical structures/places, industrial and agricultural heritage and community character.

Finally, planning for the protection of critical natural resource systems requires both regional and local planning. The Erving Conservation Commission and Planning Board have been assisting the community in proposing zoning revisions to control new development in a way that will ensure the long-term protection of vulnerable natural, open space, and recreational resources. New zoning bylaws adopted in 2005 include: a Groundwater Protection District to protect the Town's drinking water supply and conserve natural resources; a Conservation Development option allowing the clustering of residential units on a parcel while requiring at least 35% of the land to be left undeveloped for recreation, agriculture, or conservation; and a Phasing of Growth bylaw to control the amount of new residential development that can occur annually.

B. HISTORY OF COMMUNITY

Erving is a highland industrial town along a primary corridor between Boston and Greenfield. Native fishing sites are suspected along the Millers River at French King Meadows and Laurel Lake. Erving was settled as Erving's Grant during the Colonial Period. Erving was developed as a roadside village along the Fifth Massachusetts Turnpike from Athol during the Federal Period with its economic focus established at Erving Center around the Millers River dam. Significant development occurred during the Early Industrial period with regional railroad connections along the Millers River corridor and expansion of Erving Center as the civic and commercial focus. An important economic center was established at Millers Falls after the Civil War with a secondary center developed at Farley. Erving Center was maintained as the local civic and industrial focus through the early 20th century. State route 2, the Mohawk Trail, developed as an early auto tourist corridor.

B.1 Contact Period (1500 -1620)

Historians consider Erving to be part of the original Mohawk Trail, with a probable east-west corridor along the north bank of the Millers River. A major Native American north-south route from Montague to Northfield (Squakeag) apparently went from the Millers River fordway below the French King Bridge, along River Road to Northfield Farms. A secondary path from Erving Center to Northfield probably followed Mountain Road over the highlands.

Although there have been no native-period sites confirmed by trained archaeologists, the Erving area is considered as having potential for surviving period locations, particularly in the Millers River floodplain west of River Road, where native agricultural tracts were established. Archaeological sites are thought to have existed in the vicinity of the falls at Ervingside and at the Millers River confluence with Briggs Brook and Jack's Brook, because fishing for trout, pickerel, shad and salmon was plentiful at that time during spawning runs. Woodland occupation was exposed east of the French King Bridge, and undated rock shelters were reported in the uplands southeast of Rattlesnake Mountain.

Vestiges of period settlement may survive north of Ervingside along the river floodplain and on the terraced lowlands east of the French King Bridge. The shores of Laurel Lake and the terrace, which holds Farley Village, should also be considered archaeologically sensitive. Local collectors report an abundance of arrowheads near the Millers River and in adjoining areas.

B.2 Plantation Period (1620 - 1675)

During the Plantation Period, Erving's native settlement patterns were similar to the earlier era and the waterfalls at Ervingside continued to be an important native fishing area. The Mohawk Trail remained the primary east-west route and improvements were made to the north-south Swamp field to Squakeag (Sunderland to Northfield) path. Local indigenous residents probably participated in the Anglo-Native fur trade that was established during the 1630's in the Connecticut River Valley. The Erving area may have fallen under the control of either the Squakeag or the Pocumtuck tribes, since the Town was situated near the nineteenth century border between these two groups.

Colonial interest in Erving was moderate because the area's steep slopes and sandy soils were no match for the prevalence of high quality agricultural lands in the Connecticut River Valley. Furthermore, the territory was located near the northern boundary of the Massachusetts colony. While the area reputedly lacked an English population until about 1800, colonial residents of Northfield may have fished at the Millers Falls, especially during spring spawning season, and may have hunted in Erving's lowlands.

B.3 Colonial Period (1675 - 1775)

Hostile native camps may have been established during this period near Ervingside as part of the large population of "River Indians" which occupied Deerfield, Greenfield, and Northfield during King Philip's War in the 1600s. During the 1700s, the natives "Jack" and "Keyup" reportedly established residences along those brooks, with sites either in Erving or Northfield.

The primary east-west highway during this period continued to be the Mohawk Trail along the Millers River. By 1775, improvement of the north-south highway corridor to Northfield included a bridge, replacing the old Millers Fordway, with another trail across Rose Ledge connecting Northfield to the Millers River along the present Schoolhouse Brook.

In 1751, the Honorable John Erving, Esq. of Boston purchased eleven thousand and sixteen (11,016) acres of Hampshire County land, called the "Great Farm" on "Erving's Grant," which later became the largest portion of the Town of Erving. Smaller, earlier grants made in the 1730s to Clesson, Quincy and Hacks comprised the remainder of the

town. John Erving was an absentee landlord and no documented settlement on this land has yet been found during this period. However, because this area was located near colonial settlements in Northfield, Gill, and Montague, some development may have occurred on the Town's western lowlands where good agricultural soils were prevalent. Another area of possible settlement in Town is along Mountain Road, which was a period trail. Eventually, increased fishing, hunting, and timbering spread into upland areas of Erving and colonial settlement followed.

B.4 Federal Period (1775-1830)

During the Federal Period, the Commonwealth began improvements on the Mohawk Trail as the Fifth Massachusetts Turnpike in 1799. The present Routes 2 and 2A follow most of the old turnpike route. In Erving Center, the highway ran over Prospect Street, with a tollgate at the eastern end, and then along Gary Street. In Ervingside, the turnpike traveled down Papermill Road and crossed the Millers River into Montague. Also at this time, the Mill Road Bridge connecting Ervingside to Northfield was laid out along Forest Street (now Route 63) while North Street became a secondary road joining Erving Center to Northfield along Keyup Brook, with a bridge constructed over Millers River to Wendell (c.1805).

Colonel Asaph White moved to Erving in 1801 to supervise turnpike construction from Greenfield to Leominster and built the first documented structure in Erving Center, a log house. In 1803 he also constructed the first dam across Millers River with a sawmill. Within a few years, other families moved to the area, attracted by an abundance of waterpower, timber, and proximity to transportation routes. For the next one hundred years, wood shops and mills were common along the Town's river as woodworking became the primary industry.

Although no structures are known to have survived from the Federal Period, a Town map dated 1830 verifies that a Col. White kept a tavern in Erving Center during this period and schoolhouses existed both at Erving Center and at Schoolhouse Brook along the turnpike.

In 1820, the first schoolhouse was built behind the store and post office in Erving Center. Until 1852, all Town meetings were held there and warrants were posted in the nearby Public House. The elements of a village center were now in place, though the Town was not officially incorporated until 1838. Unlike many earlier village centers located around a town common in an agricultural plain, Erving's organization was linear, following the Millers River as a dominant axis. Steep hillsides further defined the Town's layout along the floor of the river valley.

Steep slopes shaped by glacial activity and covered by thin soils grew forests of oak, hemlock, beech, maple, white birch and white pine. Agriculture was a major industry only on the western edge of town, where soils were comprised of glacial floodplain and

lake deposits. Small farms were scattered on higher ground, but they were seldom supported solely by agriculture. In fact, Erving practiced substantial lumbering activity to support its woodworking industries as five sawmills were in use by 1830.

Although the community was located along a major thoroughfare, population figures for Erving's Grant did not appear until 1810, when a listing of 160 persons showed the area to be the least populated locale in the county. In 1830, with a residency of 488 persons, the community was still the second smallest district.

B.4.1 Historical Resources

Very little construction was likely to have occurred in the Federal Period and no structures are known to survive. It is believed that the houses that were built in Erving between 1801 and 1830 were likely to have been simple center-chimney plan cottages.

The Erving Center and Holton Cemeteries were established in 1814 and 1815, respectively.

B.5 Early Industrial Period (1830-1870)

During this period, Erving saw growth in infrastructure, population and economy with railroad construction adding new commerce and inhabitants to the Town. The expansion of the east-west transportation corridor occurred with the arrival of the Vermont & Massachusetts Railroad (later the Fitchburg Railroad) in 1848 and included a depot in Erving Center. The north-south axis to Northfield was improved in 1850 with the New London and Northern Railroad through Ervingside.

The opening of the railroad stimulated industrial expansion at Erving Center along the Millers River axis with Washburn's pail factory in 1844. Erving, along with Orange, began to develop a strong woodworking and furniture industry due to the abundance of lumber, waterpower and transportation. By 1855, Erving Center was home to the production of Washburn's chair shop, Baker's chair seat millworks, J. Trask's match woods plant and Stone's piano case factory. The street grid in Erving Center expanded along Keyup Brook with High and Church Street. After the Civil War, Grout's Corner (now Ervingside) became an economic hub with local hardware manufacturing at the Millers Falls Tools Company (1868). A corresponding suburban residential district formed along Prospect, River, Lester, and Moore Streets.

Foreign citizens began to expand the population of the Town during this era. In 1855, the largest group of immigrants in Erving were Canadians (half of the foreign-born population that numbered forty-eight), with Irish immigrants in second place. By the end of the period in 1870, the town population registered 579.

B.5.1 Historical Resources

The earliest surviving residences in Erving date from the Early Industrial period. Clusters of Greek Revival and Italianate homes developed in Erving Center and Ervingside and to a lesser extent in Farley. The Center includes a number of center chimney plan Greek Revival cottages, sidehall plan Italianate cottages, and one Gothic Revival cottage with board and batten siding. Ervingside housing appeared after 1850, comprised mainly of sidehall plan and L-plan Italianate one-and-a-half and two-story structures. Of special note is an asymmetrical plan bracketed Italianate villa. Most of the homes built along the Town's rural roads also date from this period and are of a similar style. Of the several churches organized in the 1830s, only the Congregational Society prospered sufficiently enough to build the Erving United Church of Christ in 1842, a Greek Revival structure with a square belfry and steeple, now standing on the Mohawk Trail in the Center.

B.6 Late Industrial Period (1870-1915)

During the Late Industrial Period, the Fitchburg Railroad remained as the primary transportation for the east-west corridor while the Vermont Central Railway assumed control of the north-south route through Ervingside. Unfortunately, a proposed trolley line through Erving Center from Orange to Montague never materialized.

Ervingside continued to expand as a residential district with a primary axis along Moore Street. In Erving Center, civic and commercial activities remained focused along the Mohawk Trail, suburban growth extended north along Keyup Brook, and an industrial arm extended towards the east near the former Stone Piano Case Works (now Stoneville) with the Erving Paper Mills. A third industrial village formed in 1883 at Farley with the start of the Farley Pulp and Paper Mill and a bridge to Wendell. There, a residential community developed with an affluent district along Maple Avenue.

The growing dominance of furniture centers in nearby Orange and Gardner probably provided competition and the industrial impetus for Erving's mills to change from furniture to other products. During the Late Industrial period, paper mills replaced the woodworking industry. In 1883, the new mill was opened at Farley, on the Wendell side of the Millers River, stimulating residential growth across the river. In 1902, the Millers Falls Paper Company opened a factory in Ervingside. Eight years later, the Erving Paper Company expanded the Stoneville mill with a brick addition. In the Center, the Washburn & Heywood Chair Company was the dominant member of the dwindling furniture industry.

During this period, Erving's population grew by 101.7 percent, the fourth highest rate in the county. Most of the growth occurred in the first five (5) years in Ervingside and in the final fifteen (15) years near the new paper mills at Stoneville and Ervingside. The

French Canadians and Irish remained the dominant immigrant groups until 1905, but by 1915, when foreign-born nationals had risen to almost 18 percent of the population, 30 percent of immigrants were Russian and 12 percent were Polish.

B.6.1 Historical Resources

Most of the residences in Ervingside and Farley date from the Late Industrial period, as well as many in Erving Center and Stoneville. The majority of structures are small one-and-a-half or two-story Queen Anne or Stick-style workers' houses with sidehall plans built before 1900. Of special note in Farley are three more substantial homes from the 1890s, including a hip roof Queen Anne and a gambrel roof Colonial Revival house. Of special interest in Ervingside, a wider range of housing types included a few well-detailed Stick Style and Colonial Revival homes, several Queen Anne double houses, three flat-roofed triple-deckers, and simple sidehall workers' cottages.

Very little institutional construction is documented during this period, although in Farley a Queen Anne school and chapel were constructed, along with a two-story fire station in Erving Center. Also, little commercial construction is recorded during this period. In Ervingside, commerce developed on the Montague side of the village. In Erving Center, commercial construction included the hip roofed Stick Style railroad depot (now the Box Car Restaurant) and the two-story Italianate store with a gable roof and central entrance. However, major industrial structures were assembled in Ervingside and the Center, with the most notable architecture at the Millers Falls Company (c.1870) in Ervingside, a two-story, well-detailed red brick structure (now Renovator's Supply). Other factories were two- or three-story functional brick mills of pier and spandrel construction with flat or shallow gable roofs.

B.7 Early Modern Period (1915-1940)

The Early Modern Period saw changes in transportation as improvements to the highways were made for the benefit of local and tourist automobile traffic. The east-west Mohawk Trail corridor was designated as auto Route 2 from Athol to Greenfield, including a bypass around Ervingside with concrete bridges (1931) and the monumental Art Deco-style French King Bridge (1931) across the Connecticut River. The north-south highway through Ervingside from Amherst to Northfield was improved as U.S. Route 63. Following a forest fire in 1918, the state purchased land in Town for the Erving State Forest and Laurel Lake Road was improved. The Civilian Conservation Corps maintained camps in the forest during the 1930s and many forest and road improvements date from that era.

Civic and commercial activities remained focused at Erving Center with expansion along the Mohawk Trail as an automobile tourist highway. Limited residential development continued in Ervingside with affluent construction along River Road and commercial

highway construction along Route 2 near the French King Bridge. During this period, Farley gradually declined as a residential village while upland recreational cottages at Laurel Lake were developed in the 1920s.

Erving expanded its population through this period with a 13.6 percent growth rate, third highest in the county. Most of this growth occurred in the first five years, associated with paper mill expansion. By 1940, the Town's population was one 1,328.

B.7.1 Historical Resources

Little construction has been identified during the Early Modern period, except in Ervingside and at Laurel Lake. In Ervingside, simple one- and two-story residences, most with hip roofs, were constructed in the 1920s. Unique properties there include the two-story concrete block two-family home erected (ca.1925) and the two-story brick rectilinear plan of the Erving Elementary School (ca.1925). At Laurel Lake, several hip and gable roofed summer cottages were constructed. Most were shingled or novelty-sided homes and are still maintained for summer use. While no new industries were identified in town beyond a boxboard maker and a heel factory, new commercial enterprises, which arose along Route 2 to serve the increasing automobile-related tourist trade included several restaurants and a one-story concrete block garage.

B.8 Modern Period (1940-Present)

Changes that took place in the early 1900's were largely continued after 1940 to the present. The Erving Paper Mill continued to grow and become a regional and national leader in paper manufacturing. During World War II, the paper mill was established by the government as an "essential war production plant" with 75% of its production going to the war effort. Small, commercial development continued to develop along Route 2 in Erving and residential uses expanded along Mountain and High Streets in Erving Center. The population in Erving remained relatively stable since the 1940's, dropping slightly to 1,260 during the 1970's, and climbing back to its largest at 1,467 people in 2000.

The most significant change in the Town during this time period was the construction of the Northfield Mountain Reservoir which began in 1968. It is an underground pumped-storage hydroelectric plant. The Reservoir began producing electricity in 1971 and at the time of its construction was the largest of its type in the world – capable of producing 1,080 megawatts of electricity. Other major changes to the Town during this time period include safety improvements to Route 2 throughout Erving, including the construction of a bypass at the Erving Paper Mill to a safer right-of-way just north of the plant in 2006. Previously, trucks going to the plant needed to routinely stop traffic on Route 2 in order to access the loading docks. The relocation of the road in this area eliminated a serious safety hazard and congestion problem. In 2009, more safety improvements along Route 2 in Erving were completed. They included intersection realignments and the creation of protected turn lanes.

Table 3 -1: Significant Historic Structures and Sites within Erving Center Village

Historic Name	Year	Style	Street Name	MHC Inventory Number
Toll House for Fifth Mass. Highway	n.d.	Not researched	18 E. Prospect Street	
Coolidge, Henry - Howard, Artemas House	1834	No style listed	6 North Street	39
Field, Rufus House	1835	No style listed	54 North Street	50
Blackmer, David - Willis, W. House	1839	No style listed	16 East Main Street	21
Erving United Church of Christ	1842	Greek Revival	2 East Main Street	1
Holden, Heman - Burnett, Henry House	1846	No style listed	21 East Main Street	26
Field, Rufus II House	1847	Not researched	64 North Street	51
Clark, Josiah and Horace House - Demolished	1848	Greek Revival	20 East Main Street	23
Erving House	1849	No style listed	5 West Main Street	8
Burnett – Jennings, Lyman House	1849	No style listed	16 West Main Street	7
B & M Railroad Freight House	1850	Hip Roofed Stick Style	Main Street	24
V & M Railroad Station and Waiting Room	1851	No style listed	Main Street	4
Clark, H. B. - Bigelow, David House	1852	Greek Revival	2 Prospect Street	30
Residence and Mill site	1855	No style listed	49 North Street	49
Benjamin, P. - Bates, Levi A. House	1858	No style listed	4 Gary Street	16
Briggs, Samuel - Hayden, Willard House	1858	No style listed	11 Prospect Street	37
Woodward, S. H. - Briggs, Jones House	1858	No style listed	11 West Main Street	10
Clark, Josiah - Simonds, Martin House	1864	Greek Revival	4 Prospect Street	31
Bates, Levi - Morrill House	1864	Greek Revival	45 North Street	48
Clark, Josiah House	1865	No style listed	15 West Main Street	11
Erving Village Fire Station	1866	No style listed	West Main Street	2
Woodard, Dwight - Johnson, Dr. Francis E. House	1868	Victorian Eclectic	10 North Street	41
Clark, Josiah House	1869	No style listed	17 West Main Street	12
Erving Depot Railroad Station	1870	No style listed	Main Street	5
Allen, Elisha House	1871	No style listed	20 North Street	44
Briggs, Loring House	1871	Greek Revival	25 West Main Street	15
Perry, Leonard - Bugbee, Albert House	1872	Italianate	East Main Street	28
Eddy, Charles A. - Severance, C. Alfred House	1872	Second Empire	12 North Street	42
Briggs, Samuel - Hayden, Willard House	1875	No style listed	9 Prospect Street	36
Frawley Barn - Demolished	1885	No style listed	West Main Street	13
Washburn, W. B. Company Worker Housing	1886	No style listed	6 Gary Street	17
Washburn, W. B. Company Worker Housing	1886	No style listed	8 Gary Street	18
Turner, Ed - Frawley, Charles House	1886	No style listed	8 North Street	40
Hutchins, Daniel - Gary, Charles House	1887	Second Empire	4 North Street	38
Howe, Worden A. - Hanson, Mabel House	1887	Victorian Eclectic	5 Prospect Street	35
Coolidge, Horace House	1889	Italianate	18 East Main Street	22
Richards, W. T. House	1890	Victorian Eclectic	10 Prospect Street	32

Historic Name	Year	Style	Street Name	MHC Inventory Number
Smith, Harry - Frenz, Louis House	1890	Victorian Eclectic	12 Prospect Street	33
Lee, Hattie Ann – Coolidge, Francis J. House	1900	Not researched	21 West Main Street	14
Hanson, Daniel V. House	1904	No style listed	Hanson Court	29
Residence	1904	No style listed	Hanson Court	58
Washburn and Heywood Chair Company	1917	Panel Brick	Wendell Road	6
Hinman, John Garage	1920	No style listed	19 East Main Street	25
Lang, John Garage and Pontiac Dealership	1920	No style listed	Main Street	19
Erving Town Hall	1927	Other/Remodeled	East Main Street	20
Hurricane House	1938	No style listed	35 North Street	43
Lyman, George House	1947	No style listed	23 East Main Street	27
Commercial and Residential	1955	No style listed	7 West Main Street	9
Residence	1960	Ranch	Main Street	54

Source: Compiled from Massachusetts Historical Commission, 2009, and Erving Historical Society, 2000.
n.d. = No date available.

Table 3-2: Significant Historic Structures and Sites in Ervingside

Historic Name	Year	Style	Street Name	MHC Inventory Number
Millers Falls Manufacturing	c.1868	Not researched	River Street	
Durkee Monument	1894	No style listed	River Road	900
Curtiss Hall	1897	Frame/clapboard	7 Gunn Street	3
Millers Falls Paper	c.1902	Not researched	8 Papermill Road	

Source: Compiled from Massachusetts Historical Commission, 2009, and FRCOG survey, 2000.

Table 3-3: Significant Historic Structures and Sites Within Farley Village Area

Historic Name	Year	Style	Street Name	MHC Inventory Number
Farley Barn	n.d.	Not researched	Maple Avenue	
Farley Hotel	c. 1880s	Not researched	73 Old State Road	
Dennis E. Farley Carriage House	1890	Victorian Eclectic	Maple Avenue	57
Farley School (still extant?)	c. 1890	Not researched		
Residence	1894	Queen Anne	5 Maple Avenue	52
Farley Union Church	c. 1900	Not researched	Maple Avenue	
AMOCO Gas Station and Variety Store	c. 1960	No style	Main Street	53
Residence	c. 1960	No style	Maple Avenue	56

Source: Massachusetts Historical Commission, 2009; Erving Historical Society and FRCOG Survey, 2000.

Table 3-4: Significant Historic Structures and Sites Within Stoneville

Historic Name	Year	Style	Street Name	MHC Inventory Number
Stiles, Joseph - Rankin, Noah	1860	Greek Revival	42 East Main Street	47

House				
Erving Paper Company Business Office	1870	No style	Main Street	55
Coolidge, Francis Jackson House	1887	No style	40 East Main Street	46
Frawley, John - Lefoff, Emma S. House	1927	Victorian Eclectic	36 East Main Street	45

Source: Compiled from Massachusetts Historical Commission; 2009.

Table 3-5: Other Significant Historic Structures and Sites in Erving

Historic Name	Year	Style	Street Name	MHC Inventory Number
Hermit's Castle	1864	Cave & vernacular structures	Hermit Mountain	
Calvin Priest's Dam, Saw and Shingle Mill site	Pre-1871	Not researched	Murdock Hill Road	
Old State Road structures	Pre-1871	Not researched	Old State Road	
Erving State Forest – Laurel Lake	n.d.	No style listed	Laurel Lake Road	911
Erving State Forest – Laurel Lake Dam and Bridge	1933	No style listed	Laurel Lake Road	912
Erving State Forest – Laurel Lake Beach Stonework	1933	No style listed	Laurel Lake Road	913
Erving State Forest – CCC Camp Ruins	c. 1933	No style listed	Route 2	914

Source: Compiled from Massachusetts Historical Commission, 2009, and FRCOG survey, 2000.
n.d. = no date available

Table 3-6: Significant Historic Burial Grounds in Erving

Historic Name	Year	Street Name	MHC Inventory Number
Erving Center Cemetery	1814	Mountain Road	801
Holton Cemetery	1815	Old State Road	802

Source: Massachusetts Historical Commission; 2009.

Table 3-7: Significant Historic Bridges within Erving

Historic Name	Year	Style	Street Name	MHC Inventory Number
B & M Railroad Bridge over Millers River	n.d.	No style listed	Millers River	903
Arch Street Railroad Bridge	1848	No style listed	Arch Street	902
East Mineral Road Bridge over Millers River	1888	Pin-connected, seven-panel, wrought iron Pratt through-truss bridge	East Mineral Road	905
Farley Bridge	1889	Pin-connected, eight-panel wrought iron Pratt through-truss bridge	Farley Road	901
Central Vermont RR Bridge over Millers River	1905	Five-span, pin-connected, Pratt deck truss	Newton Street and Millers River	907
Route 2 Bridge over Central Vermont Railroad	1931	No style listed	Route 2	909
Route 2 Bridge over Moore Street	1931	No style listed	Route 2	910

Historic Name	Year	Style	Street Name	MHC Inventory Number
French King Bridge	1932	1931 continuous three-span spandrel braced steel deck arch	Route 2	904
Power House Bridge	1937	Seven-panel, Parker through truss	Paper Mill Road	906
Route 63 Bridge over Millers River	1953	No style listed	Route 63	908

Source: Massachusetts Historical Commission; 2009.
n.d. = no date available

C. POPULATION CHARACTERISTICS

In this section, Erving's needs for open space and recreational resources are assessed based upon an analysis of demographic and employment statistics. The demographic information includes changes in total population, changes in the relative importance of different age groups in Erving, and changes in development patterns.

C.1 Demographic Information

C.1.1 Population and Population Change

Demographics are useful for forecasting the need for open space and recreational resources that will be required by residents. Currently, the population density in Erving in 2008 was 107 people per square mile based on population estimates as of 2007 from the U.S. Census Bureau Population Estimates Division and land use data from MassGIS as of 2005, which is the most recent year that this data is available.[1] According to the U.S. Census, Erving experienced a higher growth rate (6.9%) in population between 1990 and 2000 compared with Franklin County (2.1%) and the State (5.5%) (Table 3-8). The most recent annual population estimates from 2007 show Erving's population continuing to grow at a faster pace than both County and State, at 4.8% from 2000, though at a lesser rate than in the previous period, reflective of a regional and state population slowdown during this same period. The population in Erving is estimated to have grown by 70 residents between 2000 and 2007, the fourth highest population growth in the County out of 26 communities. The development of 20 new homes on Ridge Road since 2000 likely accounts for much of this growth. Erving falls just below the median population size for the County (1,746), with fifteen (15) of the communities having larger populations and ten (10) communities having smaller populations.

[1] 107 people per square mile calculation 1,537 town residents divided by 14.24 sq. miles (9,194 acres).

Table 3-8: Population Growth for Erving, Franklin County, and Massachusetts 1990, 2000 and 2007

Location	1990 Census Population	2000 Census Population	% Change 1990 - 2000 Population	2007 Estimated Population	% Change 2000 - 2007 Population
Erving	1,372	1,467	6.9%	1,537	4.8%
Franklin County	70,092	71,535	2.1%	71,602	0.1%
Massachusetts	6,016,425	6,349,097	5.5%	6,449,755	1.6%

Source: U.S. Census Bureau – Decennial Census of Population and Housing 1990, 2000; U.S. Census Bureau Population Estimates, 2007.

Increasing population, even at a modest rate, presents the need to plan for the protection of valuable resources that may be impacted by new development, while also reassessing the recreational and open space needs of a growing and changing community. Erving's current Phasing of Growth bylaw limits the number of building permits issued each year, allowing for new growth to be incorporated into the community in a way that will not strain the Town's ability to provide basic services and facilities, and providing the Town with the opportunity to plan for future development and the needs of its growing population.

It is important to understand the age makeup of a community when planning for recreation and open space, as different age groups require different recreational opportunities. Table 3-9 displays the population of Franklin County and Erving by four age cohorts for both 1990 and 2000, and the percent of change for each cohort during this time period.

Table 3-9: Number of People by Age Cohort between 1990 and 2000 in Franklin County and Erving

	Franklin County Population			Erving Population		
Age Cohort	**1990**	**2000**	**% Change**	**1990**	**2000**	**% Change**
0-19 years	19,015	18,447	-3.0%	395	376	-4.8%
20-44 years	28,477	24,285	-14.7%	497	503	1.2%
45-64 years	12,429	18,560	49.3%	239	389	62.8%
65+ years	10,171	10,243	0.7%	244	196	-19.7%

Source: U.S. Census Bureau – Decennial Census of Population and Housing 1990, 2000.

From 1990 to 2000, Franklin County experienced a slight decline of -3.0% in the number of school age population (0-19 years), and a more dramatic decline in the 20-44 age group (-14.7%). The number of residents between the ages of 45-64 experienced a large increase of 49.3%, while the number of residents 65 or older remained almost constant with a 0.7% increase.

Erving experienced similar decline as the County in the 0-19 age group (-4.8%), while the number of residents between the ages of 20-44 actually grew slightly (1.2%), counter to County's decline in this age group of -14.7%. Erving's population growth in the 45-64 age group is similar to the County's with an even greater increase of 62.8%. About half of this growing segment of the population in Erving is made up of "Baby Boomers", those born between the years of 1946 and 1966, a period that experienced a widespread population boom. A large decline in residents ages 65 and older (-19.7%), differs from the County's more or less constant rate. Due to the large growth of residents between the ages of 45 and 64 it seems likely that in the years to come the 65 and older cohort will begin to grow despite the recent decline, as the Baby Boomers continue to age and move into this category.

Seniors require different recreational facilities and services including accessible walking paths, arts, and leisure programs. Residents between the ages of 20–44, representing the largest portion of the town's total population, may desire different types of recreation choices, both for themselves and for their families. It appears the Town of Erving needs to be concerned about providing for an aging population in its open space and recreation programming, while continuing to provide opportunities for all residents.

As Baby Boomers age, they may also require different housing options than are currently available in Town. This demand for new housing will impact the available open space in Erving. The Town should proactively identify the types of housing this population group will need and determine the best locations for development, taking into consideration the needs of an older population while also working to protect open space and natural resources. Planning for growth before it happens will help to protect open space and recreation resources into the future.

When identifying the best location for the development of new open space and recreation resources, the town should consider where population growth will occur and which parts of the local citizenry require specific needs. As of 2000, Erving has a population density of 103 people per square mile. This statistic represents the average density over the entire area of Erving, and does not take into account that some areas, such as villages, have a higher density of population, while other areas, such as undeveloped forests, have a very low density of population. These patterns will be discussed in more detail in Section 3, Growth and Development Patterns. As will also be seen in this section, future growth depends in large part on zoning, soil and groundwater related constraints, and on which lands are permanently protected from development. The Town could identify parks and walking trails that are close to current neighborhoods for possible expansion, or to increase public awareness. The Town should continue looking for opportunities to conserve land in Erving that protect valuable scenic and natural resources and increase public access to trail networks and open spaces.

C.1.2 Economic Wealth of Residents and Community

Measures of the income levels of Erving residents as compared to the County and State are helpful in assessing the ability of the citizenry to pay for recreation resources and programs and access to open space. While 2000 U.S. Census data is the most recent data available, this information is still useful for comparison purposes.

Table 3-10 describes the earning power in Erving based on median and per capita income, as compared to the County and the State. Median income figures describe the middle income among residents, thus eliminating any extreme numbers (either the very wealthy or very poor) from influencing the overall figure. Median household figures include data for families, for households of non-related people, and for individuals living alone. Erving households earn median incomes ($40,039) generally consistent with the median for the County ($40,768) and lower than the median for the State ($50,502).

Per Capita Income is determined by dividing the total amount of income earned in the area by the total number of the residents (which includes residents who may not be generating much income, such as children and the elderly). The per capita income is also consistent with the County ($20,672), and lower than the State ($25,952). The percentage of people living below the poverty line in Erving at 6.7% is still lower than both the County (9.4%) and the State (6.7%).

Table 3-10: Median Household Income, Per Capita Income, and Percentage below Poverty Level in 2000 for Erving compared to Franklin County and the State

Location	Median Household Income	Per Capita Income	Percentage Below Poverty Level
Erving	$40,039	$19,107	6.7%
Franklin County	$40,768	$20,672	9.4%
Massachusetts	$50,502	$25,952	9.3%

Source: 2000 U.S. Census of Population.
*Persons living below poverty level for whom the poverty status has been determined.

Overall, the economic wealth in Erving is comparable to other rural towns in Franklin County. Income and poverty level data provides information about residents' ability to pay for open space and recreational programming in town. However, considering recent increases in fuel and food prices as well as the current national and regional economic downturn, the town might explore ways to offer convenient and free or low cost access to activities and public land for those in town that do not have disposable income available for these purposes. It is also wise to note that with changing economics and development pressures over time, recreation and open space needs may also change. Proactive planning to prioritize goals and resources will help ensure that the town will be prepared for changing conditions.

C.2 Employers and Employment Statistics

C.2.1 Labor Force: Erving residents that are able to work

Table 3-11 displays Erving's labor force from 2000 through 2008. The labor force is defined as the pool of individuals 16 years of age and older who are employed or who are actively seeking employment. Enrolled students, retirees, stay-at-home parents and other persons not actively seeking employment are excluded from the labor force. Labor force is available on an annual basis from the Massachusetts Executive Office of Labor and Workforce Development. In 2008, Erving had a labor force of 828 people, with 783 employed and 45 unemployed. This represents a 3.9% increase in Erving's labor force since 2000, when 797 residents were counted as part of the labor force. In contrast, Franklin County's labor force decreased by -0.7% over the same time period, from 39,024 in 2000 to 38,764 in 2008.

Table 3-11: Labor Force in Erving, and Unemployment Rate in Erving, Franklin County, and Massachusetts, 2000-2008

Year	Erving's Labor Force	Unemployment Rates		
		Erving	Franklin County	Massachusetts
2008	828	5.4	4.9	5.3
2007	837	4.7	4.2	4.5
2006	853	4.3	4.3	4.8
2005	846	5.1	4.3	4.8
2004	832	3.8	4.3	5.2
2003	842	4.5	4.6	5.8
2002	837	5.5	4	5.3
2001	807	3.5	3.1	3.7
2000	797	2.5	2.5	2.7
% Change 2000-2008	3.9%	N/A	N/A	N/A

Source: Massachusetts Executive Office of Labor and Workforce Development, Labor Force and Unemployment data.

Table 3-11 also shows Erving's unemployment rate since 2000, as compared to the County and State. The unemployment rate describes the percentage of people in the labor force who are presently not employed, but who are actively seeking employment. According to Massachusetts Executive Office of Labor and Workforce Development, since 2000, Erving's unemployment rate has fluctuated, from a low of 2.5% in 2000, to a high of 5.5% in 2002, but has remained close to the County and State rates. Unemployment rates increased for the Town, County and State from 2007, reflecting the

current national and global economic climate. In 2008 the unemployment rate for Erving was 5.4%, slightly higher than the County (4.9%) and consistent with the State (5.3%).

C.2.2 Employment in Erving: People who work in Town (residents and non-residents)

Table 3-12 shows the number of establishments and average monthly employees working for Erving employers from 2001 through 2007. This includes residents as well as those who reside elsewhere but commute to Erving for work. The number of establishments has varied throughout the time period, with a low of 21 establishments in 2005 to a high of 27 in 2007, with an overall increase of two establishments since 2001. The number of total employees working in town has declined over the same period, though there has been an increase since 2005 of 31 employees, corresponding with an increase in the number of establishments during the same period.

Table 3-12: Employment in Erving, 2001-2007

Year	# of Establishments	Average Monthly Employment
2001	25	359
2002	23	330
2003	24	323
2004	23	307
2005	21	289
2006	24	306
2007	27	320

Source: Massachusetts Executive Office of Labor and Workforce Development, ES202 data.

The Massachusetts Executive Office of Workforce Development ES202 data provides information on the main industry sectors in towns across the State. In Erving, Accommodation and Food Services, and Other Services, including town administration, are the two main industries listed for 2007, together accounting for ten (10) of the twenty-seven (27) total establishments in Town. According to community input, three (3) restaurants have closed in Erving in the last year, which will impact the significance of the Accommodation and Food Services industry in future reports. It is important to note that data is kept confidential if there are less than three reporting units total, or if with three or more units, one unit accounts for 80% or more of the total. This means that for a given year a sector may not show up in the data, and that the total given for number of employees and number of establishments for each reported sector does not sum to the industry total given. This is the case in Erving, where seventeen (17) establishments are not included within the reported industries.

Manufacturing is one industry that has had a long presence in Erving, yet it is not reported due to confidentiality reasons. This may be an indicator of the decline of the manufacturing sector in recent years. In 1990, there were 623 manufacturing jobs in Erving, making up 79.5% of the Town's total employment. By 1998, the number of jobs had declined by 61.2% to 239. The closure of International Paper's facility in 2000 further reduced the total manufacturing jobs in Erving at the time to approximately 120 – a decline of over 80% in just ten (10) years. Manufacturing remains a primary industry in Franklin County (County Business Patterns 2006) but the continual success of this sector in Town may depend on proactive economic development efforts as well as outside factors.

Table 3-13 shows the top ten employment destinations of Erving residents in 2000. Greenfield was the most frequent employment destination for Erving residents, where 26.9% of residents were employed. Fifteen (15) percent of residents worked within Erving, the second highest destination. Montague, which includes the employment center of Turners Falls, was the third highest destination for Erving residents to commute to work at 9.4%, and Deerfield was the fourth at 7.0%. Most of the top ten destinations are in Franklin County. Three towns are in neighboring counties: Athol to the east in Worcester County; and Amherst and Northampton to the south in Hampshire County.

Table 3-13: 2000 Erving Journey to Work Data by Towns

Rank	Erving Resident Employment Destination	Number of Employees	Percent of All Employed Erving Residents
1	Greenfield	201	26.9%
2	**Erving**	**112**	**15.0%**
3	Montague	70	9.4%
4	Deerfield	52	7.0%
5	Amherst	38	5.1%
6	Whately	26	3.5%
7	Northampton	20	2.7%
8	Northfield	18	2.4%
9	Athol	18	2.4%
10	Shelburne	17	2.3%
	Other	176	23.5%
Total		748	100.0%

Source: U.S. Census Bureau – 2000 Census of Population and Housing.

According to 2000 U.S. Census Journey to Work data, 404 people reported Erving as their place of work. As noted above and in Table 3-13, 112 Erving residents worked within town, which accounted for 27.7% of the total amount of people working in Erving.

The towns with the next highest percentages of residents working in Erving are Orange (10.1%), Athol (9.7%), Deerfield (8.9%), and Montague (8.4%), with 18.8% coming from other towns in Franklin County, and the remaining 16.3% commuting to Erving from other locations outside the County.

Table 3-14 displays commute times for residents living in Erving, Franklin County, and the State in 1990 and 2000. In 2000, the highest percent of workers in Erving had commute times between 10 and 19 minutes (29.1%), with the next most frequent commute time between 20 and 29 minutes (20.6%). This makes sense given the previous data showing that many Erving residents work within town or in nearby towns in Franklin County. Only about 10% of Erving residents commuted more than 40 minutes to get to work. Since 1990, commute times in the 20-29 minute range have grown by 6.1 percentage points, while commutes within the 10-19 minute range have fallen by 5.4 percentage points. This may indicate that Erving residents are traveling slightly farther for work than in the previous decade.

Table 3-14: Travel Time to Work, 1990 and 2000

Geography	Total Workers*	Work at Home	Less than 10 Min.	10 - 19 Min.	20 - 29 Min.	30 - 39 Min.	40 - 59 Min.	60 - 89 Min.	90 + Min.
Erving									
1990	**681**	**1.9%**	**19.1%**	**34.5%**	**20.6%**	**14.5%**	**7.5%**	**1.6%**	**0.3%**
2000	**748**	**3.2%**	**13.4%**	**29.1%**	**26.7%**	**15.2%**	**7.6%**	**3.3%**	**1.3%**
Franklin County									
1990	34,674	4.7%	21.8%	32.1%	17.8%	11.5%	7.7%	3.2%	1.1%
2000	37,053	5.1%	16.3%	30.0%	19.1%	14.2%	9.7%	3.3%	2.3%
Massachusetts									
1990	2,979,594	2.5%	15.6%	31.3%	18.7%	15.5%	10.7%	4.7%	1.0%
2000	3,102,837	3.1%	12.6%	27.4%	18.6%	16.3%	13.0%	6.5%	2.4%

* Employed workers 16 years and over.
Source: U.S. Census Bureau, 1990 Census STF3A and 2000 Census SF3.

This table also presents information on the amount of residents working from home. This number has increased slightly from 1.9% of residents in 1990, to 3.2% in 2000. Although lower than the County percentage of residents working from home in 2000 (5.1%), this increase represents a growing trend found in many communities in western Massachusetts due to changes in the workplace and advances in telecommunications. As internet options continue to become more available, Erving should expect the number of at-home workers to continue to increase.

C.2.3 Major Employers in Erving

Table 3-15 lists the major employers (those with at least 45 employees) in Erving in 2009. The total number of people currently employed by these businesses is 280, representing a large percentage of total employment in Erving (Table 3-12 above shows that average monthly employment for all Erving employers in 2007, the most recent data available, was 320). The quality of this employment is generally very high, given that these employers provide mostly full time jobs with benefits. The Town should encourage the continued creation of such positions in larger companies. However, according to research by the Small Business Administration, small businesses are typically responsible for approximately seventy-five percent (75%) of net new jobs nationwide. The current shortage of small and medium sized businesses in Erving also suggests that new and/or growing businesses may need support as well as the major employers. A final reason to support small businesses is that they are more likely to be locally owned.

Table 3-15: Number of Employees and Percent Full Time per Major Employer in Erving, 2009

Major Employers in Erving by Industry Type	Number of Employees	Percent Full Time
Manufacturing		
Erving Industries	126	100%
Transportation, Communication, and Public Utilities		
Northfield Mountain Pumped Storage Facility	48	100%
Government/Public Education		
Town of Erving (including schools)	106	71.5%
Totals	280	N/A

Source: Committee input and calls made by FRCOG staff or Town Administrator.

C.3 Analysis

Erving's population has been growing at a moderate rate, about 5% higher than population growth in the County during the period from 2000 to 2007. This rate may begin to increase as development pressure from the Boston area continues to move west. Proactively planning for future growth now will help assure that adequate open space and recreation resources are available in the future. Low cost recreation facilities and opportunities for an aging population should especially be considered given the data on the large percentage of Baby Boomers living in Erving. For example, existing trails located in close proximity to the town center, could be expanded or publicized to make residents more aware of these resources. Social and cultural activities could also be expanded for residents of all ages, further enhancing the sense of community in town. All residents of Erving should benefit from recreational programming. Therefore open space and recreation opportunities should be available to all age and income groups and should be evaluated as Erving's population continues to grow and change.

Strategies to work with existing resources to provide for local and regional needs are important, since Erving's economy is showing some signs of decline. This decline is most evident in the total employment figures. While the number of establishments in Erving has been stable or growing slightly, total employment has declined over the last six (6) years.

Erving may want to consider promoting and supporting locally owned businesses that help create a sustainable market for locally produced goods and natural resources, thereby keeping money within Erving's economy. Promoting and protecting Erving's natural resources and improving the quality of life for Erving residents, through efforts such as open space and recreation planning, would have the additional effect of bringing tourists to Town who would be attracted to those amenities, and may spend their money at local businesses.

Erving should find creative ways to move ahead with economic development efforts through the use of existing resources, both natural and human, to provide for the needs of local residents and businesses. Manufacturing has historically provided the economic backbone of the community, but continues to decline on the State, Regional, and Local levels. Efficient businesses that not only rely on local resources, but also help to nurture them should be promoted. Efforts to identify local service needs that could be met by locally skilled people should also be a high priority, such as energy efficiency work supported by the growing clean energy economy.

D. GROWTH AND DEVELOPMENT PATTERNS

D.1 Patterns and Trends

A review of the history of Erving's settlement demonstrates five patterns of land use that occurred consistently throughout the Town's first one hundred years (1838-1940):

- Population followed industrial expansion;
- Most of the population settled in villages;
- Farming occurred along the Connecticut River;
- Working forests supported the local wood products industries; and,
- Transportation upgrades played an important role in population expansion and the location of commercial uses.

It is important to understand how these past patterns affect the landscape today. In each of the historical periods from the mid-1800s on, dramatic increases in local population occurred in discreet villages following the expansion of industries:

- Millers Falls Tool Company in 1868 established a suburban residential district in Grout's Corner (now Ervingside);
- Farley Mill established in 1883 in Wendell, resulting in the settlement of a village on the Erving side of Millers River;

- In 1902 the Millers Falls Paper Company opened a factory in Ervingside, which spurred later affluent residential development along River Road; and
- In 1910, the Erving Paper Company expanded the Stoneville mill with a brick addition causing population numbers to rise in Erving Center.

Although most of the population settled in villages during Erving's first one hundred years as an established town, earlier settlers followed fishing, hunting, grazing, and lumbering activities up the hills towards Northfield, along Rte. 63 (before it was a state road), and Mountain, North and High Streets. Many homes along the rural roads are from the mid-to late-1800s, which demonstrates that since the beginning of the industrial period, some residents lived relatively far from the village center. One reason for this could have been these areas' better access to pasture land and to narrow, fast moving streams used to power sawmills. In addition, many of the forested slopes were cut to support local wood products mills below on the Millers River. Though most of the cultivated cropland in the 1800's was where it is today, along the upper floodplain of the Connecticut River, some farms were also located off of Mountain and North Streets.

Transportation corridors have played a dominant role in Erving's establishment and development over the past 250 years. The Mohawk Trail was the primary east-west route during the 1700s and its development as the Fifth Massachusetts Turnpike in 1799 brought to Erving its first European settler and mill owner, Colonel Asaph White in 1801. The Vermont Massachusetts Railroad helped to sustain both Erving Center and later Ervingside as industrial and commercial hubs. Finally, the reconstruction of Rte. 2 in the early 1930s initiated the location of highway-related commercial businesses in Erving. The Town's newly revised zoning bylaws help control the types and intensity of development that can occur along the highway to mitigate the sprawl of commercial highway-related businesses.

In summary, prior to the middle of the twentieth century, Erving's incoming residents lived mostly in villages and in homes scattered along Mountain, North and High Streets. People lived not far from where they worked. This was possible in Erving as local industries, using the Millers River for power, employed many workers in paper, chair, and tool manufacturing. Farms and sawmills could provide their owners income because their products were needed locally. Stores, restaurants, and hotels were supported by traffic along the Turnpike in the 1800s and later in the 1900s when it was called Rte. 2. Between 1940 and 1970, the main land use changes appear to be the establishment of additional commercial uses along Rte. 2 and residential uses on Mountain and High Streets in Erving Center. In addition, the Erving Paper Mill and Maple Avenue landfills were developed during this time period.

During the time period from 1971 and 1997, the Northfield Mountain Reservoir was constructed, the three Erving publicly-owned wastewater treatment facilities were developed, the active landfills were either closed or expanded (as in the case of the one used by Erving Paper Mill), the elementary school and Weatherhead's apartments were built, and large lot residential uses expanded. The types of residential uses that grew in

overall acreage include multi-family (off Rte. 63), ¼ to ½-acre lots (off River Road in Ervingside), and greater than ½ acre lots on almost every road outside of the village centers.

In the twenty-six (26) years prior to 1997, the predominant land use change was new houses being built along existing public ways, called frontage or approval-not-required lots. It was also during this time that Erving lost 100 acres of forestland and converted ninety-nine (99) acres of land to residential uses 0.5 acres and larger. During this period, all but the units built on Poplar Mountain Road and Old State Road had access to municipal sewer. However, since 1997 there have been approved subdivisions and approval-not-required lots developed that do not have access to sewer, which shows that a lack of sewer is not a constraint to development in Erving.

The majority of Town land is currently zoned as Rural Residential, which allows a minimum of 2-acre residential development. As a result, large lot residential development will likely be the dominant pattern of land conversion in Erving. Within the Central Village and Village Residential zones, the minimum lot size is ½-acre, or 21,780 square feet. However, factors such as slope and depth to bedrock may limit the development of septic systems and result in larger lots.

The Ridge Road project, approved in 2000, is a twenty-three (23) lot subdivision on eighty-three (83) acres. This acreage represents a loss of contiguous forestland nearly equal to the total woodland acreage lost in Erving between 1971 and 1997. This indicates that land conversion has been increasing compared to the relatively slow rate of growth experienced over the previous ten (10) years. The Phasing of Growth bylaw, adopted in 2005, as well as the current economic downturn, has impacted the rate of growth in Town, with no new residential developments since 2000.

Forest fragmentation, the loss of forestland along the edges of large blocks of woodland, is a concern with land conversion for residential development. Fragmentation of the landscape can negatively impact the quality of wildlife habitat, watershed protection, recreation opportunities, forest management opportunities, and ultimately, the municipal services budget. The more fragmented land uses become, the more expensive it becomes to manage and to provide services to residents or businesses, based on additional travel time and fuel costs. Fragmentation of the landscape affects the viability of forest management operations. Development is limited to the road corridors in many rural communities in western Massachusetts. The roadways occur within a landscape of large blocks of contiguous forestland. When forestland is sold for residential development, the resulting lots, usually associated with single-family homes, are often too small to manage individually for forestry purposes.

In addition to losses in forestland, new residential development has other less obvious community impacts, including increases in traffic congestion and quality of life. Fiscal impacts to communities are shown by Cost of Community Services (COCS) studies, completed by American Farmland Trust in communities in Massachusetts and throughout

the country. These COCS studies show that open space, farmland, and commercial and industrial development typically require less in Town services than the revenue that these land uses generate for the local tax base. On the other hand, residential development typically costs more to the town in town services (including education) than the revenue that it generates for the Town through taxes.

Table 3-16: Changes in the Land Area of Specific Natural Resource, Agricultural, and Development Land Uses Between 1971 and 1999

	Land Use Acreages in 1971	Land Use Acreages in 1985	Land Use Acreages in 1997	Land Use Acreages in 1999	Change in Acreage Between 1971 and 1999
Forestland*	**7,712**	**7,639**	**7,612**	**7,515**	**-197**
Non-Forested Wetland					
Cropland and Pasture	**195**	**188**	**180**	**155**	**-40**
Residential <1/4 acre	64	64	64	61	-3
Residential 1/4 - 1/2 acre	86	86	86	86	0
Residential > 1/2 acre	**202**	**277**	**301**	**378**	**+176**
Commercial	20	20	20	17	-3
Industrial	43	46	46	50	+7
Total Area	**9,194**	**9,194**	**9,194**	**9,194**	

Source: 1999 Massachusetts GIS Land Use Coverage.
Note*: Forestland in this data set includes forested wetlands.

D.2. Infrastructure

D.2.1 Transportation

Transportation resources are the highways, roads, railroad tracks, bus routes, bike paths, and sidewalks that exist within a town. Their importance is often overlooked until there is a problem, an accident, or traffic jam. Transportation resources impact people's daily lives as well as the ways their community grows. When these resources are neglected or modified without consideration of these impacts, the results can be negative, from lost opportunities for pedestrian traffic to serious safety issues. Erving's transportation resources are a valuable commodity deserving assessment and enhancement.

The road infrastructure of Erving is comprised of two state highways (Route 2 and Route 63), and a network of roads serving the various village centers and outlying rural areas. Due to its rural nature, cars and trucks are the primary modes of transportation for people and goods. According to the 2000 Census, 96 percent of Erving households owned at least one vehicle. In addition, 94 percent of Erving's working population commuted by car, truck or van to their place of work. This places great importance on the road network to provide a safe and efficient system to accommodate this level of use.

Route 2 is the primary east/west highway across the northern half of Massachusetts, running from the center of Boston into New York State. This major road follows along the southern border of the town parallel to the Millers River bisecting the Town Center and the Village of Ervingside. This route has received much study in recent years, particular with the "Route 2 Safety Study and Improvement Study." This study recommended a number of major road improvements to increase safety along the corridor. Some of these improvements have been completed, are in the process of completion, or are currently under design. The largest safety improvement, in terms of both impact on safety and size of the project, is the now-completed relocation of Route 2 at the Erving Paper Mill. Route 63, located along the western edge of Town provides the only north/south route in Franklin County east of the Connecticut River.

A fixed route transit service, the "G-Link" operated by the Franklin Regional Transit Authority (FRTA) traverses Route 2 between Greenfield, Orange and Athol, with two scheduled stops in Erving. This service links with routes to Gardner and on to Boston via bus or commuter rail from Fitchburg.

Erving has additional transportation infrastructure in two rail lines, which traverse the Town. The first operated by Pan Am Systems (formerly Guilford Rail System), runs east/west parallel to Route 2 and the Millers River along the length of Erving. The second line operated by New England Central Railroad (NECR) runs north/south parallel with Route 63 on the western edge of the Town. Both lines are primarily used for freight purposes. The "Vermonter", an Amtrak passenger service, which runs twice a day between Rutland Vermont and New York City utilizes the north/south rail line operated by NECR. This train does not stop in Franklin County, but the FRCOG is investigating possibilities that this service could stop at Miller Falls.

Erving State Forest and Northfield Mountain Recreation areas provide a plethora of recreational walking activities. The streetscape project along Route 2 in the Erving Town Center, which was completed in 1998, dramatically improved the feeling of comfort and safety for pedestrians in that area. Further improvements in the pedestrian infrastructure to improve the sidewalk connectivity within the various village centers, should be investigated.

Bicycling opportunities are limited in Erving. Route 2 is the only direct east/west route through Town. The traffic volumes and speeds combined with the twisting and narrow road layout makes Route 2 a very dangerous and undesirable location to be riding a bicycle. Many of the north/south roadways involve long and steep inclines limiting these routes to the most experienced cyclists. "The Northfield Connector" of the Franklin County Bikeway follows River Road along the western border of the Town. This portion of the bikeway utilizes shared roadway and provides a link to the Northfield Mountain Recreation Center. The Connector crosses the Millers River over the East Mineral Road Bridge, which has been redesigned and reconstructed for use as a pedestrian- and bicycle-only bridge. This section of the Bikeway includes roadway signage that clearly indicates the bikeway route and alerts motorists to the presence of bicyclists.

Because of the difficulty of bicycling along Route 2 in Erving, several possible alternatives have been identified and preliminary assessments have been conducted. Considered routes include potential connections from Mountain Road to the east, and a potential route through the town-owned cemetery on Cemetery Road to Flagg Hill Road. Another option that has been identified as a potential off-road walking/bicycling route is a discontinued dirt road (Old Farley Road) that is located to the south of the Millers River in Wendell**.** The route can be accessed from Arch Street off of Route 2 in Erving Center. Old Farley Road travels west for approximately two (2) miles and connects to Posk Place Road in the Farley section of Wendell.

D.2.2 Water Supply

Erving residents get their drinking water from private wells and springs or public water supplies. The public distribution system in Ervingside and private wells pump water from underground. Usually a public distribution system that utilizes groundwater accesses a large volume of water in sand and gravel deposits called an aquifer while private wells for single-family homes for example, have wells that draw water from bedrock and other shallow sources. Underground aquifer levels are maintained by groundwater flow from aquifer recharge areas. When rain falls in the hills some of it ends up in the small streams that course down to the Millers or Connecticut Rivers but much of it enters the groundwater. Protecting groundwater and aquifers from contamination by hazardous materials, sewage, salts, pesticides, etc. is critical to the quality of both public and private drinking water sources.

Public water supplies are classified as community and non-community sources. Community sources supply water to a public distribution system. A non-community source is one that serves twenty-five (25) or more persons, such as a school, factory, campsite, or restaurant and is not part of a public distribution system. This may be transient or non-transient, depending upon the usage period. Sources that are in use for less than six months are considered transient. Non-transient non-community, public water sources are those located at private locations where people stay for longer than six months. This could be a source for a company like Erving Paper where people are drinking from the same source of water day after day.

The types of public water systems determine the level of testing required by the Massachusetts Department of Environmental Protection (DEP). Transient non-community water sources must test for coliform bacteria, sodium, nitrates, and nitrites but not for pesticides. Non-transient non-community water sources must test for a more extensive list of contaminants because the people at these locations are drinking from the same sources for a potentially longer period of time.

Community ground water sources (i.e. wells) are required by the Massachusetts Department of Environmental Protection to be thoroughly tested for an ever-expanding list of organic and inorganic compounds including pesticides. In addition they need to be

surrounded by a Zone I wellhead protection area so that the water in the well does not become contaminated. The wellhead protection area is designed to restrict the types of land uses allowed within that zone. Gas stations are typically prohibited, as are industries that work with a significant quantity of hazardous materials. The interim wellhead protection area is drawn on a map as a circle with a radius of one half of a mile. That protection area is approximately 503 acres in size. Usually, the actual recharge area (DEP Approved Zone II Wellhead Protection Area) for a given well is much larger. The recharge area's boundaries are the farthest areas from which the well would draw during an extended dry period without precipitation. Zone II areas normally consist of land areas that are underlain with permeable sand and gravel that were deposited during the later stages of glaciation. The recharge areas for Zone II areas are called the Zone III's. These are usually land areas that have soils of glacial till atop bedrock, which are far too permeable to hold water. The Zone III's recharge the Zone II's, which exist in portions of the sand and gravel aquifers (Tighe & Bond; 1999).

There is one community water supply serving residents and businesses in Ervingside. All other areas of Town including Farley and Erving Center are served with non-community public and private wells or springs. The community drinking water supply source is Erving Well #1, which was installed along the Millers River in 1983. Located off of Public Works Boulevard on the south side of Route 2, it is approximately 0.5 miles from the confluence of the Millers and the Connecticut Rivers. The wellfield is a single, twelve-inch (12") gravel packed production well installed to a depth of fifty-two feet (52') below grade. Massachusetts Department of Environmental Protection has not established an approved pumping rate but the safe yield is equivalent to 374,400 gallons per day. The Town of Erving currently pumps the well at a rate of 260 gallons per minute on an as needed basis with average daily withdrawals of 60,000 gallons per day. River terrace deposits of sand, silt and gravel including floodplain deposits and higher terraces along the Millers River underlie the Town of Erving's well field. These layered sand units are up to 150 feet deep throughout the aquifer.

Tighe & Bond prepared a study titled, "Source Water Assessment Program, Conceptual Zone II Delineation, for Erving Well #1, Erving, MA" in July of 1999. Their conceptual Zone II delineation used modeling techniques that analyzed historic pumping tests and hydrological and geological surveys. This methodology was used instead of using a full capacity pumping test during an extended dry period based on the notion that the aquifer boundary most likely would exist between the low yielding bedrock till areas and the water bearing unconsolidated materials.

The delineated Zone II recharge area for Erving's Well #1 occupies an estimated 0.7 square miles in Erving between Poplar Mountain and East Mineral Hill *(Please see the Water Resources Map where the boundary of the recharge area is identified).* The area is currently zoned for commercial and residential uses, but has a Groundwater Protection District superimposed over these zones. This district calls for additional construction and use requirements with the intention of preventing contamination of the groundwater. Developed properties are currently connected to the Ervingside municipal sewer system.

Routes 63 and 2, and the railroad tracks are located within the Zone II recharge area as well. A Wellhead Protection Plan has been recently completed for the Erving Water Department. This aquifer's Zone III is east of the recharge area for Well #1 in the till and bedrock along the northwestern slope of Poplar Mountain.

According to Tighe & Bond's 1999 study, the Erving Well #1 recharge area has three (3) potential sources of contamination. These include the Massachusetts Highway Department garage, the Town of Erving wastewater treatment facility, and Renovator's Supply. These three (3) land uses are included because their use of particular materials presents a risk to the continued quality of the water in the aquifer. Table 3-17 describes information included in the 1999 Tighe & Bond Source Water Assessment study that ranks the potential sources of contamination by Massachusetts Department of Environmental Protection risk category. Both the Erving Wastewater Treatment facility and Renovator's Supplies earned a "High" risk rating.

Table 3-17: Potential Sources of Contamination the Zone II Recharge Area for Erving Well #1

Site #	Name of Potential Sources of Contamination	Description	DEP Risk Category
1	Mass. Highway Garage	Road Maintenance Depot	Medium
2	Wastewater Treatment Plant (WWTP)	Waste Storage, Treatment, Recycling, and Underground Storage Tanks	High
3	Renovator's Supplies	Furniture stripping, refinishing, storage of transformers, recycling, and demolition materials	High

Source: Tighe & Bond Conceptual Zone II Delineation for Erving Well #1 Source Water Assessment Program, 1999.

Water quality testing shows that the sodium levels within the well fluctuate periodically. This is most likely the result of runoff from the nearby roads within the Zone II area. Route 2 passes approximately 500 feet from the well. Town officials have expressed their opinion that the sodium levels are caused by road salt use in the winter along Route 2.

Water quality testing for Erving Well #1 between 1995 and 2009 has shown that sodium was the only substance that exceeded Massachusetts Drinking Water Standards Guidelines for Chemicals in Massachusetts Drinking Waters. In April of 2007, 2008, and 2009 levels of sodium were found to be 40 mg/L, 240 mg/L, and 203 mg/L. The Office of Research Standards and Guidelines criterion for sodium is 20 mg/L.

According to the Massachusetts Department of Environmental Protection, there are nine (9) non-community and two (2) community public water suppliers in Erving (See Table 3-18). The Department of Conservation and Recreation and the Erving Paper Mill each have three (3) individual water supplies.

Table 3-18: Public Water Supplies (PWS) in the Town of Erving

Public Water Supply Name	Class*	Service Type	Source(s) Status**
Erving Water Department	COM	Public Distribution	A
Ralph Semb DBA Weatherhead's	COM	Located in Ervingside	A
Erving Town Offices	NC	Offices	A
DCR Erving State Forest	NC	Summer Camp	A, A, A
Erving Paper Mills	NTNC	Industrial/Agric.	A, A, A
Box Car Restaurant	NC	Restaurant	A
French King Motor Inn	NC	Hotel/Motel	A
Freight House Antiques	NC	Commercial	A
Copper Angel	NC	Restaurant	I
Charles Zilinski Memorial Field	NC	Ball Fields	A
Buck Run	NC	Restaurant	I

Source: Massachusetts Department of Environmental Protection; 2009.
Note: *COM=Community source for public distribution; NC=non-community source; NTNC=non-transient, non-community source. **Water Source Status: A=Active, I=Inactive

D.2.3 Wastewater Treatment

There are three (3) areas in the Town of Erving served by public sewer. Public sewer and its expansion have the potential to both limit and encourage development. The ability to expand a sewer collection system is dependent on the capacity of the wastewater treatment facility, the quality of the existing collection system, and the amount of available land surrounding the existing treatment facility. Any expansion of the collection system may contribute to development pressures on lands that were previously without sewer.

Erving Center enjoys wastewater treatment via the Erving Paper Company and its subsidiary, ERSECO, which manages the plant (POTW #2). Farley Center has a small public sewer system (POTW #3) designed to handle waste from a set number of residences. The Ervingside Wastewater Treatment Plant (POTW #1) located off of River Road serves Ervingside. Each facility serves a unique population and disposes of its waste quite differently.

The POTW#1 is located off River Road in Ervingside. It is an extended aeration system. The wastewater inflow arrives at the WWTP carrying waste solids and enters aeration tanks where bacteria in the water break down the solids into sludge. Then the wastewater flows into a circular clarifier where the sludge settles. The sludge is pumped to a gravity thickener. Normally, as the sludge settles in the final clarifier, the clear water flows over the top, gets disinfected with chlorine gas, and is then discharged into the Millers River.

The POTW #2 in Erving Center has a similar system except that there is only one (1) aeration tank, and two (2) primary and two (2) secondary clarifiers. The water is treated

with chlorine gas before it is diverted to the Millers River. The sludge is hauled to the Erving Landfill off Rte. 2.

Farley's POTW #3 is similar to a large septic tank for a limited number of residents. In this case the influent passes through five (5) large settling tanks. The sludge, which settles at the bottom of these tanks, is pumped out once per year and transported to the POTW #1 where it is run through their system. The water is pumped from the top of the settling tanks to sand beds, after which a chlorine treatment is applied before the water is discharged to the Millers River.

Table: 3-19: Statistics for Wastewater Treatment Facilities in Erving

Facility Name and Location	Facility Type	Number Persons Served	Design Capacity (MGD)	Average Monthly Flow	% of Design Capacity Remaining	Sludge Treatment or Disposal	Effluent Disposal Location
POTW #1 (Ervingside)	Extended Aeration	1375	1.02 MGD	160,000 gpd	84%	Waste Stream	Millers River
POTW #2 (Erving Center)	Extended Aeration	500	3.15 MGD	1.97 MGD	37%	Erving Landfill	Millers River
POTW #3 (Farley Village)	Septic Tank	50	10,000 gpd	5,000	50%	Sludge goes to POTW #1	Millers River

Source: Massachusetts Department of Environmental Protection; 2000.
Note: MGD = Millions of Gallons per Day. Gpd = Gallons per Day. POTW = Publicly owned Treatment Works

Table 3-19 summarizes statistics for the three (3) wastewater treatment plants in Erving. Wastewater treatment plants are required by the DEP to initiate plans for expansion when the rate at which wastewater comes into the system, called the influent loading rate, reaches 80 percent of the facility's design capacity for ninety (90) days. All of the facilities are running well below their design capacity. Only when a wastewater treatment facility's percentage of remaining design capacity reaches 20 percent, would expansion be necessary. The Erving Center facility, with 33 percent of design capacity remaining, is the plant most likely to require expansion in the near future if the customer base for the other two plants remains the same.

Table 3-20: A Comparison Between National Pollution Discharge Elimination System (NPDES) Permit Limitations and Actual Rates for BOD and TSS in 1999

Wastewater Treatment Facility	NPDES BOD Average Limit	Actual BOD Average	NPDES TSS Average Limit	Actual TSS Average
POTW#1 (Ervingside)	30 mg/l	12.11 mg/l	30 mg/l	12.77 mg/l
POTW#2 (Erving Center)	3,400 mg/l	1312 mg/l	2,350 lbs.	348 lbs.
POTW#3 (Farley Village)	30 mg/l	5.54 mg/l	30 mg/l	3.57 mg/l

Source: Massachusetts Department of Environmental Protection; 2006.
Note: MGD = Millions of gallons per day. BOD = Biological Oxygen Demand. TSS = Total Suspended Solids.

Biological oxygen demand (BOD) and total suspended solids (TSS) are two (2) design criteria that describe wastewater, both the quality of the water coming into the system, and the water being discharged to the rivers. Biological oxygen demand (BOD) is a measure of the amount of oxygen consumed by the wastewater in a given period, typically five (5) days. Total suspended solids (TSS) measures the number of particles in the water. The United States Environmental Protection Agency and the Massachusetts DEP regulate the levels of these parameters found in the water discharged from wastewater treatment plants. Each plant has a National Pollution Discharge Elimination System (NPDES) permit that quantifies the allowable levels of BOD and TSS in the discharged wastewater.

The NPDES permit limits for BOD and TSS are the same for POTW #1 and #3, thirty (30) milligrams per liter, while at POTW #2 in Erving Center, the TSS limits are measured in pounds. In either case the actual BOD and TSS averages for all three (3) facilities are significantly below their permit limits. It appears that on the average, these facilities are providing environmentally sound wastewater treatment operating in compliance with their NPDES permits.

It is quite clear from the tables that all of the plants are operating within their design capacities and NPDES permits. Unlike other communities that have wastewater treatment facilities that are in need of expansion, Erving appears to have excess capacity.

Due to the excess capacity that exists within POTW #1 as noted in Table 3-19, the potential for expansion of the collection system may seem real. However, the question of expansion should be studied carefully, according to Robert Miner, retired Erving Highway Superintendent. For example, in two (2) engineering studies, the costs of expanding the POTW #1 collection system to the French King Restaurant has been shown to be significant.

Although the POTW #3 in Farley has some capacity to expand, it may be desirable to plan any new development as infill within the village center, instead of expanding to include other areas such as Old State Road. Infill expansion would seem prudent as it continues to concentrate development near existing infrastructure.

It is important to carefully consider whether expansion of the sewer collection system is desirable as compared to encouraging infill development in the village centers. A potential result of expanding the sewer to Old State Road, the French King Restaurant, or north along Rte. 63, Mountain, and North Streets is an increase in the development value of all lands with access to these roads. Whether land percolates water would no longer be a factor for builders. Only lands that were permanently protected from development would be passed over. Development of frontage lots and small subdivisions along existing roads would likely accelerate. Coupled with the low property tax rate, sewer line expansion would allow developers to overcome the barriers that Title 5 currently produces. By focusing new development closer to existing village centers, Erving would

be encouraging historical development patterns and discouraging creeping development of residential, commercial, and industrial uses.

D.3 Long-Term Development Patterns

Long-term development patterns will be based on a combination of land use controls and population trends.

D.3.1 Land Use Controls

The Town of Erving has multiple local land use controls including: various zoning districts, Site Plan Review, Growth Phasing, Flexible Development for Small Projects, and Conservation Development. The zoning districts include: the Central Village, Village Residential, Rural Residential, French King Commercial, Groundwater Protection District, and the Wireless Communication Facilities Overlay districts. The Town also requires Site Plan Review for projects that result in the creation of 4 or more lots, or more than 5,000 square feet of enclosed space. The Site Plan Review allows greater Town control in ensuring that large projects are in harmonious relationship with their surroundings. The Phasing of Growth bylaws allows Erving to grow at a sustainable pace without straining the community's ability to provide basic public facilities and services to its residents.

Table 3-21: Selected Features from Town of Erving Zoning Bylaws

District Dimensional Requirements	Type of Use	Min. Lot Area in Sq. Ft.
Central Village	Residential/ Commercial	21,780
Village Residential	Residential	21,780
Rural Residential	Residential	87,120
French King Commercial	Residential/ Commercial	87,120

Source: Town of Erving Zoning By-Law; June 27, 2005.

In essence, Erving's current zoning will create a pattern of development today that is similar to that which was developing in the Town center at the turn of the last century, around 1900. It encourages dense residential development in and around the villages, if and where land is available. Industrial and commercial development is encouraged to expand in Ervingside and Erving Center within the designated Central Village and French King Commercial zoning districts. However, in the rural areas where farmsteads once stood surrounded by vast undeveloped acres, these pastures and woodlands have been, and will continue to be, encroached upon by larger lot residential development.

The challenge for Erving is to define what well balanced looks like for their community. This might mean, for example, allowing the development of commercial and light

industrial uses in a way that encourages local entrepreneurship and business expansion, or concentrating residential development where infrastructure already exists, and away from important open space resources. A Master Plan was completed in 2002 to help the town move forward with proactive planning, with sections devoted to Natural Resources and Open Space, Community Facilities and Services, Housing, Historic and Scenic Resources, Transportation Resources, Economic Development, and Land Use and Zoning. Goals and findings encourage balancing future land use decisions to support a stable tax base while protecting important open space, farmland, ecological, scenic, and historic resources. It is important that this Plan be referenced and updated in order to support strategies that reflect community goals.

SECTION 4

ENVIRONMENTAL INVENTORY AND ANALYSIS

This section of the Erving Open Space and Recreation Plan provides a comprehensive inventory of the significant natural and cultural resources in Town. The purpose of the inventory is to provide a factual basis upon which assessments can be made. In this case, it identifies and qualifies the Town's soils, special landscape features, surface waters, aquifers, vegetation, fisheries and wildlife, and unique environments and scenic landscapes.

Each resource area is analyzed from two perspectives. First, the basic ecological services and cultural amenities the Town's natural resources provide the citizenry of Erving. Ecological services include drinking water filtration, flood storage capacity, maintenance of species diversity, and soil nutrient levels. Cultural amenities include the recreational use of open spaces, the quality of life benefits that are maximized by maintaining the area's rural character and scenic beauty, and the direct and indirect benefits that well-conserved natural resources, such as good drinking water and open spaces, have on the local economy. Second, whether the resource should be conserved so that the quantity and quality required by residents is sustained.

A. TOPOGRAPHY, GEOLOGY, AND SOILS

Decisions about land use should consider the inherent suitability of a site for different kinds of development. Understanding the geology, soils, and topography of Erving are essential for determining the suitability of sites for residential, commercial and industrial development. This information will help the Town identify areas that should continue as agriculture or forestry operations as well as areas to preserve as open space such as parks and trails

A.1. Topography

The Town of Erving has two different landscapes: riparian corridors with either steep banks or sloping sand flats, and highlands with associated slopes, hills, mountains, ridgelines, and plateaus. The banks of the Connecticut River in Erving, north of the French King Bridge, are steep and wooded, and include the southern portions of Northfield Mountain and First Bald Hills, which stretch south from the Town of Northfield. The mountains in Erving include Poplar Mountain (1,021 feet) and Rose Ledge (1,093 feet) in the west, Rattlesnake Mountain (1,067 feet) and Hermit Mountain (1,206 feet) in the central portion of the Town, and several mountains in Erving State

Forest (1,055 to 1,200 feet). The banks of the Millers River, Erving's southern boundary, are comprised of sand and gravel flats.

Approximately three-fourths (75.8 percent) of Erving drains to the Millers River. It is fed by many small brooks that flow toward the west and south from Erving's uplands. The Millers River drains a 392-square-mile area in north-central Massachusetts and southwest New Hampshire. The rest of the town drains to Four-Mile Brook in Northfield or directly to the Connecticut River via four small streams.

Overall forestland in Erving represents 83 percent of the total land area. Surface water, non-forested, and forested wetlands represent a total of 505 acres or 5.5 percent of Erving's total land area. They include the Millers and Connecticut Rivers and any associated wetlands, the Northfield Mountain Reservoir, Laurel Lake, and Spruce Swamp which is located on top of Rattlesnake Mountain. Pasture and cropland represent 136 acres or 1.5 percent of the total area.

A.2 Geology

The underlying bedrock of Erving is predominantly Poplar Mountain and Dry Hill Granite gneiss[1] and Craig Mountain Formation with large banded areas of schist[2] rock forming the upland ridges in the Erving Center-Farley area. These are hard bedrock that have no inherent suitability limitations by themselves. However, there may be limitations based on their relationship to the soils and vegetation. Development elsewhere may be constrained by significant areas of shallow bedrock and rocky ledges that are common in the region and by aquifer recharge areas and many small wetlands.

In the eastern portion of Erving there is a fault between the Dry Hill Granite Gneiss and the Crag Mountain Formation which trends north-south and is located just east of the Erving Paper Mill in Stoneville. The Crag Mountain Formation has several members – one, Mica Schist lies under Route 2.

The land of the Millers River Valley bottom is underlined predominantly by the Bernardston Formation. The bedrock tends to strike northeast to southwest setting the pattern for drainage from the area's streams and brooks.

Westernmost Erving is floodplain deposited by the Connecticut and Millers Rivers and lake-bottom sediments from post-glacial Lake Hitchcock.

Surficial geology includes deposits of glacial till, areas of sand and gravel, and lake bottoms. Unconsolidated deposits are: 1) upper and lower till, which are heterogeneous

[1] Gneiss is a coarse layered rock. The coarse-grained high-grade metamorphic rock is formed at high pressures and temperatures in which light and dark mineral constituents are segregated into visible bands.
[2] Schist is a rock whose minerals have aligned themselves in one direction in response to deformation stresses with the result that the rock can be split in parallel layers.

mixtures of clay, silt, sand, and cobble to boulder sized gravel with low to moderate hydraulic conductivity commonly covering the hilly areas, 2) stratified drift, consisting primarily of fluvial (produced by stream action) and glaciofluvial (produced by streams from glaciers) derived sands and gravels with moderate to high hydraulic conductivities, which serve as a storage reservoir for precipitation and an easy passage for recharge to underlying permeable deposits and fractured bedrock and 3) swamp and lacustrine (formed in lakes) deposits, which have high hydraulic conductivity but are undesirable as aquifers because of insufficient thickness.

The Town of Erving that we know today is the result of millions of years of geologic history: the great upheavals of the earth's crust and volcanism, and the sculpting power of moving water, ice, and wind. This distinctive physical base has determined the distribution of the Town's water bodies, its soils and vegetation, and its settlement patterns, both prior to and since colonial times.

A.2.1 Mountain Building: 700 Million Years to 190 Million Years Ago

The earth's crust is actually a system of plates the movement and collision of which shape the surface. As the plates collide, the earth's crust is compressed and forced upward to form great mountain ranges. In the area of the northeastern United States, the plates move in an east-west direction, thus the mountains formed by their collisions run north to south. Both the Taconic Mountains and the Appalachians were formed in this way.

The pressure of mountain building folded the earth, created faults, and produced the layers of metamorphosed rock typically found in New England today. Collision stress also melted large areas of rock, which cooled and hardened into the granites that are currently found in some of the hill towns in Massachusetts. Preceding the collisions, lines of volcanoes sometimes formed, and Franklin County shows evidence of this in bands of dark schist rock metamorphosed from lava flows and volcanic ash.

A.2.2. Earthquakes and Dinosaurs: 190 Million to 65 Million Years Ago

A great continent known as Pangaea formed through the plate collisions; it began to break apart almost 200 million years ago (and continues today). This caused earthquakes and formed large rift valleys, the largest of which became the Atlantic Ocean. The Connecticut Valley was one of many smaller rifts to develop, and streams flowing into it from higher areas to the east which brought alluvium including gravels, sand and silt. The Dinosaur left footprints that are visible today in the sedimentary rock formed from these materials on the valley floor.

By the close of the Dinosaur age, the entire eastern United States including Erving was part of a large featureless plain, known as the peneplain. It had been leveled through erosion, with the exception of a few higher, resistant areas. Today, these granite mountaintops, named monadnocks, are still the high points in this region. Such

mountaintops are named for Mt. Monadnock in New Hampshire; Mt. Wachusett and Mount Grace are other nearby examples.

As the peneplain eroded, the less resistant rock eroded to form low-lying areas, while bands of schist remained to form upland ridges. By this time, the Connecticut Valley had been filled with sediment, while streams that would become the Westfield, Deerfield, and Farmington Rivers continued to meander eastward. The Miller's River and other westward-flowing streams would become more significant later on.

A.2.3. Cenozoic Era and the Ice Age, to the Present: 65 Million Years Ago to Today

A long period of relative quiet followed the Dinosaur era. Then, as the Rocky Mountains were forming in the west eight million years ago, the eastern peneplain shifted upward a thousand feet. As a result of the new steep topography, stream flow accelerated, carving deep valleys into the plain. The plain rose one more time, and the Millers River, once a slowly meandering westward stream, now carved its course through the sediment and bedrock. Today, the visible remnants of the peneplain are the area's schist-bearing hilltops, all at about the same 1,000-foot elevation.

Mountain building, flowing water, and wind had roughly shaped the land; now the great glacial advances would shape the remaining peneplain into its current topography. The earth's climate cooled until a point about two million years ago, when accumulated snow and ice in the far north began advancing under its own weight. A series of glaciations followed, eroding mountains and displacing huge amounts of rock and sediment. The final advance, known as the Wisconsin Glacial Period, completely covered New England before it began to recede about 13,000 years ago. It scoured and polished the land into its present form, leaving a layer of glacial debris and landforms that are still distinguishable.

While the Miller's River probably first formed prior to the glacial period, most of Erving's hydrological system is a remnant of that time. The major streams follow a southwestern course with the topography. Smaller streams flow from uplands feeding the wetlands formed by sedimentation that filled drainage points when the glacier receded.

The glacier left gravel and sand deposits in the lowlands and along stream terraces. These are the present day locations of the Miller's River. Where deposits were left along hillsides, they formed kame terraces and eskers. Kames are short hills, ridges, or mounds and eskers are long narrow ridges or mounds of sand, gravel, and boulders. Both are formed by glacial melt waters.

A.3 Soils

Soils have five basic characteristics: their depth to bedrock; the speed at which they allow water to percolate into the ground; their slope; the amount of surface water that exists in

the area; and the amount of boulders and stones present on the surface that make them appropriate or inappropriate for different land uses.

In Erving soils sustain a diverse array of plant and animal life through the banking of nutrients and organic matter; they retain and release groundwater naturally regulating surface water flow; they nourish forests and fields that underlie the region's natural resource economy, and they produce a way of life for the people who settle and live in town.

According to the U.S. Department of Agriculture's *Water & Related Land Resources of the Connecticut River Region, Massachusetts* published in 1978, there are two main soil associations in Erving that intersect along a north-south line represented by Rose Ledge and Schoolhouse Brooks near Erving Center – the Hinckley-Windsor-Muck association in the west Erving and the Scituate-Essex-Ridgebury association which is in the remaining east-central section of Town.
Soils in the Hinckley-Windsor-Muck association were formed in water-sorted materials like glacial outwash and in pockets of organic material (Muck soils). These soils are usually located in valleys, on nearly level to rolling terraces, deltas, kames, and eskers. The large percentage of sand and gravel in these soils means water permeates through the surface layers easily often making them suitable for agriculture with droughtiness being their only limitation. Hinckley soils constitute roughly 40 percent of the association and have a sandy and gravelly substratum. Windsor soils are sandy and are 30 percent of the association. The wet organic muck soils make up 10 percent of the association and often are too wet for crops. Minor components comprise the remaining 20 percent of the association.

The Scituate-Essex-Ridgebury association was also formed in glacial till. Its soils occupy nearly level to sloping drumlins, ridges, and associated swales in the east central part of the region. The surfaces of wooded areas located in this association often have many scattered stones and boulders. The major soils have compact, slowly permeable subsoils. The Scituate soils (40 percent of the soils in the association) are moderately well drained with a fine sandy mantle over a sandy substratum. The well-drained Essex soils contain loamy sand in all layers and represent 30 percent of the association. Ridgebury soils (20 percent of the association) are poorly drained.

As Erving plans for the long-term use of its land, four questions arise. It is important to determine which soils are best for various land uses including agriculture, forestry, development, and recreational opportunities and wildlife habitat. This information will help lay the foundation for open space and recreation planning in Erving.

The following describes the soils in Erving and their uses for agriculture, drinking water, wastewater, recreation, and wildlife habitat.

A.3.1 Soils for Development

One good way to determine whether Erving has soils suitable for development is to identify existing farmland and developed lands that used to be farm fields. These soils in Erving are deep, well-drained sandy loams like those found in the Connecticut River Valley and are best for crop farming. They are also very good for development and recreational fields because often they are level and support in-ground septic and drainage systems.

A good soil for septic systems will filter released wastewater in a manner that protects groundwater quality. Soils that are too wet will not allow wastewater to move or be filtered by the natural decomposition processes that occur in these soil layers. On the other hand soils that are too dry cannot hold wastewater long enough to be naturally filtered and purified by organisms in the soil allowing untreated septage to move into the groundwater. Prime farmland soils often have the best characteristics for both farming and developing houses.

Steep slopes, and to a lesser extent, wet soils, prohibit and limit development on a significant portion of Erving's land. Slopes over 25 percent, identified wetlands, and lands already built upon, are located primarily in the southern half of Erving with smaller blocks along the western town line and along North Street and Swamp Road.

A.3.2 Soils for Agriculture

Only a portion of Erving's prime farmland soils is actively used as pasture, tilled or otherwise productive agricultural land. Prime farm soils are scattered throughout Erving along the floodplains of the Millers and Connecticut Rivers, on the gentle slopes north of Rte. 2 and in small pockets on Mountain Road. Also, soils that are considered prime for farming in Town are good for development (presently 1.5 percent of Erving is farmed as crop and pasture land).

Farming contributes to Erving's rural character. Small farms can provide residents local employment opportunities as well as maintain the Town's rural quality. They also provide visual relief from the dense wooded areas dominating the region. Since agricultural lands are the most likely to be developed, Erving residents may want to prioritize farm soils for conservation.

Although cropland may be treasured in the Town of Erving, it is a rare commodity representing less than 1 percent of the entire land area. Forestland on the other hand is extensive in Erving, covering 83 percent of the community.

A.3.3 Soils for Forestry

The University of Massachusetts, Department of Forestry and Wildlife Management in cooperation with state and federal conservation agencies produced a research bulletin in October of 1985 titled, "Prime Forestland Classification for Forest Productivity in Massachusetts." By assigning productivity values for white pine and northern red oak to different soils throughout the State based on associated land characteristics including slope, aspect, and moisture levels, the authors were able to determine which soils could be considered prime for forestland. They developed nine different categories including Prime 1, 2, and 3, Statewide, Local Importance, and Unique. Prime forestland soils support a production of wood fiber at a rate greater than eighty-five cubic feet per acre per year. Only forestland with Prime 1, 2, and 3 soils would be worthwhile to manage intensively for wood products. Soils of statewide and local importance still have the potential for producing wood products but the potential financial return is not as high.

By comparing the list of Prime 1, 2, and 3 forestland soils in the research bulletin with the soil survey maps for the Town of Erving, the majority of prime forestland soils occur east of Mountain Road in the Erving State Forest and on the southern aspects of Hermit Mountain below 800 feet in elevation with Route 2. Other discreet areas of prime forestland soils are found northeast of Northfield Mountain Reservoir, the western flanks of Poplar Mountain, and west of Route 63, along Erving's Town line.

Prime forestland soils are not the only criteria for choosing land to manage for timber production. Three important other factors include the forest's condition, its accessibility, and its slope. Ultimately, an on-the-ground analysis of all of these factors will determine which lands are best for timber management.

A.3.4 Soils for Recreation and Open Space Preservation

Different recreational uses are constrained by different soil and topographical characteristics. For instance, sports fields require well-drained and level soils. Lands with slopes over 25 percent may be attractive to mountain biking and hiking enthusiasts. However, such soils should only be used for these purposes if the soils are not easily eroded. And, those soils that best support a variety of wildlife habitats may not be the best to development. More than likely these soils would provide a diverse array of species habitats. In addition, protecting any remaining high slope areas along ridge tops would also provide for the protection of habitats for large mammals as well as scenic views.

Erving might consider identifying and prioritizing the different soils and land characteristics of the town – hydric or very wet soils, high slope areas along ridge tops, existing recreational trails, prime farm and forest land, and land suitable for septic acreage. This will help the Town decide which lands they want to conserve and where in town they want to encourage forestry, farming and development.

A.4 Analysis

Overall, Erving is a forested landscape with small, scattered patches of cropland, surface water, and residential development surrounding a modest area of dense cultural uses collected around and along the east/west running Millers River, which is the southern border of the Town. The scenic values come from forested hills, pastoral landscapes, both flat and fast running sections of the Millers River, and views of the Connecticut River Valley. The value of the landscape for scenic views, wildlife habitat, and recreation could be diminished by development. Understanding the topography, geology and soils of Erving will help the Town make decisions about protecting important natural resources and siting development in appropriate locations.

Erving residents may want to develop a conservation plan to protect remaining prime forest and farmland soils for future wood fiber and food production while preventing the loss of these soils through development.

The ecological services and cultural amenities that Erving's ridgelines, hills, and soils provide cannot be replaced. They will be diminished, however, with neglect and poor planning. Adopting ridge protection bylaws and exploring ways to facilitate the protection of prime farm and forest land soils will be required if the residents of Erving want to sustain the Town's rural character and a local economy that includes recreational, agricultural and forestry operations.

B. LANDSCAPE CHARACTER

The Town of Erving is situated on steep slopes overlooking two river valleys, the Connecticut River Valley in the west and the Millers River Valley to the south. Travelers, who journey through Erving along Route 2, the Mohawk Trail and the major east-west roadway across northern Massachusetts, experience a small New England mill town landscape. The road through the Farley Flats section of Erving contains one of the last remaining sections of the late eighteenth century highway, called the Fifth Massachusetts Turnpike. It is scenic and winding where the forest meets the river's edge. The panoramic view of the Connecticut River Valley from the French King Bridge is a magnificent western gateway for the Town. Mountain Road in the east and Route 63 in the west of Erving offer glimpses of Erving's agricultural heritage in the form of historical agricultural farmsteads and rolling pasture.

The Town of Erving is unique in the region as it combines an industrial heritage with large tracts of protected forestland. Erving State Forest, which is divided into two sections, encompasses 2,522 acres. It has lush forested hills, rushing streams, scenic roads and pathways to Laurel Lake and hiking trails to Hermit's Castle. The shores of Laurel Lake are considered archeologically sensitive due to Native American encampments. Also, there are several historic 1920's summer cottages. In western Erving, Northeast Utilities owns approximately 1,826 acres of contiguous forestland

where they built Northfield Mountain Reservoir and established the Northfield Mountain Environmental and Recreation Center.

C. WATER RESOURCES

C.1 Watersheds

The Town of Erving lies in the Connecticut River watershed[3] which encompasses the Millers River and Poplar Mountain Brook Basins (sub-watersheds). The northwestern slopes of Northfield and Poplar Mountains in the western portion of Erving drain directly to the Connecticut River, while the majority of Town drains to the Millers River which then flows into the Connecticut River.

The Connecticut is nationally significant. In 1991, Congress established the Silvio O. Conte National Fish and Wildlife Refuge, the only refuge in the country to encompass an entire watershed – the Connecticut River watershed in New Hampshire, Vermont, Massachusetts and Connecticut. In 1998, the Connecticut River became one of only fourteen rivers in the country to earn Presidential designation as an American Heritage River.

The Millers is one of the Connecticut River's 38 major tributaries and a large river of statewide importance and historical significance in Massachusetts. Its headwaters are located in Winchendon, New Hampshire.

C.2. Surface Water

The Town of Erving has approximately 103 acres of fresh open water. The Millers River is the Town's southern border with Wendell and Montague. Laurel Lake, forty-eight acres in size, is Erving's only natural body of fresh open water.
The following is an inventory describing Erving's rivers, streams, brooks, and ponds. It focuses on the extent of the public access and recreational value of these waters as well as any water quality issues. The 2008 Massachusetts Section 303(d) List of Integrated Waters prepared by the Division of Watershed Management, Department of Environmental Protection (DEP) is used as a source document for the Millers River and all listed surface waters within the Town of Erving including Laurel Lake.[4] In addition, the Millers River Watershed Council completed a study in 2009 of Polychlorinated

[3] The Connecticut is New England's largest watershed (11,260 square miles) and longest river (410 miles).
[4] Section 303(d) is part of the Federal Clean Water Act requirements. The State is required by the United States Environmental Protection Agency to identify water bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls. In each case, the most severe pollutant is identified. Although the affected water bodies may contain other pollutants, the 303(d) list only includes the results of evaluations upon which DEP has performed some measure of quality control.

Biphenyls (PCBs) in the Millers River. The study includes a summary of PCBs in the Town of Erving and discusses the implications.

C.2.1 Millers River

The Millers River is located in north central Massachusetts and southwestern New Hampshire. From its headwaters in New Hampshire, the Millers River flows south, then gradually west, ultimately flowing into the Connecticut River. According to the US Fish and Wildlife Service, it is one of 38 major tributaries to the Connecticut River, New England's longest river and largest watershed.

The hamlets of Erving Center, Farley and Ervingside are located on the Millers River. There are six tributaries to the Millers in Erving. From west to east, these include Schoolhouse Brook, the un-named stream draining Spruce Swamp, Briggs Brook, Packard Brook, Jack's Brook, and Keyup Brook.

Although the Millers River fluctuates between sluggish and rapid flows, there is an average drop of twenty-two (22) feet per mile. The River and its tributaries powered industrial development in the region since the late 1700s. Over time, serious water pollution problems resulted from industrial and human uses of the river as a sewer.

Today, the Millers River is valued for its recreational and natural resources. The stretch of the river that passes through Erving has been classified as a warm water fishery and for primary and secondary recreation uses by the Massachusetts Division of Water Pollution Control (MDWPC, Water Quality Survey Data: Millers River Basin, 1987.)

The Millers provides opportunities for fishing, wildlife and scenic viewing, whitewater boating and swimming. There are many public access sites to the Millers River in Erving, the most popular of which is at its confluence with the Connecticut River. It supports a variety of species including freshwater mussels. Freshwater mussels are particularly good indicators of water quality and therefore their presence may indicate improving conditions along the Millers River.

The quality of the water in the Millers River is important for many reasons. Clean water supports life in all of its forms and is reason enough to keep the river environment healthy. Other people may be motivated by the desire to swim or fish in the river.

Although the river is considered Class "B" (appropriate for fishing and swimming), consumption of fish caught there is not advisable. The stated class for a particular river is in fact only the State's goal for that river and does not necessarily mean that the river meets the standards for that classification. Hence there are public health warnings against eating native fish species caught in the Millers River. The given classification also implies that the future recreational potential for the Millers River may in part depend on continued water quality improvements.

According to the Executive Office of Energy and Environmental Affairs (EOEEA), the "top three" watershed priorities for the Millers River are: perform hydrologic assessment and water supply forecasts to identify flow and yields throughout the watershed and stressed sub-watersheds; develop a non-point source assessment to identify existing and potential sources of water quality problems; and work with the Coordinator of the North Quabbin Regional Landscape Partnership (NQRLP) to protect biodiversity and open space in the region.

The Millers River has significant value to the residents of Erving. The development of Erving Center, Farley and Ervingside historically depended on Millers River waterpower, which is evidenced by the mill buildings found at river's edge. Today, the Millers River is primarily recreational asset. It is one of the best catch-and-release rivers in the State. Catch-and-release rivers are especially popular among anglers because the fish are available and remain stocked year round. The Millers River also contains the proper habitat for several state-listed freshwater mussel species and three species of Special Concern, the four-toed salamander and the spotted and wood turtles.

Area municipal officials and residents have worked hard to improve the water quality of the Millers River since the days when raw sewage was discharged from area homes and industries directly into the river. Water quality information is included in this section because the future recreational potential for the Millers River depends in part on continued improvements.

The water quality of the Millers River is much higher than it used to be due to more than fifty years of research and effort to clean the river by state and private institutions. Federal legislation, passed in the 1960s and 1970s, greatly affected the treatment wastewater received before it was discharged into rivers and streams. The Massachusetts Clean Water Act enacted in 1966 specified laws, standards, and procedures for the implementation of federal legislation at the state level. It contained provisions for the regulation of discharge to surface waters, ground waters, and sewer systems, and provisions for state technical assistance to communities for construction of public treatment plants.

The Federal Water Pollution Control Act of 1972 (Public Law 92-500) as amended by the Clean Water Act of 1977 sought to eliminate discharge of pollutants into navigable waters by 1985. Public Law 92-500 also provided for federal grants for construction of public sewage treatment facilities. Between 1973 and 1977, eight wastewater treatment plants were constructed at sites along the Millers River. In spite of this, toxicity tests in 1987 found that four of the eight (Athol, Orange, South Royalston, and Winchendon) demonstrated acute toxicity, which DEP thought to be chlorine. In addition, testing of fish caught in the Millers River basin between 1995 and 1997 identified problems of polychlorinated biphenyls or PCB contamination resulting in fish advisories by the Massachusetts Department of Public Health.

In January 2003, DEP updated the Non-point Source Action Strategy for the Millers River Basin. In it, the 17.5 miles segment of the Millers River which runs from South

Royalston to the Erving Paper Company was described as having issues of "unknown toxicity, priority organics, metals, nutrients, pathogens…Department of Public Health fish advisory is in effect for this segment due to Mercury and PCBs in fish flesh."

According to the Housatonic Valley Association, an organization working for the cleanup of the Housatonic River in Berkshire County, PCBs can last in sediments for centuries. Cleanup treatments depend on the extent of the contamination. In severe cases, PCBs collect together into contaminant plumes where they slowly move through sediments like oil. Dredging may be the best solution in this situation. However, dredging is very expensive and can end up mixing contaminated sediments throughout the river ecosystem. Where the contamination is not severe, allowing river sediments to bury the PCBs naturally may be more reasonable. Until the PCBs are cleaned up, the wildlife, fisheries, and recreational benefits of the Millers River can never be fully realized.

A summary of the water quality testing results presented in the Millers River Watershed Assessment Report is listed in Table 4-1. The summary information includes the sections of the Millers River that were evaluated, the toxicity test results for aquatic life, fish consumption, primary and secondary human contact, and the overall ranking of the river segment as defined by its presence on the Massachusetts Integrated List of Waters (CWA Sections 303d and 305b).

Table 4-1: Summary of Data from MA DEP 2000 Water Quality Assessment Report

Location Segment ID #	Aquatic Life	Fish Consumption	Primary Contact (e.g. swimming)	Secondary Contact (e.g. boating)	Overall Ranking of Segment
Millers River from the USGS gage station in South Royalston to the Erving Paper Company (17.5 miles) **MA 35-04**	**IMPAIRED upper 6.6 mile reach** **SUPPORT* lower 11.5 mile reach** Cause: PCBs Sources: Contaminated sediment, releases for waste sites or dumps	**IMPAIRED** Causes: *Mercury and PCBs* Sources: *Unknown mercury, contaminated sediment, releases from waste sites or dumps (suspected Source: Atmospheric deposition)*	**Not Assessed**	**Not Assessed**	**Class B, Warm Water Fishery** ***This segment should remain on the Integrated List of Impaired Waters based on Dept. of Health Fish Advisory***
Millers River from Erving Paper Company to confluence with the Connecticut River (8.1 miles) **MA 35-05**	**SUPPORT** *Although levels of aluminum, copper, and lead exceeded criteria several times, the chronic toxicity test showed no significant toxic effects and so the segment is listed as "full support" for the aquatic life use.*	**IMPAIRED** Causes: *Mercury and PCBs* *Sources: Unknown mercury, contaminated sediment, releases from waste sites or dumps (suspected Source: Atmospheric deposition)*	**Not Assessed**	**Not Assessed**	**Class B – Warm Water Fishery** ***This segment should remain on the Integrated List of Impaired Waters based on Dept. of Health Fish Advisory***

Source: 2000 Millers River Watershed Water Quality Assessment Report; Massachusetts Department of Environmental Protection.

The information on the Millers River in the 2006 draft Massachusetts Integrated List of Waters[5] prepared by DEP is shown in Table 4-2 below. The Millers River is one of the water bodies in the state which requires TMDLs. A TMDL, or a Total Maximum Daily Load, is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

Table 4-2: The Massachusetts Draft 2008 303d List for the Millers River: Segments Requiring TMDLs (Pollutant Needing a Total Maximum Daily Load)

Name	Segment IC	Description	Size	Pollutant Needing TMDL [EPA Approval Date Document Control Number]
Keyup Brook (3522375)	MA3516_2008	Headwaters Great Swamp Northfield State Forest, Northfield, to confluence with Millers River, Erving.	5.0 miles	-Priority organics
Laurel Lake (35035)	MA35035_2008	Erving/Warwick	44.4 acres	-Organic enrichment/Low DO
Lyons Brook (3522175)	MA3519_2008	Outlet of Ruggles Pond, Wendell to confluence with Millers River, Montague/Wendell	2.1 miles	-Priority organics
Millers River (3522150)	MA35-04_2008	South Royalston USGS Gage, Royalston to Erving Center WWTP (formerly known as Erving Paper Company), Erving.	18.5 miles	-Priority organics -Nutrients -Pathogens
Millers River (3522150)	MA35-05_2008	Erving Center WWTP (formerly known as Erving Paper Company), Erving to confluence with Connecticut River, Erving.	9.2 miles	-Priority organics
Mormon Hollow Brook (3522225)	MA35-15_2008	Headwaters just north of Montague Road, Wendell to confluence with Millers River, Wendell.	3.8 miles	-Priority organics
Whetstone Brook (3522450)	MA35-18_2008	Headwaters northeast of Orcutt Hill near New Salem Rd, Wendell to confluence with Millers River, Wendell.	4.9 miles	-Priority organics

April, 2008 (1) 98 * - non Pollutant
Proposed Massachusetts Year 2008 Integrated List of Waters [ ] – TMDL (Restorative)
CN 281.0 < > – TMDL (Protective)

Notes:

Unknown Toxicity: Used where the results of toxicity tests performed on ambient water or sediment indicate in-stream toxicity but the cause is unknown, or where the condition of the benthic invertebrate community is indicative of a toxic response.

Priority organics: Usually PCB in fish tissue or sediments, sometimes PAH in sediments or associated with waste sites.

Metals: Often mercury in fish tissue; also includes metal-contaminated sediments.

Nutrients: Often used when response indicators such as algae blooms indicate eutrophication; usually refers to phosphorus in fresh waters and nitrogen in coastal embayments.

Pathogens: Disease-causing agents, which can be in the form of bacteria. The 2008 DEP Integrated List of Waters (303d List) is used as a source document for the Millers River and all listed surface waters within the Town of Erving. Section 303(d) is part of the Federal Clean Water Act requirements. The State is required by the United States

[5] In 2004, the EPA required Massachusetts to combine Section 303(d) and 305(b) listings into one report, called the Integrated List of Waters. The listings of water bodies in need of TMDLs is the 303(d) listing.

Environmental Protection Agency to identify those water bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls. The sources of impairment are identified for some of the surface waters identified in this section.

C.2.2 Connecticut River

The Connecticut River is Erving's western boundary. Its banks are steep, often forming two steppes between the normal daily flow and the floodplain areas.

The Connecticut River watershed is the largest river ecosystem in New England. It encompasses approximately 11,000 square miles and flows from its headwaters of Fourth Connecticut Lake in New Hampshire at the Canadian border to Long Island Sound at Old Saybrook Connecticut. Although wholly in New Hampshire, it forms the border with Vermont. The River travels through Massachusetts entering the Commonwealth at Gill and Northfield, draining all or part of forty-five (45) municipalities before entering the State of Connecticut. The watershed is 80 percent forested, 12 percent agricultural, 3 percent developed and 5 percent wetlands and water.

According to the US Fish and Wildlife Service, the watershed is home to many species including fifty-nine (59) species of mammals, 250 species of birds, twenty-two (22) species of reptiles, twenty-three (23) species of amphibians, 142 species of fish, 1,500 of invertebrates and 3,000 species of plants. Ten (10) federally listed endangered or threatened species occur in the watershed – bald eagle, peregrine falcon, piping plover, shortnose sturgeon, dwarf wedge mussel, puritan tiger beetle, Jesup's milk-vetch, Robbin's cinquefoil, small whorled pogonia, and the northern bullrush.

Fifty years ago the Connecticut River was described as "the best landscaped sewer in the Nation" however, today it is classified as swimmable and fishable (Class B) and in some areas drinkable (Class A). This is a result of the Federal Clean Water Act and the investment of more than $600 million in wastewater treatment.

The Connecticut River and its watershed are nationally significant. In 1991, Congress established the Silvio O. Conte National Fish and Wildlife Refuge, the only refuge in the country to encompass an entire watershed – the Connecticut River watershed in four states. Seven years later, in 1998, the Connecticut River became one of only fourteen rivers in the country to earn Presidential designation as an American Heritage River.

The priorities of the Massachusetts Executive Office of Energy and Environmental Affairs for the Connecticut River watershed include: promote the protection and/or creation of riparian buffer zones along its waterways; reducing the negative effects of non-point source pollution, primarily storm runoff; restore aquatic diversity by removing barriers to fish and eel passage on the tributaries to the Connecticut; and improving upon the limited amount of water quality data available within the Watershed.

Years of deforestation, industrialization, and widespread dumping took their toll on the river's water quality causing a mass disruption of ecological processes. The effects were

more pronounced in the urban sections of the river, although pollution and erosion are concerns in all areas of Franklin County (US Fish and Wildlife Service; 1995). In recent years, the water quality of the Connecticut River has improved. Fish and wildlife that virtually disappeared from the region twenty years ago have begun to return including the Atlantic salmon, American shad, the peregrine falcon, and the bald eagle. However, present threats to the river are many. They include increased development resulting in nutrient and heavy metals loading, hydroelectric generation as it relates to fisheries and documented toxic and bioaccumulations effects on fisheries resulting from historic discharges or waste sites (Connecticut River Watershed Assessment and Management Report; MA DEP; March 1995).

The Connecticut River in Erving is one of the most scenic reaches of the River because of French King Gorge. Boat ramps are located in Barton's Cove just south of Erving, in Northfield just north of town, and near the confluence of the Millers river. The Quinnetuket II has daily tours of the Gorge in the summer from Northfield Environmental and Recreation Center. The Connecticut River Watershed Council has The Complete Boating Guide of the Connecticut River, which details recreational opportunities for all of the Connecticut River – wildlife viewing, boating, fishing, swimming and camping. The Connecticut River also represents a wildlife corridor for mammals like bobcat and moose and birds such as songbirds and raptors.

The Connecticut River is a Class B from the New Hampshire/Vermont/Massachusetts border to Holyoke and is classified as a warm water fishery. The water is also used for irrigation and other agricultural uses. A report entitled "The Health of the Watershed" published in January 1998 by the New England Interstate Water Pollution Control Commission listed bioaccumulation and toxicity as specific water quality issues for the entire length of the Connecticut River in Massachusetts and specifically identified polychlorinated biphenyls (PCBs) in fish.

Also in 2008, the Massachusetts Department of Public Health issued a public health advisory for certain species of fish contaminated by PCBs in the Connecticut River (Commonwealth of Massachusetts Summary of Water Quality; DEP; 1998). The general public should not eat any affected fish species, which include Channel and White Catfish, American Eel and Yellow Perch. Pregnant women and nursing mothers are advised not to eat any fish from the River. There is a paucity of current, comprehensive water quality sampling for the main stem of the Connecticut due to a severely curtailed DEP water quality monitoring program. Monitoring and follow-up investigations regarding the source and extent of pollutants are urgently needed.

Published water quality information for the Connecticut River is limited. There are numerous point sources of pollution along the Connecticut River such as wastewater treatment plants and industries with National Pollution Discharge Elimination System (NPDES) permits. While a listing of NPDES permit holders exists, there is no published analysis of the water quality testing required to be conducted by the permit holders and many point sources have permits which have expired (Connecticut River Watershed Assessment and Management Report; Massachusetts Department of Environmental

Protection; March 1995). Table 1-3 summarizes the information available from DEP. Clearly additional water quality testing and an evaluation of existing NPDES permits is needed to determine the health of the Connecticut River ecosystem and to clearly identify which uses the river supports.

A 1998 publication issued by the U. S. Geological Survey as part of the National Water Quality Assessment Program (Water Quality in the Connecticut, Housatonic, and Thames River Basins; USGS Circular 1155; 1998) identified various pesticides used by agricultural operations as pollutants in the Connecticut River in Franklin County. While current drinking water standards were not exceeded, the report noted that existing drinking water standards do not include some pesticides detected or their breakdown products. In addition, the current drinking water standards do not consider the cumulative impacts of more than one pesticide in the water. As a result, the actual health concern posed by these results is uncertain.

Table 4-3: Summary of Surface Water Quality Information for the Connecticut River

Location	Water Quality Information
Connecticut River from New Hampshire to Route 10 Bridge Northfield (MA34-01_2008) 3.5 miles	**Class B – Fishable/Swimmable** *Pollutants include Priority Organics and Pathogens (1998 Massachusetts 303(d) List of Waters; Department of Environmental Protection)* *This stem of the Connecticut River is listed as Non-Supporting of one or more designated uses in the 1992 Summary of Water Quality published by the Department of Environmental Protection. There is a fish advisory because of the presence of polychlorinated bi-phenyls (PCBs) in resident fisheries and accordingly the "Fishable" use is not supported.*
Route 10 Bridge to Confluence with the Deerfield River in Greenfield (**MA34-02_2008 and MA34-03_2008) 14.7 miles**	**Class B – Fishable/Swimmable** *Pollutants include Priority Organics (1998 Massachusetts 303(d) List of Waters; Department of Environmental Protection)* *This stem of the Connecticut River is listed as Non-Supporting of one or more designated uses in the 1992 Summary of Water Quality published by the Department of Environmental Protection. There is a fish advisory because of the presence of polychlorinated bi-phenyls (PCBs) in resident fisheries and accordingly the "Fishable" use is not supported.*
Confluence with Deerfield River to Holyoke Dam, Holyoke (MA34-04_2008) 34.4 miles	**Class B – Fishable/Swimmable** *Pollutants include Priority Organics and Pathogens (1998 Massachusetts 303(d) List of Waters; Department of Environmental Protection)* *This stem of the Connecticut River is listed as Non-Supporting of one or more designated uses in the 1992 Summary of Water Quality published by the Department of Environmental Protection. There is a fish advisory because of the presence of polychlorinated bi-phenyls (PCBs) in resident fisheries and accordingly the "Fishable" use is not supported.*

Source: Connecticut River Watershed 2000 Water Quality Assessment Report; Massachusetts Department of Environmental Protection.

C.2.3 Other Rivers and Brooks

- Keyup Brook:

  Keyup Brook, a tributary of the Millers River, originates in the Great Swamp located in Northfield State Forest. It travels through Erving State Forest where it is joined by

Damon Brook, an intermittent stream. The brook is joined by Jack's Brook, which originates in Northfield, at Pete's Pond.

Keyup Brook contains brook trout, brown trout, rainbow trout, blacknose dace, longnose dace, white sucker and American eel. Favored fishing spots are located at bridge crossings and natural holes, especially the bridges at Church and North Streets, Swamp Road and North Streets, and Pete's Pond.

- Jack's Brook:

  Jack's Brook, located in the northeast corner of Erving, originates in the Town of Northfield at Pete's Pond. Jack's Brook parallels North Street in Erving, joining Keyup Brook, which flows into the Millers River near Erving Center.

- Briggs Brook:

  Briggs Brook is an intermittent stream originating atop Northfield Mountain near the southern end of the Northfield Mountain Reservoir. It then flows through the village of Farley on its way to the Millers River.

- Packard Brook:

  Packard Brook is an intermittent stream which also originates on Northfield Mountain. It flows into the Millers River east of the village of Farley.

- Schoolhouse Brook:

  Schoolhouse Brook, located in the southwestern section of Erving, originates near Poplar Mountain and flows into the Millers River.

- Spruce Swamp:

  Spruce Swamp, one of the most significant upland swamps in the Town of Erving, is located due west of Rattlesnake Mountain. It is a remote wetland system, which may contain amphibian habitat typical of vernal pools.

C.2.4 Laurel Lake

Laurel Lake, approximately thirty acres in size, straddles the town boundary between Erving and Warwick in Erving State Forest. It is managed by the Department of Conservation and Recreation (DRC) as part of Erving State Forest. Laurel Lake is an enhanced natural lake, which is stratified and mesotrophic, capable of sustaining both coldwater and warm water fish. It has a public boat access ramp and a public swimming beach and is stocked annually with trout. Laurel Lake has been listed on the 2008

Massachusetts Section 303D List of Waters due to organic enrichment/low dissolved oxygen (DO) and noxious aquatic plants.

C.2.5 Wetlands

The National Wetlands Inventory has estimated that there are approximately nine acres of non-forested wetlands, almost eighty-six (85.7) acres of forested wetlands and 382 acres of surface water in the Town of Erving. All of the wetlands and streams in Erving are either adjacent to the Millers River or drain into the river from a north to south direction flowing from the steep adjacent hills. Most of the wetlands along the corridor are formed by impounded water from streams or a fluctuating water level in the Millers River. There are three types of known wetlands in the Town of Erving. These are the palustrine broad-leaved deciduous forested wetlands with a dominance of hardwoods and a mixture of conifers; palustrine broad-leaved deciduous scrub/shrub wetland; and persistent emergent wetland (wet meadow).

Wetlands represent unique and special habitats that help maintain biological diversity and support approximately 43 percent of the nation's threatened and endangered species (Kinne; 1999). Both inland wetlands and floodplains are important natural resources that are of tremendous value to the community. They provide flood storage and control, pollution filtration, and habitat for fish and wildlife. Since they are commonly recharge zones for groundwater sources, it is important that communities identify and protect their wetlands and floodplains to protect public drinking water supplies.

The Wetlands Protection Act requires a permit for any alteration of wetland areas or for any landscape disturbance within 100 feet of wetlands bordering a river or stream, or within 100 feet of isolated wetlands larger than one quarter of an acre. Permits are also required for landscape alterations within 200 feet of rivers and perennial streams.

The conversion of wetlands is a serious problem with high-priced consequences. Watersheds with degraded or destroyed wetlands experience substantially higher flood peaks. Moreover, wetlands replicated with engineered solutions do not function nearly as well ecologically as undisturbed natural wetland systems. Wetlands also provide vital habitat to a diverse range of wildlife including game species and songbirds. In addition, wetlands and other types of surface water are interconnected to ground and drinking water supplies. Due to this connectivity, the contamination of any wetland could degrade the quality of Erving's only public drinking water supply. Erving could follow the example set by three other communities in Franklin County (Sunderland, Shutesbury, and Heath) and adopt local wetlands bylaws that would protect their wetlands better than the State's Wetlands Protection Act.

C.3 Aquifer Recharge Area

In Ervingside, there is one community water supply serving residents and businesses, Erving Well #1. All other areas of Town including Farley and Erving Center are served with non-community public and private wells or springs. The Erving Water Department has taken specific steps towards conserving the quality of drinking water pumped from Erving's Well #1. Delineating the Conceptual Zone II Recharge Area is required before land uses can be properly assessed as to whether they could contribute to the contamination of the ground water, the aquifer, and the well. Water testing and bylaw adoption are other ways in which the Town is working to protect the quality and quantity of its water supply.

The engineering firm, Tighe & Bond, prepared the Conceptual Zone II Delineation for Well #1 in July of 1999. The delineated Zone II recharge area for Erving's Well #1 occupies an estimated 0.7 square miles in Erving between Poplar Mountain and East Mineral Hill and Route 63, Route2, and the railroad tracks. The area is currently zoned for commercial and residential uses. This aquifer's Zone III is east of the recharge area for Well #1 in the till and bedrock along the northwestern slope of Poplar Mountain.

There is a proposed Groundwater Protection District Bylaw in Erving. The bylaw provides use, density, impervious cover, and groundwater recharge regulations for the purpose of protecting the aquifer from contamination. The boundaries of the Groundwater Protection District are described above as the delineated Zone II recharge area for Erving Well #1. The bylaw applies standards and language similar to many other watershed and aquifer protection bylaws adopted by communities in Massachusetts.

C.4 Flood Hazard Areas

The Town of Erving does not have any major flood hazard areas. A one hundred year flood plain indicates that ever year there is a 1% chance that a catastrophic flood will occur. The FEMA Flood Insurance Rate Maps (FIRM) from 1982 show that there is a one hundred year flood plain on the western border of the Town on the Millers River. This land however is protected from development. A large portion of it is owned by the Town's Conservation Commission, which makes it permanently protected, and another significant portion of it is also owned by the Town of Erving, but not by the Conservation Commission.

C.5 Potential Sources of Water Supply Contamination

Ervingside's Well #1 pumps water from an aquifer with a high degree of transmissivity. This means that the aquifer contains a tremendous amount of water, which a well can pull from a great distance away. It also implies that a contaminant spilled several miles away from the well could be move through the aquifer to the well.

Erving's Well #1 is a productive well with access to a good and steady supply of drinking water located underground in layers of saturated sand and bedrock called an aquifer. However, some of the site's geological characteristics also add to the aquifer's vulnerability to contamination. According to the DEP, Well#1 is located one-half mile

southeast of the confluence of the Millers and the Connecticut Rivers and is screened to a depth of thirty-nine to fifty-four feet (39'-54') below grade in an unconfined aquifer consisting of outwash sand and gravel deposits within a bedrock trough oriented in a northeast-southwest direction. The saturated thickness of this trough is approximately one hundred and fifty feet.

The transmissivity of the aquifer was estimated in 1988 to be approximately 89,000 gallons per day per foot. While the transmissivity is representative of materials in the subsurface favorable for productive wells, it also indicates a degree of vulnerability with respect to the ease in which contaminants can be transported through the portion of the earth's surface above the permanent groundwater level, the groundwater, and from spills at ground surface level (DEP; 1996). This means that if there were a spill of hazardous materials within the recharge area, some of that material could be pulled into the well. However, because the aquifer contains such a large quantity of water, it is likely that the hazardous materials would be diluted to safe levels (Rick Larsen, DEP; 2001). This may not be true if the spill were to occur close to the well site.

The land immediately surrounding the well is not completely owned by the Town of Erving. This is the land (0.10 acres) representing the Zone I wellhead protection area. The Town also does not control land to the southeast of the pumping station, which DEP suggests is very important to protecting the well from contamination. Fortunately, the three private residences located southeast of the pumping station are on municipal sewer. Because the Zone I ownership of the well does not comply with 310 CMR 22.21 (3) (b), which requires ownership of the land within four hundred foot radius of the public water supply well, the DEP may require compliance before any modification or expansion to the supply and distribution system is proposed.

In 1999, the Erving Water Department participated in the Mass DEP's Source Water Assessment Program (SWAP), which produced a conceptual Zone II delineation of the recharge area for Well #1. The recharge area is equal to the portion of the watershed that would contribute sub-surface water to Well #1 during a drought lasting 180 days. Therefore, the above ground land uses within the recharge area could potentially affect the quality of the drinking water supply. The Erving Water Department and many residents recognize the importance of the recharge area and delineating it was the first step.

C.5.1 Sewage Disposal

The three villages in the Town of Erving are serviced by public sewer, while the remainder of the residences in the Town have private septic systems. Erving Center wastewater receives treatment by the wastewater treatment facility owned by Erving Paper Company and its subsidiary, ERSECO, which manages the plant (POTW #2). The village of Farley has a small public sewer system (POTW #3), which is designed to handle wastewater from a set number of residences. Ervingside is serviced by the Millers Falls Wastewater Treatment Plant (POTW #1) located off of River Road. Even with

these three treatment facilities, many residents have private on-site septic systems. A comparison between the extent of the Zone I aquifer recharge area to Erving Well #1 and the reach of the public sewer collection system around Ervingside shows that there are areas of land that are served by on-site septic systems. Failed septic systems could result in the contamination of both public and private drinking water supplies. Bringing sewer to those areas may appear to be a viable strategy. However sewer would also accelerate development of abutting lands requiring even more potential expansion of public sewer. Conservation of undeveloped lands within recharge areas is therefore is the principal strategy for protecting the aquifer from contamination.

D. VEGETATION

D.1 Forests

Forest areas are considered one of the Town of Erving's most important natural resource, comprising 81.7 percent of the Town's total land area.

The Town of Erving does not contain vegetation significantly different from other towns in the region and watershed. However, forests are different with respect to age, density, height and diameter, and species of trees in different locations in the watershed and hillside elevations.

On a large scale, the dominant vegetation in Erving is characterized by mixed hardwood-softwood forest. For nearly 150 years the hills have been recovering from a sequence of clearing and heavy lumbering that has been the historical use of the landscape. Nearly all forest cover in Erving is considered second and third growth forest. This means that the most dominant trees present today are at least the second, and more likely the third generation of trees that have grown in the same place. First generation trees existed in Erving during the pre-Colonial period.

The mixed forest stands include northern red oak, hickory, red and sugar maple, white pine, and eastern hemlock. The softwood stands are predominantly white pine and eastern hemlock. The riparian corridors often have sandy flats along their banks, which support white pine and northern red oak. Younger communities in these areas are comprised of quaking aspen and white and grey birch. Occasionally eastern hemlock, yellow birch, and American beech are found along these low sand flats, which typify the original northern hardwood forest type, found on these sites. The upland areas of this type support coniferous species such as eastern hemlock in the moist sites with the drier sites dominated by hardwood species such as northern red oak, white ash, sugar maple, and white birch.

Old growth forests, found in small patches throughout Massachusetts, contain trees that are 150-350 years old. According to Robert Leverett, Executive Director of the Friends of the Mohawk State Forest and an expert in ancient forests in Massachusetts, there are two areas in Erving that likely contain old growth forests. The steep slopes of

Rattlesnake and Hermit Mountains are similar to other old growth forest sites that are extremely inaccessible. In addition, the tree species commonly found in old growth forests are native to the woodlands of Erving. Old growth species that are thought to exist on Hermit and Rattlesnake Mountains include eastern hemlock, black birch, and chestnut oak.

Vegetation along the banks of the Millers and Connecticut Rivers as well as their tributary streams provides several important benefits. Forested buffers purify water by filtering out harmful nutrients from runoff, reducing the amount of suspended solids and phosphates that can enter the river. Vegetation also adds to the organic matter content of local soils, shelters and feeds wildlife, and cools water temperatures, preventing the excessive growth of algae and aquatic vegetation (Franklin County Planning Department; 1990). Vegetation acts as a natural sponge that absorbs, holds, and slowly disperses water toward rivers. This is particularly important during major storm events and the springtime thaw when flooding may be an issue.

D.2 Public Shade Trees

Erving has a Town Forest, which is 37 acres located off of Mountain Road. It is heavily forested and has been rated as having a very high recreational value for the Town. Erving also has a Tree Warden, whose responsibility is to determine which trees are unsafe and need to be removed. The Town does not have an official shade tree policy – as of 2005, 83% of Erving's land is forested providing shade and habitat throughout all of Town.

D.3 Agricultural Land

There are 136 acres of cropland and pasture in the Town of Erving. The soil suitability and the topographical characteristics of the landscape determine the locations of the two types of farmland use. There are 75 acres of pastureland located primarily in the gently rolling upland areas that are either within the stream valleys like Jack and Keyup Brook, or alongside Mountain and North Streets and Murdock Hill Road. A few scattered parcels of pasture are located near Erving Center and along Routes 2 and 63 as well as cropland which is located where the topography is more level and the soils have higher silt content. These floodplain soils straddle Route 63 from Route 2 north to Northfield, east to the slopes of Poplar Mountain, and west to the Connecticut River. Some of this cropland was purchased by three farmers who sold it to Massachusetts under the Agriculture Preservation Restriction (APR) Program which protects it from development in perpetuity. This is the only cropland actively farmed in the Town of Erving.

D.4 Wetland Vegetation

The forested deciduous swamp is a predominant wetland type in the Town of Erving. These areas are essentially red maple swamps, although in New England, the usual swamp hardwood type is referred to as elm-ash-red maple. Black spruce can also be found. Also common in Erving are mixed deciduous swamps, which include eastern

hemlock. Wetlands under story shrubs are common in these swamps and can include mountain holly, highbush blueberry, and winterberry. Herbaceous vegetation such as sedges, ferns, false hellebore and skunk cabbage are also found. (USDA; 1992)

There are a number of shrub-scrub wetlands in Erving. These include both shrub deciduous swamps and bogs.

Emergent marsh wetlands can also be found in Erving. These are rare and occur only in small isolated locations or intermixed with trees in the deeper more permanently flooded portions of swamps. Typical emergent marsh vegetation consists of cattail, burreeds, and sedges.

D.5 Rare, Threatened and Endangered Plant Species

The Natural Heritage and Endangered Species Program (NHESP), a program of the Massachusetts Department of Fish and Game, identified 241 native plant species as rare in the Commonwealth. NH&ESP has documented one vascular plant, the roundleaf shadbush in the Town of Erving as threatened:

Table 4-4: Rare Plants Found in the Town of Erving

Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
Amelanchier sanguinea	Roundleaf Shadbush	SC		1911
Potamogeton confervoides	Algae-like Pondweed	T		2005

D.6 Analysis

Plants and animals are the visible 'citizens' of the ecosystems in Erving. Plants convert solar energy into food which supports all animal life. Plants cycle energy through the ecosystem by decaying, removing carbon, and shedding oxygen. Plants also help moderate temperatures and act as shelter and as feeding surfaces for herbivores, omnivores, and carnivores.

It is easy to take plants for granted because they are the backdrop for our daily activities. Fields, a maintained stage of human-caused vegetation, are rare in Erving and thus valued. Forests on the other hand are plentiful and may appear as common. However, this Open Space and Recreation Plan points to the importance of forests: they protect aquifers, first and second order streams, and edge and interior habitats; they clean the air and cleanse the water; and they can provide materials, food, and medicines to support our human community. Forests of all types and habitats, densities, ages, and sizes, are what would predominate in our absence. Therefore, the multiple values of forest should be considered in land use decisions with a goal of maintaining as much forestland as possible.

E. FISHERIES AND WILDLIFE

E.1 General Description and Inventory of Wildlife and Wildlife Habitats

Erving's landscape consists of a mountainous region blanketed with forests of white pine, eastern hemlock, northern red oak, and mixed hardwoods with patches of cultivated fields, pasture, and sparsely populated areas along the transportation corridors. The region's wildlife travels across the landscape in patterns that disregard the political boundaries of towns. Rivers, wetlands, hardwood, coniferous, and mixed forests, open meadows, croplands, and mountain ridges all provide sustenance, mating grounds, and cover to the wildlife who dwell within. The following lists of wildlife species is representative of those species found in Western Massachusetts.

E.1.1 Amphibians

These following species are found in forest, wetland, and open upland habitats and require a home range 1-10 acres:

Red-spotted Newt	Northern Two-lined Salamander	Green Frog
Northern	Eastern American Toad	Wood Frog
Dusky Salamander	Fowler's Toad	Gray Tree Frog
Redback Salamander	Northern Spring Peeper	Pickerel Frog
Four-toed Salamander	Bullfrog	

Jefferson Salamander, Blue-spotted Salamander, Tremblay's Salamander, and Northern Spring Salamander may be present.

This species is found in forest habitats and requires a home range 11-50 acres:

Spotted Salamander

E.1.2 Reptiles

These species are found in forest, wetland, and open upland habitats and require a home range 1-10 acres:

Wood Turtle	Eastern Garter Snake	Northern Black Racer
Spotted Turtle	Eastern Ribbon Snake	Eastern Smooth Green
Eastern Painted Turtle	Northern Ring-neck Snake	Snake
Northern Redbelly Snake	Northern Water Snake	

This species is found in forest, wetland, and open upland habitats and requires a home range 11-50 acres: Common Snapping Turtle

This species is found in forest, wetland, and open upland habitats and requires a home range >50 acres: Eastern Milk Snake

E.1.3 Birds

The following species are found in forest/non-forested habitats and require a home range 1-10 acres:

Alder Flycatcher
American Bittern
American Black Duck
American Goldfinch
American Goldfinch
American Redstart
American Robin
American Wigeon
Black-and-White Warbler
Blackburnian Warbler
Black-capped Chickadee
Blackpoll Warbler
Black-throated Blue Warbler
Black-throated Green Warbler
Blue Jay
Blue-gray Gnatcatcher
Blue-winged Teal
Blue-winged Warbler
Bobolink
Boreal Chickadee
Brown Thrasher
Brown-headed Cowbird
Canada Warbler
Canvasback
Carolina Wren
Cedar Waxwing
Chestnut-sided Warbler
Chipping Sparrow
Common Goldeneye
Common Grackle
Common Merganser
Common Snipe
Common Yellowthroat
Dark-eyed Junco
Downy Woodpecker
Eastern Bluebird
Eastern Kingbird
Eastern Phoebe
Eastern Wood-Pewee
European Starling
Evening Grosbeak
Field Sparrow
Golden Crowned Kinglet
Grasshopper Sparrow
Gray Catbird
Great Blue Heron
Great Crested Flycatcher
Green-backed Heron
Green-winged Teal
Hairy Woodpecker
Henslow's Sparrow
Hermit Thrush
Hooded Merganser
House Wren
Indigo Bunting
Killdeer
Least Flycatcher
Lincoln Sparrow
Mallard
Mourning Dove
Mourning Warbler
Nashville Warbler
Northern Cardinal
Northern Flicker
Northern Mockingbird
Northern Oriole
Northern Parula
Northern Pintail
Northern Water Thrush
Ovenbird
Philadelphia Vireo
Pied-billed Grebe
Pine Siskin
Prairie Warbler
Purple Finch
Red Crossbill
Red-eyed Vireo
Ring-necked Duck
Rose-breasted Grosbeak
Ruby Crowned Kinglet
Ruby-throated Hummingbird
Rufous-sided Towhee
Scarlet Tanager
Solitary Vireo
Song Sparrow
Sora
Spotted Sandpiper
Tennessee Warbler
Tree Swallow
Tufted Titmouse
Veery
Virginia Rail
Warbling Vireo
White-throated Sparrow
Willow Flycatcher
Wilson's Warbler
Winter Wren
Wood Duck
Wood Thrush
Worm-eating Warbler
Yellow Warbler
Yellow-bellied Flycatcher
Yellow-bellied Sapsucker
Yellow-rumped Warbler
Yellow-throated Vireo

The following species are found in forest/non-forested habitats and require a home range 11-50 acres:

American Woodcock
Bank Swallow
Barn Swallow
Black-billed Cuckoo
Brown Creeper
Common Nighthawk
Horned Lark
Northern Rough-winged Swallow
Pine Grosbeak
Red-breasted Nuthatch

Ring-necked Pheasant
Ruffed Grouse
Swainson's Thrush
Upland Sandpiper
Whip-poor-will
White-breasted Nuthatch
Yellow-billed Cuckoo

The following species are found in forest/non-forested habitats and require a home range >50 acres:

American Crow
American Kestrel
Bald Eagle
Barred Owl
Belted Kingfisher
Broad-winged Hawk
Chimney Swift
Common Raven
Cooper's Hawk
Great Horned Owl
Long-eared Owl
Northern Goshawk
Northern Harrier.
Northern Saw-whet Owl
Peregrine Falcon
Pileated Woodpecker
Red-shouldered Hawk
Red-tailed Hawk
Sharp-shinned Hawk
Turkey Vulture
Wild Turkey

These species are found in forest/non-forested habitats with unknown home ranges:

American Tree Sparrow
Bohemian Waxwing
Northern Shrike
Common Redpoll

E.1.4 Mammals

These species are found in forest habitats and require a home range 1-10 acres:

Eastern Cottontail
Snowshoe Hare
Eastern Chipmunk
Gray Squirrel
Red Squirrel
Beaver
Deer Mouse
White-footed Mouse
Meadow Vole
Star-nosed mole
Least Shrew
Water Shrew
Muskrat.

These species are found in forest habitats and require a home range 11-50 acres:

Virginia Opossum
Porcupine
Ermine
Long-tailed Weasel

These species are found in forest habitats and require a home range >50 acres:

Woodchuck
Coyote
Red Fox
Grey Fox
Black Bear
Raccoon
Fisher
Mink
Striped Skunk
River Otter
Bobcat
White-tailed Deer
Moose

These species are found in forest/non-forested habitats with unknown home ranges:

Little Brown Myotis
Silver Haired Bat
Eastern Pipistrelle
Big Brown Bat

E.2 Vernal Pools

As of August 2009, the Massachusetts Natural Heritage and Endangered Species Program notes that the Town of Erving has no certified vernal pools.

E.3 Corridors for Wildlife Migration

Individuals of wildlife and fisheries populations move within a landscape. Why, when, and where wildlife and fish species move is not completely understood by wildlife biologists. What can be said with certainty is that given a mostly undeveloped landscape, animals do not pay attention to political boundaries; in a developing landscape, wildlife seek natural cover for shelter and food, but willingly forage where human uses, such as gardens or horticultural and ornamental plantings provide browse or food. As the land within the Town of Erving continues to be developed, the remaining remote large blocks of forest land, and the parcels of land connecting them together will become more important to wildlife.

Erving is located within several regional belts of protected open space that contribute to the value of the already protected land in Town. The Quabbin Reservoir Reservation is a source of wildlife for surrounding communities

Connections between bodies of water and watersheds are also important for wildlife and fisheries species. The more common animals that utilize the river and stream corridors are beaver, muskrat, raccoon, heron, kingfish, bittern, snapping turtle, and many species of duck, amphibians, and fish (Millers River Advisory Board; 1983). Since many species rely on a variety of habitats during different periods of their life cycle, species diversity is greatest in areas where several habitat types occur in close proximity to each other. As such, protection of all habitat types is vital for maintaining and enhancing biodiversity in Erving.

There are three general paths to follow in conserving the health of wildlife populations. One is to protect the habitat of specific species that are rare, threatened, or endangered. It is thought that while protecting their habitats other species also benefit. A second path is to conserve certain landscape level resources like a large contiguous forest or riparian habitats along rivers. This helps to protect the habitats of a large number of species but it might not safeguard some rare and endangered species. The third method is a combination of the two – protect unique habitats and networks of habitats for specific species and landscape level resources like large contiguous forest patches and riparian areas that assist population dynamics.

Recognizing the general areas where wildlife mate, feed, and travel is often the first step. Large, forested patches of more than 185 acres provide interior forest habitats for a variety of birds and mammals and protect first and second order stream tributaries (Formann; 1995). Networks or greenways of protected forestland or vegetated riparian corridors are resources that help to sustain populations of animals that require diverse

habitats over time and space. There is a large amount of forestland that is permanently protected from Warwick through the eastern half of Erving to Wendell, Shutesbury, and New Salem. Therefore, forestland and open space in Erving is important to sustaining the region's wildlife diversity.

The Connecticut and Millers Rivers play a dual role for the region's wildlife. Riparian corridors often have a greater degree of species diversity than other portions of the landscape. The two rivers also serve as important regional migration corridors. In 1996, the Conte Refuge sponsored a survey of migratory birds along the Connecticut River that revealed that 133 species, mostly woodland species, use the riverside habitat as a migratory corridor (Silvio O. Conte National Fish and Wildlife Refuge; 1997). According to the Natural Heritage and Endangered Species Program, riparian areas along the Millers and Connecticut Rivers are critical habitats for species that are endangered, rare, or threatened and of special concern. Finally, the rivers are habitat for native freshwater fisheries and anadromous fish species.

The Connecticut and Millers Rivers have native freshwater fisheries and are being stocked with Atlantic salmon, American shad, blueback herring, and shortnose sturgeon in the local stretch of the Connecticut River. Historically, the Millers River has supported natural populations of salmon and trout but due to the contamination by industrial and domestic wastes throughout the last century, the cold-water fishery was eliminated in the lower stretches of the river (Millers River Advisory Board; 1983). Within the recent past, Atlantic salmon restoration work has been accomplished each spring in the Millers River and trout are stocked in various water bodies throughout the Millers watershed (DEP; Rojko personal communication; 2000).

The Division of Fisheries and Wildlife stocks a variety of trout species (non-native rainbow, eastern brook, and brown) for sport fishing in the Connecticut and Millers Rivers. Resident fish species in the Connecticut River include walleye, channel catfish, northern pike, small and largemouth bass, and pickerel. Anadromous fish species (those which are born in fresh water, migrate to salt water where they mature and then return to freshwater to spawn) include striped bass, sea lamprey, blueback herring, American shad, and Atlantic salmon. The river also has a catadromous species of fish (fish that live in freshwater but spawn saltwater), the American eel. The Conte National Fish & Wildlife Refuge and other federal and state agencies are responsible for restoring migratory fish to the Connecticut River Watershed and fund a number of projects to enhance existing populations. (Silvio O. Conte National Fish and Wildlife Refuge; 1997).

Unfortunately dams along the Connecticut River threaten many species, especially Atlantic salmon, blueback herring, and American shad by blocking fish passage and altering natural flows. During spawning season fluctuating water releases sweep away fish eggs and larvae. Dams also have a detrimental effect on young fish and place stress on older fish that must constantly alter their feeding and resting areas due to habitat changes resulting from fluctuating flows. Fish may be killed by turbines or stranded in isolated pools when high flow releases recede.

The construction of fishways at key points on the Connecticut River has reduced some of the harmful effects of dams. Regular stocking has led to marginal populations of Atlantic salmon and increased populations of American shad. Lamprey eel numbers have also increased significantly which indicates improving water quality throughout the Connecticut River Watershed and more efficient fish passage installations (Franklin County Planning Department; 1990). Fisheries in the Massachusetts portion of the Connecticut River Watershed are also threatened by sedimentation, erosion, toxicity, bacterial contamination, elevated stream temperatures, bioaccumulation, and low flow due to damming for hydroelectric operations (Connecticut River Forum; 1998).

E.4 Rare, Threatened and Endangered Species

Erving provides habitat for wildlife species that are endangered or considered to be of special concern by the Massachusetts Natural Heritage and Endangered Species Program. The species that most often catch the public's eye are those that are considered "glamorous" such as Peregrine Falcon, which has been found in Erving. While the importance of these species is undeniable, lesser known species such as the Triangle floater (a mussel), the eastern box turtle, and the golden-winged warbler should not be overlooked since all play a crucial role in Erving's ecosystems. Permanently protecting the habitat areas of these species should be a top priority.

Table 4-5: Rare Wildlife Species Found in the Town of Erving

Common Name	Scientific Name	Taxonomic Group	State Status
Triangle Floater	*Alasmidonta undulata*	Mussel	Special Concern
Peregrine Falcon	*Falco peregrinus*	Bird	Endangered
Golden-Winged Warbler	*Vermivora chrysoptera*	Bird	Endangered
Spine-crowned Clubtail	*Gomphus abbreviatus*	Dragonfly/Damselfly	Endangered
Longnose Sucker	*Catostomus catostomus*	Fish	Special Concern
Roundleaf Shadbush	*Amelanchier sanguinea*	Vascular Plant	Special Concern
Algae-like Pondweed	*Potamogeton confervoides*	Vascular Plant	Threatened
Eastern Box Turtle	*Terrapene Carolina*	Reptile	Special Concern
Wood Turtle	*Glyptemys insculpta*	Reptile	Special Concern

Source: Division of Fish and Wildlife, Natural Heritage and Endangered Species Program; 2008.

E.5 Analysis

The Town of Erving is close to a huge wildlife source, the Quabbin Reservoir. The Millers River is a corridor for both fish and terrestrial and amphibious wildlife. Large blocks of forestland are protected from development and several major stream corridors provide habitat and recharge to streams and potential future drinking water supplies. Linkages and connections are important to consider as Erving plans for its open space and recreation resources. Recreational trails may be inappropriate for some areas due to proximity to sensitive areas containing erodable soils and/or rare and endangered species.

On the other hand, trails laid out with care and sensitivity can be a popular basis for the protection of linked parcels of open space that in turn serves area wildlife.

Careful timber harvesting as part of a forest management plan, can provide a landowner with periodic income with the least amount of damage to the residual stand. Harvesting the best trees and leaving the rest without concern for future generations of trees within a stand is coined "high grading." It is in effect worse than clear cutting, because the trees that are left to help create the next generation are often inferior in form and health. On a small scale this practice may be considered very damaging to the forest and wildlife. However, on a landscape scale, infrequent, poor forest harvesting practices may simply provide a different habitat type to the diversity of forest conditions across tens of thousands of acres.

It is impossible to predict how different habitats and vegetation types will shift across the landscape over time. Erving is part of a much larger region, with the Quabbin Reservoir being a significant part. Overall it is probably less important to be concerned with the landscape-level impact of forest cutting, than with how development fragments the edges of the Town's significant contiguous forests. If timber harvesting was very common throughout the region, but infrequently seen in Erving, there would likely be a diverse range of immature and mature forests of various species, compositions, and ages, while the Town's forests would be more homogenous. However, if the opposite were true, the lack in forest stand diversity across the landscape would ultimately impact the numbers, variety, and species of the wildlife, which are found in Erving. Of course, changes to a forest's structure, age, and species composition occur through natural disturbances like hurricanes, ice storms, and fires.

F. SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

The Town of Erving is distinguished from neighboring towns by unique and special places that its residents know well. This section identifies scenic resources and special environments that most residents agree represent the Town's unique essence. Rivers, mountains, wetlands and villages comprise the physical markers of the sense of place distinguishing Erving from its neighbors. Erving's scenic landscapes are also important by virtue of special wildlife habitats. The purpose of inventorying scenic resources and unique natural environments is to provide a basis for prioritizing efforts to protect them.

The following section includes information about the different values associated with each scenic resource and natural environment and also discusses the areas where there are multiple values represented in one landscape. Those landscapes may be seen as having a higher priority for protection than a landscape that contains only one value.

A few of the scenic resources also include significant historic structures and landscapes. This historical information is included and is based on the 1992 Franklin County Rural

Historic Landscape Preservation Plan Report.[6] It describes the status of historic landscapes in the region, the historic context that was used in its determination, and the methodology used in rural historic landscape reconnaissance. It distinguishes between the types of landscapes assessed (agricultural, community development, recreational, conservation, industrial, transportation, scientific, religious, and engineering), identifies in general terms the locations of rural historic landscapes in each town, and provides examples of direct and indirect preservation strategies.

The methodology used for identifying significant historical landscapes was based on the National Park Service criteria including area of significance, period of significance, and historical integrity. The National Park Service classifies landscapes into four different categories: landscapes that reflect major patterns of a region's history (e.g. agricultural landscapes), landscapes that are associated with historically significant individuals (e.g. institutional grounds and buildings), landscapes that are important due to their design or physical characteristics (e.g. an 18th century Colonial Period Connecticut Valley rural farm), and landscapes that yield or have the potential of yielding significant information on pre-history or history (e.g. a native American encampment site).

Table 4-6 lists different landscapes and sites and describes their scenic, natural/ecological, and cultural/historical values. The Scenic Resources and Unique Environments Map shows the overlap of these scenic, ecological, and cultural values where different hatching patterns are layered. The numbers in Table 4-6 correlate with the map showing the location of each scenic and unique environmental feature in Erving. The text that follows the table addresses the common themes associated with the greatest concentration of values as displayed in both the map and the table. For example, the relationship between the high elevation points and the wildlife habitat values of these areas is important. The wildlife value is in part due to the presence of large contiguous blocks of undisturbed forest, which are more prevalent along the region's higher elevation plateaus than anywhere else.

In a few cases, the landscapes are described in the table as being a *Significant Historical Agricultural or Conservation Landscape*. When these words are in italics, it means that this landscape has been documented as a significant historical landscape based on the National Park Service standards.

In the far right column of Table 4-6, the landscape's protection status is estimated. For the purposes of this Open Space Plan, a landscape is defined as a land area with a particular land use pattern (farmland), or a physiological landform (ledge) distinguishable from adjoining areas. Often ownership patterns do not coincide with the boundaries of a landscape. A ridgeline may have portions of it protected while the rest is in unprotected. Protected landscapes are only those locate on land that is permanently protected from development as are the Erving State Forest lands and the farmland along the Connecticut River in the APR Program.

[6] Published by the Franklin County Commission now called the Franklin Regional Council of Governments.

Table 4-6: Significant Scenic/Ecological/Recreational/Historic Landscapes/Environments in Erving

MAP #	SCENIC RESOURCE	ECOLOGICAL/ GEOLOGICAL RESOURCE	RECREATIONAL VALUE	HISTORICAL VALUE	PROTECTION STATUS
	Water Resources				
1	Millers River	Priority Habitat / Wildlife Habitat Medium Due to PCB problems	High	Associated Mill sites	Southern banks mostly protected within Wendell State Forest
2	Connecticut River	Wildlife Habitat	High		Unprotected
3	Keyup Brook	Wildlife Habitat	Med-Trout		Unprotected
4	Jack's Brook	Wildlife Habitat			Partially Protected
5	Laurel Lake	Wildlife Habitat	High	*Significant Historical Conservation/Recreation Landscape*	Protected by ESF
	Recreation Areas				
6	Erving State Forest/ Laurel Lake Recreation Area	Wildlife Habitat	High	*Significant Historical Recreation/Conservation Landscape*	Protected
7	Northfield Mountain Recreation Area	BioMap Core Wildlife Habitat	High		Unprotected
8	Metacomet/Monadnock/ Mettabesset Trail	Wildlife Habitat	High		Partially Protected
9	Farley Ledges	BioMap Core Wildlife Habitat / Priority Habitat	High/One of the Best Rock Climbing Areas in New England	Of Potential Archaeological Value	Unprotected
	Historical Areas				
10	Erving Castle/Hermit's Cave	Wildlife Habitat	High	Historical Recreation Site	Protected/ESF
11	Old Dam Site	Wildlife Habitat	Low	Historical Site of Calvin Priest Saw and Shingle Mill	Unprotected
12	Holton Cemetery	Wildlife Habitat	Low	*1815*	Unprotected
13	Erving Center Cemetery		Low	*1814*	Unprotected
	Significant Historical Agricultural Landscapes				
14	Along Northfield Road			*Significant Historical Agricultural Landscape*	Partially Protected
15	Along Laurel Lake Road	Wildlife Habitat	High, part of Erving State Forest	*Significant Historical Agricultural Landscape*	Protected
16	Tryin' to Farm Along Upper Mountain Road	Wildlife Habitat		*Significant Historical Agricultural Landscape*	Unprotected
17	Whiting Property, Upper Mountain Road	Wildlife Habitat		*Significant Historical Agricultural Landscape*	Unprotected
18	Mero Farm, North Street	Wildlife Habitat		*Significant Historical Agricultural Landscape*	Unprotected
19	Frock Farm, Old State Street	Wildlife Habitat		*Significant Historical Agricultural Landscape*	Unprotected
20	Farley Fields East & West	Wildlife Habitat		*Significant Historical Agricultural Landscape*	Unprotected
	Scenic Views from				
21	Mohawk Trail/Rte. 2				Protected
22	Northfield Road				Unprotected
23	Maple Avenue				Unprotected
24	Upper North Street				Unprotected
25	River Road				Most Likely Unprotected
26	French King Bridge, Route 2				Partially Protected Views

Source: Erving Open Space and Recreation Plan, 2002; Franklin County Rural Landscape Preservation Plan Report, Franklin County Commission, 1992.

Scenic resources and valued natural environments fall into several categories as described in the following sections.

F.1 Water Resources

F.1.1 Connecticut River

The Connecticut River comprises Erving's western boundary. Its main stem includes riverine habitats for American shad, blueback herring, and shortnose sturgeon. There is no public access to the Connecticut River in Erving other than by way of the Millers River. The Connecticut River offers a variety of untapped recreational opportunities – fishing, camping, wildlife viewing and boating. The River is a recreational "blueway" given its Class B designation. Class B waters are supposed to provide suitable habitat for fish and other wildlife and support recreational activities such as fishing and swimming.

F.1.2 Millers River and Its Tributaries

The Millers River is Erving's largest and most historically significant river, providing whitewater boating and fishing. Tributaries of the Millers River include Schoolhouse Brook, an unnamed stream draining Spruce Swamp, Briggs Brook, Packard Brook, Jack's Brook and Keyup Brook. The Millers River in Erving has been mapped as a Priority Habitat under the Massachusetts Endangered Species Act (MESA).

Keyup Brook offers several favored fishing spots especially at bridge crossings such as at Church and North Streets, Swamp Road and North Streets, and above the dam at Pete's Pond.

F.1.3 Laurel Lake

Laurel Lake, named for the profusion of mountain laurel along its banks, is the Town's only natural freshwater body. Located in the north central part of Erving State Forest, Laurel Lake is approximately fifty acres in size; roughly 30 of those acres are in the Town of Erving. The Lake is a popular spot for swimming, boating and fishing.

Labeled Long Pond on early maps, Laurel Lake is considered to be a significant historic *Recreational and Conservation* landscape. It is believed that the lake was the site of native upland encampments for seasonal fishing. For this reason, the shores of Laurel Lake are considered archaeologically sensitive. Early in the 1900s a woodland dirt road extended from Swamp Road to the lake. At that time no roads encircled the pond so all campers, hunters, and fishermen used boats. After the Mohawk Trail was improved as an automobile tourist highway, a handful of one-story summer cottages were constructed along the north shore of the lake. Most of these 1920s, well-maintained, shingled or

novelty-sided structures are still in use today. The lake was improved as a public recreational resource after 1933 when the CCC developed Erving State Forest. Amenities included a state boat ramp, public beach with facilities, parking area, picnic areas, pavilion, bath house and snack bar. Today, the lake is handicapped accessible with the construction of a ramp across the sand and into the water.

F.1.4 Wetlands

Spruce Swamp is located on a relatively level area west of Rattlesnake Mountain and its eastern face, Farley Ledges.

F.2 Resources Associated with Large Blocks of Protected Contiguous Forest

F.2.1 Erving State Forest

Erving State Forest, owned by the Department of Conservation and Recreation (DCR), is the Town's most notable scenic landscape. Located north of the Millers River, Erving State Forest covers 2,522 acres of scenic forested hills with streams and wetlands. It includes an extensive trail system of dirt roads and paths used by hikers, horseback riders, cross country skiers and snowmobilers. The State Forest has two sections east of Northfield Mountain Reservoir. The largest contiguous block of forest is the easternmost section, which can be accessed off of High Street and from Laurel Lake Road. It is at the southern end of an uninterrupted stretch of permanently protected contiguous forestland that begins in the north with Mt. Grace State Forest in the Town of Warwick. The western section is located between the Northfield Mountain Reservoir property and Mountain Road.

The Erving State Forest is considered to be a significant historic *Recreational and Conservation* landscape. The 1837 Survey Map shows that approximately 50 percent of the eastern parcel, east of North Road, was cleared for lumber and agricultural use. Most likely these fields were used for pasture and hay crops as the soils are sandy and slopes are steep in some sections. The steep slopes between North Road and Great Swamp Road were probably cleared because Calvin Priest's prosperous saw and shingle mill was located at the northern end and the sawmill at Pete's Pond dam (Krusiewicz's Pond) was at the southern end. Following a fire in 1918, the State purchased most of the acreage comprising the forest, but few improvements were made until the Great Depression. The Civilian Conservation Corps (CCC) established a work camp in 1933, in that part of the forest known locally as the Kurtz Farm. At that time extensive improvements were made to the dam, the lake, and the roadway system, and a recreational park and beach were developed, along with a trail system. The roads were widened for vehicular traffic and bridges were replaced. A forest nursery provided seedling trees for the replanting of several acres of wasteland. Though the camp was closed in 1935 and eventually all of the buildings were removed, evidence of the CCC remains in the historic road, bridge,

dam, and park improvements. Erving State Forest is a landscape associated with early twentieth century national conservation and public improvement projects.

F.2.2 Northfield Mountain Recreation Area

Northfield Mountain is a pumped storage hydroelectric facility owned and operated by FirstLight Power in the northwest corner of the Town of Erving. It is part of approximately 1,826 acres of contiguous forestland owned by the utility in Erving. In accordance with its federal license, it offers the public an extensive array of recreation and environmental programs, and facilities. Northfield Mountain Environmental and Recreation Center offers cross country skiing, hiking, mountain biking and horseback riding on 26 miles of steep, scenic upland trails.

F.2.3 Metacomet-Monadnock-Mattabesset Trail

The Metacomet-Monadnock-Mattabesset Trail (MMM Trail) enters Erving over the Farley-Wendell Bridge and continues north, crossing both private and public land. The trail is 117 miles long, beginning at Hanging Hills in Meriden, Connecticut and continuing to Mount Monadnock in New Hampshire. The trail corridor links several state forests including Erving, Wendell, Northfield, Mt. Grace, and Warwick State Forests. The MMM Trail is classified as a "National Recreational Trail" by the National Park Service. A National Recreational Trail "recognizes exemplary trails of local and regional significance." The MMM Trail is also part of the New England National Scenic Trail, which travels from Connecticut, through Massachusetts, and into New Hampshire.

F.3 Significant Cultural, Archeological, and Historical Sites and Landscapes

F.3.1 Farley Village Area

Farley Village lies in central Erving along the Mohawk Trail, between Maple Avenue and Wheelock Street. The Farley area of Route 2 is considered to be a significant *Community Development* landscape. Farley Village developed during the 1880s in direct response to the opening of the Farley Paper Mill located on the Wendell side of the Millers River. The wrought iron pin-connected truss bridge, built in 1889, is the only known example in the state to use patented wrought iron "Phoenix columns." The Farley family owned large tracts of land on both sides of the Millers River and constructed housing for their employees as well as for themselves. The large Maple Avenue houses were fully equipped with the latest conveniences in 1890 and are well maintained today.

The Farley Hotel, located on the well-traveled Mohawk Trail stagecoach route, flourished until the route became an automobile tourist highway. In 1915 the hotel was dismantled and moved to 73 State Road. A fire in 1950 destroyed the mill, but the stone and

concrete foundations still remain along the Wendell side of the river. The Towns of Erving and Wendell might explore designation for the site as a historic park.

F.3.2 Hermit's Castle

A rock shelter in the ledges overlooking the Millers River was the home site of John Smith, the Hermit of Erving's Castle, who came to America in the mid 1800s. This site is protected by DCR as part of Erving State Forest.

F.3.3 Old Dams

A number of dams remain on the Town's waterways and mill foundations are still extant. Calvin Priest's Mill foundations near the end of Murdock Hill Road are extensive. Other structures of this nature are scattered throughout the Town of Erving have not yet been documented.

F.3.4 Town Cemeteries

Burial grounds are very important resources rich in historic monuments, art, genealogical data, and Town history. Cemeteries should be identified, cared for, and protected. Only two historic cemeteries are documented in Erving: the Erving Center Cemetery dated 1814 and located on Mountain Road and the Holton Cemetery dated 1815 located on Old State Road.

Table 4-7: Historic Burial Grounds in Erving

Historic Name	Year	Street Name	MHC Inventory Number
Erving Center Cemetery	1814	Mountain Road	801
Holton Cemetery	1815	Old State Road	802

Source: Massachusetts Historical Commission; 2000.

F.4 Historically Significant Agricultural Landscapes

Erving values old fields because of the way they remind people of how the area was first settled. Some of the existing old fields have been documented as *significant historical agricultural landscapes*. There are specific agricultural landscapes that were identified in the 1992 Franklin County Rural Historic Landscape Preservation Plan.

F.4.1 Multiple Properties along Northfield Road, Route 63

The northern segment of Northfield Road provides views of the historical use of Erving's western lowlands. Most of the land west of Poplar Mountain was cleared for agricultural production by the 1830s, including Hack's Grant, an early land grant located between

Northfield Road and Poplar Mountain. Several remnant fields with crops can be found along Northfield Road but the greater portion of the lowland fields has been reforested.

Most of the roadside land has been developed for housing and exemplify ANR development on agricultural soils. Near the Northfield town line the APR-protected Split River Farm is still active with crops of corn, cucumbers, and potatoes. The State has recognized the historic and scenic qualities of this landscape by designating the Route 63 corridor through Erving as part of the Connecticut River Scenic Farm Byway.

F.4.2 Multiple Properties along Laurel Lake Road

A survey map of Erving's Grant, dated October 1837, indicates large cleared tracts along Laurel Lake Road and Keyup Brook between North Street and Long Pond (now Laurel Lake). These reforested agricultural lands were sold to the State following a fire in 1918 and are now located within Erving State Forest. Although the surviving remnants of the agricultural history can be found in the fieldstone walls, which once surrounded pastures here, the walls are not visible from the roadway. The picturesque dam and lake at the conjunction of Jack's and Keyup Brooks illustrate another use of this area as one of the oldest surviving mill sites in Town.

F.4.3 Multiple Properties along Mountain Road

The 1982 MHC Reconnaissance Survey notes that Mountain Road existed as a secondary trail over highlands from Keyup Brook in Erving Center to Squakeag (now Northfield) during the Contact Period (1500-1620). The1837 Survey Map indicates cleared pasturelands along the lower two thirds of Mountain Road but today that property is primarily occupied with ANR residential development and reforested woodlands. Not until the northern portion of the road is a remnant agricultural landscape visible at the Tryin' to Farm and the historic Whiting Property. There, a pleasant mixture of historic pasture, field, and forest patterns is evident. Mature trees at the road's edge indicate historic property lines.

F.4.4 Tryin' to Farm, Mountain Road

The Tryin' to Farm, named in 1958, is located on an historic property which was cleared for agricultural production and pasturelands by the 1830s. In 1871 the Beers Atlas showed that the pastures belonged to the Whittaker family. Currently the farm is composed of a scenic mix of open pasture with prominent rock ledges on rolling hills and enclosing woodlands**.** Some original property lines and pasture patterns are evident.

F.4.5 Whiting Property, Mountain Road

The Whiting farmstead is listed on the 1871 Beers Atlas map but the Erving's Grant survey of 1837 shows that the highland landscape was already extensively cleared along the Town's northern border from Jack's Brook to the present Northfield Mountain Reservoir. This farmstead was originally located on Clesson's Grant during the 1730s and was one of the first to be inhabited in Town. In 1771 the 300-acre grant was purchased by two members of the Field family, grandchildren of the original stakeholders. The Field Farm remained in the family until 1822. Currently the Gerald Woodard farm is on the site of the Field homestead and the only visible agricultural activity is hay harvesting.

F.4.6 Mero Farm, North Street

This is the largest open field area located along North Street. The four to five acre field is situated on the western side of North Street. Tall white pine and northern hardwoods lend a sharp contrast to the well-maintained pasture. The upper slopes of the hills that separate North Street and Mountain Road dominate the view west of the pasture.

F.4.7 Frock Farm, Old State Street

The only extensive pasture on Old State Street is opposite the Echo Hill Farm buildings on the north side of the public way. This three to four acre site is not actively used as pasture, but is a significant historical resource for the Town. It is bordered to the north by stone walls and creeping juniper. Maintenance would be required to restore this site as pastureland.

F.4.8 Farley Flats Field (West), Route 2

The best view of this maintained field is seen by travelers coming from the east on Route 2. The majority of the field is maintained as short cut grass. Further from the road and to the east is the high grass and shrubs of a pasture growing in, as glimpsed between the trunks of young pine trees. Bordering the field are the northern hardwoods common to the region. Above these trees the upper slopes of Lucite Hill and Bear Mountain, both in Wendell, are visible to the south.

F.4.9 Farley Flats Field (East), Route 2

This is a classic old field, which is partially maintained near the highway. The majority of the old field is in high grasses, white pine saplings, highbush blueberry, staghorn sumac, and young, branchy red maple trees. Bear Mountain dominates the view to the south.

F.5 Scenic Views and Scenic Roads

Because Erving is situated on steep slopes overlooking two river valleys, several scenic roadways offer sweeping vistas across river lowlands. The western end of historic Old State Road presents an extensive view across the Connecticut River Valley to the Berkshire Hills. West of Farley, Route 2 heading west reveals a broad prospect down the Millers River Valley. Mountain Road and Route 63 are home to several historic agricultural farmsteads with views of farmland and rolling pasture.

In many parts of Erving, historic landscapes blend with scenic viewsheds. Scenic roads, which access these special places, overlap both. The Town has not yet adopted any locally designated scenic roads pursuant to Chapter 40, Section 15C of the Massachusetts General Laws. Local scenic road designation provides limited protection to historic and scenic resources.

State maintained roads, such as Route 2 and Route 63 are nominated as scenic roads by the State under the Federal Scenic Byway program. While Massachusetts does not have a formal process for designating Scenic Byways, Special Legislation can be passed by the State Legislature once a Corridor Management Plan has been completed. Route 63 in Montague, Erving and Northfield received Scenic Byway designation as a part of the Connecticut River Scenic Farm Byway in 1999. Route 2 in Erving is part of the Mohawk Trail Scenic Byway. A Corridor Management Plan has been completed in 2009 for the eastern section of the Mohawk Trail from Athol to Greenfield. Its purpose is to provide an inventory and assessment of important resources within the mile-wide corridor and to articulate specific strategies and actions designed to achieve identified and measurable results for expanding "economic, tourism and recreational opportunities along the Byway while educating people about the Byway and preserving its unique scenic qualities, natural resources, historic structures/places, industrial and agricultural heritage and community character."[7]

F.5.1. Mohawk Trail, Route 2 and 2A Corridor

Erving contains an important historic regional corridor from the State's central highlands to the Connecticut River Valley. The Mohawk Trail is considered to be a significant historic *Transportation* landscape. Previous to European settlement, it was a Native American east-west footpath along the Millers River gorge. Later, the path was widened during the Colonial Period for packhorses and carts. In 1799 the route was widened for horse-drawn wagons and coaches as the Fifth Massachusetts Turnpike between Greenfield and Athol, a toll road built by the State. The highway ran over Prospect and Gary Streets through Erving Center and the Toll House still exists on the eastern end of Prospect Street. The Mohawk Trail became a renowned stage coach route with accompanying inns and stables until the roadway was improved as the auto Route 2 highway in 1914. The automobile tourist industry spawned gas stations, garages,

[7] DRAFT 2009 Mohawk Trail Scenic Byway Corridor Management Plan.

restaurants, and roadside cabins along the Trail. Old State Road and Route 2 through the Farley Flats contain surviving sections of the original scenic auto roadway.

F.5.2 French King Bridge, Route 2

The French King Bridge, constructed in 1932, is considered to be a significant historic *Transportation* landscape within a rural transportation network. The original Mohawk Trail wound through Ervingside and used the Millers River fordway (later replaced by bridges) to travel west. When the auto tourist highway was completed, an increasing number of cars were traveling through Ervingside Village. The Art Deco concrete and steel bridge enabled transportation engineers to reroute automobile traffic around the village. It also provides a stunning panoramic view high above the Connecticut River Valley to Northfield and Gill's abundant fields and forests. The two supported, cantilevered bridge ends are joined in the middle with a deck spandrel. At the time of construction, the braced arch French King Bridge was the only one of its particular type in the country and the American Institute of Steel Construction granted it an award of merit for the most beautiful bridge of its time.

Table 4-8: Scenic Roads in Erving

Status	Name of Road	Portions of Road Considered as Scenic
Potential State	Mohawk Trail, Route 2	Farley Flats, and east of Farley to Ervingside
State Designation	Northfield Road, Route 63	Entire Road as part of CT River Scenic Farm Byway
Potential Local	Swamp Road/Laurel Lake Road	Entire Road
Potential Local	Mountain Road	Northern half of road towards Town Line
Potential Local	River Road	North of East Mineral Road Bridge
Potential Local	Old State Road	Entire Road

Source: Field Survey by FRCOG Planning Staff, 2000.

G. ENVIRONMENTAL PROBLEMS

G.1 Negative Impacts of Unplanned Development

Although there may not be agreement as to its severity or solution, the overarching environmental problem for Erving is the potential for growth in the region that has negative impacts due to unplanned residential development. Cost of community services studies show that open space has a positive net fiscal impact on town budgets, whereas residential development generally costs more than the revenue that its generates for the town through property taxes due to its demand for town services including education.

Some people argue that current environmental constraints, mainly related to soil characteristics, are sufficient to control development. The depth to the groundwater, depth to bedrock, and the occurrence of standing water are three characteristics, which restrict where people can build. Others would point to changes in technology and regulations, which have the potential for reducing limitations on development. One example is Title 5, which prohibits development in areas that cannot produce particular conditions. Title 5 can actually increase the number of lots that are permitted in some

areas, because the regulation allows for the building of raised mounds to create the difference in elevation between the leachfield and the groundwater. Other technologies (like neighborhood treatment plants) may become more common and could expose previously constrained sites to exploitation, the main rationale for our planning process.

New residential development across Town could increase the prevalence of nonpoint source pollution, reduce the rural character, and cause a reduction in the acreage and value of remaining wildlife habitat. "Sprawl" can increase runoff (potentially including contaminants such as road salt), decrease the amount of water available as ground water, decrease stream flow, and result in excess erosion. Also, it could diminish biodiversity in first and second order streams and reduce water quality town-wide. Unplanned residential development also can negatively impact wildlife habitat by fragmenting wildlife corridors and reducing food supply. The solution to the problem may be a combination of zoning techniques to encourage development in ecologically suitable areas and the protection of open space to keep houses away from the areas with the greatest scenic, ecological, cultural, and historical values.

G.2 PCBs

Within this larger environmental concern of unplanned growth are three critical environmental issues requiring specific actions. The first is water quality in the Millers River. At present, the Millers River contains high levels of poly-chlorinated biphenyls (PCB's) and mercury that impair its potential as a Class B fishable and swimmable water body. Every stream, brook, and river in Erving continues to be threatened by nonpoint source pollution from acidification to sedimentation. Continuing to work cooperatively with State DEP and the Millers River Watershed Council to cleanup the river will be of environmental and economic benefit.

G.3 Risk of Contamination to Community Drinking Water Supplies

The second critical environmental issue is the danger of contaminating the aquifer that supplies drinking water to Ervingside via Well #1. There is a direct link between this aquifer and above ground land use. Contamination of groundwater is a common enough occurrence to warrant the DEP to create its Source Water Assessment Program (SWAP). Through SWAP, DEP assisted Erving in identifying the "above-ground" boundaries to recharge areas for Well #1. Erving residents and businesses have supported the adoption of an aquifer protection overlay district bylaw; this local regulation helps protect the water supply in Ervingside from contamination by limiting land uses within its Zone II and III Recharge Areas. The nearby presence of Route 2, which closely follows the border of the Zone II, poses a danger to the recharge area not only from the potential of hazardous spills, but also roadway runoff from the use of salt for road maintenance in the winter months.

G.4 Habitat Fragmentation

The third environmental problem associated with the impacts that unplanned growth is the potential fragmentation of large blocks of contiguous forest. Erving's rural character is mostly dependent on the vast stretches of forest, the eastern portions of which are protected from development by being State-owned. GDF Suez, NA[8] and private citizens own the remaining acreage. Contiguous forests benefit the community by providing scenic views, wildlife habitat, and protection of water quality. These resources would be diminished if large blocks of forest were to be fragmented by development.

G.5 Landfills and Hazardous Waste Sites

The one landfill in Erving was capped and closed in 1981. Residents dispose of garbage and recycling via curbside collection. Waste is then transported to the Franklin County Solid Waste Management District which handles recycling and hazardous waste disposal for the Town of Erving. There is also a former sludge dump in Town that was once used by the Erving Paper Mill. It was closed and capped in 2002. According to the MassGIS 2008 data, there are no hazardous waste sites in Erving.

G.6 Chronic Flooding

Chronic flooding is not an issue within the Town of Erving.

G.7 Erosion and Sedimentation

Erosion and sedimentation is also not an issue within the Town of Erving.

G.8 Environmental Equity Issues

Environmental equity is not an issue within the Town in terms of open space in one or more sections of the Town. Approximately, 50 percent of the Town's total land area is protected open space, either as part of the Erving State Forest, Northfield Mountain Recreation Area, or Town of Erving Conservation Commission lands. These open space resources are located throughout the Town and are easily accessible by Erving residents. There are recreational parks with play equipment and ball fields located purposely in both the eastern and western portions of Town to facilitate access to them.

G.9 Forestry Issues

The Town does not have any known forestry issues. Erving does have a Town Forest, but does not harvest it.

[8] In the last five years, Northeast Utilities Corp. was purchased by First Light which was purchased by GDF Suez, North America.

SECTION 5

INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

This section of the Erving Open Space and Recreation Plan inventories and categorizes parcels of undeveloped land by ownership, use, and level of protection from development. It identifies parcels of undeveloped land that are individually, or in the aggregate, considered to be of interest because they help conserve ecosystems and ecosystem services, scenic landscapes, the area's rural character, and current and future recreation resources for Erving's residents. Lands of conservation interest are those parcels of land that are considered important because they are already protected from development or because they could be a priority for protection.

Communities across the country have determined that protecting land from development is a means to ensure certain aspects of their landscape are conserved. Erving's productive forests, wetland systems, remaining farmland and scenic views could be marred by the impacts of development.

When land is considered protected there is a legal restriction that does not permit the parcel to be developed for residential, commercial, or industrial uses. Permanently protected land enjoys the highest degree of protection from development. Under Article 97, the only way that permanently protected land can be developed is if two-thirds of the State legislature was to vote to change the use of the land. In Massachusetts, there are a number of ways in which land can be considered permanently protected from development: a conservation restriction can be attached to the deed, or the land may be owned by a state conservation agency, a conservation land trust, or a municipal conservation commission.

This section of the Erving Open Space and Recreation Plan provides a comprehensive inventory of most of the lands that provide open space, wildlife habitat, agricultural and forest products, watershed protection, scenic beauty, and recreation opportunities for the benefit of all of Erving's residents. The inventory accompanied by the Open Space Map shows the location, types, and distribution of conservation lands in Erving. This inventory is divided into two main sections based on type of ownership: 1) private, and 2) public and non-profit. Within each of these major categories, parcels are differentiated by use (farm or forestland), by ownership and management, and by level of protection: permanent, limited, and temporary (See Table 5-1).

Table 5-1: Summary Areas of Farmland and Forest Open Space by Ownership and Level of Protection from Development

PRIVATELY OWNED PROTECTED OPEN SPACE	Area in Acres
Farmland	
Permanently Protected by Agricultural Preservation Restriction	31.7
Temporarily Protected under Ch. 61A	(31.7)
Forestland	
Permanently Protected by a Conservation Restriction	7
Temporarily Protected	
Chapter 61	62.6
Chapter 61B	49.5
Total Temporarily Protected	**112.1**
TOTAL PRIVATELY OWNED PROTECTED OPEN SPACE	**150.8**
PUBLICLY OWNED PROTECTED OPEN SPACE	
Forestland	
Permanently Protected by State Conservation Agencies	
State Department of Recreation and Conservation	2,664.8
Land Permanently Protected & Owned by Town of Erving	134.2
Land with Limited Protection & Owned by Town of Erving	229.0
TOTAL PUBLICLY OWNED PROTECTED OPEN SPACE	**3,028**

Source: Erving Assessors Records, January 2009.

A.1 Permanently Protected Land

Land permanently protected from development can be owned by a state agency or the town. For example, the Erving State Forest is owned by the Commonwealth of Massachusetts and under the management and oversight of the Massachusetts Department of Conservation and Recreation (DCR). Land owned by the Town of Erving under the authority of the Conservation Commission is also considered permanently protected. Land that is permanently protected from development is protected under Article 97, which requires a two-thirds majority vote of the State Legislature to convert the open space to another use.

Farmland can become permanently protected from development when a landowner chooses to sell his/her development rights to a land trust or state agency. The Massachusetts Department of Agricultural Resources (MDAR) purchases the development rights of farmland through their Agricultural Preservation Restriction (APR) Program. The APR Program typically pays up to $10,000 per acre for these rights, paying the landowner the difference between the market value and the agricultural value of the land**.** MDAR favors towns that provide matching funds, which are typically 5 percent of that amount or up to $500 per acre. In this way towns can leverage 95 percent of the cost of purchasing development rights towards protecting the farmland of willing landowners.

Currently the only farm in the APR program in Erving is the Split River Farm (consisting of two parcels), located near the town's border with Northfield. The portion of the farm under APR is owned by Split River Farm, with the remaining land owned by the Massachusetts Department of Conservation and Recreation and therefore protected.

A.2 Temporarily Protected Land

Land considered to be of limited protection includes any town owned open space that is not under the authority of the Conservation Commission, which could be developed through a decision by the Select Board or by Town meeting vote. Examples of town-owned open space include cemeteries, small parks, and old landfills.

The Chapter 61, 61A and 61B lands are also considered to have a temporary level of protection from development. The Chapter 61 programs offer a reduced assessment on privately owned working land. Landowners that choose to participate in this program therefore receive a reduction in property taxes on the portion of their land that is in active production as agriculture or forestland, or available for public recreation. There are three Chapter 61 programs: Chapter 61 for Forestry, Chapter 61A for Agriculture, and Chapter 61B for Recreation.

In order to participate in the Ch. 61 Program, landowners must manage their forestland under a ten-year management plan. The aim of this program is to temporarily keep working forests undeveloped.

In order to participate in the Chapter 61A program, a landowner must have at least 5 acres of land currently in active agriculture, and apply every year to enroll their parcels of land in the program. The aim of this program is to temporarily keep farmland in active agricultural production.

The 61B program also promotes the private ownership of open space, with the requirement that land enrolled in the program be used for public and private recreation purposes, or as open space. No management plan is required, but the tax savings are smaller. Commercial timber harvesting is not allowed on lands in the Ch. 61B program.

Lands in the Chapter 61 program are considered only temporarily protected because a landowner may remove land that is enrolled in the Ch. 61 Program at any time and pay a penalty tax. If the landowner receives a formal offer from another party to purchase his/her parcel of land, which is in one of the Ch. 61 Programs (61, 61A, 61B), they must notify the Town. The Town then has 120 days, from the day the offer is made, to exercise its right-of-first-refusal by matching the bona-fide offer, or to transfer this right to a conservation organization. The Town would likely be much more successful in taking advantage of this opportunity if a Chapter 61 protocol is established ahead of time

to outline the steps involved in the process. Ideally, the Town should also prioritize areas of interest within Town ahead of time.

Often private conservation land trusts have the ability to produce creative and successful fundraising campaigns in a short period of time, while DCR and the Massachusetts Division of Fisheries and Wildlife (MassWildlife) may be interested in purchasing the land in the near future. Often this negotiating process between the land trust, a state conservation agency, and the landowner can be completed in a shorter period of time than if the Town were to bring the decision to purchase the land to a Special Town Meeting. It would be helpful if town officials and/or committees proactively established relationships with conservation organizations such as DCR, MassWildlife, New England Forestry Foundation (NEFF), and Mount Grace Land Conservation Trust (MGLCT). This way, if the town is not able or interested in exercising its right of first refusal by purchasing the property, they would be able to act to assign its right of first refusal to a conservation organization within the limited timeframe required after the landowner expressed interest in selling the land to a developer.

B. PRIVATELY OWNED PARCELS

Although there is a large amount of open space in Erving that is owned by the state, the rest is privately owned by residents, non-residents, and two corporations. Two farmland parcels are permanently protected from development through the Massachusetts Department of Agricultural Resources APR program. Others are temporarily protected from development through the Massachusetts Ch. 61 Program. The remaining privately owned lands are unprotected. They are discussed in this Open Space and Recreation Plan because privately owned open space may contain wildlife habitat, offer unique recreational opportunities, or provide a potential connection between other permanently protected parcels. In some cases, unprotected parcels may be deemed valuable enough by the community to consider purchasing, if available for sale, or helping to protect through conservation easements of other options.

In the following tables, privately owned agricultural land, privately owned forest land, and open space parcels owned by FirstLight Power Resources and Western Massachusetts Electric Company are identified by assessors' map and lot numbers. FirstLight owns approximately 1,758 acres of open space in Erving, including some of the more remote and scenic ridge lands in Town.

Private landowners together control approximately 60 percent of the open space in Erving. This was calculated using Mass GIS 1999 land use data by adding together the total number of acres in open space categories (forest, water and wetlands, agriculture, open land, and recreation land) and then subtracting from this number land owned by DCR (including the Erving State Forest), and Town owned land under the control of the Conservation Commission. Some of this privately owned land is in pasture but most is in

forest. These open space parcels are still on the tax rolls, whether the land is protected or not. Very few landowners have taken advantage of the Chapter 61 programs as is evidenced by the fact that there are only 112.05 acres of open space in the 61 and 61B Programs combined. As mentioned earlier, the Ch. 61 Programs offer residents a potentially significant reduction in their local property taxes in exchange for keeping their land in its current use (forest, farmland, or recreational open space) and the Town of Erving receives an opportunity to purchase any Ch.61 property that is put up for sale, or if development is proposed.

In the following tables, Privately Owned Agricultural and Forest Lands are listed by level of protection from development. The ownership of the land is provided, with the assessors map, lot, and acreage. The current use is based on the vegetation. Farmland may most likely be pasture in Erving, while forest is presumed to be used as such, whether it is managed for timber or not. Public access on private land may not be permitted, and if it is, is subject to change. State conservation agencies often require some level of public access before paying for, or accepting conservation restrictions. Public access is not a requirement for enrollment in any of the Ch.61 programs including the Ch.61B Recreation Program. It is assumed that given the nature of these open space parcels, access to them by people with disabilities is also not guaranteed.

The recreational potential for all of these privately owned parcels is identified in the "Recreation Value" column of the tables. Parcels that fail to have a significant recreation potential may have another characteristic identified in this column or none at all.

Important characteristics that could motivate the Town to consider acting on their right of first refusal for a Ch.61 parcel, or negotiating with a willing landowner for a fair purchase price, may include the presence of prime farmland soils, pasture, wetlands, a portion of the land that is above an aquifer, or rare or endangered species habitat. In addition, the parcel may be deemed very important as a link in a potential greenway or as a component of a large block of contiguous forest.

B.1 Privately Owned Agricultural Land

According to the Erving Assessor's records, there are approximately 32 acres of agricultural land that are permanently protected in Erving. Not as bountiful as forests, Erving's agricultural lands are a unique part of the landscape that contributes significantly to the Town's rural character. Most agricultural land that is protected from development in the region becomes so only after being prioritized by the State's Department of Agricultural Resources (MDAR), which is the main source for farmland preservation funds in eastern Franklin County. MDAR normally requires the land to be actively farmed and to contain prime farmland soils.

The parcels in Table 5-2 below are currently farmed and are permanently protected from development. The owner is Split River Farm and the holder of the easement is MDAR. There are no public grants awarded as a result of the program, although the owner received payment when the land was placed under an APR from MDAR. These parcels are also enrolled in the Chapter 61A program. The zoning of the parcels is Rural Residential**.**

Table 5-2: Privately Owned Agricultural Land Permanently Protected from Development

Owner	Holder of the Conservation Easement	Map-Block	Lot	Acres	Recreational/ Other Value
Split River Farm	Department of Agricultural Resources (MDAR)	1-4	1	22.40	Prime Farmland Soils
Split River Farm	MDAR	1-4	6	9.27	Prime Farmland Soils
Total				**31.67**	

Source: Town of Erving Assessors Records; January 2009.

All other privately owned farmland in Erving is unprotected, as there are no other farms enrolled in APR or Chapter 61. These open space areas are mostly pasture lands and are located along Rte. 63 and Mountain Road, with hayed pasture located along North Street.

B.2 Privately Owned Forested Land

Most natural processes do not follow political boundaries but land ownership is an important consideration. Land owned by DCR or MassWildlife is considered to be permanently protected from development, while privately owned land is only protected if a conservation restriction is attached to its deed. Although other factors relating to ownership are important to consider such as level of management and public access, these are often considered secondary to the level of protection from development. This is because development can have a permanent impact on natural and cultural resources. Development can impact the forest on a regional scale through fragmentation. Large blocks of contiguous forest form the basis for sustaining biological diversity.

The following inventory includes privately owned forestland with different levels of protection from development. Permanently protected forestland exists when landowners have donated or sold their development rights to a state conservation organization or a land trust. The landowners retain the other rights of ownership and they continue to pay property taxes, though they will be less due to the reduced value of their land. Erving currently has one privately owned property that is permanently protected from development with a conservation restriction (see Table 5-3).

Table 5-3: Forestlands with Permanent Protection from Development

Owner	Holder of Conservation Restriction	Map-Block	Lot	Acres
Brule, David and Monique	Franklin Land Trust	0-4	1	7

Source: Town of Erving Assessors Records; September 2009.

Forestland that is considered temporarily protected from development includes those lands enrolled in the Ch.61 and 61B Programs. All of the parcels in Table 5-4 are temporarily protected in the Ch.61 Forestland and the Ch. 61B Recreational Open Space Classification and Taxation Program and the degree of protection of these parcels is short term. The owner noted is also the manager of the parcel with current use of the parcel being forest. There are no public grants awarded as a result of the Program, however, the owner does receive a property tax break over a ten-year period. The zoning of the parcels is Rural Residential.

Table 5-4: Forestlands with Temporary Protection from Development Enrolled in the Ch. 61 Forestland and the 61 B Recreational Open Space Taxation Program

Owner	Chapter Program	Map-Block	Lot	Acres
Black, Jeanne	61 - Forestry	3-0	50	4.70
Black, Jeanne	61 - Forestry	3-0	51	4.50
Dubay, Jeff and Rita	61 - Forestry	6-0	8	22.90
Zilinski,, John M.	61 - Forestry	6-0	17	30.45
Cullen, James and Anna	61B – Open Space	3-0	53	1.00
Verner, Robert F.	61B – Open Space	1-4	18	15.70
WMECO*	61B – Open Space	3-0	1	18.00
WMECO	61B – Open Space	5-1	36	3.8
WMECO	61B – Open Space	5-1	38	1.00
WMECO	61B – Open Space	5-1	39	10.00
Total				**112.05**

Source: Town of Erving Assessors Records; January 2009.
*WMECO: Western Massachusetts Electric Company

Unprotected Parcels of Developable Land of Special Interest

There is nothing that would slow, or stand in the way of, the development of any of the lands included in Table 5-5. The parcels do not have any legal or procedural mechanism that could be used by the Town to restrict or retard development. These particular parcels are potentially developable and currently provide public benefits including access to recreational activities and open spaces and the maintenance of vast scenic areas. These parcels are also important because they are owned by one landowner, FirstLight Power Resources.

Table 5-5: Unprotected Open Space Parcels in Erving owned by FirstLight Hydro Generating Company

Assessors Map #	Assessors Block #	Assessors Lot #	Acreage
1	3	1	.60
1	3	2	7.70
1	3	27	10.60
1	4	32	5.35
1	4	33	4.85
1	4	34	15.08
1	4	36	23.10
1	4	37	59.20
2	0	6	1,496.00
2	0	12	15.66
2	0	15	1.00
3	0	9	4.00
4	0	14A	57.50
5	0	1	55.20
5	1	27	2.18
			1,758.02

Source: Town of Erving Assessors Records; January 2009.

Within the Town of Erving, the FirstLight Power Resources owns approximately 1,758 acres. The Northfield Mountain Environmental and Recreation Center includes roughly 800 acres of developed recreation areas with trails, signage and active maintenance of facilities. This area also includes roughly 600 acres of undeveloped recreation land used for activities including hiking, rock climbing, mountain biking, orienteering, horseback riding, skiing, snowshoeing, and hunting. The Metacomet-Monadnock Trail passes through a portion of this section, which is used primarily by hunters and hikers. Also included in this area are Rattlesnake Mountain and parts of the Farley Ledges. The power reservoir takes up 342 acres.

Western Massachusetts Electric Company, another private land owner in Erving, owns approximately 274 acres (Table 5-6). These unprotected parcels are primarily utility transmission lines, and could potentially provide linkages between surrounding open space parcels.

Table 5-6: Unprotected Open Space Parcels in Erving owned by Western Massachusetts Electric Company

Assessors Map #	Assessors Block #	Assessors Lot #	Acreage
1	4	25	2.05
1	4	26	1.16
1	4	28	3.94
1	4	29	11.16
1	4	30	9.62
1	4	31	5.79
1	4	35	4.50
1	4	38	58.62
1	4	39	11.61
4	0	2	2.55
4	0	3	2.58
4	0	14	136.17
4	0	29	3.05
4	0	30	5.43
5	1	12	.45
5	1	36	3.80
5	1	38	1.00
5	1	39	10.00
5	1	43	.07
			273.55

Source: Town of Erving Assessors Records; January 2009.

The Erving Paper Mills own three parcels (Table 5-7), consisting of roughly 171 acres. Much of this acreage is forested and is surrounded on three sides by the Erving State Forest. These parcels are accessible from Route 2 and the Prospect Street Extension, and are not protected from development.

Table 5-7: Unprotected Open Space Parcels in Erving owned by the Erving Paper Mills

Assessors Map #	Assessors Block #	Assessors Lot #	Acreage
6	0	28	127.78
6	0	27	35.70
6	0	26	7.40
			170.88

Source: Town of Erving Assessors Records; January 2009

C. PUBLIC AND NON-PROFIT PARCELS

State conservation agencies and the Town of Erving own a significant portion of Erving's land. Almost all of this land is permanently protected from development. Only the Town owned parcels not under the authority of the Erving Conservation Commission are under

limited protection. The following inventory includes those parcels that are owned by the Commonwealth of Massachusetts and the Town.

C.1 Publicly Owned Open Space

Publicly owned open space in Erving includes land owned by the Commonwealth of Massachusetts and the Town of Erving. The State owned land is managed by the Department of Conservation and Recreation (DCR).

DCR's lands are spread throughout the Town in the form of Erving State Forest and lands leased by Split River Farm. The entire 2,524 acres of Erving State Forest are broken up into two main sections east of the Northfield Mountain Reservoir. The largest contiguous block of forest is the eastern most section, which can be accessed off of High Street and from Laurel Lake Road. The western section is located between the Northfield Mountain Reservoir property and Mountain Road. The eastern section of the Erving State Forest is the southern end of an uninterrupted stretch of permanently protected contiguous forestland that begins in the north with the Mt. Grace State Forest in Warwick, Massachusetts.

The management plan for the Erving State Forest is included in the DEM (now DCR) Guidelines for Operations and Land Stewardship (GOALS) Plan for the State Forests and Parks in the Northeastern Connecticut Valley Region, which was published in 1997. The following information on the Erving State Forest is from this source**.** The Erving State Forest is located in Erving and Warwick and includes the Laurel Lake recreation area. The Laurel Lake area, which straddles the Town Line between Erving and Warwick, includes a thirty-two (32) site camping area, picnic sites, and the most popular public swimming beach in the region. In 1994, DCR estimated that there were over 60,000 visitors to the lake. Laurel Lake is also popular for boating and fishing, which is enhanced with the Division of Fisheries and Wildlife's trout and salmon-stocking program. The rest of the large rugged forestland is used for hunting, trapping, fishing, and a variety of trail activities throughout all seasons.

Table 5-8 lists parcels of permanently protected public land owned by the Commonwealth of Massachusetts or by the Town of Erving and under the control of the Conservation Commission. All of the State owned parcels are forested and managed by DCR. The Town-owned “Former Giniusz Estate” was purchases through a state Self-Help grant in 2006.

The parcel owned by DCR on River Road was part of a Western Massachusetts Electric Company's (the land is now owned by FirstLight) land sale that took place in 1999. DCR and three farmers bought abutting land that was part of the same sale. This 125-acre property is located on the eastern bank of the Connecticut River and is part of the French King Gorge. By purchasing this land DCR has helped to ensure the future of farming in

the region and at the same time helped to protect one of the most significant historic and scenic landscapes in the Connecticut River Valley.

Table 5-8: Publicly Owned Land Permanently Protected from Development

Property Manager	Site Name	Area	Map-Block	Lot	Current Use	Condition	Recreation Value	Public Access	Zoning
Town of Erving	Former Giniusz Estate	118.6	4-0	78	Hiking and walking trails	Good	High	Old State Road – needs sign	Rural Residential (RR)
Town of Erving	Former Giniusz Estate	15.6	4-0	11	Hiking and walking trails	Good	High	Old State Road – needs sign	Rural Residential (RR)
DCR	Greenway State Park	124.6	1-3	4	Forestland	Good	Medium	River Road	Rural Residential (RR)
DCR	Erving State Forest	509.5	2-0	13	State Park	Good	High	Mountain Road/Hermit Cave Trail	Rural Residential (RR)
DCR	Erving State Forest	108.0	3-0	35	State Park	Good	High	Great Swamp Rd.	Rural Residential (RR)
DCR	Erving State Forest	1,895.0	3-0	55	State Park	Good	High	Laurel Lake Road	Rural Residential (RR)
DCR	Erving State Forest	1.4	6-2	8	State Park	Good	High	High Street	Rural Residential (RR)
DCR	Erving State Forest	9.6	6-14	4	State Park	Good	High	Prospect Street EXT	Rural Residential (RR)
DCR	Open Space	16.66	1-3	40	Open Space	Good	High	Dorsey Road and Route 2	Rural Residential (RR)
		2,799							

Source: Town of Erving Assessors Records; January 2009.

The Town of Erving owns approximately 363 acres of open space. Of this amount, 229 acres are under the authority of the Select Board and are therefore considered to have limited protection from development (Table 5-9). If residents wanted to convert the Town forest to sports fields, a Town Meeting vote could provide the authority. If the land was held by the Conservation Commission, it would take a majority vote by the Massachusetts State Legislature to convert open space to another non-conservation use. Many of these open spaces are parks, currently help protect wetlands and tributaries, or are set aside for other potential future municipal uses like an industrial park. Of all the types of town-owned public open spaces in Erving, the cemeteries and the two main parks, Veteran's and Zilinski, are by far the best-maintained, park-like environments, within which people can walk and recreate.

Erving's Conservation Commission is working on identifying and prioritizing potential corridors for protection in Erving. The Commission is pursuing these linkages between protected land by assisting interested landowners in protecting their land through conservation restrictions and other methods. The Conservation Commission has also been working closely with organizations such as the North Quabbin Regional Landscape

Partnership, the Mt. Grace Land Conservation Trust, and the Franklin Land Trust for assistance in land protection projects.

It is not unusual for a community to set aside land for future expansion of schools, sports fields, police and fire stations, and drinking water supplies. Open space planned for these purposes might be used as open space today and placed under the authority of the Select Board. It may also make sense to place Town-owned land that clearly contains wetlands or wildlife habitat but, which does not provide for easy development, under the authority and protection of the Conservation Commission.

Table 5-9: Town-Owned Parcels of Land with Limited Protection from Development

Property Manager	Site Name	Area	Map-Block	Lot	Current Use	Condition	Recreation Value	Public Access	Zoning
Town of Erving	Holton Cemetery	0.21	1-3	31	Historical Cemetery	Good	Medium	Via road off Old State Road	RR
Town of Erving	Wastewater treatment lot w/ access to Millers River	23.57	1-3	28	Riparian Forest	Good	High	Public Works Way/Via path in back of Ervingside Wastewater Treatment Plant.	RR
Town of Erving	Landfill	49.99	1-3	21	Capped landfill	Poor	None	None	RR
Town of Erving	Maple Ave. Landfill	15.94	1-3	8	Capped landfill – DEP currently monitoring	Medium-Poor	None	Maple Avenue	VR
Town of Erving	Maple Ave. Landfill	2.6	1-3	9	Capped landfill – DEP currently monitoring	Medium-Poor	None	Maple Avenue	VR
Town of Erving	Central Street Lot	0.25	3-0	39	Field	Medium	Low	Central Street	CV
Town of Erving	Hollyhock Hill	0.11	3-0	26	Field	Medium	None	Route 2	VR
Town of Erving	Between Route 2 and railroad	2.3	3-0	3	Field	Poor	None	None	CV

Property Manager	Site Name	Area	Map-Block	Lot	Current Use	Condition	Recreation Value	Public Access	Zoning
Town of Erving	Grand Trunk	54.76	4-0	7	Forest	Good	Potentially High	By way of railroad	RR
Town of Erving	Grand Trunk	27.8	4-0	15	Forest	Good	Potentially High	By way of railroad	RR
Town of Erving	Grand Trunk	17.8	4-0	16	Forest	Good	Potentially High	By way of railroad	RR
Town of Erving	Paper Mill Hill	0.25	4-1	36	Forest	Poor	None	Paper Mill Road, next to Millers River	RR
Town of Erving	Reynold Place	2.5	4-1	57	Forest / Snow mobile trails	Medium	Medium	Off Great Swamp Road	RR
Town of Erving	Reynold Place	4	4-3	58	Forest / Snow mobile trails	Medium	Medium	Off Great Swamp Road	RR
Town of Erving	Elementary School	15	4-3	6	Forest in back of School	Good	High	Northfield Rd.	CV
Town of Erving	Former Mitzkovitz property	8.23	4-3	51	Off road vehicles / hiking	Medium	Medium	French King Highway	RR/CV/C
Town of Erving	Part of Veteran's Memorial Park	0.28	4-5	17	Park	Good	High	Moore Street	CV
Town of Erving	Next to Keyup Brook	0.09	4-5	13	Park	Good	Medium	East Main Street	CV
Town of Erving	Next to Keyup Brook	0.22	4-8	55	Park	Good	Medium	East Main Street	CV
Town of Erving	Veteran's Memorial Park	13.2	4-8	13	Park Ball Fields Fire Station	Good	High	Moore Street	CV
Town of Erving	East of Elementary School on Rt. 63	7.19	4-8	4	Part Field/Part Forest	Good	High	Northfield Road	RR
Town of Erving	East of Elementary School on Rt. 63	9.7	4-8	8	Part Field/Part Forest	Good	High	Northfield Rd.	RR
Town of Erving	Church St. Tot Lot	0.14	5-1	63	Playground	Good	High	Church Street	RR

Property Manager	Site Name	Area	Map-Block	Lot	Current Use	Condition	Recreation Value	Public Access	Zoning
Town of Erving	Fire pond	0.04	5-2	54	Pond	Poor	None	None	VR
Town of Erving	Riverbank	1.12	5-2	34	Riverbank	Poor	None	None	CV
Town of Erving	Next to Keyup Brook	0.32	6-0	37	Riverbank	Poor	Low	Highland Avenue	VR
Town of Erving	Treatment Plant	7.37	6-2	1	Sewage treatment	Poor	None	None	RR
Town of Erving	Treatment Plant	0.4	6-2	1A	Sewage treatment	Poor	None	None	RR
Town of Erving	Treatment Plant	11.8	6-4	1	Sewage treatment	Poor	None	None	RR
Town of Erving	Zilinski Memorial Field	9.1	6-4	5	Sports Fields Playground Tennis Courts	Good	High	Prospect Street EXT	CV
Town of Erving	Welcome sign	1	6-4	99	Town sign	Good	Low	East Main Street	CV
Town of Erving	Park Street Park	0.63	6-4	44	Triangle Park	Good	High	Park, Reynolds and Central Streets	VR
Town of Erving	Well #1 Lot	3.86	6-13	34	Wetlands / Wellhead Protection	Good	Low	Discouraged	RR
Town of Erving	Town Forest	37	6-13	5	Woodlot / Town forest	Good	High	Mountain Road	RR
TOTAL		**228.84**							

Source: Town of Erving Assessors Records; January 2009.

SECTION 6

COMMUNITY GOALS

A. DESCRIPTION OF PROCESS

The Town of Erving's open space and recreation goals were developed through the following planning process:

- In 2002, the Town of Erving completed an Open Space and Recreation Plan in concert with the completion of its Master Plan. As part of the master planning process, approximately fifteen residents participated in the Natural Resources and Open Space Subcommittee and oversaw the development of the chapter, which eventually became a stand-alone plan. Their efforts including the review of draft chapters and associated maps became the foundation for the 2002 Erving Open Space and Recreation Plan.

- In May of 2009, an Open Space and Recreation Survey was prepared and sent to all households in Erving using the community newsletter. The survey was also distributed at a special Town Meeting in October of 2009. Of these, 45 surveys were returned, which represented a 7 percent return rate (See Appendix C).

- From June to December, 2009, the Open Space Planning Committee and the Franklin Regional Council of Governments Planning Department developed and updated the Open Space and Recreation Plan using several methods for involving public participation:
    - The Open Space and Recreation Survey results were used to support the development of Section 8 Goals and Objectives as well as the overall open space and recreation goals and vision.
    - Six public meetings were held by a volunteer Open Space Planning Committee and were open to the public.
    - Drafts of each section of the plan were mailed to the Open Space Planning Committee members representing key town boards and community groups.
    - A public forum was held on November 30, 2009, where residents reviewed and discussed the inventory, analysis, community goals, objectives, and five-year action plan. All public comments were recorded and incorporated into the plan.

B. STATEMENT OF OPEN SPACE AND RECREATIONAL GOALS

People live in Erving because they like its rural, small town character. On the whole, residents value safety from crime and vandalism, the Town's low real estate property taxes, clean air and water, peace and quiet, an excellent Elementary School, open fields, bountiful forests, and trails, and the availability of public services. According to the 2009 Open Space and Recreation Survey, respondents felt that these aspects of Erving, as well as its lakes, streams, and ponds, its scenic views, forests, and wildlife habitat were all important and worth conserving.

According to the 2009 Open Space and Recreation Survey and the Open Space Planning Committee, the ideal Erving would have managed to conserve the majority of its uninterrupted forests along its ridgelines and with that ensure the presence of diverse wildlife habitats, the purity of its water and air, and the use of an easily accessed trail system connecting public and privately owned open space. New development, especially in the villages of Ervingside, Farley and Erving Center, would be designed to ensure the continued quality of the Town's groundwater, wetlands, swamps, aquifers, and drinking water supplies. Development along the rural roads would occur in a manner that protected open fields and habitat areas where possible. A multi-use trail would connect all three villages via old county roads and power line easements in Wendell and Montague. Residents would be able to gain access to the Millers and Connecticut Rivers for fishing and boating by way of Town-owned waterfront lands. Outdoor recreation would in fact provide a significant contribution to the local economy of Erving and promote the protection of open space.

SECTION 7

ANALYSIS OF NEEDS

The Erving Open Space and Recreation Plan incorporates the inventory of all the land-based natural, scenic, and cultural resources that are available in Town (Section 4), identifies the most important parcels of land that contain these resources (Section 5), and based on the community's general goals (Section 6), makes comparisons between the supply of resources and the demand (Section 7). In the following subsection, a Summary of Natural Resource Protection Needs, the environmental values that have already been addressed in Sections 3, 4 and 5 are summarized. In the Summary of Community's Needs section, the recreation and open space needs of the residents are discussed, using the 2009 Open Space and Recreation Survey and specific elements of Section 3, Community Setting. Finally, in Management Needs, the obstacles to the effective resolution of these needs are addressed including organizational barriers and the most significant land use conflicts concerning open space and natural resource use.

A. SUMMARY OF NATURAL RESOURCE PROTECTION NEEDS

Erving residents value their forests and water bodies, and the quality of the air and drinking water in Town. According to the 2009 Open Space Survey, 85 percent or more of survey respondents stated that it was important or very important to protect lakes, streams, and ponds, clean drinking water, forests, clean air, scenic views, and farmland. Unfortunately, the quality of these resources is threatened indirectly through the ways humans use the landscape. New development, if poorly planned, could have a negative impact on both the quality and quantity of all of these resources.

Survey respondents varied in their opinions on what they consider to be the two most significant threats to Erving's sense of community and rural character. Roughly an even amount of respondents chose residential development (28%), environmental pollution (31%) and industrial and commercial development (31%) as significant threats, while conversely, 39 percent of respondents chose lack of development as a significant threat to the town's future as a viable community. Rising property taxes received the highest percentage of responses (47%). The concern for lack of development may reflect the decline of manufacturing in Erving, as well as the recent economic downtown that has impacted Town businesses. Loss of commercial and industrial businesses places a greater tax burden on residents. This concern, however, is balanced with a desire to protect Erving's character and natural resources.

According to the 2009 Survey, the ten factors that were considered to be very important to residents' appreciation of Erving can all be impacted by unplanned development:

- Clean streams and water bodies
- Scenic views
- Walking and hiking trails
- Quiet
- Moose, bobcat, deer, and other wildlife
- Erving State Forest
- Large forested areas
- Absence of city lights
- Open fields
- Farm houses

Large areas of forest unbroken by roads and development support many of these important aspects. Although much of the Town's land is already constrained from development by being part of Erving State Forest, if no other land were protected, it seems unlikely that these values would be retained as future development would continue to fragment the surrounding landscapes and further isolate protected lands.

As mentioned above, rising residential property taxes is a concern for many Erving residents. FirstLight Power Resources, which owns the Northfield Mountain Pumped Storage facility, contributes approximately 89 percent of Erving's total property tax revenues**.** FirstLight's significant tax payment allows residential real estate to be taxed at the relatively low rate of $7.01 per thousand dollars of valuation and other businesses to enjoy low tax rates of $12.14 per thousand dollars of valuation in 2010**.** These rates are much less compared to neighboring towns within the county, whose average 2009 residential tax rate was $13.34 and the average commercial/industrial tax rate was $14.62 per thousand dollars of valuation. Even so, increases in community services like a new addition to the elementary school and a new police station in Erving have resulted in increases to all property owners' tax bills.

Based on costs of community services studies, residential development often results in a negative fiscal impact. This means that for every dollar of tax revenue generated by a residential property, the services expended by the Town in support of that house (schools, police, fire, and general government) cost $1.16. Open space, commercial and industrial development provide more in property taxes than they cost in services. Residential homes are the only land use directly associated with school costs, which are significantly more on a per student basis than the revenue generated in property taxes. For example, according to the Department of Elementary and Secondary Education website, for fiscal year 2008, the cost per student in Erving was $13,699, while the amount of revenue generated by a single family house assessed at $100,000 would be roughly $701, based on a residential property tax rate of $7.01 per thousand dollars of valuation**.**

It seems logical that if the cost per student is higher than the revenues generated by a single-family home, and the Town experiences the development of new homes, then the revenues per thousand dollars of valuation must also rise. All property owners will therefore experience increases in their tax bills even when the burden of providing

services is carried almost entirely by FirstLight. As the need for revenues increase, residential taxes will likely rise, as will the pressure on open space to produce tax revenues and on landowners to sell land for development.

According to the 2009 Open Space survey results, respondents support the Town using the following methods to protect and conserve natural resources and open space:

- Acceptance of donated conservation land (81%);
- Town purchase of conservation land (71%);
- Acceptance of donated development rights (69%);
- Encourage conservation by state agencies (64%);
- Town purchase of development rights (62%);
- Encourage conservation by private non-profits (62%);
- Encourage conservation by a combination of parties (60%); and
- Zoning changes for open space protection (57%).

The ways in which lands are protected from development produce different outcomes. For example, lands that are protected through the use of a conservation restriction can stay in private ownership. This allows the decisions regarding the property's management to remain in the hands of individuals, instead of a large non-profit or a state or federal agency, which may not be able to respond as well to local concerns. In this case the land also remains on the local property tax rolls. Although public access is sometimes required in conservation easements purchased by state conservation agencies and private land trusts, it is not guaranteed. Lands that are purchased in fee by state agencies and private land trusts are likely to provide access to the general public and sometimes offer payments in lieu of taxes.

The question of connectivity, management, and public access will gain importance as the population of Erving grows. Additional residential development will undoubtedly decrease the connectivity between blocks of protected open space. Most of the permanently protected land in Erving is surrounded by unprotected properties. Currently, the differences between protected and unprotected land are not visibly significant. The importance of permanently protecting land may not become obvious until a large-lot residential subdivision occurs in an area containing unprotected and protected parcels.

One important group of parcels discussed in Section 5, "Inventory of Lands of Conservation and Recreation Interest" is the FirstLight lands. FirstLight owns over 1,700 acres of land in Erving. The FirstLight land surrounding the pump storage facility will remain in recreational and forestry uses as mandated by the Federal Energy Regulatory Commission (FERC). Nonetheless, it is important to remember that the land is not permanently protected from development. FirstLight is the most significant private landowner in Erving owning the majority of the forested ridgelines in Town. Other important parcels include three owned by the Erving Paper Mills, consisting of 171 acres. These parcels are surrounded on three sides by the Erving State Forest, but are not protected from development.

New home construction along the Town's major roads could also have the result of diminishing the quality of significant historic landscapes and the future use of prime farmland and forestland soils. Many of Erving's remaining open vistas are dependent on the maintenance of open fields and the retention of contiguous forests along the slopes of Poplar, Hermit, and Northfield Mountains. The scenic value of these landscapes would be severely diminished with the construction of new homes. These lands also provide wildlife habitat that along with wetlands and stream corridors create a diversity of habitats across the landscape. Finally, the value of prime agricultural soils is negated once the land is developed.

Water is probably the most valuable natural resource because all of life depends on it. Water in the form of precipitation recharges the ground water, which fills streams, ponds, wetlands, and rivers. Even without the human use of water, natural periods of drought produce changes in plant and animal species populations. Therefore, as people consume water from shallow wells and aquifers, it is logical that they could negatively impact animal and plant communities, which are naturally water-dependent.

A significant amount of water consumed by Erving residents in the three villages of Erving Center, Farley, and Ervingside is removed from the aquifers and groundwater and deposited into the Millers River after having been treated by the Towns' wastewater treatment facilities. Once in the Millers River, the majority of the treated water is likely not recharging the aquifer, portions of which are below the riverbed.

Aquifers need to be recharged; it is the way drinking water supplies are sustained. Aquifers are recharged when precipitation permeates the soil and becomes part of groundwater flow, which over time, contributes to levels of water in aquifers. If rain or snow are not able to seep into the soil but instead fall upon roofs, roads, driveways, and parking lots, the drainage system will likely send this water to streams or pipes that then enter the Millers River, rather than the groundwater. Erving's Groundwater Protection District is a zoning district that overlays designated recharge areas, and applies to all new construction and any change or expansion to existing buildings or uses. This district requires a special permit for any use that creates an impervious surface greater than 15% or 2,500 square feet, whichever is greater, of the lot, provided that a groundwater recharge system is put in place to prevent degradation of groundwater quality.

The Groundwater Protection District also protects Erving's water supply by prohibiting or regulating the use, storage, and disposal of hazardous materials. However, this new bylaw does not take into consideration existing uses. This means that household, state, or private commercial and industrial uses of hazardous materials need to be addressed by a Town-wide educational effort to minimize the potential for drinking water supply contamination. For the long-term, Erving may want to do what other communities have done to protect their ground water supplies: permanently protect the land covering the Town's most significant aquifers and recharge areas.

B. SUMMARY OF COMMUNITY'S NEEDS

Planning for a community's open space and recreation needs must work to satisfy the present population's desires for new facilities, spaces, and services and also interpret and act on the available data to prepare for the future needs of Erving residents. Although the Erving Open Space and Recreation Plan will be updated in seven years, the types of actions that are identified in Section 9 take into account the needs of the next generation as well.

The 2009 Open Space and Recreation Survey, discussions at Open Space Planning Committee meetings, and research into the ownership, protection status, and use of existing open space parcels in Erving, helped to identify several potential community needs relating to open space and recreation resources. They are: maintenance of recreation open space and facilities and extent of available recreational programs; conservation open space owned by the Town of Erving; and trail development in Wendell for recreational use by Erving residents.

According to the 2009 Open Space Survey, and Committee Meeting discussions, two Town-owned parks that are considered to be in good condition are Veteran's Memorial Park and Zilinski Memorial Field. Other parks in Town that the majority of survey respondents felt are in good or adequate condition are Park Street Park and Church Street Park. A large percentage (64%) of survey respondents felt that the Elementary School playground and facilities are in excellent condition.

A majority (74%) of survey respondents felt that library programming in Erving is of "good" or "excellent" quality. However, less than half of the survey respondents felt that recreational programming (45%) and community events (45%) are of a "good" quality. The current budget for the Recreation Commission is $52,750 per year, which must pay for upkeep, minor repairs, light construction projects, and programs**.** While maintenance of parks should continue to be a priority, there is a need for professional staff that could help the Recreation Commission to develop a more diverse offering of programs that serve all of Erving's residents. Section 3 describes the modest growth in population that Erving is currently experiencing. Even with a modest rate of growth, the needs of residents and the types and levels of services in demand may change.

According to the 2009 Survey, the five most popular recreational activities practiced in, or near, Erving are walking, gardening, hiking, swimming, and bicycling. One way of interpreting these results is that most people who recreate in Erving today do not depend on facilities like sports fields, tennis, or basketball courts. The survey also suggests that the most popular recreational activities take advantage of Erving State Forest, where 12 percent of respondents said they visited at least monthly. Residents also use Veteran's Memorial Park (50%), Zilinski Memorial Field (43%), and the Northfield Mountain Recreation Area (40%) at least monthly. The French King Bowling and Entertainment Center is utilized at least monthly by 50 percent of respondents.

Town land may be needed in the future for recreational facilities. Even if all new adult residents typify the survey respondents and recreate mostly in the State Forest and on the few walking paths, Erving may still need land for park and playground facilities for its elderly and youth and improved access to a network of recreational trails. There are roughly 363 acres of open space owned by the Town of Erving, of which the cemeteries and the former Giniusz Estate lands are protected from development. It would be important to determine if the potential future uses of these parcels could include parks, playgrounds, or sports fields. If parcels were to be developed as parks, there would be a need for making them accessible to the physically handicapped and the elderly.

Those parcels that are determined to be more valuable as wildlife habitat or for aquifer protection should be transferred to the Conservation Commission. In addition, lands that provide public access to the Millers and Connecticut Rivers may be good candidates for ownership by the Conservation Commission. Land under the authority of a Conservation Commission is considered by the Commonwealth of Massachusetts to be permanently protected from development.

The land recently acquired by the Conservation Commission, known as the former Giniusz Estate, includes a network of trails currently used for walking and hiking. There is potential for further trail development, and a current need for signs and publicity to inform residents of this new recreational resource.

Some residents are interested in developing a greenway recreational trail that would connect existing villages in Erving. The trail is located in the Town of Wendell and is located along Farley Road out of Erving Center further west to Farley via a power line easement and some private lands. In Farley, it appears as if the trail could link with the Metacomet-Monadnock Trail. The Franklin Regional Council of Government's 2009 Bikeway Plan includes this recreational trail as a proposed bikeway route that should be further investigated in terms of feasibility.

C. MANAGEMENT NEEDS

Erving is fortunate to have a great number of organizations interested in the environment in, and around, Erving. There are a number of federal, state, and regional environmental organizations sponsoring land and natural resource protection projects including Mount Grace Land Conservation Trust, Franklin Land Trust, the North Quabbin Regional Landscape Partnership, Massachusetts Audubon Society, Trustees of Reservations, New England Forestry Foundation, Department of Conservation and Recreation, Division of Fisheries and Wildlife, Department of Agricultural Resources, Harvard University, U.S. Army Corps of Engineers, and the Millers River Watershed Council. The Conservation Commission should continue to work with these organizations on land protection projects in Erving. Additionally, there may be a need for the Town to have the ability to facilitate and coordinate the activities that occur within Erving so that they most benefit local residents. An appointed Open Space Committee could be given the responsibilities to act

as the liaison to these organizations reporting back to Town Officials as necessary. Similarly, if Town Officials were kept abreast of these local and regional efforts, there would be more opportunities for cooperation with adjoining towns.

How a community chooses to spend its fiscal resources is often decided at Town Meeting. But in many communities the warrant articles prepared ahead of time are often the result of policy discussions among boards and a small proportion of the total population. A major obstacle to implementing the recommendations of this Open Space and Recreation Plan will be the effective coordination of all Town Boards and Commissions in a manner that promotes communication and discussion of open space and recreation issues between Boards and among the general public.

One general open space issue relates to the different ways people believe land should be used. When these different uses can be planned, so that the value of each use is represented in the action plan, it can often be the result of consensus building among people holding different positions. Gaining consensus among people with strong positions and feelings can take time, resources, and the commitment of each participant in the group. Gaining consensus requires good leadership that understands that tradeoffs on both sides are required to resolve conflict. The open space and master planning process can embody consensus building. A balanced master plan will likely contain elements of both economic and residential development and open space protection. Deciding where to direct new development and where to protect land from development is how the consensus process is realized. In open space planning, determining the most important areas to protect is an important step in determining locations to send growth and ultimately in the formulation of a sustainable land use plan.

Conflicting perceptions of the issues are common in any community. In Erving, there appears to be little conflict concerning whether the Town should stay the same or change and grow. Most people want Erving to remain as the small rural community it is today. Any policy decisions of a large magnitude will be made after extensive public input, perhaps as part of the zoning revision process. Otherwise different interests may be at odds during a time when consensus is what is needed most.

Another issue that needs to be addressed is that people view residential development in different ways. Some people think residential development is good for Erving. This group of people perceives that land protection removes choices, by reducing the areas that could be developed, and takes money away from landowners. The other group would direct new home construction through the protection of important ridgelines, wetlands, river corridors including access, and open fields. The Costs of Community Services studies, described in Section 3 Community Setting, show that almost every new house in any Massachusetts community costs the towns more in municipal services (e.g. Schools) than in the property tax revenues received.

Perhaps residents could agree that they do not want Erving to experience the level of development that is occurring in the once rural towns of the Route 495 corridor, and

decide where to direct new residential growth. It is likely that Erving residents would also agree that the permanent protection of private land should only occur with willing landowners and in a manner that in no way reduces the equity of the land without just compensation. There are several techniques that are used by towns and by conservation land trusts, which direct new growth by protecting those areas that are recognized to contain the most important natural, recreational, and historical resources.

Purchasing a landowner's development rights is a very common technique used by federal, state, and non-profit conservation agencies. A landowner has many rights associated with owning land including the right to farm, the right to drill water, mine gravel and the right to develop the land. The amount of money that a land trust might pay a landowner for his/her development rights is equal to the difference between the value of the land as buildable residential lots and its value as open land in its undeveloped and protected state.

SECTION 8

GOALS AND OBJECTIVES

The following preliminary draft goals and objectives were formulated from the results of the 2009 Erving Open Space and Recreation Planning Survey and reviewed and modified through the public meetings of the Open Space Planning Committee, the public forum process, and associated public comment.

Goals

- Ensure that the Town of Erving maintains or improves the quality of its air and water, and the diversity and integrity of native wildlife populations and plant communities through the protection of locally important forests, fields, lakes, streams, ponds, scenic views and wildlife habitat.

- Ensure that the Town of Erving maintains or improves the quality, quantity, and accessibility of its parks, playgrounds, and other recreational facilities as well as programming for current and future generations, especially for teens, adults and seniors.

- Support, maintain, and enhance the quality of outdoor recreational experiences in order to promote the potential of recreational tourism within the Town of Erving.

- Ensure that the Town of Erving retains its rural, safe, small town character with stable property taxes and affordable housing prices.

Objectives (Not in any particular order)

- Create an officially appointed Open Space Committee.

- Prioritize Town sponsored land protection projects that conserve forestland, drinking water, streams and ponds, open fields, scenic views, wildlife habitat, and wetlands.

- Take advantage of the Town's right-of-first refusal with Chapter 61 parcels or assign the right to a third party, such as Mount Grace Land Conservation Trust.

- Coordinate with regional and state land protection efforts, in and around Erving, to ensure the continued conservation of important natural, recreational and open space resources.

- Work closely with the Conservation Commission, private conservation land trusts, and state agencies to identify and facilitate the acquisition of land and easements for conservation areas and trails for walking, biking, hiking, rock climbing, bird watching, and other recreational activities.

- Determine for each Town-owned parcel of land its potential uses and the most appropriate manager.

- Improve access to parks and open space for all residents by coordinating with all relevant Town boards and committees.

- Improve access to parks and open space for the physically disabled and the elderly by coordinating with all relevant Town boards and committees.

- Support the Recreation Commission to be more effective in providing needed recreational facilities and programming for all of Erving's residents, especially teens, adults, and seniors.

- Facilitate a program of water quality monitoring for the rivers, brooks, streams, lakes, and ponds in Erving.

- Develop multi-user (walking, hiking, bicycling, cross country skiing) trail systems that tie into existing ones (i.e. the trail connecting Erving Center and Farley along the Millers River in Wendell), which can be safely accessed from publicly owned land or private lands with trail easements.

- Identify, promote and help protect historically significant areas and landscapes, such as cemeteries and historic structures.

- Seek to permanently protect from development all lands that contain unusual plant communities and rare and endangered species habitat.

- Improve the recreational opportunities on the newly-acquired Giniusz Estate, which includes a network of trails currently used for walking and hiking. Explore the potential for further trail development, and the need for signs and publicity to inform residents of the new recreational resource in Town.

SECTION 9

SEVEN – YEAR ACTION PLAN

The Seven-Year Action Plan fulfills the Open Space and Recreation Plan objectives. The objectives address open space, natural resources, recreation, and community development goals because the quantity and quality of accessible open space relates directly to the state of the air we breathe, our drinking water, and the level of biodiversity in Erving; the Town's recreational opportunities; and, the type, level, pattern, and location of development in Erving.

The objectives are listed in the far left column of Table 9-1 in order of priority and are followed in the same row by recommended actions, responsible board or group, and start date. By implementing the recommended actions, each objective will begin to be realized.

Implementing the Open Space and Recreation Plan requires appointing an official Open Space Committee. However, as is shown in the third column in Table 9-1, the Select Board, Planning Board, Board of Health, Conservation Commission, the Historical Society, and others are all necessary participants in the successful implementation of an Open Space and Recreation Plan.

Most of these actions may be constrained by a lack of volunteer time, rather than funding. Where money is required, such as to permanently protect open space, it does not have to be provided by the Town alone. State and federal governmental agencies, private non-profit conservation agencies, and foundations are potential sources of funding. In addition, these sources are more likely to invest in land protection projects that have a broad base of community support.

A successful Open Space and Recreation Program, under the primary stewardship of an Open Space Committee, can achieve all of the action steps listed below over time. However, it will be important to establish priorities for the first seven years. The Open Space Planning Committee has prioritized action steps by the objectives. These action steps are represented graphically (where possible) on the Seven-Year Action Plan Map and are outlined in greater detail in Table 9-1. The ten most important objectives are:

1. Create an officially appointed Open Space Committee.
2. Prioritize Town-sponsored land protection projects that conserve forestland, drinking water, streams and ponds, open fields, scenic views, wildlife habitat, river access and wetlands.
3. Develop multi-user (walking, hiking, bicycling, cross country skiing) trail systems that tie into existing ones (i.e. the trail connecting Erving Center and

Farley along the Millers River in Wendell), which can be safely accessed from publicly owned land or private lands with trail easements.

4. Work closely with the Conservation Commission, private conservation land trusts, and state agencies to identify and facilitate the acquisition of land and easements for conservation areas and trails for walking, biking, hiking, rock climbing, bird watching, and other recreational activities.
5. Support the Recreation Commission to be more effective in providing needed recreational facilities and programming for all of Erving's residents, especially teens, adults, and seniors.
6. Coordinate with regional and state land protection efforts, in and around Erving, to ensure the continued conservation of important natural, recreational, and open space resources.
7. Improve access to parks and open space for all residents by coordinating with all relevant Town boards and committees.
8. Improve access to parks and open space by the physically disabled and the elderly by coordinating with all relevant Town boards and committees.
9. Identify, promote and help protect historically significant areas and landscapes, such as cemeteries and historic structures.
10. Seek to permanently protect from development all lands that contain unusual plant communities and rare and endangered species habitat.

Table 9-1: Recommended Actions of the Open Space and Recreation Plan

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCES[1]
Create an officially appointed Open Space Committee.	Request that each of the following town boards recommend to the Select Board a resident to appoint to the Open Space Committee: Conservation Commission, Planning Board, Recreation Commission, Zoning Board of Appeals, Select Board, Historical Society, and Council of Aging.	Select Board	2010	Volunteer time
Prioritize Town-sponsored land protection projects that conserve forestland, drinking water, streams and ponds, open fields, scenic views, wildlife habitat, wetlands, and river access.	Create and mail to all residents a simple short survey to help prioritize potential land protection projects.	Open Space Committee	2010	Town funds; Volunteer time
	Based on the survey results develop a list of criteria that will help to prioritize land protection projects.	Open Space Committee	2011	Volunteer time
	Focus on establishing a potential "Greenway" in the area designated as a Bio Map Core Habitat in the area of Spruce Swamp.	Open Space Committee	2012	Town funds; Volunteer time
Develop multi-user (walking, hiking, bicycling, cross country skiing) trail systems that tie into existing ones (i.e. the trail connecting Erving Center and Farley along the Millers River in Wendell), which can be accessed from publicly owned land or private lands with trail easements.	Identify and map existing major trails and potential new trails.	Open Space Committee and Conservation Commission	2011	Volunteer time; Smart Growth or other grants secured by FRCOG staff

[1] Like many small towns, Erving relies heavily on its dedicated, knowledgeable, and unpaid volunteers who contribute countless and priceless hours to various town boards, commissions, causes, and projects. Volunteer time is noted for those objectives that would otherwise not be accomplished due to lack of town, state, and/or federal government funding for specific projects or lack of funding for technical assistance and other services that non-profit organizations, the regional planning agency and/or state agencies could provide to the Town.

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCES[1]
Work closely with the Conservation Commission, private conservation land trusts, and state agencies to identify and facilitate the acquisition of land and easements for conservation areas and trails for walking, biking, hiking, rock climbing, bird watching, and other recreational activities.	Educate the general public and town officials, through the use of the "Around Town" newsletter and Town web site, about the assistance that Erving can receive to acquire and maintain open space.	Open Space Committee Board of Selectmen	2011	Volunteer time; DCR brochures, literatures and/or grants
Support the Recreation Commission to be more effective in providing needed recreational facilities and programming for all of Erving's residents, especially teens, adults, and seniors.	Identify programming and capital improvement needs with the help of a consultant.	Recreation Commission Board of Selectmen	2015	Town funds; Volunteer time
	Continue to ensure the Town's operating budget for the Recreation Commission supports the maintenance of the town's parks and playgrounds.	Recreation Commission Board of Selectmen	Ongoing	Volunteer time
	Investigate the feasibility of a shared paid position for a recreation director.	Recreation Commission Board of Selectmen	2015	Volunteer time
	Work with other groups to identify and develop additional community events in Erving.	Recreation Commission	2016	Volunteer time
Coordinate with regional and state land protection efforts, in and around Erving, to ensure the continued conservation of important natural, recreational and open space resources.	Appoint two members of the Open Space Committee to be Liaisons to the North Quabbin Regional Landscape Partnership and Western Massachusetts Land Trusts.	Open Space Committee	2010	Volunteer time
	Maintain working relations with the Franklin Regional Council of Governments Planning Department.	Open Space Committee	Ongoing	Volunteer time
	Work with neighboring communities, the Council of Governments, the Massachusetts Department of Conservation and Recreation and the Appalachian Mountain Club to link trails.	Open Space Committee and Conservation Commission	2011	Volunteer time
Improve access to parks and open space for all residents by coordinating with all relevant Town boards and committees.	Prioritize projects and implement them.	Recreation Commission Board of Selectmen Open Space Committee	Ongoing	Volunteer time

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCES[1]
	Explore potential ways to ease access to Hermit's Cave. Discuss potential access easements with willing landowners.	Open Space Committee Conservation Commission	2014	Volunteer time
Improve access to parks and open space by the physically disabled and the elderly by coordinating with all relevant Town boards and committees.	Prioritize accessibility projects and implement them.	Recreation Commission Board of Selectmen Open Space Committee	2010 / ongoing	Volunteer time
Identify, promote and help protect historically significant areas and landscapes, such as cemeteries.	Identify and map all of Erving's significant historical areas and structures, particularly in the three villages.	Open Space Committee, Cemetery Sexton, and Historical Society	2016	Town funds; Volunteer time; Smart Growth or other grants secured by FRCOG staff
	Develop a plan for their protection taking advantage of preservation grants from the Massachusetts Historical Commission.	Open Space Committee, Cemetery Sexton, and Historical Society	2017	Volunteer time; state or foundation grants
Seek to permanently protect from development all lands that contain unusual plant communities and rare and endangered species habitat.	Educate Open Space Committee members as to their locations and pursue the possibility of protection.	Conservation Commission and Open Space Committee	2011	Volunteer time
Take advantage of the Town's right-of-first refusal with Chapter 61 parcels or assign the right to a third party, such as Mount Grace Land Conservation Trust.	Educate prospective applicants about Chapter 61 programs in the "Around Town" newsletter/web site and possibly through a workshop held by local land trusts.	Open Space Committee	2013	Volunteer time
Determine for each Town-owned parcel of land its potential uses and the most appropriate manager.	Hire a consultant to write a plan for all Town-owned open space that would build upon the forest stewardship planning already done. This would not include the four developed parks.	Open Space Committee Board of Selectmen	2013	Town funds; Volunteer time
Facilitate a program of water quality monitoring for the rivers, brooks, streams, lakes, and ponds in Erving.	Work with Millers River Watershed Council to facilitate a program of water quality monitoring for the rivers, streams, wetlands, lakes, and ponds in Erving.	Open Space Committee	2012	Volunteer time; MRWC volunteer time or donations

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCES[1]
Improve the recreational opportunities on the newly acquired Giniusz Estate, which includes a network of trail currently used for walking and hiking. Explore the potential for further development, and the need for signs and publicity to inform residents of the new recreational resource in Town.	Survey residents as to the need for additional trails. Make residents aware of this recreational resource through the town newsletter and flyers handed out at Town events.	Open Space Committee	2012	Town funds; Volunteer time
Ensure that the OSRP continues to be up-to-date and reflects the current situation of the Town.	Perform annual evaluations of this Action Plan.	Open Space Committee	Yearly	Volunteer time

SECTION 10

PUBLIC COMMENT

Public feedback, sought throughout the entire open space and recreation planning process, is difficult to document due to the fact that the draft plans constantly incorporated these changes and enhancements. A more direct request for feedback was presented in the public forum, which was held on November 30, 2009. Comments received during the public forum and the period prior to the forum have all been incorporated into the Plan.

Copies of the final version of the Erving Open Space and Recreation Plan were sent to the Massachusetts Division of Conservation Services (DCS), the Erving Select and Planning Boards and the Recreation and Conservation Commissions, and the Mount Grace Land Conservation Trust for comment. Their comment letters are inserted into the plan at the end of this section.

The following comments were recorded during the feedback session at the Erving Open Space and Recreation Plan Public Forum held on November 30, 2009, at the Town Hall from 7:15 p.m. to approximately 8:30 p.m. Fifteen residents attended the forum, including members of the Select Board, Planning Board, and Conservation Commission. Several of the comments led to discussions that supported the goals and actions of the plan: promoting recreational tourism was considered an appropriate new goal, as many people already visit Erving from all over each year for the large array of recreational resources in Town. However there is a need to promote awareness of these resources to Town residents themselves, especially the newly acquired Giniusz property. Promotion through the Town website, newsletter, and the creation of a tourist brochure were all suggested. Increased awareness can bring negative impacts such as trash from recreational users, and it is important to proceed by working closely with private property owners to understand all potential concerns. Support was also voiced for prioritizing parcels for protection, particularly along the Millers River, ridgelines, and unprotected forest.

FRANKLIN REGIONAL COUNCIL OF GOVERNMENTS

425 Main Street · Greenfield, Massachusetts 01301-3313
Telephone 413-774-3167 · Fax 413-774-3169 · www.frcog.org
Executive Director · Linda Dunlavy

Melissa Cryan, Grants Manager
Division of Conservation Services
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

December 28, 2009

Dear Ms. Cryan,

The Franklin Regional Council of Governments is extremely pleased to support the approval of Erving's Open Space and Recreation Plan by the Massachusetts Division of Conservation Services.

The plan was developed by the Erving Open Space Planning Committee with technical assistance from the Franklin Regional Council of Governments Planning Department. It represents almost a year of consensus building on the most important natural, recreational, and scenic resources in Town and the most appropriate strategies for the long term conservation of Erving. This process included significant public input. The updated Erving Open Space and Recreation Plan meets all of the requirements of the Division of Conservation Services as laid out in the "Open Space and Recreation Planner's Workbook" (revised March 2008).

The Open Space and Recreation Plan will be used to help Town officials and other volunteers in their deliberations concerning land use and open space decisions. Once approved by the State, the Open Space and Recreation Plan will make Erving eligible for land conservation and recreation project funding and more competitive for many other types of state grants. In addition, the Town will be better able to collaborate with neighboring towns, the Mount Grace Land Conservation Trust, the Millers River Watershed Council, the Franklin Regional Council of Governments, and others to protect the natural, recreational, and cultural resources of the Town.

We look forward to your favorable review and approval of the Erving Open Space and Recreation Plan.

Sincerely,

Peggy Sloan
Director of Planning and Development

cc: Tom Sharp, Town Administrator Town of Erving
Andrew Tessier, Chair, Board of Selectmen, Town of Erving
Peggy Sloan, Director of Planning and Development, FRCOG

TOWN OF ERVING

BOARD OF SELECTMEN

12 East Main Street
ERVING, MASSACHUSETTS 01344
Tel. 413-422-2800 ext. 100
Fax 413-422-2808
Email: ervingadmin@comcast.net

July 1, 2010

Megan Rhodes
Land Use Planner
Franklin Regional Council of Governments
278 Main Street, 4th Floor
Greenfield, MA 01301

RE: 2010 Erving Open Space and Recreation Plan

Dear Ms. Rhodes,

The Erving Select Board has reviewed the 2010 Erving Open Space and Recreation Plan (OSRP). Please accept this correspondence as confirmation that we are in agreement with the OSRP and we will continue to work towards the common goals it expresses. Preserving our natural and recreational resources is critical to maintaining the special character of Erving. The OSRP gives the Town the guidance we need to initiate actions necessary to preserve the town's resources.

The Erving Select Board is pleased to give our full support and feel that this plan is an important tool for in planning for the future of the Town of Erving.

Sincerely,

Andrew N. Goodwin, Chair
Erving Select Board

TOWN OF ERVING

PLANNING BOARD

Tel. 413-422-2800
Fax: 413-422-2808

12 East Main Street
ERVING MASSACHUSETTS 01344

8-19-10

Megan Rhodes
Land Use Planner
Franklin Regional Council of Governments
278 Main Street, 4th Floor
Greenfield, MA 01301

Re: 2010 Erving Open Space and Recreation Plan

Dear Ms. Rhodes:

The Erving Planning Board has reviewed the 2010 Erving Open Space and Recreation Plan and supports its submission to the Department of Conservation and Recreation for their review. The Planning Board has no opinion on Section 4 A.2 Geology.

The Plan can be used to help the Town in their deliberations concerning land use and open space decisions. In addition, once approved by the State, the Plan will make Erving eligible for land conservation and recreation project funding, more competitive for many other types of grants, and better able to protect our natural, recreational, and cultural resources.

Sincerely,

William Morris

William Morris, Chairman
Erving Planning Board

SECTION 11

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APPENDIX A

Town of Erving

ADA Self Evaluation Report

TOWN OF ERVING
ADA INVENTORY

SELF-EVALUATION OF TOWN
RECREATIONAL PROGRAMS AND PARKS

INTRODUCTION

The Town of Erving has undertaken a Self Evaluation of its recreational programs, practices, and recreation facilities in order to assess their compliance with Title II of the Americans with Disabilities Act (ADA) regulations. The objective of the Self Evaluation is to identify and bring into reasonable compliance programs and practices that do not currently meet the requirements of the Act. The Self Evaluation is not "official," in that there is no specific format prescribed by a federal enforcement agency. However, the three major elements outlined below were assessed. By evaluating these three elements, Erving will work to comply with ADA Self Evaluation regulations.

1) Site Accessibility: is the site accessible to persons with disabilities?

2) Program and Service Accessibility: are the programs and services offered available to all persons, regardless of their disability?

3) Employment Practices: Are employment decisions made without discrimination on the basis of disability? Are reasonable accommodations made for employees who may require them? Are employment notices in formats accessible to people with sight or hearing disabilities?

ADA COORDINATOR

The ADA requires public entities with 50 or more employees to designate at least one employee to coordinate its efforts to comply with Title II and investigate any complaints of ADA-related discrimination. The Board of Selectmen has designated Administrator Coordinator, Tom Sharp, to act in this capacity.

PUBLIC NOTIFICATION

A public entity is required to inform applicants, participants, beneficiaries and other interested parties of their rights and protections afforded by the ADA. A copy of the Public Notice of the Town of Erving's Policy of Non Discrimination on the Basis of Disability is placed at the back of this document.

GRIEVANCE PROCEDURE

Also required by ADA regulations is a formal grievance procedure by which complaints of ADA violations may be resolved. The Town of Erving's ADA Grievance Procedure is placed at the back of this document.

EMPLOYMENT PRACTICES

The Town of Erving's employment practices are in compliance with the ADA regulations, especially regarding: recruitment, personnel actions, leave administration, training, tests, medical exams/questionnaires, social and recreational programs, fringe benefits, collective bargaining agreements, and wage and salary administration. A statement from the Town's ADA Coordinator attesting to this can be found at the back of this document.

SITE ACCESSIBILITY

The following inventory describes the four parks and playgrounds in the Town of Erving that are under the jurisdiction of the Recreation Commission, which maintains all of the parks in Town. The inventory includes a description of the facilities, accessibility needs, and recommendations for modifications, which would help to provide people with disabilities equal access to these resources. The specific recommendations for each site are summarized in a table, the ADA Transition Plan, at the end of this document. The standards by which the park facilities are judged are from the Massachusetts Division of Conservation Services and are based on state and federal guidelines.

Veteran's Park

Description: Veteran's Park is located in the western portion of Town on Rt. 63 next to one of the Town's fire stations. It is 13.7 acres. This site contains the following: tennis courts, basketball courts, baseball field, two playground areas, maintenance shed with restrooms, fire station with handicapped-accessible restrooms, picnic tables, bleachers, and benches.

Access: The parking lot is smoothly paved and the access between the field and the parking lot is flat. The parking lot has 8 parking spaces with none that are marked specifically as a handicapped space. All of the facilities at this park are accessed via flat grassy areas. There are no hindrances such as curbs or uneven pavement on the parking lot. The three picnic tables have room at the ends for wheelchair access. The benches all have backs to them for support. There are no currently accessible paths that lead to either the picnic tables or benches. The playground equipment is composed of swings, slides, and climbing structures. The ground surface under the play structures is composed of wood chips, which does not allow for easy mobility. The woodchips could be replaced with an alternate material allowing for greater mobility, but still maintaining safety.

Park Street Park

Description: This park is located within the space made by the intersection of Park Street, Central Street, and Reynolds Street and is a half-acre in size. It is a small park with a few play structures including: a swing set, a newer teeter-totter, and a newer slide. The park also has two picnic tables, a grill, and two benches with backs.

Access: The play structures have wood chips underneath for protection. All of the items in the park are accessed over flat grassy areas. There is a short, steep hill on one side of the park from Park Street, but the rest of the park is accessible from very flat areas. There are no accessible paths that lead to any of the items and structures in the park. The grill is of a height that a person

in a wheelchair could reach it. There is no formal parking lot for this park and, as a result, there are no designated handicapped accessible spaces. However, the streets surrounding the park are residential with very little traffic and vehicles are allowed to park on-street directly adjacent to the park.

Church Street Tot Lot

Description: The Church Street playground is located on Church Street next to the other fire station in the eastern portion of Town. It is also conveniently located next to the Town Hall. It is a small lot with some playground equipment, three benches, and two picnic tables. The size of this park is only 0.35 acres.

Access: The playground is surrounded by a tall fence for protection, but is accessible through a large opening from the parking lot that is wide enough to accommodate wheelchairs. The parking lot is shared with the fire station and does not have any designated handicapped accessible spaces. There is approximately room for six parking spaces, but they are not formally painted on the surface of the lot. The parking lot is smooth pavement and there is no curb between the lot and the playground area to obstruct access. From the parking lot, the play structures and seating are accessed over a flat grassy area. Under the play structures are wood chips to provide protection, but which do not allow easy mobility for persons with disabilities. Of the three benches, one has a back for support. The picnic tables have room at the ends for a wheelchair to slide under. There is a steep hill between the parking lot for the playground and the Town Hall next door. However, there is a handicapped accessible ramp with railings to connect the Town Hall with the parking lot.

Zilinksi Memorial Park

Description: The Zilinski Memorial Park is a large area with a playground and ball fields and is composed of 9.10 acres. It is located at the eastern end of Town off of Prospect Street. It has a large baseball field/soccer field, a tennis court, bathroom facilities, basketball court, bleacher seating, play equipment, grills, and picnic tables.

Access: The parking lot is an unpaved, gravel surface which may inhibit mobility, but is flat and relatively smooth. There are no marked parking spaces of any kind, but there is capacity for approximately twenty vehicles. The bathroom facilities are handicapped accessible, but are not marked so on the outside. The bathrooms, tennis courts, and basketball courts are directly accessed from the gravel parking lot. There are no curbs or other raised impediments that may pose obstacles. The baseball/soccer fields, baseball bleachers, playground equipment, and picnic tables are accessed over flat, grassy areas. Accessible paths to each of these items could improve access. There are wood chips under the play equipment for protection, which could impair mobility. Most of the play structures located at this park are new and allow for greater access to people with disabilities. The picnic tables allow room for wheelchairs and the grills are of a height that is also accessible to people with disabilities.

PROGRAM AND SERVICE ACCESSIBILITY

The Town of Erving's Recreation Commission provides recreational programs and community activities for Town residents. These programs include: youth basketball, soccer, baseball, softball, and karate. The Commission also runs a Summer Day Camp. The Summer Day Camp

is held at the Erving Elementary School, which is completely accessible for persons with disabilities. The youth sports programs take place at Veteran's and Zilinksi Parks. The suggested changes to the parks in the above Site Accessibility section to make those sites more accessible will also make these programs accessible for persons with disabilities.

APPENDIX A-1: PUBLIC NOTIFICATION

PUBLIC NOTICE

Town of Erving
Policy of Non-Discrimination on the Basis of Disability

The Town of Erving advises the public, employees and job applicants that it does not discriminate on the basis of disability in the admission or access to, or treatment or employment in, its programs and activities.

The Town of Erving has designated the Selectmen's Administrative Coordinator to coordinate compliance with the non-discrimination requirements contained in section 35.107 of the Department of Justice regulations, Inquiries should be directed to:

Tom Sharp
Administrative Coordinator
12 East Main Street
Erving, MA 01344
(413)422-2800

Inquiries will be received Monday through Wednesday, 9:15a.m. to 5 p.m. Information concerning the provisions of the Americans with Disabilities Act, and the rights provided thereunder, are available from the ADA coordinator.

APPENDIX A-2: GREVIANCE PROCEDURE

Town of Erving
ADA GRIEVANCE PROCEDURE

The Town of Erving has adopted an internal grievance procedure providing for prompt and equitable resolution of complaints alleging any action prohibited by the U.S. Department of Justice regulations implementing Title II of the Americans with Disabilities Act. Title II states, in part, that "no otherwise qualified disabled individual shall, solely by reason of such disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination" in programs or activities sponsored by a public entity.

Complaints should be addressed to:
Tom Sharp, Administrative Coordinator Board of Selectmen
P.O. Box 188
Erving, MA 01344
413/544-3636
(or his successor as ADA Coordinator)

1. A complaint should be filed in writing, contain the name, address, and phone number of the person filing it, and briefly describe the alleged violation of the regulations. Other arrangements for submission of a grievance such as a personal interview or tape recording will be made available for people with visual impairments or those with motor impairments upon notification of such impairments.

2. A complaint should be filed within 30 days after the complainant becomes aware of the alleged violation. (Processing of allegations of violations of the act which occurred before this grievance procedure was in place will be considered on a case-by-case basis.)

3. An investigation, as determined necessary by the ADA Coordinator, shall be made within a reasonable time following the filing of a complaint. Said investigation shall be conducted by the ADA Coordinator or his designee. These rules contemplate an informal but thorough investigation affording the person or persons alleging a violation and their representative, if any, an opportunity to submit relevant material in connection with the complaint.

4. A written determination of the findings made as a result of the investigation, and the proposed resolution, if any, shall be issued by the ADA Coordinator and copy shall be forwarded to the Complainant with 15 working days after its being filed with the Complaint file.

5. The ADA Coordinator shall maintain the files and records of the Town of Erving relating to the complaints filed with him under the ADA.

6. The Complainant may request a reconsideration of the finding made by the-ADA Coordinator by the Board of Selectmen. The request for a reconsideration must be made in writing and submitted to the Board of Selectmen within seven (7) business days of the mailing of the determination to the Complainant. The Board of Selectmen shall review the findings made by the ADA Coordinator and may either affirm or reject that determination. No new evidence or material shall be submitted to the Board of Selectmen regarding any request for reconsideration except to the extent that the same is requested in writing by the Board. Any determination by the Board of Selectmen shall be final.

APPENDIX A-3: EMPLOYMENT PRACTICES

TOWN OF ERVING

BOARD OF SELECTMEN

12 East Main Street
ERVING, MASSACHUSETTS 01344
Tel. 413-422-2800 ext. 100
Fax 413-422-2808
Email: ervingadmin@comcast.net

July 1, 2010

The Town of Erving's employment practices are in compliance with the Americans with Disabilities Act. Issues regarding recruitment, personnel action, leave administration, training, tests, medical exams/questionnaires, social and recreational programs, fringe benefits, and wage and salary administration are covered under one or more of the following administration methods:

The Town of Erving Personnel Bylaws
All Town employees are enrolled in the Employee Assistance Program, www.theEAP.com.

Signed:

Tom Sharp
Town Administrator
Board of Selectmen
ADA Coordinator

ADA Transition Plan - Town of Erving

Veteran's Park

Physical Obstacles	Type of Action to be Taken	Date to be Completed*	Responsible Party
No marked handicapped-accessible parking space	Designate 1 space as handicapped accessible. It should be the closest space to the park entrance and marked with a sign.	2011	Recreation Commission
There are no paths from the parking lot to park facilities, including: playground equipment, tennis and basketball courts, seating for baseball field, benches, picnic tables	Install an accessible path to each of these items from the parking area.	2012	Recreation Commission
Wood chips under play structures do not allow easy mobility.	Replace wood chips with an organic material called "fibar," or comparable material, that allows for more mobility.	2012	Recreation Commission

Park Street Park

Physical Obstacles	Type of Action to be Taken	Date to be Completed	Responsible Party
There are no paths from the parking lot to park facilities	Install an accessible path to each of these items from the parking area.	2012	Recreation Commission
Wood chips under play structures do not allow easy mobility.	Replace wood chips with an organic material called "fibar," or comparable material, that allows for more mobility.	2012	Recreation Commission

ADA Transition Plan - Town of Erving

Church Street Tot Lot

Physical Obstacles	Type of Action to be Taken	Date to be Completed	Responsible Party
No marked handicapped-accessible parking space	Designate 1 space as handicapped accessible. It should be the closest space to the park entrance and marked with a sign.	2011	Recreation Commission
There are no paths from the parking lot to park facilities, including: playground equipment, benches, picnic tables	Install an accessible path to each of these items from the parking area.	2012	Recreation Commission
Wood chips under play structures do not allow easy mobility.	Replace wood chips with an organic material called "fibar," or comparable material, that allows for more mobility.	2012	Recreation Commission

Zilinksi Memorial Field

Physical Obstacles	Type of Action to be Taken	Date to be Completed	Responsible Party
No marked handicapped-accessible parking space	Designate 1 space as handicapped accessible. It should be the closest space to the park entrance and marked with a sign.	2011	Recreation Commission
There are no paths from the parking lot to park facilities, including: playground equipment, seating for baseball field, picnic tables	Install an accessible path to each of these items from the parking area.	2012	Recreation Commission
Wood chips under play structures do not allow easy mobility.	Replace wood chips with an organic material called "fibar," or comparable material, that allows for more mobility.	2012	Recreation Commission
Handicapped restrooms are not marked as accessible from the outside	Install a sign no the outside doors showing that the restrooms are handicapped accessible.	2011	Recreation Commission

* Due to the current fiscal situation within the State and local governments, it has become increasingly difficult to fund the improvements that are necessary to comply with the ADA requirements. However, the Town of Erving will move towards correcting these issues as funding becomes available. In the meantime, municipal staff will make accommodations upon request in order to facilitate services and programs to ensure accessibility to all citizens.

APPENDIX B

Erving Open Space Meeting Notices

and Sign-in Sheets

AGENDA

Town of Erving
Open Space and Recreation Planning Committee
Thursday, June 25, 2009
6:00 – 8:00 p.m.
Erving Town Hall

1. Introductions (6:00p.m.) – Tom Sharpe, Administrative Coordinator

2. Purpose and Requirements of Open Space and Recreation Plan Update (6:05p.m.) – Melissa Adams, Land Use Program Manager, Franklin Regional Council of Governments

3. Review of Draft Section 3 Community Setting (6:15p.m.) - Melissa Adams, Land Use Program Manager, Franklin Regional Council of Governments
   - 3A Regional Context
   - 3C Population Characteristics
   - 3D Growth and Development Patterns

3. Review of Draft Section 4 Environmental Inventory and Analysis (7:00p.m.) - Melissa Adams, Land Use Program Manager, Franklin Regional Council of Governments
   - 4A Topography, Geology, and Soils Analysis
   - 4C Water Resources
   - 4D&E Vegetation, Fisheries & Wildlife
   - 4F Scenic Resources & Unique Environments
   - 4G Environmental Problems

5. Next Steps (7:45p.m.)

TOWN OF ERVING

BOARD OF SELECTMEN

12 East Main Street
ERVING, MASSACHUSETTS 01344

Tel. 413-422-2800
Fax 413-422-2808

Andrew T. Tessier, Chair
Andrew N. Goodwin
James M. Hackett

Board of Selectmen

AGENDA

Town of Erving
Open Space and Recreation Planning Committee
Thursday, August 13, 2009
5:30 – 7:00 p.m.
Erving Elementary School

1. Introductions (5:30 p.m.) – Tom Sharp, Administrator

2. Review of Second Draft Section 3 Community Setting (5:35 p.m.) - Melissa Adams, Land Use Program Manager, and Alyssa Larose, Planning Assistant, Franklin Regional Council of Governments

3. Review of Second Draft Section 4 Environmental Inventory and Analysis & Map (5:50 p.m.) - Melissa Adams, Land Use Program Manager, Franklin Regional Council of Governments

4. Review of Draft Section 5 Inventory of Lands of Conservation and Recreation Interest (6:15 p.m.) - Melissa Adams, Land Use Program Manager, and Alyssa Larose, Planning Assistant, Franklin Regional Council of Governments

5. Next Steps (6:45 p.m.)
   - Map of protected lands (Section 5)
   - Survey results
   - Goals and Objectives

TOWN OF ERVING

BOARD OF SELECTMEN

12 East Main Street
ERVING, MASSACHUSETTS 01344

Tel. 413-422-2800
Fax 413-422-2808

Andrew T. Tessier, Chair
Andrew N. Goodwin
James M. Hackett

Board of Selectmen

AGENDA

Town of Erving
Open Space and Recreation Planning Committee
Wednesday, September 30 2009
5:30 – 7:30 p.m.
Town Hall

1. Introductions – Tom Sharpe, Administrative Coordinator (5:30 p.m.)

2. Project Timeline – Melissa Adams, Land Use Program Manager, Franklin Regional Council of Governments (5:35 p.m.)

3. Final changes to Sections 3 and 4 - Melissa Adams, Land Use Program Manager, Franklin Regional Council of Governments (6:00 p.m.)

2. Review of Draft Chapter 5 Inventory or Lands of Conservation and Recreation and completion of tables Alyssa Larose, Planning Assistant, Franklin Regional Council of Governments (6:15 p.m.)

3. Review of Draft Maps - Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (7:00 p.m.)

5. Next Steps (7:15 p.m.) - Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments
   - Map of protected lands (Sect 5)
   - Map of Unique Features (Sect 4)
   - Survey Results
   - Goals and Objectives
   - Action Plan

Erving Open Space and Recreation Plan

Open Space Planning Committee Meeting Sign-in Sheet

Wednesday, September 30, 2009

Name	Affiliation	Mailing Address	Telephone
Rinky Black	community	5 Old State Rd	413 422 2362
Tocci Sleavp	Tocci Admin	12 E. Main	422-2800 x100
Alyssa Larose	FRCOG		
Meya Rhodes	FRCOG		413-774-1194 x110

TOWN OF ERVING

BOARD OF SELECTMEN

12 East Main Street
ERVING, MASSACHUSETTS 01344

Tel. 413-422-2800
Fax 413-422-2808

Andrew T. Tessier, Chair
Andrew N. Goodwin
James M. Hackett

Board of Selectmen

AGENDA

Town of Erving
Open Space and Recreation Planning Committee
Wednesday, October 28, 2009
5:30 – 7:30 p.m.
Town Hall

1. Introductions – Tom Sharpe, Administrative Coordinator (5:30 p.m.)

2. Final changes to Sections 5 - Alyssa Larose, Planning Assistant, Franklin Regional Council of Governments (5:35 p.m.)

3. Review of Survey Results and Draft Chapter 7 Analysis of Needs, Alyssa Larose, Planning Assistant, and Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (5:50 p.m.)

4. Review of Draft Chapter 6 Community Goals , Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (6:15 p.m.)

5. Review of Draft Chapter 8 Goals and Objectives, Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (6:35 p.m.)

6. Review of Draft Chapter 9 Five-Year Action Plan, Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (6:50 p.m.)

7. Review of Draft Maps - Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (7:10 p.m.)

8. Next Steps (7:20 p.m.) - Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments
   - ADA Self-Evaluation of Programs & Services
   - Map of Action Plan (Sect. 9)
   - Finalize Sections 6-9
   - Finalize O-S Inventory Map (and other maps)
   - Introduction
   - Prepare for Public Forum

Erving Open Space and Recreation Plan

Open Space Planning Committee Meeting Sign-in Sheet

Wednesday, October 28, 2009

Name	Affiliation	Mailing Address	Telephone
Tom Sharp	Town Admin	12 E Main St.	422-2800 x100
Alyssa Larose	FRCOG		
Rinky Black	community	5 Old State Rd	422 2362
Laura Herbert	Con Com	117 Old State Rd	423-3027
Jacquie Boyden	ASST ASSESSOR/ ALT PLANNING BOARD # community mbr.	151 Northfield RD	423-3242
megan Rhodes	FRCOG	278 Main St. Greenfield	413-774-1194 x110

TOWN OF ERVING

BOARD OF SELECTMEN

12 East Main Street
ERVING, MASSACHUSETTS 01344

Tel. 413-422-2800
Fax 413-422-2808

Andrew T. Tessier, Chair
Andrew N. Goodwin
James M. Hackett

Board of Selectmen

AGENDA

Town of Erving
Open Space and Recreation Planning Committee
Wednesday, November 18, 2009
5:30 – 6:30 p.m.
Town Hall

1. Introductions – Tom Sharp, Administrative Coordinator (5:30 p.m.)

2. Final changes to Sections 7 - Alyssa Larose, Planning Assistant, Franklin Regional Council of Governments (5:35 p.m.)

3. Final changes to Sections 6, 8, and 9 - Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (5:45 p.m.)

4. Review of Draft Chapter 1 Plan Summary and Draft Chapter 2 Introduction , Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (6:05 p.m.)

5. Review of Chapter 11 References, , Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (6:20 p.m.)

6. Review of Draft Action Plan Map - Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (6:25 p.m.)

7. Next Steps (6:30 p.m.) - Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments
   - ADA Self-Evaluation of Programs & Services
   - Prepare for Public Forum
   - Set date for final meeting

Erving Open Space and Recreation Plan

Open Space Planning Committee Meeting Sign-in Sheet

Wednesday, November 18, 2009

Name	Affiliation	Mailing Address	Telephone
Ricky Black		5 Old State Rd Erving	413 422 2362
Tom Sharp		12 E. Main St.	422-2800
Alyssa Larose	FRCOG		
Megan Rhodes	FRCOG		413-774-1194 x110
Laura Herbert	Con Com	117 Old State Rd, Erving	423-3027

TOWN OF ERVING

BOARD OF SELECTMEN

12 East Main Street
ERVING, MASSACHUSETTS 01344

Tel. 413-422-2800
Fax 413-422-2808

Andrew T. Tessier, Chair
Andrew N. Goodwin
James M. Hackett

Board of Selectmen

Erving Open Space and Recreation Plan
Public Forum

Monday, November 30, 2009
Erving Town Hall

1. Introduction

2. What is the purpose of the Plan?

A. To provide a comprehensive inventory of the Town's natural, cultural, agricultural, and recreational resources.
B. To create a blueprint for the stewardship and conservation of these resources.
   i. Outline real steps the Town can take to achieve goals.
   ii. Guide future decisions about use and development of Town land & resources.
C. To provide an analysis of the Town's open space and recreation needs.
D. To become eligible for state and federal grants for open space and recreation projects.

3. Why update it?

A. Formerly, plans were valid for 5 years (will be 7 years with this update).
B. FRCOG received money from the state to help several towns update their OSRP.
C. The state has very specific requirements for updating an OSRP.

4. How was the Plan updated and who participated?

A. A group of Erving residents representing different Town boards, committees, and interests came together as an Open Space Plan Committee.
B. Since June, the Committee has held 6 public meetings.
C. Distributed Open Space Survey
   i. Survey was mailed to all recipients of newsletter and distributed at Special Town Meeting (helped provide basis of plan and action plan steps).
D. Developed the Goals and Objectives.
E. Reviewed all draft sections and maps..
F. Created 7-year Action Plan.
G. Input from this public forum will also help inform/shape goals and Action Plan.
H. Draft Plan will be made available for review around Town.

5. Key Findings

A. 82% of Town land is forested with large blocks of contiguous forest – Erving State Forest and Northfield Mountain Recreation Area.

B. There are a total of 7,515 acres of forestland, of which 2,799 acres are permanently protected (37%).

C. 341 additional acres of forestland are temporarily preserved under Ch. 61 program.

6. Survey Results (There was a 7% response rate.)

A. What do Residents Value?

Clean streams and water bodies
Scenic views
Walking and hiking trails
Quiet
Moose, bobcat, deer, and other wildlife
Erving State Forest
Large forested areas
Absence of city lights
Open fields
Farm houses

B. Methods respondents support to protect and conserve natural resources and open space:

Acceptance of donated conservation land (81%)
Town purchase of conservation land (71%)
Acceptance of donated development rights (69%)
Encourage conservation by private non-profits (62%)
Encourage conservation by a combination of parties (60%)
Zoning changes for open space protection (57%)

C. Other results:

i. Library programming is of "good" or "excellent" quality (74%)

ii. Only 45% thought that recreational programming and community events were of a "good" quality.

iii. Veteran's Park and Zilinski Memorial Field are considered to be in good condition. Elementary School playground is in "excellent" condition (64%).

7. What are the Plan's Goals and Objectives?

A. <u>Goals:</u>

Ensure that the Town of Erving maintains or improves the quality of its air and water, and the diversity and integrity of native wildlife populations and plant communities through the protection of locally important forests, fields, lakes, streams, ponds, scenic views and wildlife habitat.

Ensure that the Town of Erving maintains or improves the quality, quantity, and accessibility of its parks, playgrounds, and other recreational facilities as well as programming for current and future generations, especially for teens, adults and seniors.

Support, maintain, and enhance the quality of outdoor recreational experiences in order to promote the potential of recreational tourism within the Town of Erving.

Ensure that the Town of Erving retains its rural, safe, small town character with stable property taxes and affordable housing prices.

8. What is in the Draft 7-Year Action Plan (See handout – Section 9)

9. Draft Maps

10. Comments/Feedback?

Erving Open Space and Recreation Plan

Public Forum Sign-in Sheet

Monday, November 30, 2009

Name	Affiliation	Mailing Address	Telephone
Winnifred Stone	resident	94 State Rd Erving	413 422. 2193
Antonio Rubinaccio	resident	94 State Rd	413-422. 2193
Andy Tessier	Selectman		
David Bula	Chair, Conservation Comm.		
Bill Franklin	Montague Reporter		
Jeff Dibay	Chair Erving Planning Bd.		413 834 7016
Rinky Black	OSRP Review Comm.	5 Old State Rd	422 2362
Jacquie Boyden	OSRP Review Comm	157 NRd Rd	423 3242
Megan Rhodes	FRCOG	278 Main St. Greenfield, MA	413-774-1194 x110
Alyssa Larose	FRCOG	"	413-774-1194 x 120
Tom Sharp	Erving		422-2800 X100
James HACKETT	Selectman	117 Old State Rd	423·3027
Laura Herbert	Con Comm	123 French King Hwy	824 7904
Jim Prondecki		"	"
Debbie Prondecki			

11-20-09

PLEASE PRINT THIS IN THE LEGAL SECTION ASAP

SEND INVOICE TO:
ERVING BOARD OF SELECTMEN
12 EAST MAIN STREET
ERVING, MA 01344

LEGAL NOTICE

The Erving Board of Selectmen will hold a Public Hearing on proposed updates and changes to Erving's Open Space&Recreation Plan. The public hearing will be held at 7:15PM in the Erving Town Hall, 12 E. Main St. on Monday November 30, 2009.

Erving Board of Selectmen
Andrew Tessier, Chairman

Please confirm date and cost to Tom Sharp at 422-2800 X100. Thanks.

TOWN OF ERVING
Selectmen's Office

Memo

To: ALL

From: Tom Sharp

Date: 11-20-09

The Board of Selectmen will hold a Public Hearing on proposed updates and changes to Erving's ***Open Space & Recreation Plan.***

The public hearing will be held at 7:15PM in the Erving Town Hall, 12 E. Main St. on Monday November 30, 2009.

TOWN OF ERVING

BOARD OF SELECTMEN

12 East Main Street
ERVING, MASSACHUSETTS 01344

Tel. 413-422-2800
Fax 413-422-2808

Andrew T. Tessier, Chair
Andrew N. Goodwin
James M. Hackett

Board of Selectmen

AGENDA

Town of Erving
Open Space and Recreation Planning Committee
Tuesday, December 15, 2009
5:30 – 6:30 p.m.
Town Hall

1. Introductions – Tom Sharp, Administrative Coordinator (5:30 p.m.)

2. Final changes to Sections 4 - Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (5:35 p.m.)

3. Final changes to Sections 7 - Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments (5:45 p.m.)

4. Review of Draft Chapter 10 Public Comments, Alyssa Larose, Assistant Planner, Franklin Regional Council of Governments (6:05 p.m.)

5. Next Steps (6:20 p.m.) - Megan Rhodes, Transportation and Land Use Planner, Franklin Regional Council of Governments
   - Send letters asking for review
   - Provide draft copies for review
   - Submit Draft Plan to DCS for official review
   - Complete ADA Self-Evaluation of Programs & Services

Erving Open Space and Recreation Plan

Public Forum Sign-in Sheet

Tuesday, December 15, 2009

Name	Affiliation	Mailing Address	Telephone
Rinky Blade	community	5 Old Stockbridge	422-2362
Tom Sharp	Erving Admin	Town Hall	422-2800
Melissa Mause	FRCOG		
Megan Rhodes	FRCOG		413-774-1194 x110

APPENDIX C

Erving Open Space and Recreation Survey Results, 2009

Erving Open Space and Recreation Survey Results, 2009

The following paragraphs describe the results of the surveys distributed to Erving town residents in 2009 with the purpose of learning public opinion on various issues related to open space and recreation. The answers from the survey will help guide the protection of open space and natural resources, and the development of recreational facilities and programs in Erving. The surveys were distributed to the Town via the community newsletter and at a special Town Meeting in October of 2009.[1]

Overall, the results of the surveys show that Erving residents value the quality of natural resources in Town, the scenic and rural character of their surroundings, and the security and relative affordability of living in Erving.

There were a total of 45 surveys returned to the Erving Open Space Committee.

In this summary, each table below contains several columns of data. The first column, "Number," refers to the total *number* of people who selected each particular answer. The second column, "Freq" is the *percentage* of people that selected each answer. The third column included in the tables, "Non. Resp.", is the total *number* of people (or non-respondents) who returned surveys, but did not respond to that particular question.

Question 1

How important was each of the following in your decision to move to, and/or live in Erving? ***Please circle a number for each item where 1=Very Important; 2=Important; 3=Not Important; and 4=No Opinion/Unsure.***

The five **most important** factors influencing people's decision to move to and or/or live in Erving are:

1) Safety from crime and vandalism (74%)
2) Low real estate property taxes (74%)
3) Air/water quality (64%)
4) Rural or small town character (57%)
5) Open fields, forests, and trails (55%)

The five **least important** factors influencing people's decision to move to and or/or live in Erving are:

1) Friends or relatives here (40%)
2) Easy commuting (26%)
3) Access to Erving State Forest (24%)
4) Public school system (24%)

[1] Note: the majority of the surveys were completed by residents at the special Town Meeting, which was convened to decide whether the Town's zoning should be revised to allow a drive-through restaurant and gas station. This controversial topic may have skewed the survey responses regarding the need for or the threat from development.

5) Local climate (19%)

The table below shows how each of the factors influenced residents' decisions to move to and/or live in Erving.

Table 1: Question 1

	VERY IMPORTANT		IMPORTANT		NOT IMPORTANT		NON RESP.
	Number	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*	
RURAL OR SMALL TOWN CHARACTER	24	57%	11	26%	6	14%	1
OPEN FIELDS, FORESTS, AND TRAILS	23	55%	13	31%	2	5%	3
PEACE AND QUIET	22	52%	17	40%	2	5%	1
ACCESS TO ERVING STATE FOREST	18	43%	11	26%	10	24%	2
AIR/WATER QUALITY	27	64%	12	29%	0	0%	3
PUBLIC SERVICES	20	48%	13	31%	6	14%	2
LOCAL CLIMATE	16	38%	14	33%	8	19%	3
SAFETY FROM CRIME AND VANDALISM	31	74%	7	17%	2	5%	2
PUBLIC SCHOOL SYSTEM	22	52%	8	19%	10	24%	2
AFFORDABLE HOUSING	17	40%	12	29%	6	14%	5
RECREATIONAL OPPORTUNITIES	16	38%	15	36%	7	17%	4
FRIENDS OR RELATIVES HERE	10	24%	9	21%	17	40%	3
EASY COMMUTING	8	19%	18	43%	11	26%	2
JOB OPPORTUNITIES IN THE REGION	16	38%	11	26%	7	17%	2
PARTICIPATORY GOVERNANCE	11	26%	15	36%	7	17%	3
LOW REAL ESTATE PROPERTY TAXES	31	74%	9	21%	1	2%	1

There was one response for each of the following:
No gas station
Friendly folks

Question 2

How important is it to conserve the following natural resources? *Please circle a number for each item where 1=Very Important; 2=Important; 3=Not Important; and 4=No Opinion/Unsure.*

According to survey results, the five **most important** natural resources to conserve are:

1) Clean drinking water (69%)
2) Clean air (69%)
3) Lakes/streams/ponds (67%)
4) Forests (62%)
5) Scenic views (62%)

According to survey results, the five **least important** natural resources to conserve are:

1) Stone walls (21%)
2) Wetlands (21%)
3) Open fields (14%)
4) Scenic views; wildlife habitat; farmland; and historic structures (each 10%)

The table below shows the level of important placed on each of the natural resources.

Table 2: Question 2

	VERY IMPORTANT		IMPORTANT		NOT IMPORTANT		NON RESP.
	Number	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*	
FORESTS	26	62%	12	29%	2	5%	5%
OPEN FIELDS	23	55%	11	26%	6	14%	5%
SCENIC VIEWS	26	62%	11	26%	4	10%	2%
STONE WALLS	23	55%	8	19%	9	21%	2%
LAKES/STREAMS/PONDS	28	67%	10	24%	1	2%	7%
WETLANDS	21	50%	9	21%	9	21%	5%
WILDLIFE HABITAT	24	57%	11	26%	4	10%	5%
CLEAN DRINKING WATER	29	69%	10	24%	2	5%	2%
FARMLAND	25	60%	11	26%	4	10%	5%
HISTORIC STRUCTURES	21	50%	14	33%	4	10%	2%
CLEAN AIR	29	69%	9	21%	1	2%	7%

Question 3

Which actions do you support to protect/conserve open space and natural resources? ***Please circle a number for each item where 1=Strongly Support; 2=Support; 3 =Don't Support; and 4=No opinion/unsure.***

The top five **most strongly supported** actions to protect/conserve open space and natural resources are:

1) Acceptance of donated conservation land (52%)
2) Town purchase of conservation land (43%)
3) Acceptance of donated development rights (36%)
4) Encourage conservation by State agencies (36%)
5) Encourage conservation by a combination of parties (33%)

The top five actions that were **not supported** are:

1) No additional Town actions should be taken (31%)
2) Town purchase of Meeting House (21%)
3) Zoning changes for open space protection (17%)
4) Town purchase of development rights (14%)
5) Town purchase of conservation land (12%)

Table 3: Question 3

	Strongly Support		Support		Don't Support		No Opinion / Unsure	
	Number	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*
TOWN PURCHASE OF CONSERVATION LAND	18	43%	12	29%	5	12%	6	14%
TOWN PURCHASE OF DEVELOPMENT RIGHTS	11	26%	15	36%	6	14%	9	21%
ZONING CHANGES FOR OPEN SPACE PROTECTION	12	29%	12	29%	7	17%	9	21%

	Strongly Support		Support		Don't Support		No Opinion / Unsure	
	Number	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*
NO ADDITIONAL TOWN ACTIONS SHOULD BE TAKEN	4	10%	3	7%	13	31%	16	38%
ACCEPTANCE OF DONATED CONSERVATION LAND	22	52%	12	29%	2	5%	3	7%
ACCEPTANCE OF DONATED DEVELOPMENT RIGHTS	15	36%	14	33%	4	10%	7	17%
TOWN PURCHASE OF MEETING HOUSE	5	12%	11	26%	9	21%	11	26%
ENCOURAGE CONSERVATION BY PRIVATE NON-PROFITS	13	31%	13	31%	4	10%	10	24%
ENCOURAGE CONSERVATION BY STATE AGENCIES	15	36%	12	29%	4	10%	10	24%
ENCOURAGE CONSERVATION BY A COMBINATION OF PARTIES	14	33%	11	26%	4	10%	11	26%

Question 4

Should Erving protect riverfront property along the Millers River? ***Circle one.***

Approximately three-quarters (71%) of survey respondents said that riverfront property along the Millers River should be protected.

Question 5

How has the quality of the following changed over time? ***Please circle a number for each item where 1=Changed for the better; 2=Changed for the worse; 3=Remained the same; and 4= No opinion/Unsure.***

The results for this question were fairly mixed – answers were distributed across the positive, negative, and neutral opinions. Only a few of the answers to choose from emerged as something that has clearly changed in a certain direction.

Thirty one percent (31%) of respondents felt that local open space changed for the better, while only 7% felt it changed for the worse. Thirty three percent (33%) of respondents felt that recreational facilities have changed for the better, while 17% felt that facilities have changed for the worse. Many respondents (40%) felt that Erving's rural character has remained the same over time. Responses for sense of community and recreational programming were distributed fairly equally between changed for the better, changed for the worse, and remained the same.

Table 4: Question 5

	CHANGED FOR BETTER		CHANGED FOR WORSE		REMAINED THE SAME		NO OPINION / UNSURE	
	Number	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*
LOCAL OPEN SPACE	13	31%	3	7%	11	26%	11	26%
SENSE OF COMMUNITY	12	29%	9	21%	8	19%	8	19%
ERVING'S RURAL CHARACTER	9	21%	6	14%	17	40%	6	14%
RECREATIONAL FACILITIES	14	33%	7	17%	11	26%	6	14%

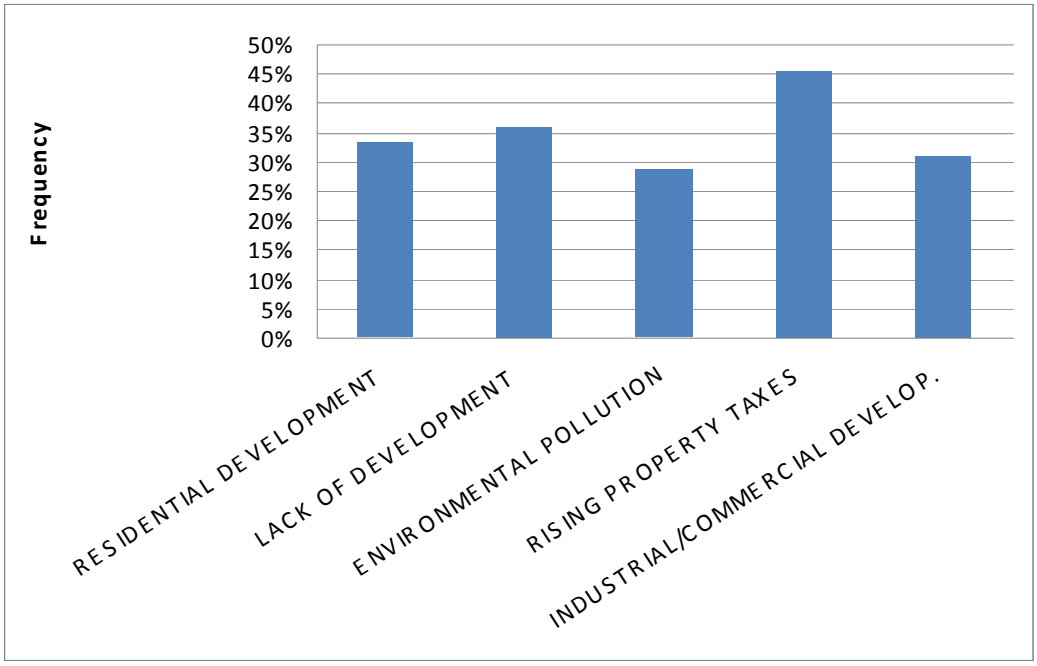
RECREATIONAL PROGRAMMING	10	24%	9	21%	11	26%	8	19%

Question 6

What are the two most significant threats to Erving's sense of community and rural character? *Please circle two only.*

Almost half (45%) of respondents selected rising property taxes as one of the most significant threats to Erving's sense of community and rural character, followed by lack of development (36%), residential development (33%), industrial and commercial development (31%), and environmental pollution (29%). The following chart illustrates how town residents responded to this question.

Figure 1: Question 6



There was one response for each of the following:

Working Together
Lack of Community
Development
Vacant Industrial Buildings
Defeat of Senior Center/Senior
Housing
Lack of Adult/Teen Recreational
Program
No adult recreation opportunities

Question 7

How important are the following to you? ***Please circle a number for each item where 1=Very Important; 2=Important; 3=Not Important; and 4=No Opinion/Unsure.***

The results for this question show that the town residents value natural resources such as water bodies, forests, and wildlife, and enjoy the scenic and rural features of Erving. The top five **most important** features to the survey respondents are:

1) Clean streams and water bodies (76%)
2) Scenic views (64%)
3) Walking and hiking trails (62%)
4) Quiet (62%)
5) Erving State Forest; Moose, bobcat, deer, and other wildlife (both 60%)

The top five **least important** town features according to survey respondents are:

1) Dirt roads (52%)
2) Historic cellar holes (38%)
3) Narrow windy roads (31%)
4) Large road-side trees (26%)
5) Historic structures (19%)

Table 5: Question 7

	VERY IMPORTANT		IMPORTANT		NOT IMPORTANT		No Opinion / Unsure	
	Number	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*
LARGE ROAD-SIDE TREES	12	29%	18	43%	11	26%	1	2%
DIRT ROADS	8	19%	9	21%	22	52%	2	5%
HISTORIC CELLAR HOLES	11	26%	11	26%	16	38%	4	10%
HISTORIC STRUCTURES	17	40%	17	40%	8	19%	0	0%
VERNAL POOLS	17	40%	13	31%	7	17%	5	12%
ERVING STATE FOREST	25	60%	16	38%	1	2%	0	0%
MOOSE, BOBCAT, DEER AND OTHER WILDLIFE	25	60%	13	31%	3	7%	1	2%
OPEN FIELDS	22	52%	14	33%	4	10%	1	2%
FARM HOUSES	22	52%	12	29%	6	14%	1	2%
SCENIC VIEWS	27	64%	11	26%	4	10%	0	0%
NARROW WINDY ROADS	13	31%	10	24%	13	31%	3	7%
LARGE FORESTED AREAS	23	55%	17	40%	1	2%	0	0%
WALKING AND HIKING TRAILS	26	62%	14	33%	2	5%	0	0%
LOW TRAFFIC VOLUME/TRAFFIC SPEEDS	21	50%	14	33%	5	12%	0	0%
FARM ANIMALS	19	45%	11	26%	6	14%	5	12%
QUIET	26	62%	13	31%	2	5%	1	2%
LOWER HOUSING DENSITY	17	40%	13	31%	7	17%	3	7%
ABSENCE OF CITY LIGHTS	23	55%	10	24%	5	12%	4	10%
CLEAN STREAMS AND WATER BODIES	32	76%	9	21%	1	2%	0	0%

There was one response for each of the following:
Little industrial development
Nice to have free park for picnicking next to Millers River

Question 8

What is your opinion about the quality of the following open space and recreation facilities in the Town of Erving? ***Please circle a number for each item where 1=Excellent; 2=Good; 3=Adequate; 4=Poor; and 5=No Opinion/Unsure.***

This question shows that there are several facilities in which most people agree are in excellent condition – specifically the elementary school playground and facilities and the Northfield Mountain Recreation Area. Few facilities received many responses for being in poor condition, however the three facilities that top the list for improvement are Farley Park (which is no longer open), recreational programming, and community events.

The top five facilities which survey respondents say are in **excellent condition** are:

1) Elementary school playground and facilities (64%)
2) Northfield Mountain Recreation Area (55%)
3) Erving State Forest – Laurel Lake (40%)
4) Library Programming (40%)
5) M&M hiking trail (33%)

The top five facilities in which survey respondents felt were in **poor condition** are:

1) Farley Park (14%)
2) Recreational programming (14%)
3) Community events (12%)
4) French King Bowling and Entertainment Center (7%)
5) Erving State Forest – Laurel Lake; Erving State Forest – Hermit Cave; Town Forest; Church Street Park; Millers River (all 5%)

Table 6: Question 8

	Excellent		Good		Adequate		Poor		No Opinion /Unsure	
	Number	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*	*Number*	*Freq.*
TOWN COMMON AREAS	9	21%	23	55%	7	17%	1	2%	1	2%
ERVING STATE FOREST - LAUREL LAKE	17	40%	19	45%	2	5%	2	5%	1	2%
ELEMENTARY SCHOOL PLAYGROUND & FACILITIES	27	64%	9	21%	3	7%	0	0%	2	5%
PARK STREET PARK	6	14%	16	38%	11	26%	1	2%	7	17%
ERVING STATE FOREST - HERMIT CAVE	9	21%	14	33%	7	17%	2	5%	9	21%
TOWN FOREST	12	29%	17	40%	3	7%	2	5%	5	12%
M&M HIKING TRAIL	14	33%	11	26%	8	19%	0	0%	8	19%
VETERAN'S MEMORIAL PARK	10	24%	17	40%	11	26%	0	0%	3	7%
ZILINSKI MEMORIAL FIELD	12	29%	15	36%	6	14%	1	2%	5	12%
FRENCH KING BOWLING AND ENTERTAINMENT	7	17%	21	50%	8	19%	3	7%	1	2%

	Excellent		Good		Adequate		Poor		No Opinion /Unsure	
	Number	***Freq.***	***Number***	***Freq.***	***Number***	***Freq.***	***Number***	***Freq.***	***Number***	***Freq.***
CENTER										
NORTHFIELD MOUNTAIN RECREATION AREA	23	55%	12	29%	1	2%	0	0%	2	5%
FARLEY PARK	3	7%	9	21%	9	21%	6	14%	7	17%
CHURCH STREET PARK	7	17%	14	33%	11	26%	2	5%	6	14%
MILLERS RIVER	10	24%	9	21%	14	33%	2	5%	5	12%
LIBRARY PROGRAMMING	17	40%	14	33%	5	12%	1	2%	3	7%
RECREATIONAL PROGRAMMING	8	19%	11	26%	11	26%	6	14%	4	10%
COMMUNITY EVENTS	7	17%	12	29%	13	31%	5	12%	3	7%

Question 9

Which of the following recreational activities do members of your household do in, or near Erving? ***Please circle as many that apply.***

Question 9 reveals that Erving town residents are very active. They participate in a lot of different recreational activities, many of which are outdoors. Top five most popular activities for survey respondents are:

1) Walking (50%)
2) Gardening (38%)
3) Hiking (38%)
4) Swimming (31%)
5) Bicycling; Boating; Picnicking (all 29%)

Table 7: Question 9

	Number	***Frequency***
BASEBALL	11	26%
BASKETBALL	8	19%
BICYCLING	12	29%
BIRD WATCHING	10	24%
BOATING	12	29%
CAMPING	9	21%
CANOEING	9	21%
CROSS-COUNTRY SKIING	6	14%
FISHING	9	21%
GARDENING	16	38%
GOLF	4	10%
HIKING	16	38%
HUNTING	4	10%
ICE SKATING	2	5%
JOGGING	2	5%
PICKNICKING	12	29%
ROCK CLIMBING	0	0%
ROLLERBLADING	4	10%

	Number	*Frequency*
SLEDDING	11	26%
SNOWMOBILING	8	19%
SNOWSHOEING	1	2%
SOFTBALL	8	19%
SWIMMING	13	31%
TENNIS	7	17%
WALKING	21	50%

Q9 continued

The majority of these recreational activities occur within the Town of Erving. Many of the activities also take place in surrounding towns, such as Montague, Greenfield, Wendell, Gill, and Northfield. The following are the percentage of all respondents who said they participated in the activity in the noted location.

BASKETBALL	ERVING 14%	ERVING ELEMENTARY SCHOOL 5%	TURNERS FALLS 2%			
BASEBALL	ERVING 10%	ERVING ELEMENTARY SCHOOL 2%	MONTAGUE 2%	TURNERS FALLS 2%		
BICYCLING	ERVING 14%	ALL OVER 2%	TURNERS FALLS 2%	NORTHFIELD 2%		
BIRD WATCHING	ERVING 14%	LAUREL LAKE 2%				
BOATING	ERVING 10%	LAUREL LAKE 2%	MILLERS RIVER 2%	GILL 2%		
CAMPING	ERVING 7%	LAUREL LAKE 5%	OUT OF STATE 2%	CONNECTICUT RIVER 2%	CHARLEMONT 2%	
CANOEING	ERVING 5%	LAUREL LAKE 5%	MILLERS RIVER 2%	CONNECTICUT RIVER 2%	GILL 2%	
CROSS COUNTRY SKIING	NORTHFIELD MOUNTAIN 7%	WENDELL STATE FOREST 2%				
FISHING	ERVING 14%	LAUREL LAKE 2%	MILLERS RIVER 2%	DEERFIELD RIVER 2%		
GARDENING	ERVING 29%					
GOLF	ERVING 5%	GILL 2%				
HIKING	ERVING 17%	NORTHFIELD MOUNTAIN 2%	M&M TRAIL 7%	ALL OVER 2%		
HUNTING	ERVING 5%					

ICE SKATING	ERVING 2%	GREENFIELD 2%				
JOGGING	ERVING 5%					
PICNICKING	ERVING 14%	LAUREL LAKE 2%	NORTHFIELD MOUNTAIN 5%	CONNECTICUT RIVER 2%	LAKE MATTAWA 2%	WENDELL STATE FOREST 2%
ROCK CLIMBING						
ROLLERBLADING	ERVING 5%	TURNERS FALLS 5%				
SLEDDING	ERVING 19%	GREENFIELD 2%				
SNOWSHOEING	ERVING 5%	NORTHFIELD MOUNTAIN 5%	M&M TRAIL 2%			
SNOWMOBILING						
SOFTBALL	ERVING 12%	ZILINSKI FIELD 2%	MONTAGUE 2%	TURNERS FALLS 2%		
SWIMMING	ERVING 19%	LAUREL LAKE 5%	MILLERS RIVER 2%			
TENNIS	ERVING 12%	ZILINSKI FIELD 2%				
WALKING	ERVING 33%	NORTHFIELD MOUNTAIN 2%	ALL OVER 2%	WENDELL STATE FOREST 2%		

Question 10

How often do you utilize the following open space and recreational resources? ***Please circle a number for each item where 1=Daily; 2=Weekly; 3=Monthly; 4=Every six months; 5=Once a year; and 6=Never.***

The top five **most used** open space and outdoor recreational resources in the town are:

1) French King Bowling and Entertainment Center (14% daily; 14% weekly)
2) Millers River (10% daily; 10% weekly)
3) Church Street Park (7% daily; 5% weekly)
4) Elementary School playground and facilities (5% daily; 17% weekly)
5) Veteran's Memorial Park (5% daily; 17% weekly)

Other resources used often on a weekly basis include Zilinski Field (14%), Erving State Forest – Laurel Lake (12%), and the M&M hiking trail (12%).

Despite frequent use by some respondents of the above resources, many respondents reported never using some of these same resources. Therefore findings for this question are mixed, with several of the most used resources also falling within the top percentages for the least used resources. The top five **least used** resources are:

1) Farley Park (76% never; park now closed)
2) Park Street Park (62% never)
3) Church Street Park (62% never)
4) Elementary School playground and facilities (45% never)
5) Erving State Forest – Hermit Cave (43% never)

Table 7: Question 10

	Daily		Weekly		Monthly		Every Six Months		Once a Year		Never	
	Number	***Freq.***	***Number***	***Freq.***	***Number***	***Freq.***	***Number***	***Freq.***	***Number***	***Freq.***	***Number***	***Freq.***
ERVING STATE FOREST - LAUREL LAKE	2	5%	5	12%	8	19%	15	36%	7	17%	5	12%
ELEMENTARY SCHOOL PLAYGROUND & FACILTIES	2	5%	7	17%	3	7%	7	17%	4	10%	19	45%
PARK STREET PARK	0	0%	2	5%	3	7%	2	5%	8	19%	26	62%
ERVING STATE FOREST - HERMIT CAVE	0	0%	4	10%	1	2%	4	10%	14	33%	18	43%
TOWN FOREST	2	5%	2	5%	6	14%	8	19%	12	29%	11	26%
M&M HIKING TRAIL	1	2%	5	12%	7	17%	8	19%	7	17%	14	33%
VETERAN'S MEMORIAL PARK	2	5%	7	17%	12	29%	0	0%	7	17%	13	31%
ZILINSKI MEMORIAL FIELD	2	5%	6	14%	10	24%	3	7%	7	17%	12	29%
FRENCH KING BOWLING AND ENTERTAINMENT CENTER	6	14%	6	14%	9	21%	9	21%	2	5%	10	24%
NORTHFIELD MOUNTAIN RECREATION AREA	2	5%	4	10%	11	26%	10	24%	6	14%	9	21%
FARLEY PARK	1	2%	0	0%	1	2%	1	2%	2	5%	32	76%
CHURCH STREET PARK	3	7%	2	5%	5	12%	4	10%	2	5%	26	62%
MILLERS RIVER	4	10%	4	10%	8	19%	10	24%	7	17%	8	19%

Question 11

What is your opinion about the quantity and quality of the following recreational programming and facilities in the Town of Erving? ***Please circle a number for each item where 1=Excellent; 2=Good; 3=Adequate; 4=Poor and 5=No opinion/Unsure.***

This question provides insight into which programming and facilities of the Town are in currently good condition and which would benefit from some improvement. The top five resources that survey respondents feel are in **excellent condition** are:

1) Tennis courts (26%)
2) Playground/tot lots (24%)
3) Hiking trails (19%)
4) Sports fields (17%)
5) Swimming areas (17%)

The top five resources that survey respondents feel are in **poor condition** are:

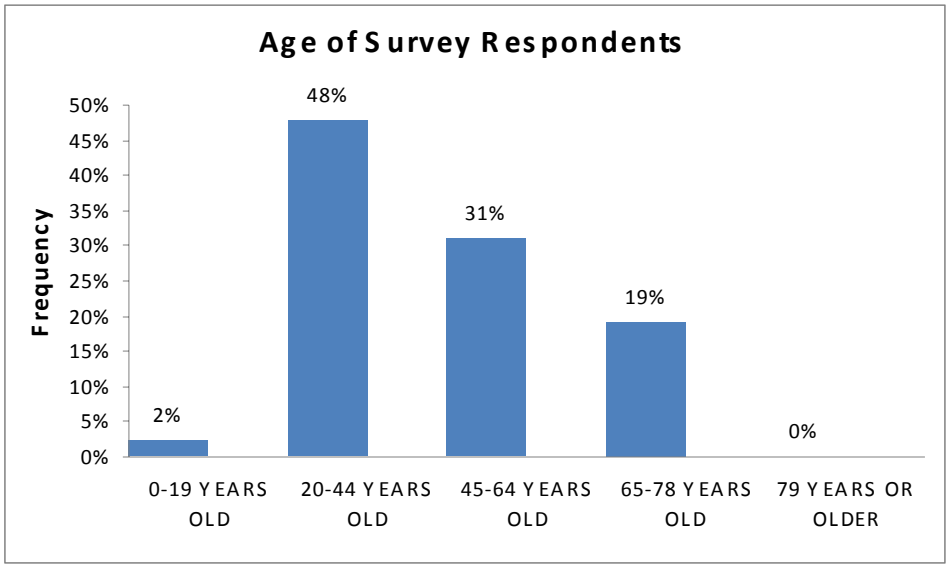
1) Recreational programs for teens (40%)
2) Community events/festivals (26%)
3) Recreational programs for seniors (24%)
4) Swimming areas (12%)
5) Playgrounds/tot lots (7%)

Table 8: Question 11

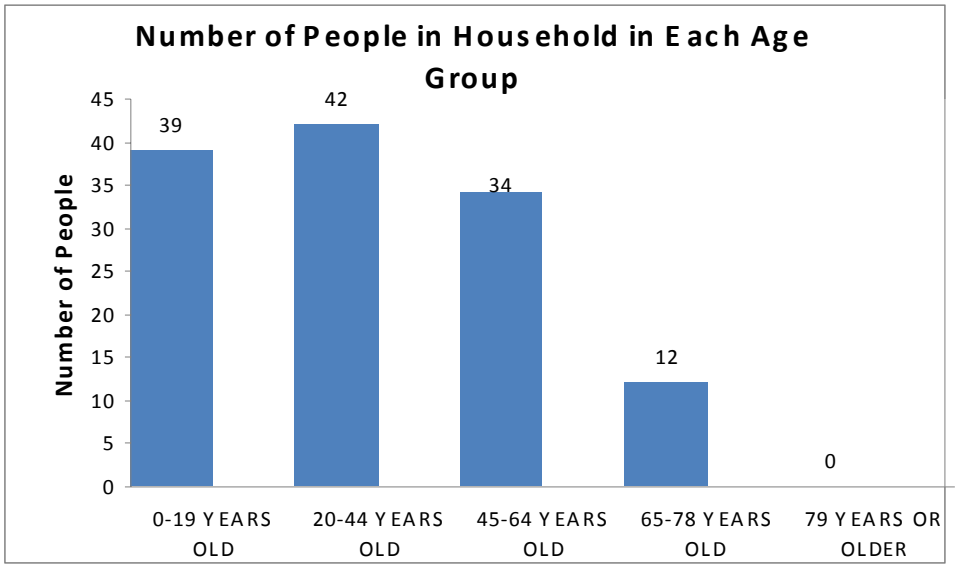
	Excellent		Good		Adequate		Poor		No Opinion /Unsure	
	Number	*Resp.*	*Number*	*Resp.*	*Number*	*Resp.*	*Number*	*Resp.*	*Number*	*Resp.*
PLAYGROUND/TOTS LOTS	10	24%	15	36%	2	5%	3	7%	9	21%
SPORTS FIELDS	7	17%	12	29%	10	24%	2	5%	8	19%
TENNIS COURTS	11	26%	10	24%	6	14%	1	2%	11	26%
SWIMMING AREAS	7	17%	8	19%	11	26%	5	12%	8	19%
HIKING TRAILS	8	19%	14	33%	7	17%	1	2%	7	17%
RECREATIONAL PROGRAMS FOR TEENS	0	0%	4	10%	5	12%	17	40%	13	31%
RECREATIONAL PROGRAMS FOR SENIORS	1	2%	3	7%	10	24%	10	24%	15	36%
COMMUNITY EVENTS/FESTIVALS	3	7%	7	17%	12	29%	11	26%	7	17%

Questions 12- 15: Demographic Statistics of Survey Respondents

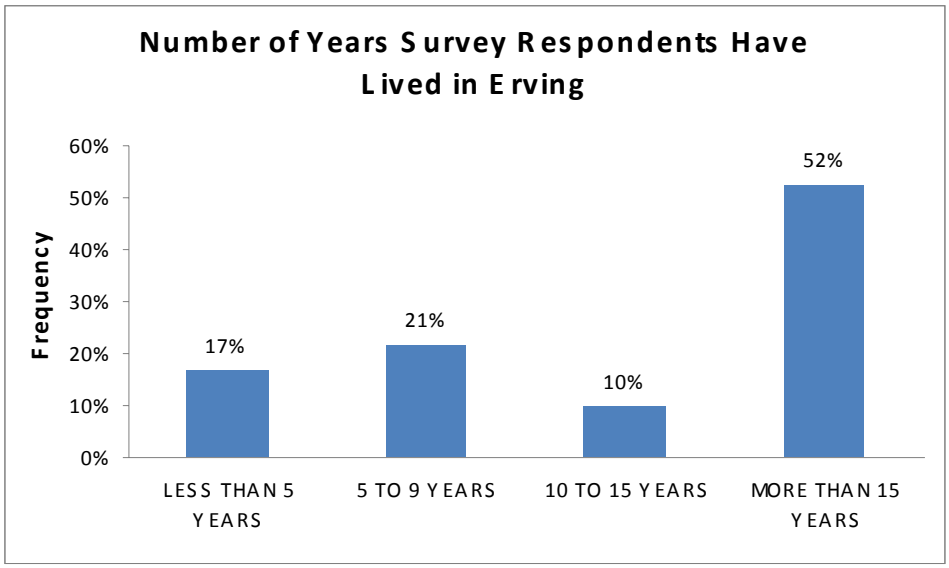
Question 12: What is your age?



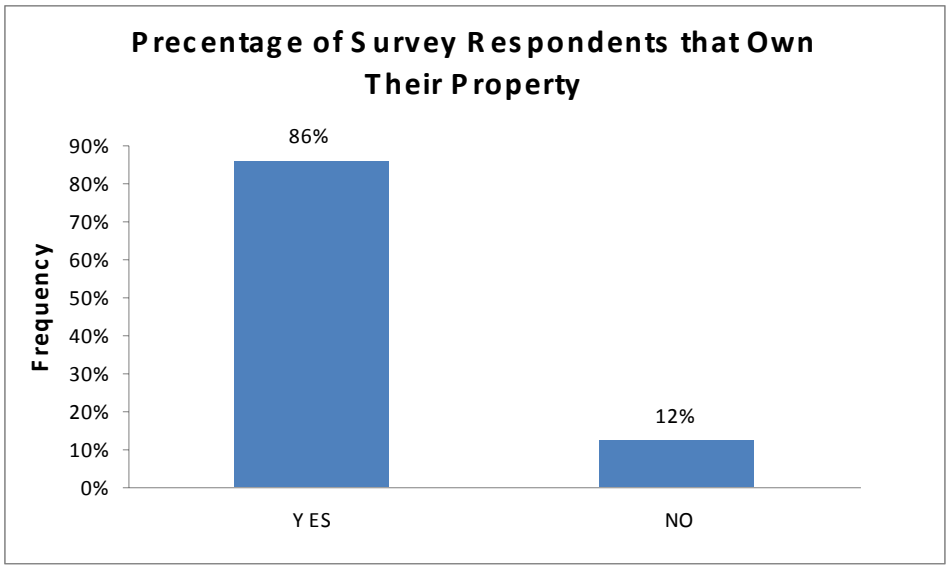
Question 13: Please write the number of people in your household in each age group.



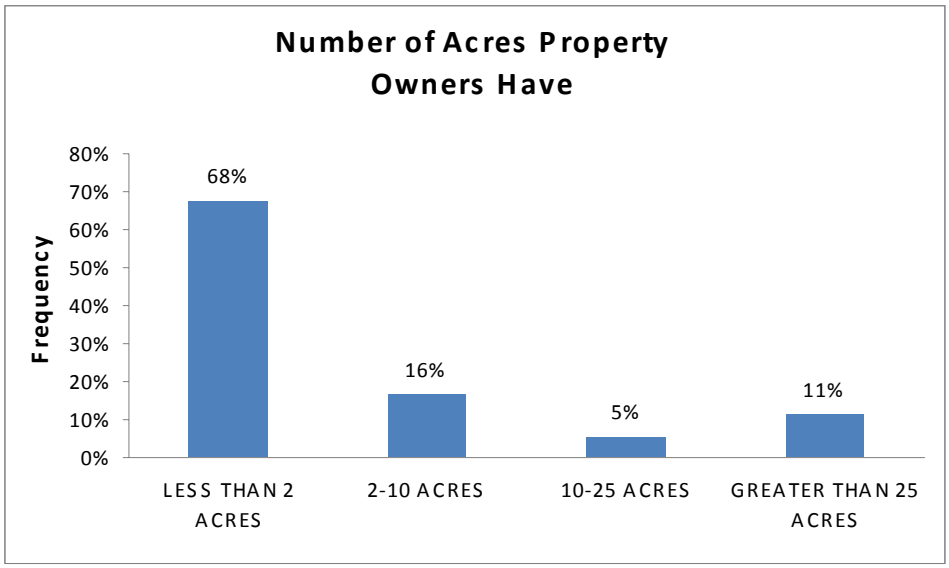
Question 14: How many years have you lived in Erving?



Question15: Do you own your property?



Question 15a: If you own your property, how many acres do you have?



Erving Open Space and Recreation Survey

This survey is an effort by the Open Space Planning Committee and the Conservation Commission of the Town of Erving to assess public opinion on urgent questions. The answers you give will guide protection of open space and natural resources, as well as the development of recreational facilities and programs in our town. In addition, they will form the basis for an update to the Open Space and Recreation Plan for Erving. This Plan will help Erving qualify for grants from the federal and state government for the purchase of recreation and open space land. Given pressures on our land values, it behooves us to plan our open spaces and recreation areas before it is too late to do so. *Your answers will remain anonymous and will be used for planning purposes only.*

What is an Open Space and Recreation Plan?

An Open Space and Recreation Plan establishes goals and objectives to guide the Town in its decisions affecting open space, but it is not a legally binding document. It is not a plan for large-scale acquisitions of land by the Town, but it may recommend protection of specific areas, or their acquisition for public use. It can help preserve our heritage and plan for future need, insure space for recreation, and help safeguard the rural character of Erving.

Open space may be protected in many ways: by zoning bylaws; by existing state and federal laws (such as the *Wetlands Protection Act* and the *Clean Water Act*); by indivudals placing forest or agricultural land under restriction for tax abatement; by farmers selling development rights to a conservation organization, by private donations, and/or establishment of conservation trusts.

❖

Please return your completed survey by May 31, 2009

Mail To:
Tom Sharp
Administrative Coordinator
Town of Erving
12 East Main Street
Erving, MA 01344

Or Drop Off

Town Offices / Post Office / Library / Senior Center

If you or any family members would like additional copies of the survey they are available at the drop-off locations. We encourage each individual in a household to fill out individual surveys.

Q1. How important was each of the following in your decision to move to, and/or live in Erving? ***Please circle a number for each item where 1 = Very Important; 2 = Important; 3 = Not Important; and 4 = No Opinion/Unsure.***

		Very Important	Important	Not Important	No Opinion / Unsure
a.	RURAL OR SMALL TOWN CHARACTER	1	2	3	4
b.	OPEN FIELDS, FORESTS AND TRAILS	1	2	3	4
c.	PEACE AND QUIET	1	2	3	4
d.	ACCESS TO ERVING STATE FOREST	1	2	3	4
e.	AIR/WATER QUALITY	1	2	3	4
f.	PUBLIC SERVICES	1	2	3	4
g.	LOCAL CLIMATE	1	2	3	4
h.	SAFETY FROM CRIME AND VANDALISM	1	2	3	4
i.	PUBLIC SCHOOL SYSTEM	1	2	3	4
j.	AFFORDABLE HOUSING	1	2	3	4
k.	RECREATIONAL OPPORTUNITIES	1	2	3	4
l.	FRIENDS OR RELATIVES HERE	1	2	3	4
m.	EASY COMMUTING	1	2	3	4
n.	JOB OPPORTUNITIES IN THE REGION	1	2	3	4
o.	PARTICIPATORY GOVERNANCE	1	2	3	4
p.	LOW REAL ESTATE PROPERTY TAXES	1	2	3	4
	OTHER (PLEASE LIST)				
q.		1	2	3	4
r.		1	2	3	4
s.		1	2	3	4

Q2. How important is it to conserve the following natural resources and scenic resources in town? ***Please circle a number for each item where 1 = Very Important; 2 = Important; 3 = Not Important; and 4 = No Opinion/Unsure.***

		Very Important	Important	Not Important	No Opinion / Unsure
a.	FORESTS	1	2	3	4
b.	OPEN FIELDS	1	2	3	4
c.	SCENIC VIEWS	1	2	3	4
d.	STONE WALLS	1	2	3	4
e.	LAKES /STREAMS/PONDS	1	2	3	4
f.	WETLANDS	1	2	3	4
g.	WILDLIFE HABITAT	1	2	3	4
h.	CLEAN DRINKING WATER	1	2	3	4
i.	FARMLAND	1	2	3	4
j.	HISTORIC STRUCTURES	1	2	3	4
k.	CLEAN AIR	1	2	3	4
	OTHER (PLEASE LIST)				
l.		1	2	3	4
m.		1	2	3	4
n.		1	2	3	4

Q3. Which actions do you support to protect/conserve open space and natural resources? ***Please circle a number for each item where 1 = Strongly Support; 2 = Support; 3 = Don't Support, and 4 = No Opinion/Unsure.***

		Strongly Support	Support	Don't Support	No Opinion / Unsure
a.	TOWN PURCHASE OF CONSERVATION LAND	1	2	3	4
b.	TOWN PURCHASE OF DEVELOPMENT RIGHTS	1	2	3	4
c.	ZONING CHANGES FOR OPEN SPACE PROTECTION	1	2	3	4
d.	NO ADDITIONAL TOWN ACTIONS SHOULD BE TAKEN	1	2	3	4
e.	ACCEPTANCE OF DONATED CONSERVATION LAND	1	2	3	4
f.	ACCEPTANCE OF DONATED DEVELOPMENT RIGHTS	1	2	3	4
g.	TOWN PURCHASE OF MEETING HOUSE	1	2	3	4
h.	ENCOURAGE CONSERVATION BY PRIVATE NON-PROFITS	1	2	3	4
i.	ENCOURAGE CONSERVATION BY STATE AGENCIES	1	2	3	4
j.	ENCOURAGE CONSERVATION BY A COMBINATION OF PARTIES	1	2	3	4

Q4. Should Erving protect riverfront property along the Millers River? (Circle one)

a. YES
b. NO
c.. NO OPINION/NOT SURE

Q5. How has the quality of the following changed over time? ***Please circle a number for each item where 1 = Changed for the Better; 2 = Changed for the Worse; 3 = Remained the Same; and 4 = No Opinion/Unsure.***

		Changed for the Better	Changed for the Worse	Remained the Same	No Opinion / Unsure
a.	LOCAL OPEN SPACE	1	2	3	4
b.	SENSE OF COMMUNITY	1	2	3	4
c.	ERVING'S RURAL CHARACTER	1	2	3	4
d.	RECREATIONAL FACILITIES	1	2	3	4
e.	RECREATIONAL PROGRAMMING	1	2	3	4

Q6. What are the two most significant threats to Erving's sense of community and rural character?
Please circle two only.

a. RESIDENTIAL DEVELOPMENT
b. LACK OF DEVELOPMENT
c. ENVIRONMENTAL POLLUTION
d. RISING PROPERTY TAXES
e. INDUSTRIAL/COMMERCIAL DEVELOPMENT
f. NO OPINION/UNSURE

OTHER (PLEASE LIST)

g. _____

h. _____

i. _____

Q7. How important are the following to you? ***Please circle a number for each item where 1 = Very Important; 2 = Important; 3 = Not Important; and 4 = No Opinion/Unsure.***

		Very Important	Important	Not Important	No Opinion / Unsure
a.	LARGE ROAD-SIDE TREES	1	2	3	4
b.	DIRT ROADS	1	2	3	4
c.	HISTORIC CELLAR HOLES	1	2	3	4
d.	HISTORIC STRUCTURES	1	2	3	4
e.	VERNAL POOLS	1	2	3	4
f.	ERVING STATE FOREST	1	2	3	4
g.	MOOSE, BOBCAT, DEER AND OTHER WILDLIFE	1	2	3	4
h.	OPEN FIELDS	1	2	3	4
i.	FARM HOUSES	1	2	3	4
j.	SCENIC VIEWS	1	2	3	4
k.	NARROW WINDY ROADS	1	2	3	4
l.	LARGE FORESTED AREAS	1	2	3	4
m.	WALKING AND HIKING TRAILS	1	2	3	4
n.	LOW TRAFFIC VOLUME/TRAFFIC SPEEDS	1	2	3	4
o.	FARM ANIMALS	1	2	3	4
p.	QUIET	1	2	3	4
q.	LOWER HOUSING DENSITY	1	2	3	4
r.	ABSENCE OF CITY LIGHTS	1	2	3	4
s.	CLEAN STREAMS AND WATER BODIES	1	2	3	4
	OTHER (PLEASE LIST)				
t.		1	2	3	4
u.		1	2	3	4
v.		1	2	3	4

Q8. What is your opinion about the condition of the following open space and recreation facilities in the Town of Erving? ***Please circle a number for each item where 1 = Excellent; 2 = Good; 3 = Adequate; 4 = Poor; and 5 = No Opinion/Unsure.***

		Excellent	Good	Adequate	Poor	No Opinion/ Unsure
a.	TOWN COMMON AREAS	1	2	3	4	5
b.	ERVING STATE FOREST—LAUREL LAKE	1	2	3	4	5
c.	ELEMENTARY SCHOOL PLAYGROUND & FACILITIES	1	2	3	4	5
d.	PARK STREET PARK	1	2	3	4	5
e.	ERVING STATE FOREST-- HERMIT CAVE	1	2	3	4	5
f.	TOWN FOREST	1	2	3	4	5
g.	M & M HIKING TRAIL	1	2	3	4	5
i.	VETERAN'S MEMORIAL PARK	1	2	3	4	5
j.	ZILINISKI MEMORIAL FIELD	1	2	3	4	5
k.	FRENCH KING BOWLING AND ENTERTAINMENT CENTER	1	2	3	4	5

l.	NORTHFIELD MOUNTAIN RECREATION AREA	1	2	3	4	5
m.	FARLEY PARK	1	2	3	4	5
n.	CHURCH STREET PARK	1	2	3	4	5
o.	MILLERS RIVER	1	2	3	4	5
p.	LIBRARY PROGRAMMING	1	2	3	4	5
q.	RECREATIONAL PROGRAMMING	1	2	3	4	5
r.	COMMUNITY EVENTS	1	2	3	4	5

Q9. Which of the following recreational activities do members of your household participate in? ***Please circle as many that apply.***

		WHERE IN TOWN IS THE ACTIVITY DONE? IF NOT IN ERVING, PLEASE INDICATE WHICH TOWN.
a.	BASKETBALL	
b.	BASEBALL	
c.	BICYCLING	
d.	BIRD WATCHING	
e.	BOATING	
f.	CAMPING	
g.	CANOEING/KAYAKING	
h.	CROSS-COUNTRY SKIING	
I.	FISHING	
j.	GARDENING	
k.	GOLF	
l.	HIKING	
m.	HUNTING	
n.	ICE SKATING	
o.	JOGGING	
p.	PICNICKING	
q.	ROCK CLIMBING	
r.	ROLLERBLADING	
s.	SLEDDING	
t.	SNOWSHOEING	
u.	SNOWMOBILING	
v.	SOFTBALL	
w.	SWIMMING	
x.	TENNIS	
y.	WALKING	
z.	OTHER:	

Q10. How often do you utilize the following open space and recreational resources? ***Please circle a number for each item where 1 = Daily; 2 = Weekly; 3 = Monthly; 4 = Every Six Months; 5 = Once a Year; and 6 = Never.***

		Daily	Weekly	Monthly	Every Six Months	Once a Year	Never
a.	ERVING STATE FOREST---LAUREL LAKE	1	2	3	4	5	6
b.	ELEMENTARY SCHOOL PLAYGROUND & FACILITIES	1	2	3	4	5	6
c.	PARK STREET PARK	1	2	3	4	5	6
d.	ERVING STATE FOREST-- HERMIT CAVE	1	2	3	4	5	6
e.	TOWN FOREST	1	2	3	4	5	6

f.	M & M HIKING TRAIL	1	2	3	4	5	6
g.	VETERAN'S MEMORIAL PARK	1	2	3	4	5	6
h.	ZILINISKI MEMORIAL FIELD	1	2	3	4	5	6
I.	FRENCH KING BOWLING AND ENTERTAINMENT CENTER	1	2	3	4	5	6
j.	NORTHFIELD MOUNTAIN RECREATION AREA	1	2	3	4	5	6
k.	FARLEY PARK	1	2	3	4	5	6
l.	CHURCH STREET PARK	1	2	3	4	5	6
m.	MILLERS RIVER	1	2	3	4	5	6

Q11. What is your opinion about the quantity and quality of the following recreational programming and facilities in the town of Erving? ***Please circle a number for each item where 1 = Excellent; 2 = Good; 3 = Adequate; 4 = Poor; and 5 = No Opinion/Unsure.***

		Excellent	Good	Adequate	Poor	No Opinion/ Unsure
a.	PLAYGROUNDS/TOT LOTS	1	2	3	4	5
b.	SPORTS FIELDS	1	2	3	4	5
c.	TENNIS COURTS	1	2	3	4	5
d.	SWIMMING AREAS	1	2	3	4	5
e.	HIKING TRAILS	1	2	3	4	5
f.	RECREATIONAL PROGRAMS FOR TEENS	1	2	3	4	5
g.	RECREATIONAL PROGRAMS FOR SENIORS	1	2	3	4	5
h.	COMMUNITY EVENTS / FESTIVALS	1	2	3	4	5

Q12. What is your age? ***Please circle the range of ages that includes your age.***

a. 0 – 19 YEARS OLD
b. 20 – 44 YEARS OLD
c. 45 – 64 YEARS OLD
d. 65 – 78 YEARS OLD
e. 79 YEARS OLD OR OLDER

Q13. Please write the number of people in your household in each age group.

a. ___ 0 – 19 YEARS OLD
b. ___ 20 – 44 YEARS OLD
c. ___ 45 – 64 YEARS OLD
d. ___ 65 – 78 YEARS OLD
e. ___ 79 YEARS OLD OR OLDER

Q14. How many years have you lived in Erving? ***Please circle one.***

a. LESS THAN 5 YEARS
b. 5 TO 9 YEARS
c. 10 TO 15 YEARS
d. MORE THAN 15 YEARS

Q15. Do you own your property? ***Please circle one.***

a. YES
b. NO

Q15a. If you own your property, how many acres do you own? ***Please circle one.***

a. LESS THAN 2 ACRES
b. 2-10 ACRES
c. 10-25 ACRES
d. GREATER THAN 25 ACRES

Thank you very much for taking the time to complete this survey.