

TOWN OF KILLINGWORTH

PLAN OF CONSERVATION AND DEVELOPMENT

2018-2028

Effective September 1, 2018



Killingworth Planning and Zoning Commission

2018

CONTENTS

	Page
SUMMARY OF PLAN	5
INTRODUCTION	7
LEGAL BASIS FOR PLAN OF CONSERVATION AND DEVELOPMENT	7
REASONS FOR UPDATING PLAN	8
CHAPTER 1 THE ENVIRONMENT: PHYSICAL CHARACTERISTICS AND NATURAL RESOURCES	10
TOPOGRAPHY	10
GEOLOGY	10
SURFACE WATER	10
GROUNDWATER AND AQUIFER RESOURCES	13
WETLANDS AND WATERCOURSES	17
FLOOD HAZARD AREA	19
SOILS	19
1. Limitations for On-Site Sewage Disposal	19
2. Farmland Soils	21
3. Slopes	23
4. Soils Not Suited for Development	24
5. Unique and Fragile Lands	25
OPEN SPACE	25
FOREST LANDS	27
HISTORIC FEATURES	28
CHAPTER 2 COMMUNITY PROFILE: DEMOGRAPHIC, ECONOMIC, HOUSING, AND EMPLOYMENT	32
POPULATION	32
AGE-SEX CHARACTERISTICS	33
ETHNIC BACKGROUND	34
EDUCATION	34
HOUSING CHARACTERISTICS	34
INCOME, EMPLOYMENT, AND BUSINESS	35
QUALITY OF LIFE	37
CHAPTER 3 PUBLIC FACILITIES	39
GOVERNMENT AND MUNICIPAL FACILITIES	39
WATER SUPPLY	40
SEWER AVOIDANCE	40
AQUIFER PROTECTION	40
SCHOOLS	41
TOWN GREEN	42
PARMELEE FARM	42
RECREATION	44
LIBRARY	45
EMERGENCY SERVICES	46

ROADS AND BRIDGES	47
1. Roads	47
2. Bridges	48
PUBLIC TRANSPORTATION	51
CHAPTER 4 EXISTING LAND USE AND ZONING	52
EXISTING LAND USE PATTERNS	52
LAND USE CHANGE	54
EXISTING ZONING	56
1. Commercial District	56
2. Industrial District	56
3. Rural Residence District	57
4. Floodplain District	57
CHAPTER 5 CONSERVATION AND DEVELOPMENT POLICIES PLAN FOR CONNECTICUT	58
INTRODUCTION	58
PLAN LOCATIONAL GUIDE MAP	58
HOUSING	61
TRANSPORTATION	61
RURAL AREAS	62
OPEN SPACE	63
DRINKING WATER SUPPLIES	64
2018-2023 REVISIONS TO 2005-2010 PLAN	65
LOCATIONAL GUIDE MAP (LGM)	67
CHAPTER 6 LAND USE PLAN	68
INTRODUCTION	68
GENERAL GOALS AND OBJECTIVES	68
1. Goals and Objectives	68
2. Conservation and Development Policies Plan for Connecticut	68
LAND USE RECOMMENDATIONS	70
1. Land Use Plan	70
2. Residential Lot Size	70
3. Protection of Water Supplies	70
A. Aquifers and watersheds	70
B. Preservation areas	71
C. Impervious surfaces	72
D. Stormwater management	73
E. Tree cover	73
4. Open Space	73
A. Open space inventory	73
B. Open space in subdivisions	74
C. Open space trust fund	75
D. Payments in lieu of open space	75
E. Lands available for open space designation under Public Act 490	75
F. Greenways	76
G. Agricultural lands	77
5. Alternative Housing	78

A. Affordable housing subdivision	78
B. Accessory apartments and two family dwellings	78
C. Retirement housing subdivision (Age-restricted housing)	78
D. Apartments	78
E. Other alternative housing techniques	79
6. Tax Base	79
A. Stabilization	79
7. Commercial Development	79
A. Goals and guidelines	79
B. Commercial districts	80
C. Commercial cluster development	80
D. Building design	81
E. Economic Development	81
F. Telecommuting	82
8. Industrial Development	82
9. Customary Home Occupations	82
10. Recreation	82
11. Municipal Facilities	83
12. Public Facilities	83
13. Roads and Bridges	84
A. Town roads	84
B. Traffic congestion	85
C. Scenic roads	85
D. Bridges	86
14. Historic Preservation	87
15. Historic Districts	87
16. Historic Overlay Zone	87
17. Natural Hazards Mitigation Plan	88
ZONING ENFORCEMENT	88
IMPLEMENTATION OF THE PLAN	89
REFERENCES	90
APPENDIX	91
RESULTS OF THE TOWN PLAN QUESTIONNAIRE	91

SUMMARY OF PLAN

This Plan of Conservation and Development for the Town of Killingworth has been prepared by the Planning and Zoning Commission. Chapters 1 through 4 of the Plan represent a survey of the Town of Killingworth and include maps, reports, and analyses of natural resources, economics, population, housing, and existing land use. Chapter 5 reviews the Conservation and Development Policies Plan for Connecticut 2005-2023 and its recommendations applicable to Killingworth. The results of the Town Plan Questionnaire that was sent to all households in 2017 are in the Appendix. These chapters and the questionnaire provide background information used in developing a land use Plan. The land use Plan and recommendations are found in Chapter 6.

The Town Plan of Conservation and Development contains land use recommendations that are designed to ensure that future growth and development within Killingworth is controlled and directed in a manner so as to be compatible with preserving the rural-residential character of the Town. Two issues considered critical in preserving the character of Killingworth are protection of water quality and the preservation of open space. The Plan recognizes the importance of quality natural resources, especially water resources, for the continued health of the community. In particular, it is essential that ground and surface water supplies be protected. The Plan also recommends continued acquisition by the Town of permanent open space for recreation and preservation of significant wildlife habitats.

No changes are proposed in the existing four zoning districts (Rural Residential, Commercial, Industrial, and Flood Plain). Similarly, no changes are proposed in residential lot size which, under current soil-based zoning, is two to five acres depending on the suitability of soils for sub-surface sewage disposal systems. Recommendations are made in the plan to protect subsurface water supplies, watersheds, aquifers, rivers, and inland wetlands, ensure adequate on-site waste disposal, and avoid community sewage systems and a town-wide sewer system. Any new land uses within public water supply watersheds and aquifers should be compatible with and operate in accordance with appropriate preservation and protection management strategies. Any new development should minimize creation of impervious surfaces, include stormwater management practices, and maintain tree cover.

Along with protection of water quality, permanent preservation of open space is of critical importance in preserving the rural-residential character of Killingworth, maintaining quality of life for residents, and in stabilizing taxes. Taxes are destabilized because the expenses for education resulting from residential development are in excess of the revenue from property taxes on houses. Lands should continue to be set aside as permanent open space for the purposes of preservation of woodlands, streams, natural areas, and agricultural lands. Recommendations are made regarding an open space inventory, open space in subdivisions, an open space trust fund for the purpose of purchasing open space, payments by developers in lieu of open space, establishment of greenways, and preservation of agricultural lands. Ag-tivities/Agritourism activities should be encouraged. Provisions for open space dedication under Public Act 490 are maintained.

It is recognized that housing in Killingworth is expensive and often beyond the reach of children of residents or the elderly who may wish to scale down from a large house to a more manageable residence. The current Zoning Regulations contain provisions for alternative housing designed to accommodate a more efficient use of existing housing stock and to meet the housing needs of smaller households, the elderly, and those of median income. These provisions include two-family

housing, accessory apartments, apartments in the large business zone, affordable housing subdivisions, and age-restricted housing for persons over age 55. Recommendations for stabilization of the tax base include purchase of land for open space that would otherwise be developed, maintaining an attractive commercial area, and encouragement of customary home occupations and age-restricted housing. Steps should be taken to enhance economic development in the existing Commercial District. This depends on having an attractive and cohesive commercial district that would attract businesses and customers. Commercial uses and expansion should be carefully controlled to insure compatibility with existing uses and promoting an attractive commercial center. Commercial cluster developments or village-type developments should be encouraged and design standards for commercial buildings should be maintained to promote and preserve the aesthetic qualities associated with historical rural New England towns. Killingworth is unlikely to attract industrial development because of a lack of suitable sites, convenient transportation, and necessary services and infrastructure.

Generally, the Town's public and educational facilities meet the needs of the Town and should be adequate for at least the near future. Consideration should be given to a new or remodeled town hall due to the deterioration of the modular units. Special attention should be given to the protection of water supplies from sources of pollution, to the avoidance of sewers, and for disposal of hazardous waste. It is recommended that a comprehensive maintenance plan be developed for roads, bridges, and infrastructure including drainage, culverts, and snow shelves. Consideration should be given to the development of a master plan for all of the town's present and future municipal, public, and recreational facilities. Much of Killingworth's character is due to the presence of its historical buildings, houses, and sites. These should be preserved, maintained, or improved.

In order to effectively enforce the Zoning Regulations of the Town of Killingworth and avoid lengthy and costly legal action, it is recommended that the Town consider adopting an ordinance imposing fines for violations of zoning regulations as authorized by Section 8-12a of the Connecticut General Statutes.

Actions are required at the local level by many agencies in order to implement the recommendations in the Plan of Conservation and Development. Many of the recommendations in this plan will require drafting of new Zoning, Subdivision, and Road Regulations by the Planning and Zoning Commission. The Board of Selectmen, Board of Finance, Inland Wetlands and Watercourses Commission, Water Pollution Control Commission, Conservation Commission, Park and Recreation Commission, Board of Education, and various civic organizations and municipal-appointed committees also make decisions that affect development. It is strongly recommended that long-term strategic plans be developed by appropriate boards and agencies regarding municipal facilities, capital improvements and maintenance of roads and bridges, open space acquisition, and recreational facilities including parks and playgrounds.

INTRODUCTION

LEGAL BASIS FOR PLAN OF CONSERVATION AND DEVELOPMENT

Section 8-23 of the General Statutes of Connecticut states that a local planning "commission shall prepare or amend and shall adopt a plan of conservation and development for the municipality". Some of the provisions of Section 8-23 are described here. In preparing such plan, the commission or any special committee shall consider the following: (1) The community development action plan of the municipality, if any, (2) the need for affordable housing, (3) the need for protection of existing and potential public surface and ground drinking water supplies, (4) the use of cluster development and other development patterns to the extent consistent with soil types, terrain and infrastructure capacity within the municipality, (5) the state plan of conservation and development adopted pursuant to chapter 297, (6) the regional plan of development adopted pursuant to section 8-35a, (7) physical, social economic and governmental conditions and trends, (8) the needs of the municipality including, but not limited to, human resources, education, health, housing, recreation, social services, public utilities, public protection, transportation and circulation and cultural and interpersonal communications, (9) the objectives of energy-efficient patterns of development, the use of solar and other renewable forms of energy and energy conservation, and (10) protection and preservation of agriculture.

Such plan of conservation and development shall (A) be a statement of policies, goals and standards for the physical and economic development of the municipality, (B) provide for a system of principal thoroughfares, parkways, bridges, streets, sidewalks, multipurpose trails and other public ways as appropriate, (C) be designed to promote, with the greatest efficiency and economy, the coordinated development of the municipality and the general welfare and prosperity of its people and identify areas where it is feasible and prudent (i) to have compact, transit accessible, pedestrian-oriented mixed use development patterns and land reuse, and (ii) to promote such development patterns and land reuse, (D) recommend the most desirable use of land within the municipality for residential, recreational, commercial, industrial, conservation and other purposes and include a map showing such proposed land uses, (E) recommend the most desirable density of population in the several parts of the municipality, (F) note any inconsistencies with the following growth management principles: (i) redevelopment and revitalization of commercial centers and areas of mixed land uses with existing or planned physical infrastructure; (ii) expansion of housing opportunities and design choices to accommodate a variety of household types and needs; (iii) concentration of development around transportation nodes and along major transportation corridors to support the viability of transportation options and land reuse; (iv) conservation and restoration of the natural environment, cultural and historical resources and existing farmlands; (v) protection of environmental assets critical to public health and safety; and (vi) integration of planning across all levels of government to address issues on a local, regional and state-wide basis, (G) make provision for the development of housing opportunities, including opportunities for multifamily dwellings, consistent with soil types, terrain and infrastructure capacity, for all residents of the municipality and the planning region in which the municipality is located, as designated by the Secretary of the Office of Policy and Management under section 16a-4a, (H) promote housing choice and economic diversity in housing, including housing for both low and moderate income households, and encourage the development of housing which will meet the housing needs identified in the housing plan prepared pursuant to section 8-37t and in the housing component and the other components of the state plan of conservation and development prepared pursuant to chapter 297. In preparing such plan the commission shall consider focusing development and revitalization in areas with existing or

planned physical infrastructure.

Such plan may show the commission's and any special committee's recommendation for (1) conservation and preservation of traprock and other ridgelines, (2) airports, parks, playgrounds and other public grounds, (3) the general location, relocation and improvement of schools and other public buildings, (4) the general location and extent of public utilities and terminals, whether publicly or privately owned, for water, sewerage, light, power, transit and other purposes, (5) the extent and location of public housing projects, (6) programs for the implementation of the plan, including (A) a schedule, (B) a budget for public capital projects. (C) a program for enactment and enforcement of zoning and subdivision controls, building and housing codes and safety regulations, (D) plans for implementation of affordable housing, (E) plans for open space acquisition and greenways protection and development, and (F) plans for corridor management areas along limited access highways or rail lines, designated under section 16a-27, as amended by this act, (7) proposed priority funding areas, and (8) any other recommendations as will, in the commission's or any special committee's judgment, be beneficial to the municipality. The plan may include any necessary and related maps, explanatory material, photographs, charts or other pertinent data and information relative to the past, present and future trends of the municipality.

REASONS FOR UPDATING PLAN

The present plan of development was adopted in 2008. Section 8-23 of the Connecticut General States requires the commission to review the Plan of Development at least once every ten years and to adopt such amendments to the plan as the commission deems necessary to update the plan. Since 2000, Killingworth's population has increased from about 6,000 to about 6,500 in 2015. As population increases, pressures for commercial, industrial, and residential development increase and community goals and values can change. However, population is expected to stabilize or even decrease so that many recommendations in the 2008 Plan are still valid.

State and regional land use plans have been developed that identify development issues of direct concern to Killingworth residents. Much additional information and analyses have been provided by the Killingworth Conservation Commission, Inland Wetlands and Watercourses Commission, the Lower Connecticut River Valley Council of Governments (RiverCog), the Connecticut Economic Resource Center (CERC), Nonpoint Education for Municipal Officials (NEMO), and the Center for Land Use, Education, and Research (CLEAR) of the University of Connecticut. CLEAR provides information and assistance to land use decision makers with the goal of balancing growth and natural resource protection. NEMO is one of CLEAR's programs for local land use officials addressing the relationship of land use to natural resource protection. NEMO and CLEAR have excellent map and data resources available for viewing online. These maps have been coordinated by the Conservation Commission and are presented as Killingworth's Natural Resources Inventory in Chapter 1. In addition, the Planning and Zoning Commission has conducted its own studies. The results of these studies on the environment, economics, population, housing, and public facilities of Killingworth are included in chapters 1 through 4. Recommendations pertaining to Killingworth in The Conservation and Development Policies Plan for Connecticut 2005-2023 are described in Chapter 5. This information provides a background and basis for the Plan of Conservation and Development described in Chapter 6. The recommendations contained within this Plan establish a definitive pattern for controlling future development within the Town and preserving its rural-residential character. The Planning and Zoning Commission hopes that the Plan will provide the basis for directing Killingworth's future in the 21st century through implementation of the Land Use Plan.

Killingworth Planning and Zoning Commission

Thomas L. Lentz, Chairman
David Gross, Vice Chairman
Tom Hogarty, Secretary
Geoffrey Cook
Paul McGuinness
Brice McLaughlin

Robert Drew, Alternate
Joan Gay, Alternate
Alec Martin, Alternate

Cathy Jefferson, Zoning Enforcement Officer
Judy Brown, Clerk of the Commission

CHAPTER 1

THE ENVIRONMENT: PHYSICAL CHARACTERISTICS AND NATURAL RESOURCES

TOPOGRAPHY

Killingworth lies in the southwestern part of the Eastern Highland of Connecticut. The surface of Killingworth is irregular. Many of the topographic features resulted from the passage of a thick ice sheet southeastward across the area. Features made by glacial erosion include striations, grooves, and streamline hills. The altitudes of the tops of hills and ridges, reflecting the general seaward slope of this part of Connecticut, increase from around 200 feet in the southern portion of town to around 600 feet in the northern region. The rise, however, is marked in places by abrupt local variations in the height and trend of topographic elements, brought about by the effects of erosion on bedrock and by changes in bedrock structure.

GEOLOGY

Killingworth is almost entirely underlain by Monson Gneiss, a light-gray rock consisting chiefly of biotitic quartz-plagioclase gneiss. The Monson Gneiss forms a mass known as the Killingworth dome. Bedrock is close to the surface in the areas of Monson Gneiss and the terrain within areas of Monson does not lend itself to large scale housing development. Till, often called "hardpan", overlies the bedrock and covers much of the area, although over many hills and ridges it is thin or absent. Till was deposited directly from glacier ice and consists of a mixture of rock particles of many sizes, ranging from large boulders to tiny particles of clay. Its thickness varies greatly, ranging from a foot or two up to more than 100 feet. In most areas of town, it is less than 40 feet thick. During deglaciation, ice-contact stratified drift was deposited in the larger valleys by the melting of glacier ice. Outwash sediments were deposited by streams flowing away from the glacier. Stratified drift is composed of interbedded layers of gravel, sand, silt, and clay. While stratified drift was being deposited, winds removed material from its surface and dropped it as a thin covering of sand and silt over adjacent areas. In post-glacial time, the drift was dissected by streams that deposited thin layers of alluvium on valley floors. Mucky swamp deposits, black with organic matter, accumulated in shallow basins in bedrock and glacial drift. Substances of actual or potential economic value that occur in Killingworth include ground water, sand and gravel, till, and humus.

SURFACE WATER

Killingworth is drained by three river basins running directly into Long Island Sound. Most of the town lies within the Hammonasset River Basin. The eastern portion of town lies in the Menunketesuck River Basin. A smaller area between these two in the southern portion of town lies in the Indian River Basin. The largest surface-water bodies are reservoirs resulting from the construction of dams. The Hammonasset Reservoir (South Central Connecticut Regional Water Authority) lies in the Hammonasset River Basin and has a surface area of 377 acres and a total storage capacity of 1400 M gallons (Killingworth and Madison). The Killingworth Reservoir (Connecticut Water Company) lies in the Menunketesuck River Basin and has a surface area of 107 acres and total storage capacity of 415 M gallons. Deer Lake and Forster's Ponds are formed by dams along streams running into the Hammonasset River. Almost two-thirds of the Town's area lies within the watersheds of the two public water suppliers (Figure 1-1). Planning related to watersheds

should include land conservation and water resource protection goals.

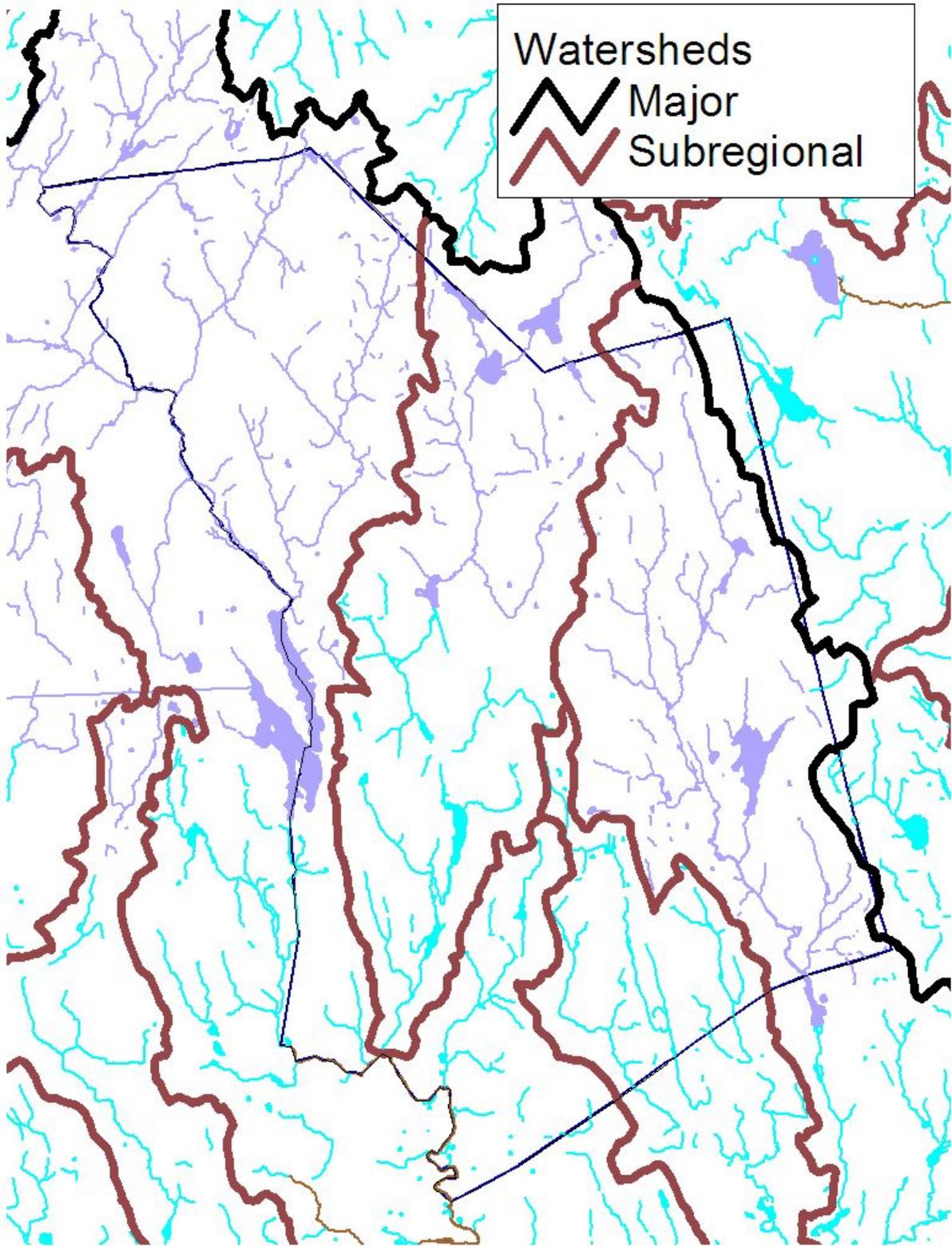


Figure 1-1. Extent of Watershed Land in Killingworth

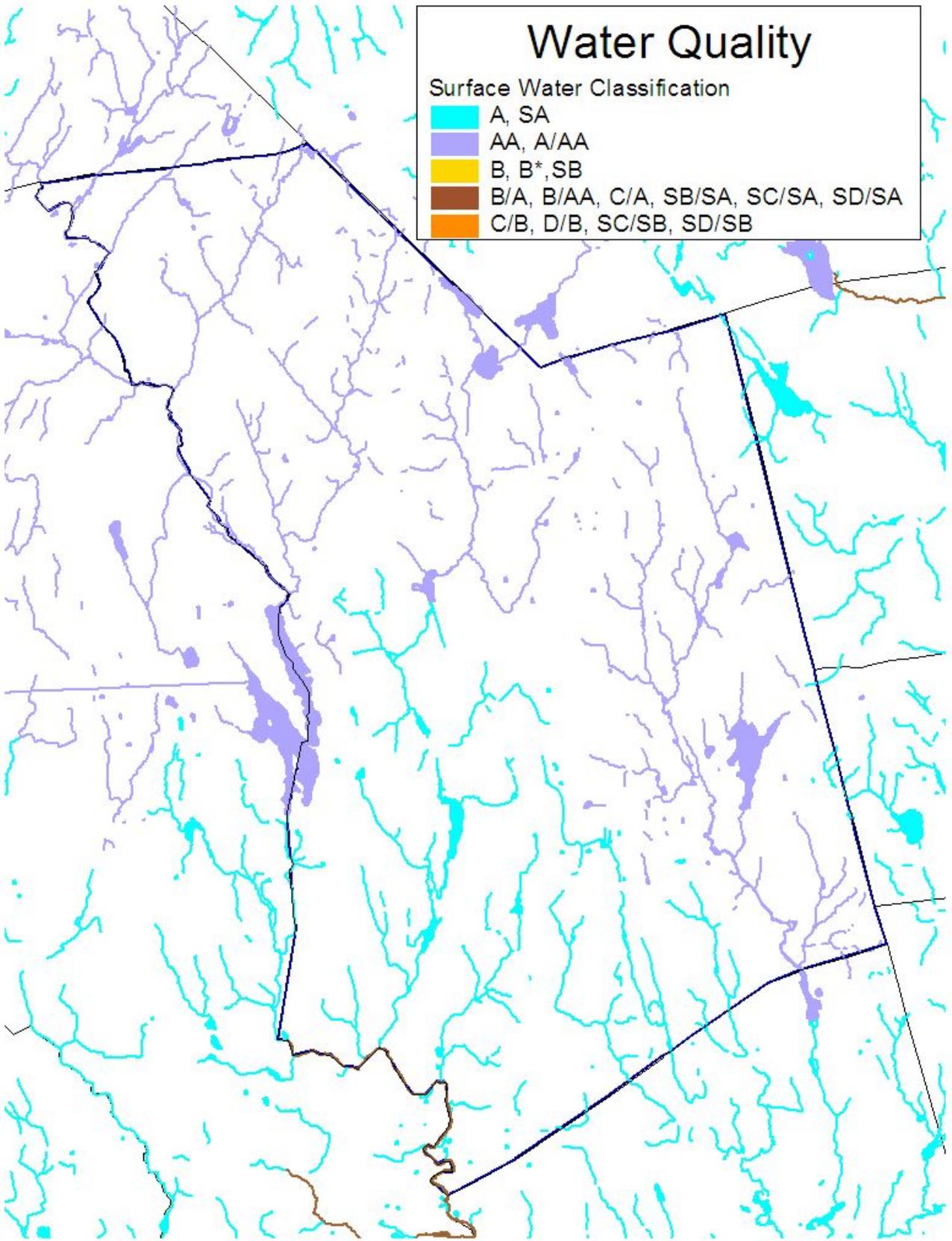


Figure 1-2. Surface Water Quality

GROUND WATER AND AQUIFER RESOURCES

Standards for water quality are required by Section 25-54e of the Connecticut General Statutes. The purpose of the standards is to provide a clear and objective statement of existing and projected water quality and the general program to improve the water resources of the State and to qualify the state and its municipalities for available Federal grants for water pollution control. It is the statutory mandate that these standards shall protect the public health and welfare; promote the economic development of the State; preserve and enhance the quality of the State's water for present and future use for public water supplies, propagation of fish and aquatic life and wildlife, recreational purposes, agriculture, industrial, and other uses. Surface and ground water classifications for Killingworth have been prepared by the Water Compliance Unit, Department of Environmental Protection. The surface water in Killingworth falls in the two highest water quality classifications (Figure 1-2). Class A (SA not applicable to Killingworth) is water that meets criteria which support habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreation; navigation; and water supply for industry and agriculture. Class AA is water that meets criteria which supports existing or proposed drinking water supplies; habitat for fish and other aquatic life and wildlife; recreation; and water supply for industry and agriculture. Degraded Class A water appears on the Hammonasset River below the location of a former town dump site on lower Bargate Trail.

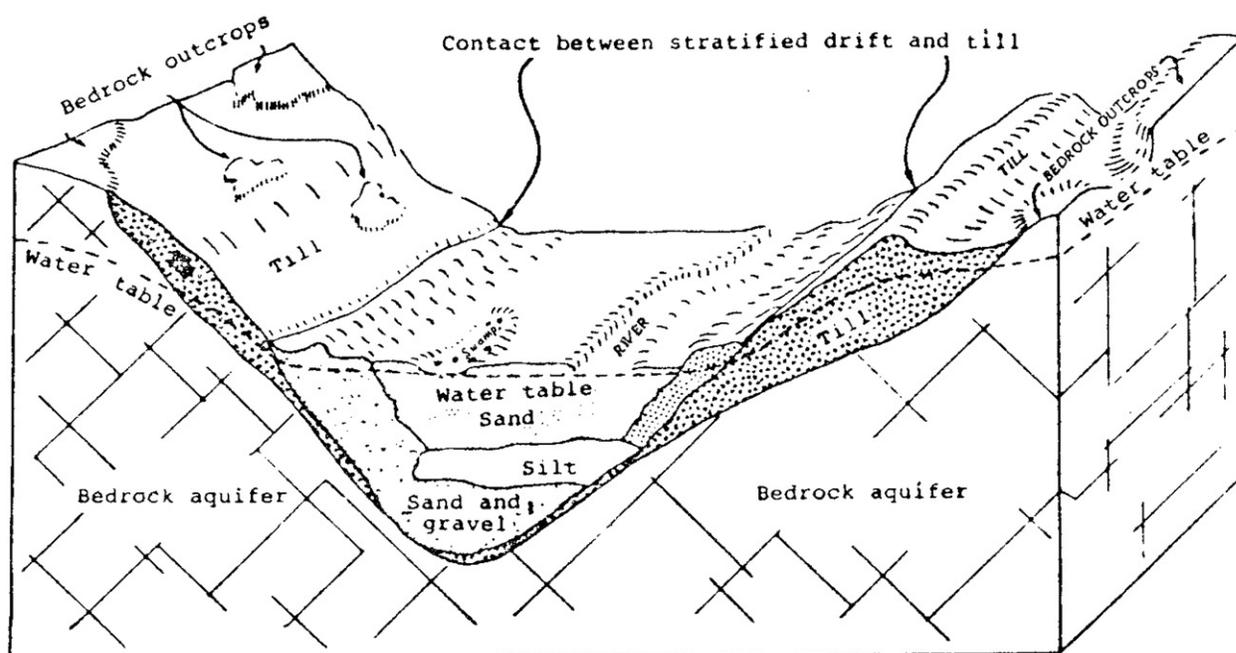


Figure 1-3. Spatial Relationships Between Stratified Drift, Till, and Bedrock Aquifers

"The hydrologic cycle" is a term used to denote the circulation of water between oceans, land masses, and the atmosphere. An unseen but important part of the hydrologic cycle occurs beneath the land surface as ground water. Some of the water from rain and snow percolates to the water table (top of saturated zone in permeable soil and rock materials) and flows to points of discharge at springs or into streams and lakes. The earth materials in the saturated zone, including both unconsolidated deposits and bedrock, constitute the hydro-geologic framework for ground-water storage and circulation. The earth materials that are capable of yielding usable quantities of groundwater to wells are termed aquifers. Aquifers occur in two types of geologic units: bedrock and the unconsolidated surficial deposits which overlay bedrock. The unconsolidated deposits

include stratified drift and till, while the bedrock is composed of either sedimentary, igneous, or metamorphic or crystalline bedrock. The relationships of these aquifers are shown (Figure 1-3). These units differ from one another in their ability to store and transmit water. Saturated stratified drift, particularly where composed of sand and gravel, is the only aquifer capable of supplying large quantities of groundwater on a sustained basis. Wells tapping the bedrock aquifers generally have yields adequate for domestic and some commercial uses. Joints and other types of fractures such as faults in the bedrock provide the open space for storage and movement of groundwater. Till is an inadequate source for most domestic requirements. It is seldom tapped by new wells although many older houses in Killingworth still depend on "dug wells".

Water quality standards have been adopted by the Bureau of Water Protection and Land Reuse, Department of Energy & Environmental Protection (DEEP). Except for a few small localized areas, the groundwater quality in Killingworth is high (Figure 1-4). Class GA is existing private and potential public or private supplies of water suitable for drinking without treatment; baseflow for hydraulically-connected surface water bodies. Class GAA is existing or potential public or supplies of water suitable for drinking without treatment; baseflow for hydraulically-connected surface water bodies. Class GAAs is ground water that is tributary to a public water supply reservoir. There are localized impaired areas within the GA and GAA areas. Areas in Killingworth that may be impaired include the former bulky waste site on Bethke Road, the current transfer station, the former town dump/landfill site on Bargate Trail, and an unknown location on Route 81. The policy of the DEEP in areas that are classified as GAA or GA is to maintain or restore all ground water in such areas to its natural quality.

There are a number of reasons why groundwater resources are crucial to the future of this town and must be protected from potential pollution.

These include:

1. The dependence of a large proportion of the Region's population on water from "on-site" domestic wells.
2. The importance of stratified drift aquifers as storage reservoirs and recharge sources in sustaining water tables, ponds, streams and wells.
3. The natural advantages of aquifer wells, which include dispersed locations with minimal transmission main costs, relative purity of water from the natural filtration process, and minimal losses due to evaporation.
4. Relatively reasonable land acquisition and development costs, in comparison with surface reservoirs. Little land is needed for a well site and most of the surrounding area is available for other compatible uses.
5. In upland areas, groundwater is more limited in quantity. However, it is widely available and serves as a suitable source for individual homes.

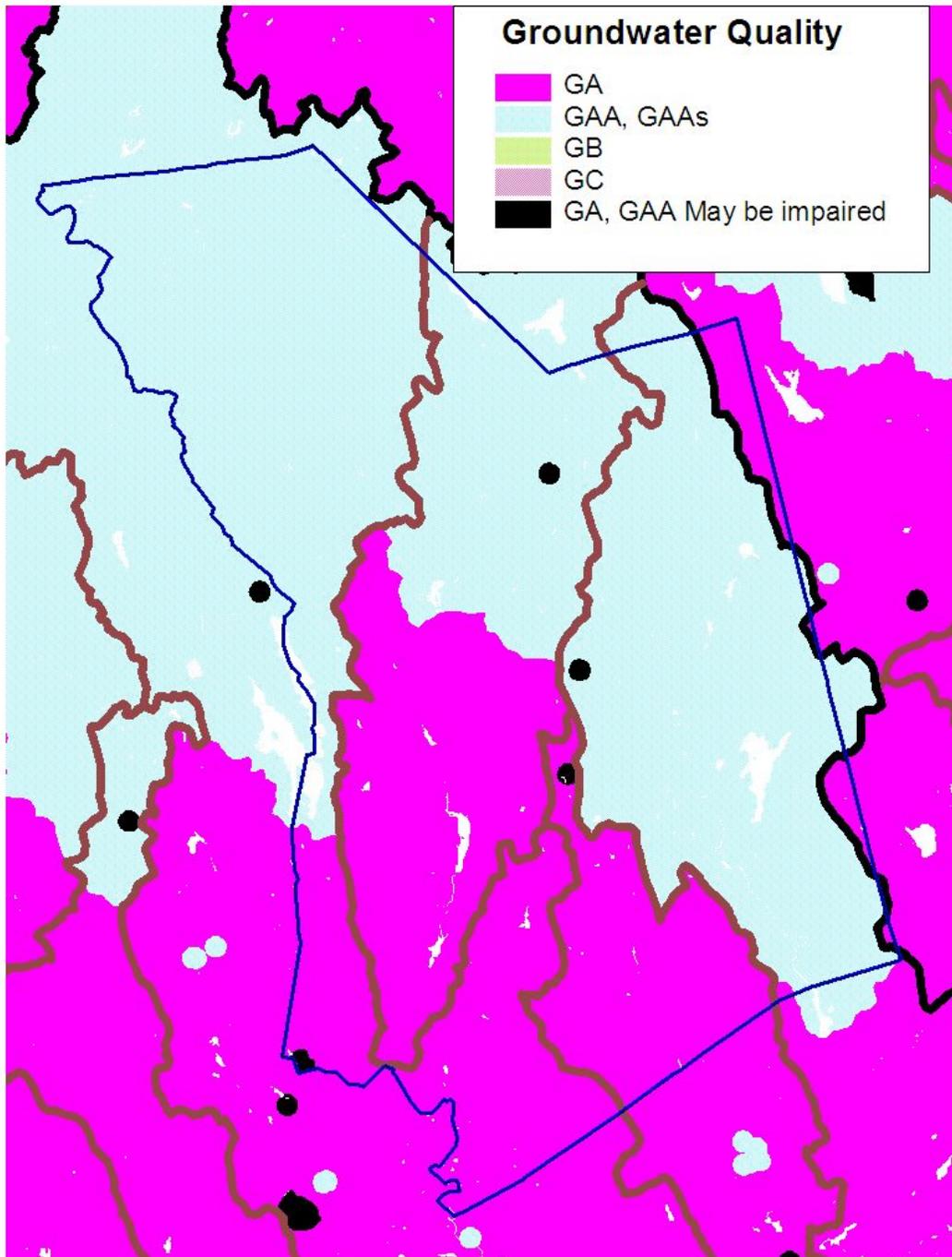


Figure 1-4. Groundwater Quality

In the Estuary Region, stratified drift aquifers are presently used for public water supplies and the Connecticut Water Company has identified stratified drift areas that it intends to explore and develop for additional water supplies. The most promising groundwater sources in the region are located in the inland valleys with larger streamflows. Within these "subterranean reservoirs" lie the principal reserves of good quality groundwater still available for the future needs of surrounding communities. The Connecticut River Estuary Regional Planning Agency (CRERPA, since replaced by RiverCOG) "208" Program, in cooperation with the U.S.G.S. and the then Connecticut DEP, has identified several potential major aquifers which warrant evaluation to determine their true capable

yield and long range management. The Hammonasset River Valley is a priority area in Killingworth.

The principal problems afflicting aquifers as water supply sources stem from manmade activities: pollutant discharges to ground water, and intensive development that destroys or impairs natural recharge (Figure 1-5). Often it hasn't been appreciated that groundwater originates on the land - some of it as run-off from subdivision, commercial and industrial sites, salted roads, waste "disposal" landfills, and on open land treated with pesticides - from sources contributing any contaminants before it is used. State laws and Town regulations are mostly silent on this problem. Open space and conservation plans frequently give recognition to protection of surface water and wetlands, but little or none to groundwater. The underground water resource has not been fully appreciated, nor have adequate steps been taken to preserve it in the face of development pressures, increased water use and the increased costs of treated surface water.

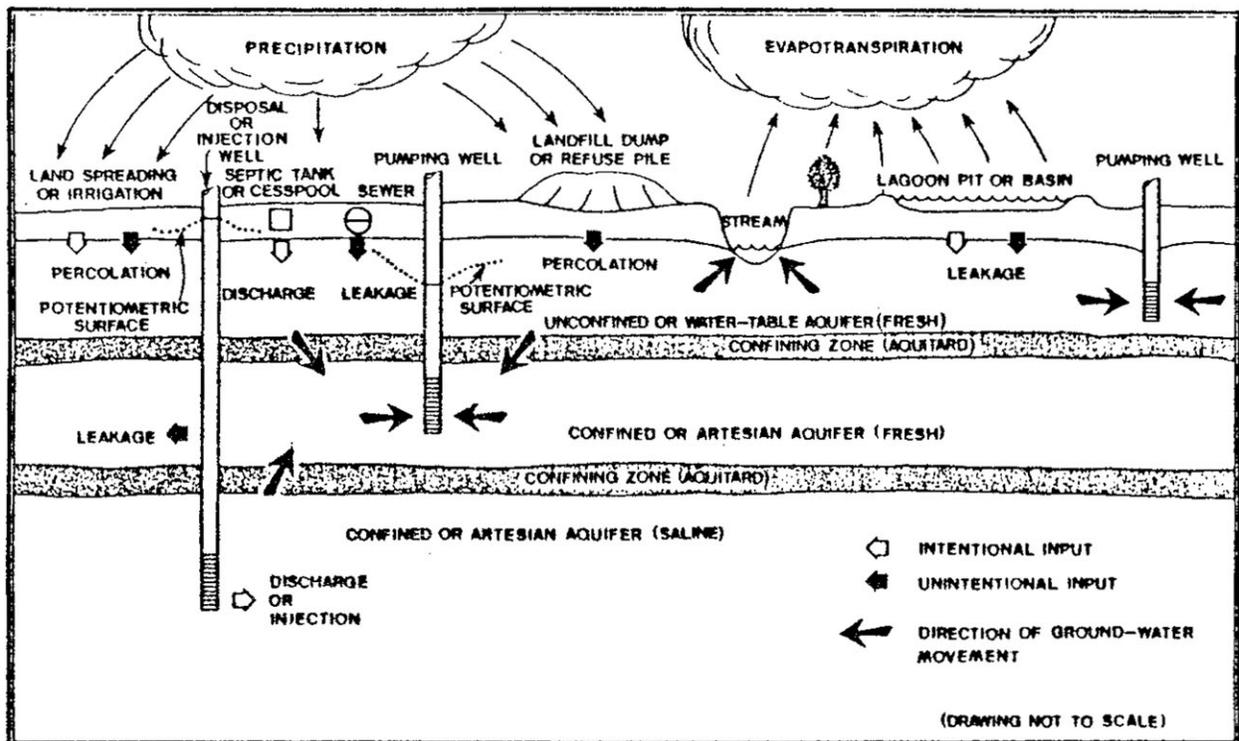


Figure 1-5. Pollutant Discharges to Groundwater

In 1972, Congress passed the Federal Water Pollution Control Act Amendments. Section 208 of the Act, the Areawide Waste Treatment Management Planning Process, provided for systematic planning on an areawide basis to develop solutions to pollution problems at the local level. Under the provisions of Section 208, CRERPA prepared a Groundwater Protection Report for the Town of Killingworth. In addition, the 1980 Session of the General Assembly passed amendments to Connecticut's planning and zoning enabling statutes (Section 8-23/Section 8-2) to give local land use commissions the power to protect existing and future public groundwater supplies. The passage of P.A. 80-327, An Act Concerning Municipal Aquifer Protection, has provided localities with the leverage they need to insure that groundwater sources are recognized in the municipal Plan of Development and Zoning Regulations. The steps which can be taken to implement groundwater protection involve three actions:

1. Amendments to Town Plan policies and future land use maps to recognize that ground

water quantity and quality are long-range public concerns.

2. Amendments to Zoning Regulation text and map to illustrate aquifer resources and incorporate the 208 aquifer protection and controls.
3. Administration and enforcement of groundwater regulations at the local level and cooperation with water utilities and State agencies in the identification of land uses which may pose a threat to pure groundwater.

WETLANDS AND WATERCOURSES

The wetlands and watercourses of Killingworth (Figure 1-6) are an interrelated web of natural features essential to an adequate supply of surface and underground water. Wetlands are also important in hydrological stability and control of flooding and erosion. Wetlands and watercourses are necessary to the recharging and purification of groundwater and to the existence of many forms of animal, aquatic and plant life. Unregulated activity such as deposition, filling or removal of material, the diversion or obstruction of water flow can degrade and destroy wetlands and watercourses. The preservation and protection of wetlands is in the public interest and is essential to health, welfare and safety of local citizens. The Killingworth Inland Wetlands and Watercourses Commission has the regulatory responsibility to protect, preserve, maintain, and oversee use of these wetlands. This is achieved by minimizing use; maintaining and improving water quality; preventing damage from erosion and sedimentation; preventing the loss of fish and other beneficial aquatic organisms, plants and wildlife and the destruction of natural habitats; protecting the quality of wetlands for their conservation, economic, aesthetic, recreational and other public and private uses and values; and by protecting potable fresh water supplies. The regulations of the Commission provide an orderly process to balance the need for economic growth and use of land with the need to protect the environment and ecology to guarantee the safety of the wetlands resources.

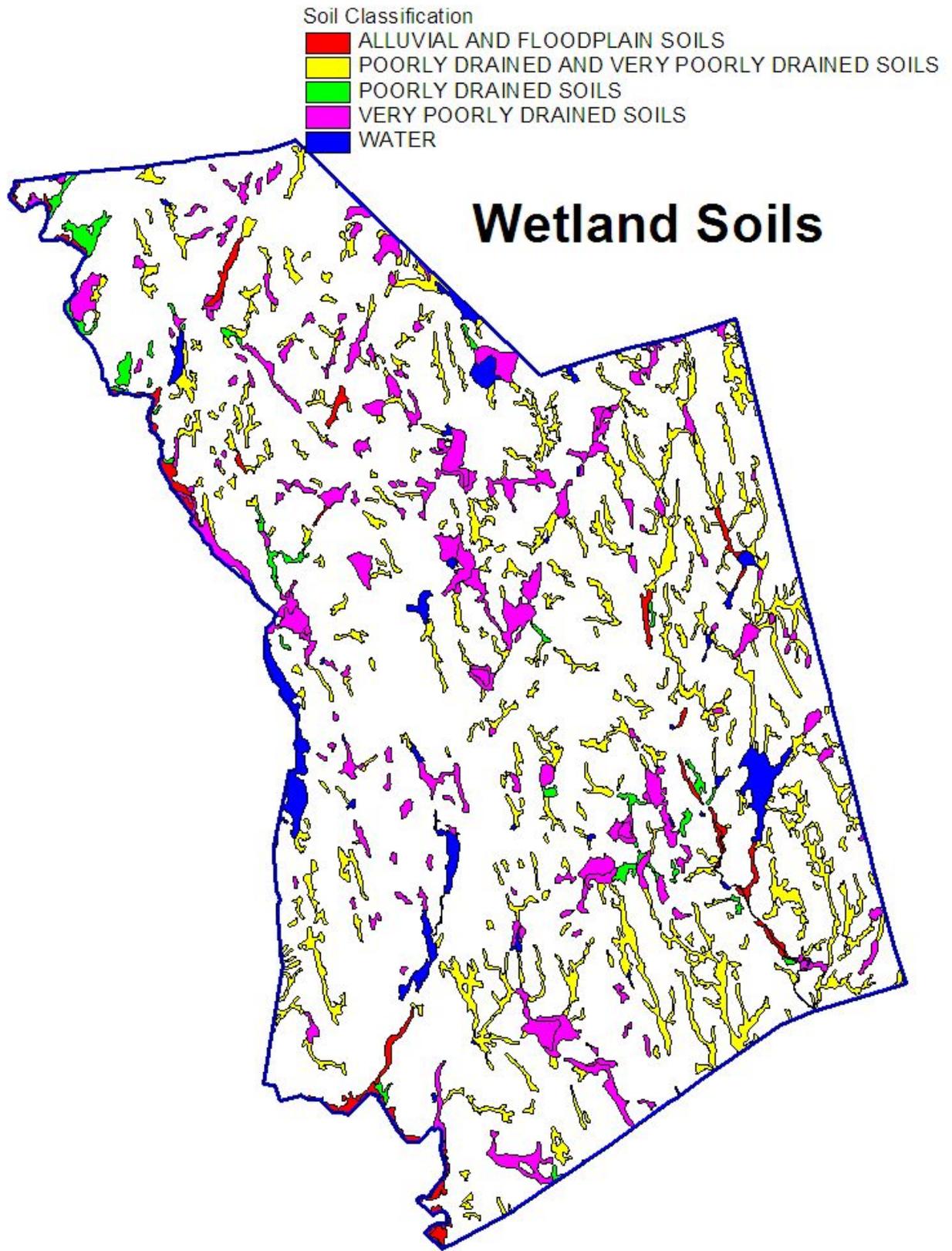


Figure 1-6. Inland Wetlands in Killingworth

FLOOD HAZARD AREA

Floodplain District Regulations were added to the Zoning Regulations on March 15, 1982 and amended August 19, 2008. The purposes of these regulations are to minimize public and private losses due to flood conditions in specified areas of the town of Killingworth by the establishment of certain standards and to insure continued eligibility of owners of property in the Town of Killingworth for participation in the National Flood Insurance Program. The Floodplain district is shown on a map in the Town Hall entitled "Flood Insurance Rate Map: Town of Killingworth, Connecticut, Middlesex County."

SOILS

A detailed soil survey map for Killingworth is available and shows the soil type found at any particular site. Each soil type differs in internal characteristics such as texture, structure, drainage, permeability, and depth to bedrock; and such external characteristics as surface stoniness, rockiness, slope, and flood hazard. These characteristics affect the management and usefulness of the soil. Ratings of soil suitability for a variety of uses have been devised by the United States Department of Agriculture, Soil Conservation Service and Connecticut Agricultural Experiment Station and are described in the Soil Survey of Middlesex County, Connecticut. These uses include building site development, sanitary facilities, roads and streets, water management, woodland productivity, recreation facilities, and yields per acre of crops and pasture. The rating system identifies the limiting feature of a soil that is to be used for a specific purpose and the degree to which that limitation will affect its use if uncorrected. For each soil, the potential and limitations for these land uses is identified and costly failures in houses and other structures, caused by unfavorable soil properties, can be avoided. A site where soil properties are favorable can be selected, or practices that will overcome the soil limitations can be planned.

1. Limitations for On-Site Sewage Disposal. The most critical soil characteristic for Killingworth with its dependence on ground water supplies and on site septic systems is the suitability of soils for on-site sewage disposal. The characteristics of soils that most critically affect homesite and septic suitability are: permeability, water table elevation, depth of soil above bedrock, renovation capacity to purify wastewater effluent, and slope. The interpretative ratings for soil limitation are defined as follows:

Slight - The few limitations are easily overcome by engineering design. The expense of correction is usually below the average cost of preparing the site for the intended use.

Moderate - The limitations require more intensive on-site observation and testing to determine the proper design. Moderate limitations can be corrected at average to above average costs of preparing the site for the intended use.

Severe - This rating indicates that the use of the soil is seriously limited by one or more factors. Intensive testing of the site is necessary to develop design features to overcome the limitations. Preparing the site for the intended use would be costly, and in some cases may be prohibitive.

The individual soil types shown in the detailed soil survey map can be grouped into units with slight, moderate, or severe limitations for on-site sewage disposal (Figure 1-7). Most of the soils in Killingworth are subject to moderate or severe limitations for this use.

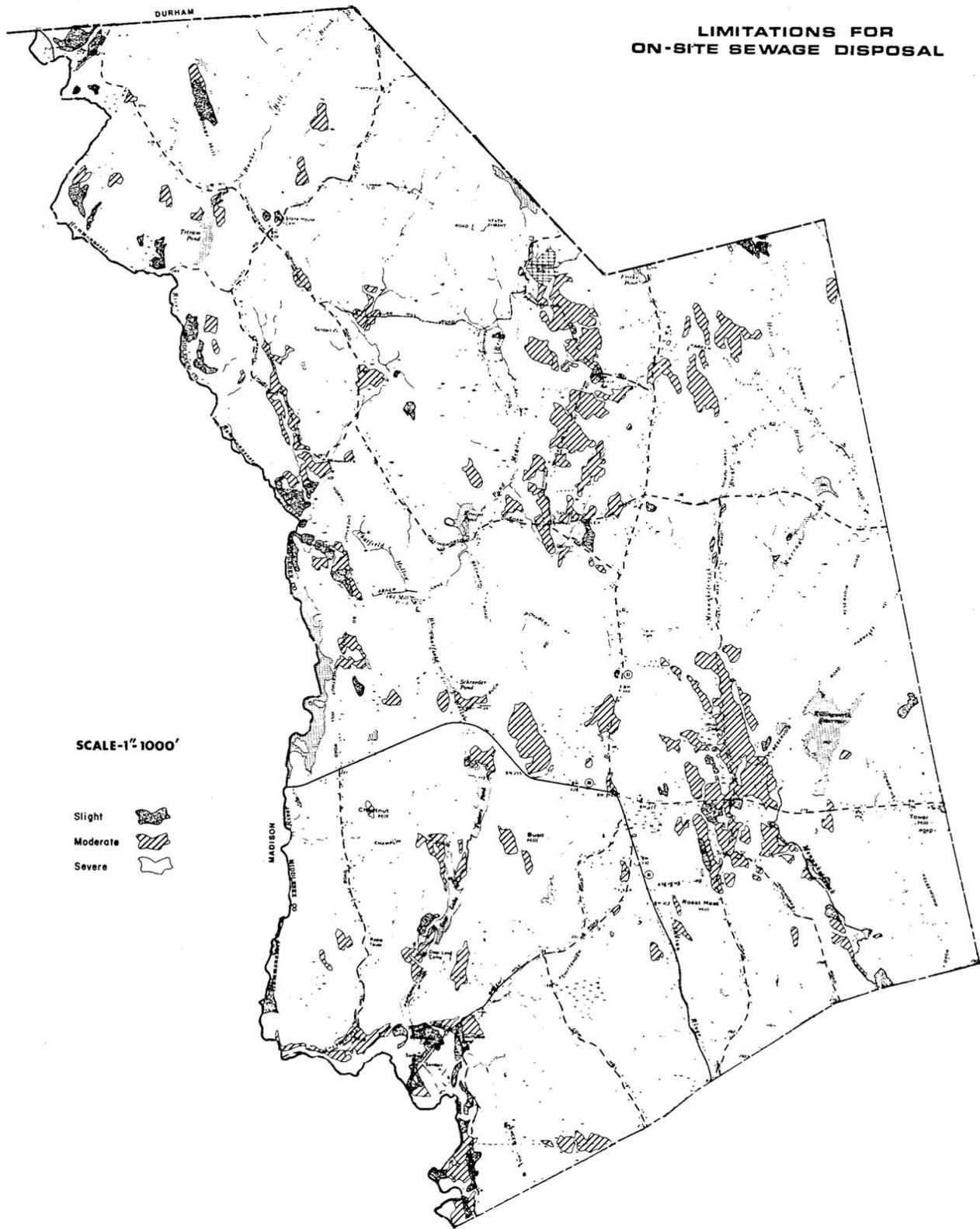


Figure 1-7. Soils with degree of limitations for on-site sewage disposal

2. Farmland Soils. Prime farmland consists of agricultural soils that have the best combination of physical characteristics for producing food, feed, forage fiber, and oilseed crops. The land could be cropland, pastureland, rangeland, forestland, or other land, but not urban built-up land or water. Prime farmland has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops. In general, prime farmlands have an adequate and dependable moisture supply, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for long periods of time. Typically, they do not flood during the growing season or they are protected from flooding. Farmland soils are shown in Figure 1-8.

Although Killingworth was once primarily a farming community, there remain no large active farms in town today. According to the Middlesex County Extension Service, in 1978, 1,196.7 acres (5% of total area) were in active farmland and 823.4 acres (4% of total area) were in inactive farmland. In 2006, only 316.2 acres of prime farmland soil was used for agriculture. Prime agricultural soils are soils that under a high level of management have a high yield of crops such as corn silage, Irish potatoes, alfalfa hay, grass-legume hay, and grass hay and pasture (forage and feed for animals). Prime agricultural soils comprise a relatively small area of Killingworth.

The State of Connecticut has enacted several pieces of legislation designed to protect farmlands and maintain agriculture. Public Act 490 passed in 1963 provides for assessment of farm, forest, and open space land on the basis of its current use rather than market value. Public Act 155, An Act Concerning Inland-Wetlands and Watercourses, was enacted in 1972 for the purpose of protecting wetlands. However, some activities including grazing, farming, nurseries, gardening and harvesting of crops and farm ponds of three acres or less are permitted as a legal right. The act also indirectly protects some farmlands by regulating other potential incompatible uses. In 1978, Public Act 78-232, An Act Concerning the Preservation of Connecticut Agricultural lands, was passed. This act provided for the protection of agricultural lands by purchase of development rights by the state. Finally, Connecticut's Right to Farm Bill was passed in 1981 and protects farm operations from nuisance complaints and restrictive regulations.

Farmland offers many environmental benefits, from wildlife habitat and flood control to recreational opportunities and access to fresh, locally grown foods. Farmland also generates a source of tax revenue for communities. Although farmland soils are not abundant in Killingworth and there are no large farms, agricultural lands should be preserved from residential development. These soils represent an opportunity for establishment of small organic farms, pastures for horses and sheep, and hayfields, all compatible with the rural-residential character of Killingworth.

Farmland Soils

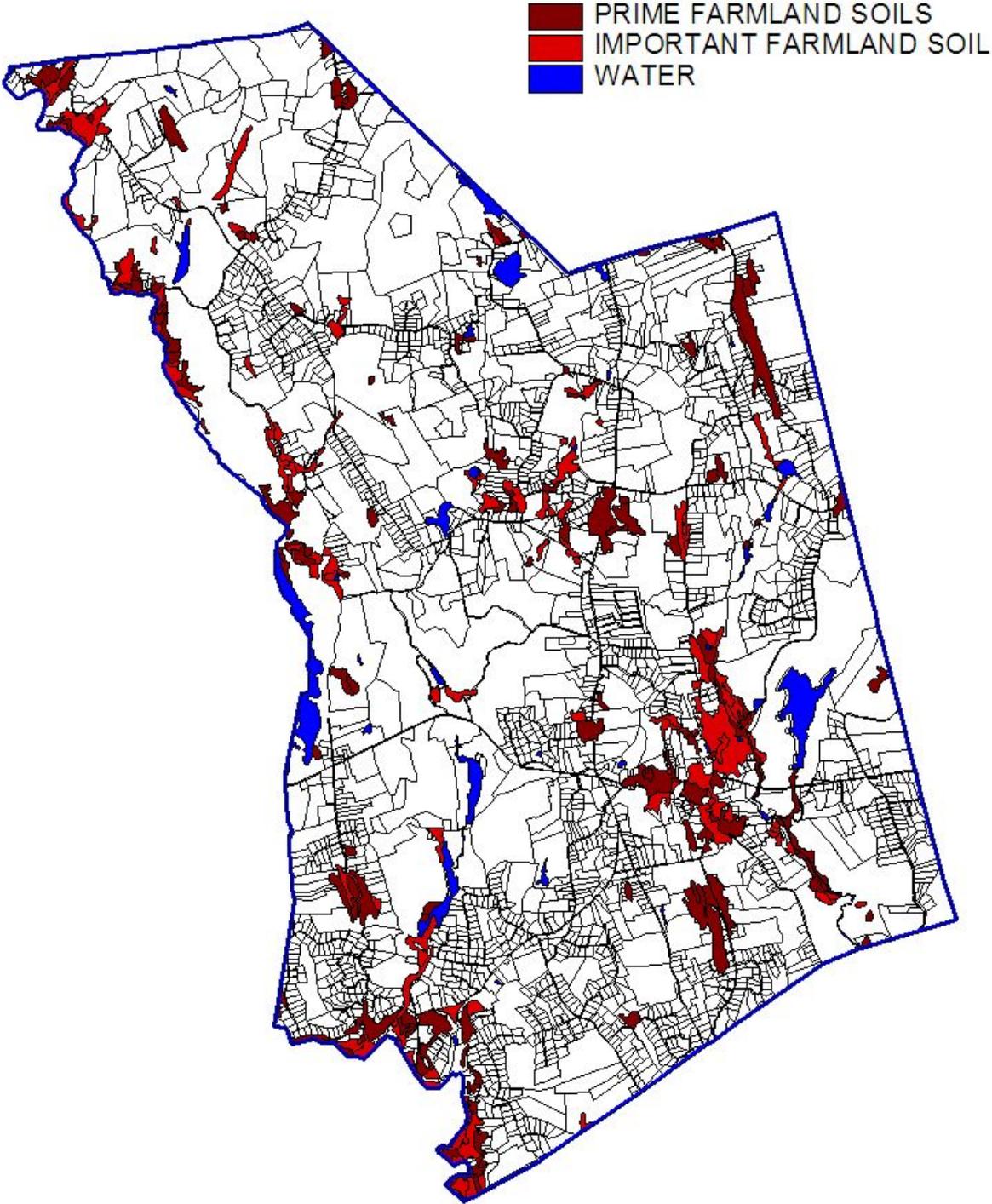


Figure 1-8. Farmland soils

Slope Greater Than 15%

limited potential

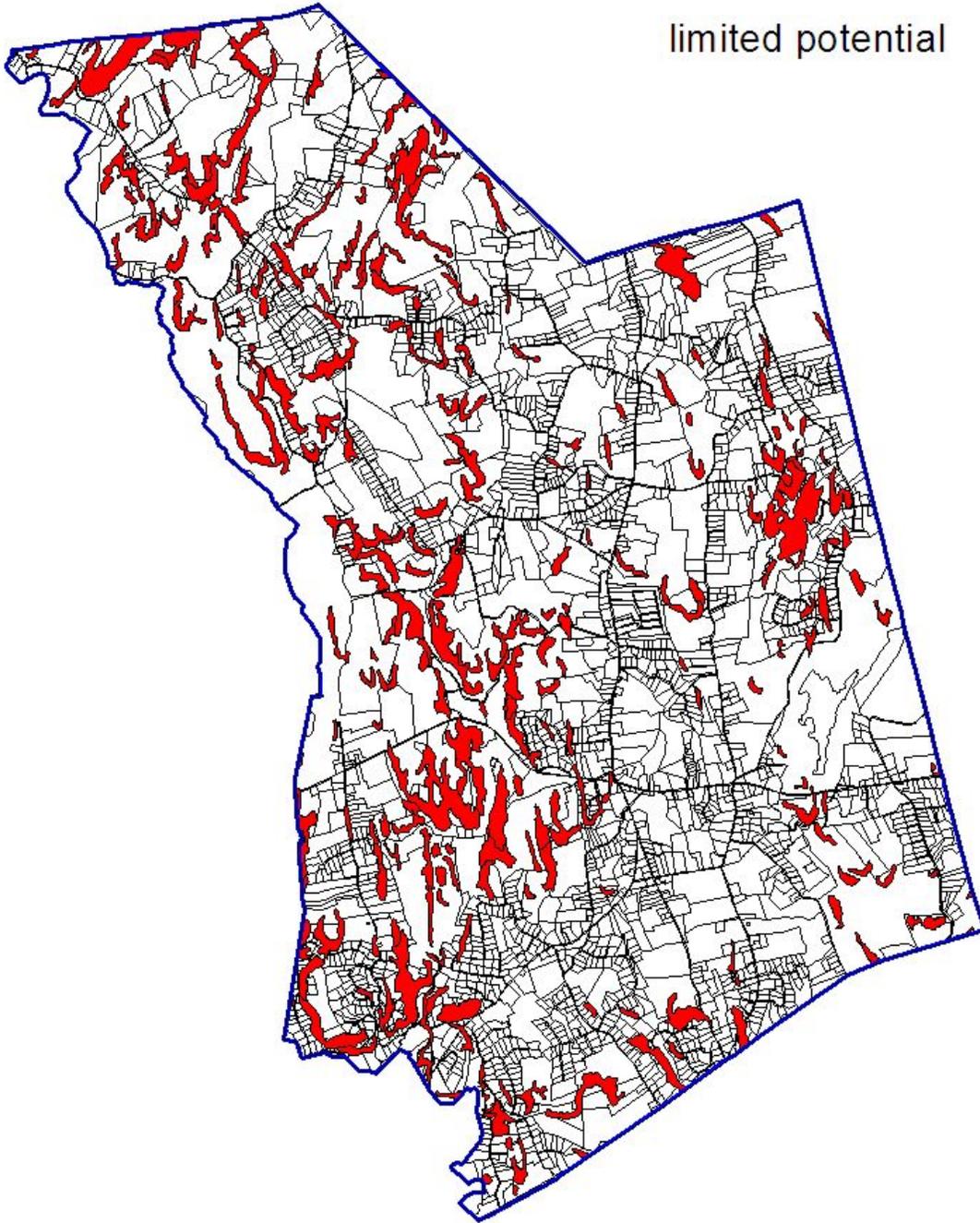


Figure 1-9. Slope.

3. Slopes. Along with wetland soils, steep slopes in excess of 15 % grade represent land that is poorly suited for development (Figure 1-9). Use of steep slopes for development may lead to adverse consequences showing up on and off site, sometimes after several years. Steep slopes may erode and stabilization may be difficult. Downstream flooding may occur. Septic system failures may require expensive corrective actions. Massive modifications to the natural terrain may change the character of an area significantly.

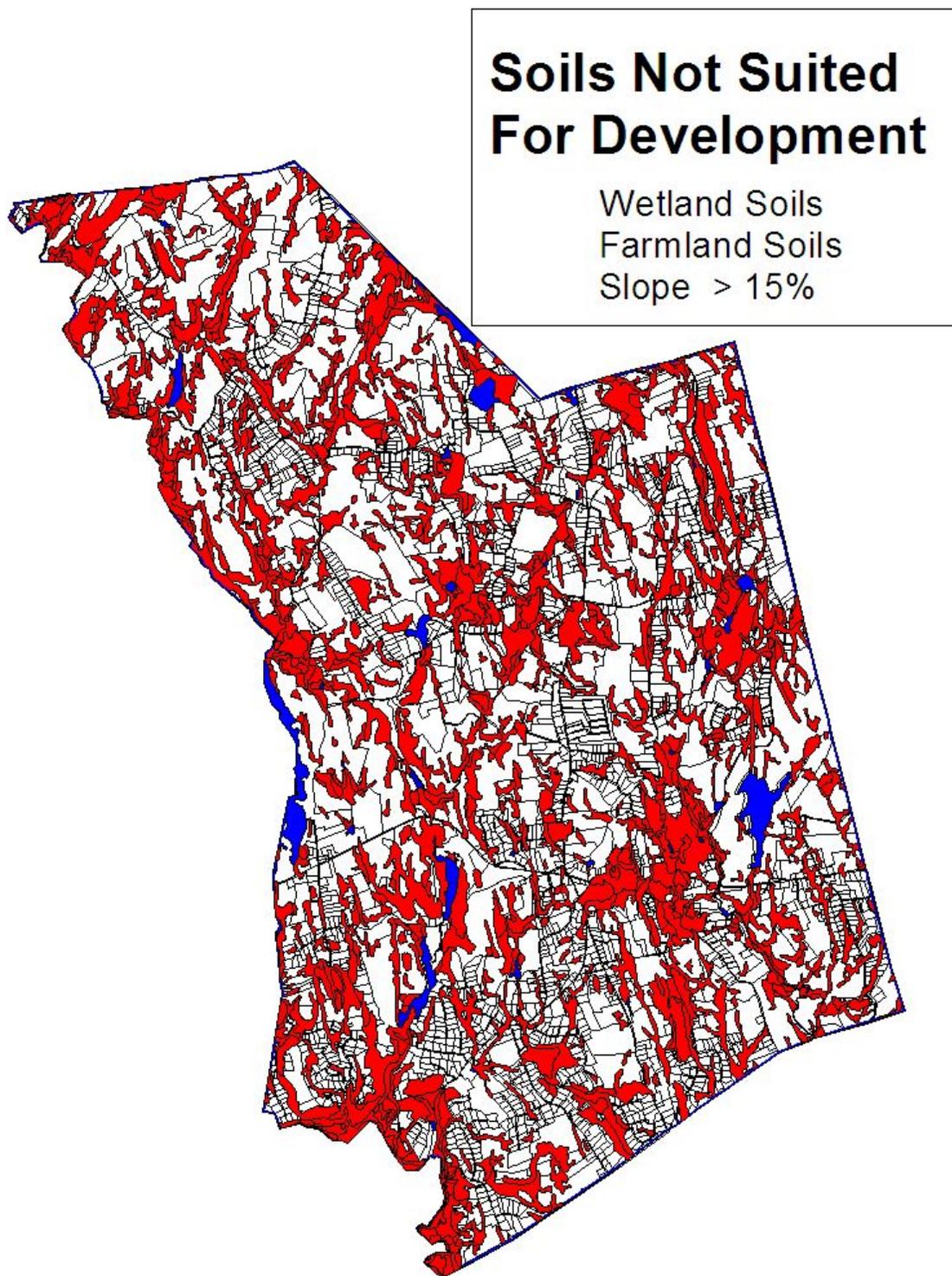


Figure 1-10. Soils not suited for development.

4. Soils Not Suited for Development. The map in Figure 1-10 is an aggregate of inland wetland, farmland, and steep slope soils shown in previous maps. All of these separate data layers are shown in red to indicate areas in Killingworth that may not be suited for development. The areas in white may be more suitable for development although some of these areas have soils with severe limitations for on-site septic systems.

5. Unique and Fragile Lands. There are in Killingworth certain unique and fragile lands that have been identified by the Natural Resources Center of the State Department of Environmental Protection. These lands contain rare and endangered species and unique natural habitats. The locations of these lands are available to the Conservation Commission and the Planning and Zoning Commission on a “blob map” that shows the approximate but not exact location of rare species to prevent poaching. Some of these locations are already protected and others are candidates for open space protection.

OPEN SPACE

Public Act 490 passed by the 1963 session of the General Assembly and now included in the General Statutes as Section 12-107 a, b, c, d, and e provides for assessment of farm, forest and open space land on the basis of its current use rather than market value. "Use value" is based on what the land is actually used for and not what it might be worth on the market. Use value taxation reflects the concern that market value taxation would result in forced conversion of open space into development.

In 1997, the Killingworth Planning and Zoning Commission amended the Plan of Conservation and Development to designate, pursuant to the authority of Section 12-107e of the Connecticut General Statutes, the following areas of open space land:

1. All land within a parcel in excess of five (5) acres shall qualify for Public Act 490 open space designation providing such excess land to be dedicated to open space is at least two (2) acres.
2. Any open space land, including tracts of land having an area of five (5) acres or less, held in perpetuity for educational, scientific, aesthetic or other equivalent passive uses, for the benefit of the public in general, and not held or used for development for any residential, industrial, or commercial purpose, if a possessory freehold interest in such tract is owned by any of the following:
 - a. Any organization to which a determination letter has been issued by the Internal Revenue Service that contributions to it are deductible under the applicable sections of the Internal Revenue Code as amended;
 - b. The South Central Connecticut Regional Water Authority;
 - c. The Connecticut Water Company;
 - d. The Central Connecticut Council of the Boy Scouts of America;
 - e. The Hammonasset Fishing Association;
 - f. The Girl Scouts of America;
 - g. The Madison Rod and Gun Club;
 - h. The Killingworth Land Conservation Trust; and
 - i. The Killingworth Historical Society
3. All tracts of land designated as open space by the Killingworth Planning and Zoning Commission, formally dedicated by the developer and conveyed to the legal entity that will ultimately own a possessory freehold interest in any such tract.

Town of Killingworth Open Space Map

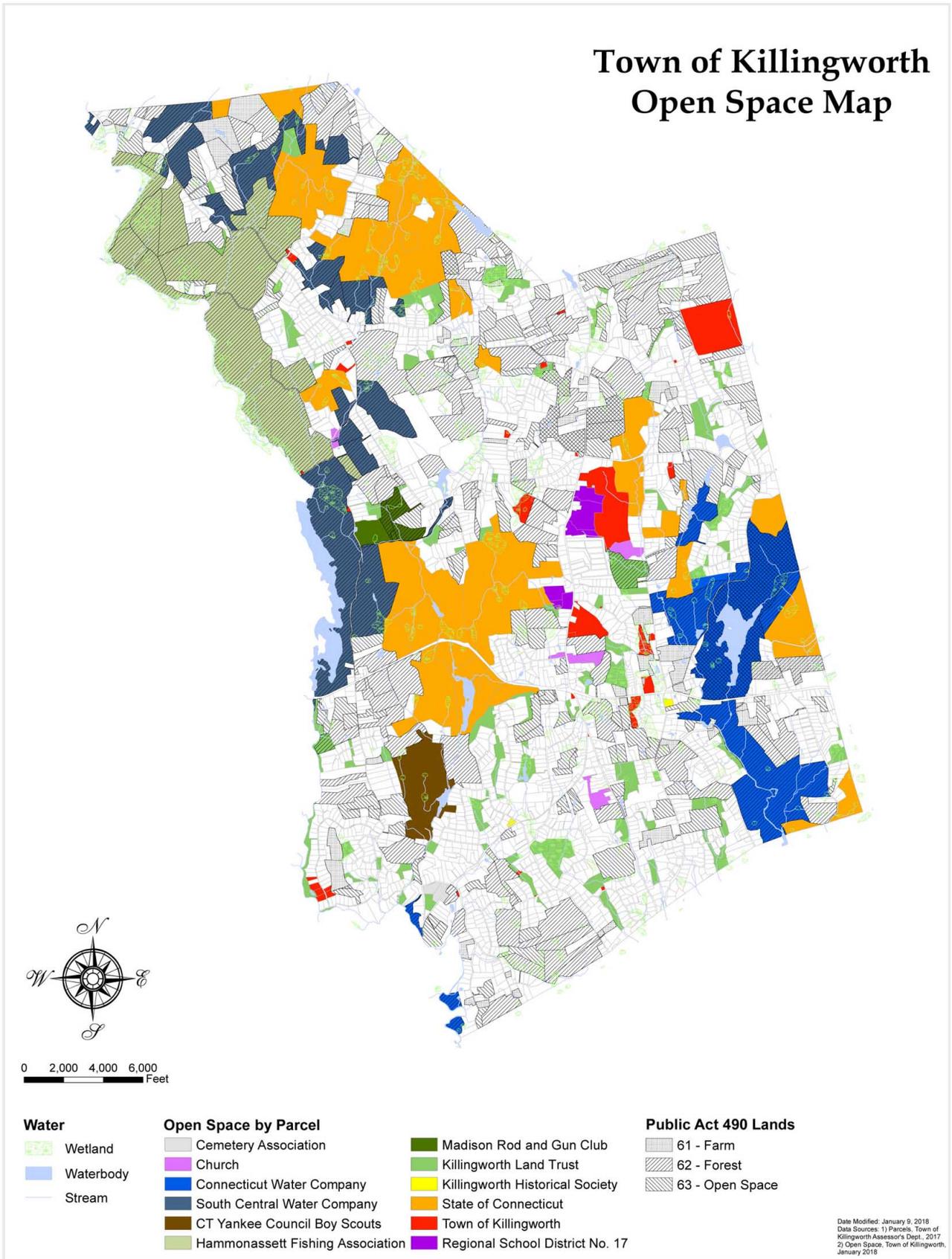


Figure 1-11. Total Open Space in Killingworth Including Land under P. A. 490.

4. For the purposes of this designation, lots or parcels of land separately described in deeds of other instruments shall be considered as forming a single tract if such lots or parcels are contiguous with one another at any point and are under the same ownership. Lots or parcels which are separated by a public street shall not be considered to be contiguous.

Under the designations above, a substantial amount of acreage in Killingworth is classified as open space (Figure 1-11). Not all of this land represents permanent open space. To obtain preferential assessment through Public Act 490, landowners must apply through the local assessor. Owners may, if they wish, sell, develop, or convert to other uses land currently designated open space under 490, subject to a penalty.

Section §485-52 of the Killingworth Subdivision Regulations provides for dedication of open space. Such open space can be considered permanent open space as it cannot be converted to another use. For areas of subdivisions greater than twenty acres, not less than fifteen percent of the subdivision area shall be dedicated to open space. Open space uses include parks, playgrounds or other recreational uses, or natural areas preserved and protected in their natural state. Such areas may be reserved for the exclusive use and enjoyment of owners and occupants of the subdivision area or they may be open for the use and enjoyment of the general public.

FOREST LANDS

The forest has long been a significant component of Connecticut's landscape. Historians state that in the early 1600s approximately 95 percent of the state was covered by forest. By 1750, forestlands were greatly reduced to make way for farmland that occupied two-thirds of the state's total area. The forest continued to be reduced in size until the mid 1800s when agricultural land use reached its peak and forested areas represented only 20 percent of the state's land area. As the population grew, the demand for wood for building and fuel continued to grow until the supply was outstripped by the latter half of the 1800s. The introduction of the portable steam sawmill in the late 19th century greatly increased cutting activity and further reduced productive forested areas. At this time, the white pines that had taken over many of the idled farmlands had reached the age where they made good logs and were harvested. The chestnut blight hit the state in the early 1900s and by World War I the chestnut had disappeared. There was extensive salvage cutting of these dead chestnuts until the 1920s. An active charcoal industry also made repeated clear cuts of forested areas until the 1920s. Forest fires also took their toll on the forests until a cooperative forest fire prevention program was initiated in the 1920s. The demand for fuelwood declined sharply after widespread adoption of coal and petroleum-burning furnaces. Forest acreage expanded once again as demand for fuelwood declined and the state's economy shifted to manufacturing. Much agricultural land was idled and reverted to forest. By 1972, forestland encompassed nearly 58 percent of the land in Connecticut.

In Killingworth, a large proportion of the total area is forested. Most of this land is privately owned while the next largest proportion is publicly owned (State or water company). In Middlesex County, hardwoods occupy 85 percent of the total forested area. Oak-hickory stands represent 47 percent of the total forest. Much of the reforested areas in Killingworth contain trees 60 to 70 years of age. At this age, some tree species are ripe for harvesting and the once dormant lumber industry is reviving. Much of the material produced is railroad tie material but there has been an increase in harvesting of export quality Southern New England white and red oak. In addition, interest in wood as a fuel has increased greatly as non-renewable energy sources become more costly and less

available. Connecticut's forests presently yield 25 cords of fuel wood per acre per year and 113 board feet of saw timber per acre per year. If forests were properly managed, the yields would easily double.

Thus, forestlands and the wood they produce contribute positively to the economy. In addition, forestlands have considerable recreational, wildlife, and water quality values. In many subdivisions, however, house sites are often completely cleared and all trees removed. Although this practice may be economical, it results in increased runoff of water and encourages large, fertilized lawns.

HISTORIC FEATURES

Killingworth and the town of Clinton to the south were founded in 1663 as the Plantation of Hammonasset (Hommonoscit) by an act of the Connecticut General Assembly. The original lots were laid out along what is now Main Street in Clinton. In 1667, the town was named Kenilworth, after the place in England from which one of the settlers came. In England, Kenilworth was also referred to as Killingworth, and the latter through misspelling became the name used by the town. In 1669, Uncas, Sachem of the Mohegans, and his son Joshua sold the lands in Killingworth to the inhabitants. The Congregational Church was formed in 1667 and the first minister was the Rev. John Woodbridge, a graduate of Harvard. Dr. Abraham Pierson became minister in 1694. He was among a group of clergymen who in 1701 formed the Collegiate School which later was named Yale College. He was its first rector or President and held classes in his home in Killingworth until his death in 1707. He was succeeded as pastor by Jared Eliot who was also an agriculturalist, scientist, and the most prominent physician in the Colony.

Settlement of the northern portion of Killingworth began in the early part of the 18th century. Descendants of the original settlers and new settlers obtained grants of land from the proprietors of the town. In 1730, the inhabitants of North Killingworth, known as the farmers, petitioned to form a separate society because it was so difficult to travel to church and town meetings in the south. They were organized in a parish (the North Society or Second Ecclesiastical Society) in 1735. The General Assembly granted permission for the establishment of a church in 1737 and the Rev. William Seward served as pastor from 1738 to 1782. A society house (equivalent to a town hall) was built in 1736 and the first meetinghouse (church building) was completed in 1743. The Emmanuel Episcopal church building was completed in 1816. The present Congregational church building was completed in 1820. The North Society, which retained the name Killingworth, was separated from the First Society, which assumed the name Clinton, by an act of the legislature in 1838. While Clinton was active in business, shipping, and fishing, Killingworth was largely a town of farms and small, water-powered mills. In the second half of the 19th century and into the 20th century, the population declined and many residents departed for the Midwest as farming here became less profitable.

The tangible legacy of Killingworth's past is the approximately 150 houses that survive from before 1870, two early nineteenth century churches, eight graveyards, eight one-room schoolhouses, and the remains of the sites of early development and industry (Table 1-1). All of these cultural assets add considerably to the charm and variety of Killingworth's countryside and must be preserved. The fact that our historic structures and sites are slowly disappearing makes the task of preserving them urgent.

Because Killingworth was an outlanders' settlement, it does not have a town green or real main street around which to plan. Two of the most historically significant buildings are on Route 81 just north of the traffic circle and adjacent to the commercial district. These are the Old Ely House, the

house for the second pastor Henry Ely, and the Killingworth Congregational Church, dedicated in 1820. A house, now the Killingworth Café, northeast of the junction of Routes 80 and 81 was built around 1790 on the site of the original parsonage. These landmarks, thirteen other historically significant buildings, and the historic site of our first churches are located within the extended town center along Route 80 and 81.

Table 1-1. Historically Significant Sites in the Town of Killingworth

Name	Location	Owner
Schools, School Sites		
Black Rock District	Route 148, moved to Recycle Way	Killingworth Historical Society (KHS)
Center District	Route 80 & 81 Circle	Town of Killingworth
Chestnut Hill District	Chestnut Hill Road	Private
Lane District	Route 81 & Pond Meadow Road	Private
Pine Orchard District	Route 148, moved to Parmelee Farm	Town of Killingworth
Roast Meat Hill District School Site	Roast Meat Hill Road	Private
Southwest District	Green Hill Road, moved to Fire Tower Road	Private
Stone House District	Little City Road	Private
Tower Hill School Site	Titus Coan Road & Deep River Turnpike	Private
Union District	Roast Meat Hill Road	KHS
Cemeteries		
Union District	Roast Meat Hill Road	Town of Killingworth
Southwest District	River Road	Town of Killingworth
Pine Orchard District	North Chestnut Hill Road	Town of Killingworth
Parker Hill District	North Parker Hill Road	Town of Killingworth
Lane District	Lovers Lane	Town of Killingworth
Stone House District	Little City Road	Town of Killingworth
New Pine Orchard District (Emmanuel Church Cemetery)	Bunnell Bridge Road	Town of Killingworth
Evergreen	Green Hill Road	Private Association
Mill and Factory Sites		
Old Ironworks (Eliot)	Ironworks Road	CT Water Company
Ironworks	Chatfield Hollow	State of CT
Hydroelectric Plant	Chatfield Hollow	State of CT
Abner Lane Mill	Abner Lane Road	Private
A. Lane Axe Handle Mill	Schnoor Road	Private
Axe Handle Mill	Pond Meadow Road	Private
Isbell Rake & Hub Mill	Birch Mill Road	Private
Scranton Circular Sawmill	County Road	Hammonasset Fish & Game

		Association
Ambrose Parmelee Grist Mill	Kroupa's Pond	Private
Parmelee Saw Mill	Kroupa's Pond	Private
Augustus Stevens Saw Mill	Titus Coan Road	Private
Augustus Stevens Grist Mill	Titus Coan Road	Private
Kelsey Shingle Mill	Burr Hill & Pond Meadow Road	Private
Mill Site	CL & P ROW off Spencer Hill Road	Private
Asahel Parmelee Shingle Mill and Saw Mill (made spinning and flax wheels)	Saw Mill Hollow, Off Route 148	Private
Elba Paper Mill	Paper Mill Road	Boy Scouts of America
Killingworth Manufacturing Company Paper Mill	Green Hill Road	Private
Tannery	Nineveh Falls, Route 80	Private
Additional mill sites shown on old maps, not yet documented		

Ecclesiastical Buildings and Sites

First Congregational Meetinghouse Site	Chittenden Road & Route 81	Killingworth Land Conservation Trust (KLCT)
First Society House Site	Chittenden Road & Route 81	KLCT
William Seward House Site, Killingworth Inn built over it	Route 80 & 81	Private
Henry Ely House	Route 81	Private
Second Congregational Meetinghouse	Route 81	Congregational Church
Second Society House Site	Behind Congregational Church	Congregational Church
Congregational Church Parsonage	Route 81	Congregational Church
Emmanuel Episcopal Church	Emanuel Church Road	Emmanuel Episcopal Church
Former Parsonage for Emmanuel Church	Route 148	Private
Methodist Episcopal Church Site	Route 81 & Pond Meadow Road	Private
Former Parsonage for Methodist Church	Route 81	Private
St. Lawrence Church and Rectory	Hemlock Drive	Roman Catholic Church

Abandoned Roads

Deep River Turnpike	Parallel Route 80	Various
Wolf Meadow Road	Roast Meat Hill Road to Route 81	Town of Killingworth, Private
Bear Swamp Road	Roast Meat Hill Road to Center Road	Private
Center Road	North of Route 80 east of Circle	Congregational Church, Private

Miscellaneous Sites

Titus Coan Housesite	Titus Coan Road	Private
Stagecoach Stop	Tower Hill Road	Private and Town of Killingworth
Old Town Hall	Route 81	Congregational Church
First Training Plain	Green Hill Road	Private
Second Training Plain	Route 80 east of Circle	Private
Killingworth Images Site	Green Hill & Coughlin Roads	KHS
Town Pound	Route 80 east of Circle	KLCT
Buell Homestead site	Deer Lake	KLCT
Carriage Road	Deer Lake	KLCT
Agricultural Renaissance Cairns	Deer Lake	KLCT
Gold Mine	Gold Mine Road	Private
Stone Fort	Parker Hill Road, included in Wilkinson house	Private
Indian Village Site	East of Roast Meat Hill Road, north of Route 80	Private
Indian Caves	Chatfield Hollow	State of CT
Indian Caves (Sackett's Cave)	Cockaponset State Forest	State of CT
Footings for Telegraph Poles	Abner Lane	Town of Killingworth
	Route 148	State of CT
Pondmeadow Gate	Pond Meadow Road	Private

Environmentally –Sensitive Areas

Cedar Swamp	East of Cow Hill Road	KLCT
Cranberry Bog	Pond Meadow Road	KLCT
Green Swamp	East of Burr Hill and Schnoor Roads	Private

CHAPTER 2

COMMUNITY PROFILE: DEMOGRAPHIC, ECONOMIC, HOUSING, AND EMPLOYMENT

Most of the data in this chapter was taken from the Connecticut Economic Resource Center (CERC) Town Profile of Killingworth 2017 (www.cerc.com), the Annual Report of the Town of Killingworth F/Y 2014-2015, the Connecticut Data Collaborative (date.ctdata.org), and the U.S. Census Bureau.

POPULATION

Killingworth's population reached a low point in the early twentieth century as manufacturing and farming declined (Table 2-1). In 1930, Killingworth's population was 482. It then experienced a steady increase throughout the subsequent decades due to natural population increase and an immigration factor influenced by national economic and land use trends and increased automobile ownership.

Population (2005)	Town	County	State
1850	1107		
1900	651		
1920	531		
1930	482		
1950	677		
1970	2,435		
1980	3,976		
1990	4,814	143,196	3,287,116
2000	6,018	155,071	3,405,565
2005	6,577	165,752	3,534,280
2010 (Projected 7,112)	6,525	165,676	3,574,097
2011-2015	6,490	165,165	3,593,222
2011-2015 Growth/Year %	-1.33%	-0.35	.533
2020 Projected	6,282	170,518	3,604,591
Land Area (square miles)	35	369	5,009
Population Square Mile			
1980	85		
1990	134		
2005	186	449	706
2015	184	447	742
Households (2015)	2,513	66,111	1,352,583
Median Household Income (2015)	112,137	79,893	70,331

Table 2-1. Population

Between 1950 and 1970, the town experienced a large increase in population, reflecting the nationwide population explosion during these two decades. Due to the population increase and the

completion of I-95 and Route 9, the town experienced a 360 percent increase in population from 1950 to 1970. This increase can be attributed to the construction of the interstate highway system that made residential settlement in rural suburban neighborhoods economically feasible. Also, many businesses followed the workforce from central cities to the suburbs for both economical and aesthetic reasons. Thus, these two factors contributed highly to the increased population seen during these two decades. Since that time, the town's population has continued to increase, much of which is due to the building booms of the mid to late 1980s and late 1990s. The population density for Killingworth was 184 persons per square mile in 2015. Density has remained static since the plan published in 2008. However, contrary to predictions in the last report, Killingworth is predicted to lose significant population by 2040. Projections now indicate a steady loss of population with a reduction of 27.3% by 2040. The same trend is predicted for most Connecticut towns except for urban areas, which are predicted to increase slightly over the same period. The overall state population is predicted to increase by only 1.1% by 2040.

Table 2-2. Projected Killingworth Population. Source: CERC and the Data Collaborative. (2015). (Some figures differ from those in Table 2-1.)

Year	2000	2005	2010	2015	2020	2025	2030	2035	2040	Change	% Change
Killingworth	6,018	6,409	6,707	6,526	6,282	5,992	5,681	5,351	4,957	-1,569	-27.3%
State				3,593,268	3,604,591	3,618,755	3,633,982	3,645,390	3,635,954	+42,686	+ 1.1%

Regional School District 17, after an extensive examination, has decided to close one of the three elementary schools based upon predictions of a significant decline in student population.

AGE-SEX CHARACTERISTICS

According to the US Census, there were slightly more females than males in the town of Killingworth (Table 2.3). There were more males than females in the 5 to 17, 18-24, and 50-64 age cohorts. In 2015, the median age for residents of Killingworth was 42, unchanged since the last report.

Table 2-3. Age Distribution (2015)

	0-4	5-14	15-24	25-44	45-64	65+	Total
All	193	775	842	1,065	2,304	1,311	6,490
Gender	3%	12%	13%	16%	36%	20%	
County	7,541	18,616	20,599	37,752	52,511	28,156	165,165
Total	5%	11%	12%	23%	32%	17%	
State	191,445	446,058	492,864	885,518	1,035,059	542,278	3,593,222
Total	5%	12%	14%	35%	29%	15%	

Median Age (2005)

Town	County	State
42	41	39

ETHNIC BACKGROUND

As shown in table 2-4, the vast majority of Killingworth's population, approximately 97.5 percent, is white.

Table 2-4. Race/Ethnicity 2015

	Town	County	State
White	6,038	140,206	2,487,119
Black	31	8,383	370,501
Asian Pacific	55	4,558	150,670
Native American	0	130	8,908
Other/Multi-Race	237	5,109	238,800
Hispanic	182	9,183	526,508

EDUCATION

The number of residents with a bachelor's degree or higher has fallen to 44% from 49% over the past 10 years. However, the rate is higher than the state average of 37.58%.

Table 2-5. Education 2015 (%)

	Town	State
Less Than High School	1.88	10.15
High School Degree	24	27
Some College	16.39	17.46
Associates Degree	13.65	7.44
Bachelor's Higher	44%	37.58

HOUSING CHARACTERISTICS

There are 2,709 housing units in town with and an owner occupied rate of 95%. The median sale price has slipped to \$385,000 from \$450,000 in 2005 reflecting the burst in the housing bubble since that time. Over 86.1% percent of the households are single family attached and detached housing. However, 286 of the town's total occupied housing units are comprised of mobile home units. However, when compared to the median values of other towns within the Region, Killingworth is an expensive town in which to purchase a home, and this may be a reason why so few 20-35 year olds have remained within the town. To provide housing in Killingworth for those of moderate income, and to ensure that such housing be developed in a manner consistent with the rural-residential character of Killingworth, the Planning and Zoning Commission has adopted affordable housing regulations. However, only five housing units have been built under these regulations.

**Table 2-6. Killingworth Housing Characteristics
2011-2015**

Existing Units (total)	2,709
% Single Units	86.1
New Home Permits (Average 2010 - 2015)	7.6

Demolitions (Average 2010 - 2015)	4.6
Residential Sales (2013)	89
Median Price Killingworth	\$385,300.00
County	\$285,100.00
State	\$270,500.00
Built pre 1950 Share	16.8%
Owner Occupied Dwellings (2013)	2,391
As % Total Dwellings	95.0%
Subsidized (Affordable) Housing (2001)	20
Real Estate Average Sales (2011-2015)	\$385,300.00
Less than \$100,000	14
100,001-200,000	12
200,001-300,000	12
300,001-400,000	24
400,000 or More	27

INCOME, EMPLOYMENT, AND BUSINESS

Median family income for residents of Killingworth is \$112,137, up from \$87,557 in 2005. Less than one percent of town residents have incomes below the poverty level.

Table 2-7. Income

	Town	County	State
Median Household Income (2015)	112,137	79,837	71,755
Poverty Rate 2015	<1.0%	7.9%	9.8%

The work force in town is 3,793, up from 3,459 in 2005, with 3,645 people actively employed, up from 3,348 in 2005. Unemployment overall, however, is 3.9% up from 3.2% for the same period. The great majority of employed persons commute to other towns for work. Not surprisingly, the preferred means of transportation to work was the automobile. The majority of workers traveled more than 30 minutes to reach their employment and almost all commute alone. As shown in the table below, Killingworth does not attract a significant number of workers from other areas of the state to work within the town.

Table 2-8. Labor Force

Labor Force (2015)			
Total	3,793		
Employed	3,645		
Unemployed	148		
Unemployment Rate	3.9%		
Commuters (2000)			
Commuters into Town From:		Town Residents Commuting to:	
Killingworth	209	Killingworth	370
Deep River	18	New Haven	331

Middletown	18	Middletown	135
Guilford	23	Clinton	139
Clinton	74	Madison	159
Madison	21	Wallingford	124
Haddam	59	Essex	107
		Hartford	131

The business sectors in Killingworth are shown in table 2-9. The largest number of people are employed in the service sector. The largest employer in Killingworth is the Killingworth Middle School which was completed since the last report. The top taxpayers are utility companies, Jensen's Residential Communities, and owners of land under residential development.

Table 2-9. Business Profile (2015)

Sector	Firms	% of Total	Employees	% of Total
Construction	39	28	63	5.1
Retail	22	16.1	67	5.4
Manufacturing	4	2.9	20	1.5
Local/Municipal Government	5	3.6	153	11.8
Administration/Waste Services	21	9.8	88	6.8
Professional, Scientific & Technical Services	22	16.1	61	4.7
All Businesses	136		1,288	

Top Ten Grand List (2013)	Amount	% of Net	Nature
Eversource	\$6,624,160	0.59	Utility
Jensens Residential Community	5,460,000	0.51	Residential Community
Connecticut Water Company	3,592,130	0.51	Utility
M & M Realty Holdings LLC	2,280,180	0.38	Pharmedica Site
Deer Lake II LLC	1,562,650	2.1	Residential Subdivision
Anderson, Norma R Trustee	1,290,170	1.7	Residential
KTV Costfam Ltd Partnership	1,248,560	1/7	Hardware Store
Garguilo Eugene & Catherine	1,142,270	1.5	Commercial
Moore, Deborah L	1,109,870	1.5	Residential
Pattaconk Farm LLC \$1,069,990	1,069,990	1.4	Residential
Net Grand List (2013)	\$718,731,799		

Top Five Employers (2015)
Haddam-Killingworth Middle School
Killingworth Elementary School
Prudential Connecticut Realty
The Cooking Company
Killingworth True Value

Table 2-10 lists characteristics that affect the quality of life in Killingworth. One of the most significant is the amount of open land (undeveloped land) because this contributes to the rural-residential character of the town that many residents cite as a most desirable characteristic. The Regional Planning Agency for Killingworth is RiverCOG headquartered in Essex. Since the last report, regional planning agencies have merged by state mandate. The agency now covers towns as far north as Cromwell. There are organizations that provide support and counseling for youth and families. The Killingworth Land Conservation Trust preserves lands through conservation easements and purchase of open space lands. There are four churches in Killingworth.

Table 2-10. Quality of Life

Banks (2018)	1
Lodging (2018)	1 Chatfield Hollow Inn
Day Care Facilities (2006)	4
Infant Mortality Rate per 1,000 births (2018)	0
School District	Regional School District 17
Regional Planning Agency	RiverCOG 145 Dennison Road Essex, CT 06426 (860) 581-8554 info@rivercog.org
Conservation	Connecticut River Coastal Conservation District, Inc.
Crime Rate per 1,000 residents (2015)	4
% Open Land (2006)	90.6
Hospitals	0
Business	Killingworth Chamber of Commerce
Youth and Family Services	Youth and Family Services of Haddam-Killingworth, Inc.
Drug Prevention	Prevention Council of Haddam and Killingworth
Library (2018) Total Volumes Circulation per Capita	40,200 6.2
Land Trust	Killingworth Land Conservation Trust
Historical Society	Killingworth Historical Society
Parks and Recreation	Chatfield State Park Parmelee Farm Irene Sheldon Park Eric W. Auer Killingworth Recreational Park Rocco M. Reale Memorial Field Bethke Field
Other Community Services	The Arts Center at Killingworth Killingworth Lions Club Killingworth Evergreen Garden Club

	Killingworth Woman's Organization Boy Scouts of America Girl Scouts of America
Houses of Worship	Congregational Church Emmanuel Episcopal Church St. Lawrence Roman Catholic Church Living Rock Church
Local News Media	Killingworth Krier The Source The Shoreline Times Hartford Courant New Haven Register Middletown Press
Distance to Major Cities (Miles)	
Hartford	27
Boston	104
New York	87
Providence	67
Electric Provider	Eversource
Gas Provider	N/A
Water Provider	N/A
Cable Provider	Comcast Xfinity

CHAPTER 3

PUBLIC FACILITIES

GOVERNMENT AND MUNICIPAL FACILITIES

The Killingworth Municipal facilities, the Town Office building or Town Hall, station one firehouse, Killingworth Ambulance Association, compactor, and library, are situated along the east side of Route 81. A station two firehouse is located on Little City Road off Route 148. The Resident State Trooper and Office of Emergency Management are located in an addition to the barn by the Town Hall. Emergency services are described in greater detail below.

The Town Office Building is a remodeled farmhouse that was built in 1830. Two additions have been made to the Town Office building. The last consists of leased, temporary buildings. The office of the Town Clerk has not received additional space from these additions. With the increase in quantity of land records, maps, vital documents, and other documents received daily, the vault is rapidly reaching capacity. The offices of other town officials and meeting spaces are insufficient. An addition to the Town Hall was proposed but was defeated in a referendum. At some point, though, the space needs will have to be addressed. The refuse disposal area and compactor are located south of the Town Office building. In the Killingworth Town Center Plan, the compactor is to be moved further back on the town-owned property.

Table 3-1 contains data on Town revenues, expenditures, debt, and grand list. The mill rate in 2018 is 27.47. Seventy eight percent of the town expenditures are for education.

Table 3-1. Killingworth Municipal Data

Government Form	Selectman/Town Meeting
Town Hall, 323 Route 81, Killingworth, CT 06419 (860) 663-1765	
Total Revenue (2016)	21,349,428
Property Tax Revenue	18,305,235
Non-Tax Revenue	3,044,193
Intergovernmental	2,670,217
Per Capita Tax	2,821
Total Expenditures (2016)	21,059,626
Education	16,417,262
Town	4,642,364
Long-Term Debt	3,730,000
As % of Expenditures	17.7
Per Capita	575
Annual Debt Service (2016)	510,659
As % of Expenditures	2.4
Net Grand List (2014)	722,698,796
Per Capita	111,356
Date of Last Revaluation	2015
Mill Rate (2018)	27.47
% of Grand List Commercial/Industrial (2014)	2.9

WATER SUPPLY

Killingworth's population derives its water supply from "on site" domestic wells. These wells tap groundwater aquifers in bedrock and till (see Chapter 1). Bedrock aquifers are the principal source of water for homes in Killingworth. In general, yields from wells drilled in bedrock are adequate for on-site purposes only. Some homes in Killingworth rely on "dug wells" in till which are generally adequate but subject to low yields or failure during droughts. In addition, Killingworth possesses two stratified drift aquifers along the Hammonasset River that have been identified as potential major aquifers capable of producing regional public water supplies. Other large areas of stratified drift in Killingworth may also represent significant groundwater sources. Approximately 65% of the town's land is watershed land for the South Central Connecticut Regional Water Authority and the Connecticut Water Company. Surface water is stored in the Hammonasset and Killingworth Reservoirs. These public water supply systems serve the drinking water needs of metropolitan New Haven and the East Shore communities from Guilford to Old Saybrook.

SEWER AVOIDANCE

An ordinance was adopted on October 27, 1980 establishing a Water Pollution Control Commission to serve as the Water Pollution Control Authority for the Town of Killingworth as set forth in Chapter 103 of the Connecticut General Statutes. This legislation enables the Commission to establish and maintain a water pollution control plan for the Town. This plan is to take into account, among other things, areas where lot size, environmental conditions and other factors will allow continued reliance on properly managed on-site waste-water disposal facilities. In Killingworth, such areas constitute an estimated 99.5% of the Town. Maintaining properly functioning on-site systems takes on added significance by reason of the fact that a large portion of the Town's land area serves as watershed for public water supply systems.

There are estimated to be over 2500 on-site septic disposal systems currently in place in the town. These systems are scattered throughout a land area of 36 square miles, roughly half of which remains vacant and susceptible to further land development. A very large proportion of this acreage has characteristics that limit its suitability for on-site disposal without careful planning and placement of waste disposal systems. These characteristics include high water tables, slowly permeable soils, poor filtration, excessive stoniness, steep slopes, shallow-to-bedrock soils, smearing of infiltrative surfaces, and flooding. Careful monitoring of the installation of new systems by town authorities in such a setting becomes very important. The Planning and Zoning Commission has available a map entitled Soils with Limitations for On-Site Sewage Disposal prepared by the Connecticut Cooperative Extension Service. The Water Pollution Control Commission has established for the Town a workable septic tank maintenance and inspection program. This program insures routine pump-out and proper maintenance of all private and public subsurface sewage disposal systems. Pump-out services are conducted by private licensed contractors at the expense of the system owner. Sewage is trucked from town to a state approved sewage disposal facility.

AQUIFER PROTECTION

One-third of Connecticut's population relies on ground water for their drinking water supply. There are many documented incidents of contaminated water supply wells in Connecticut. Aquifers, geological formations able to yield water to wells, can no longer be considered to be naturally protected. At particular risk are stratified drift (sand and gravel) aquifers supplying our larger public

water supply wells. Despite many current protection efforts, many types of land uses continue to threaten ground water quality. To address this problem, the Town of Killingworth is required under the Aquifer Protection Area Program (Connecticut General Statutes 22a-354a) to identify critical water supply aquifer areas and to protect them from pollution by managing land use through regulation. The Killingworth Planning and Zoning Commission has been designated as the local "Aquifer Protection Agency" charged to:

1. Designate Aquifer Protection Areas on Zoning Maps;
2. Inventory land uses;
3. Adopt prohibitions and regulations in conformance with DEEP regulations;
4. Require notification for moves into aquifer areas or changes in existing uses;
5. Ensure enforcement of Aquifer Protection Area provisions;
6. Coordinate with existing programs for inspections, permits, and regulations;
7. Review materials management plans for certain land uses;
8. Notify utilities of land use applications within Aquifer Protection Areas; and
9. Complete education and training provided by the DEP and other agencies.

Clean water is vital for our very survival. The aquifer protection program requires a major commitment from state and local government, business, water companies, and individual residents to insure there will be clean drinking water now and in the future.

SCHOOLS

Killingworth is a member of Regional School District 17 that includes the town of Haddam. Statement of Philosophy: "We believe it is imperative to develop a community of learners by offering comprehensive, vigorous and contemporary instructional programs and services imparted by highly trained, dedicated and caring professionals with the support of parents and citizens. Recognizing that individuals represent the most valuable resource of our school district, we stand committed to creating and maintaining a culture and climate that supports learning for all. We are dedicated to effectively prioritizing and being held accountable for the allocation of human, financial and physical resources of the school district to ensure the effective and efficient delivery of all programs and services." adopted by the Board of Education, October 3, 2011. Regional School District No. 17 is viewed in the area and in the state as an outstanding school district.

CERC Town Education Profile Regional School District #17 2016-2017

Enrollment :

Pre K	40
PK-12	2,117

4 Year Cohort Graduation Rate 2014-2015:

	All	Female	Male
Connecticut	87.2%	90.1%	84.4%
RSD #17	96.4%	97.7%	95.1%

Smarter Balanced Test Percent Above Goal 2015-2016:

	Grade 3		Grade 4		Grade 8	
	Town	State	Town	State	Town	State
Math	75.5%	52.8%	73.2%	47.9%	52.7%	40.3%

ELA 67.1% 53.9% 77.4% 55.5% 75.3% 55.5%

Rate of Chronic Absenteeism 2015-2016:

	All
Connecticut	9.6%
RSD #17	4.3%

Regional School District #17 is comprised of three elementary schools, one middle school and one high school. Killingworth is home to one of these elementary schools and the middle school. Presently the district enrolls 2,117 students K through 12 with 429 full time staff of whom over 200 are certified teachers. Class sizes average 18 in K-6, 21 in 7-8, and 20 at the high school. The approximate student distribution is 980 students in grades K-4 at the three elementary schools, 850 students in grades 5-8 at the middle school, and 700 students in grades 9-12 at the high school. Currently 85% of graduating seniors go on to two and four year colleges and universities-

The present operating budget of the District is \$33,709,000 of which Killingworth’s share is 48%. The net per pupil expenditure of \$17,241 is determined by the State Department of Education and excludes expenditures related to transportation, debt service and adult education. RSD#17 operates its own transportation system with 29 buses and 13 vans. Both towns are represented on an 11 member Board of Education which seats six members from Haddam and five from Killingworth. Additional information on all aspects of the school district including their goals and annual report can be found at the District’s comprehensive website www.rsd17.org.

TOWN GREEN

A Killingworth Municipal or Town Center Plan for the town-owned property on Route 81 was prepared by the Land Use Committee (Figure 3-1, TLB Architecture, Chester, CT). The area currently includes the compactor, baseball field, library, and Black Rock schoolhouse. The plan includes a town green located between the schoolhouse and library with municipal facilities, compactor, recreational facilities, and roads. There are various architectural plans for the green that include walkways, plantings, a gazebo, and various buildings. The plan was approved at a Special Town Meeting on July 17, 2000. Presently, the Plan is on hold as there is no mandate from the Selectmen to proceed. Funds from the state for planning, engineering, and permitting have been exhausted.

PARMELEE FARM

The Parmelee Farm is a 132-acre complex on Route 81 owned by the town and includes a farmhouse, stone barn, pavilion, and one-room schoolhouse. In 2000, the Town of Killingworth purchased the property for \$670,000. Plans for a major recreation complex were developed but failed to win approval in town referendums in 2003 and 2004. The property went unused until 2008 when the Killingworth Community Gardens were established by Peg Scofield. In 2009, the Board of Selectmen established the Parmelee Farm Steering Committee to develop long-range plans for the use of this unique property. The Steering Committee is currently chaired by Tim Gannon. The Steering Committee supports the continued use by the Killingworth Community Gardens, use of the Parmelee Farmhouse by the Killingworth Historical Society, creation of walking trails, restoration of the farm buildings and hayfields, conducting workshops, and additional projects being discussed and developed on an on-going basis. The Town was awarded a Historic Preservation Technical Assistance Grant from the Connecticut Trust for Historic Preservation to conduct a feasibility study

of the farm. The farm received a \$150,000 grant under the Small Town Economic Assistance Program (STEAP). The farm has also received assistance from the Killingworth Lions Club and Killingworth Foundation. The Killingworth Land Conservation Trust has established hiking trails on the land under the direction of Bruce Dodson. Painting and repairs to the house were done in 2009. In 2010, a 99 year lease was signed granting use of the house to the Killingworth Historical Society.

The Horace Parmelee house, formerly known as the Bosco house, was built in 1847 and occupied by Horace and Eunice Parmelee. The Historical Society has restored the interior of the farmhouse and is using it to store and exhibit its collections. Also in 2010, The Town of Killingworth obtained the Pine Orchard District schoolhouse built in 1853. The schoolhouse, which stood on Route 148, was dismantled and moved to the Parmelee Farm. The schoolhouse is presently being restored and will be used for community events. Long-range plans also include replacing the barns that have been lost. In early 2011, the property was listed on the State Register of Historic Places by the State Historic Preservation Office.

Some of the events that have taken place at the Parmelee Farm include the Historical Society Christmas Fair, Christmas at the Farm, Farmers Markets, Chamber of Commerce concerts, Sleepy Hollow Lantern Tour, Walk for Hunger, HK Backpack Program Benefit, Chamber of Commerce Pumpkin Carving Party, A Place Called Hope Owl-O Ween, Car Cruise, Town Picnic, HKYFS Family Olympics, Cub Scout Klondike Derby, Killingworth Historical Society Tag Sale, many private events such as weddings, Boy Scout Eagle Ceremony, Girl Scout Ceremony, HK Rotary Indian Fiesta, Lions Club Easter Egg Hunt, Evergreen Garden Club Sale, Hike for Hounds, HKMS Civil War Day, and Land Conservation Trust Picnic. It is clear from the number and variety of events taking place that the Parmelee Farm has become a community center available to organizations and town residents. It should be noted that this has been accomplished at virtually no expense to the town since the purchase. Instead, it has been achieved through grants and a large network of volunteers. Because the town has lacked a center for community activities, the Farm deserves strong support including expenditures of town funds when necessary.

RECREATION

The Killingworth Park and Recreation Commission plans and oversees the development of municipal recreation facilities for the residents of Killingworth and maintains and supervises these facilities. Presently, the Irene Sheldon Park on Route 80 is available for diverse recreational uses. The park consists of two baseball and one softball fields (with irrigation), a concession building, two tennis courts which are also painted for pickleball use, and a basketball court. Irene Sheldon Park also offers a newly expanded walking trail circuit and adult fitness equipment. Also available at the park are tiny tot's and children's playgrounds, a fishing pond, horse shoe pits, a concrete platform suitable for skateboarding or roller skating, and a pavilion. Additionally, the Eric W. Auer Killingworth Recreation Park, located on a 143-acre site on North Parker Hill Road, offers four (two small, two large) irrigated multi-purpose fields with an additional practice area suitable for soccer, lacrosse and football, multiple hiking trails and a playground currently under construction. An area designated for future development into a full-sized baseball field is also located at this site. The Commission is also utilizing the Rocco M. Reale Little League baseball field located on town property on Route 81, as well as a practice field at the corner of Bethke and Pond Meadow Roads.

Through the regionalization of the towns of Haddam and Killingworth into School District #17, a Regional Recreation Authority was formed in 1976. The Haddam-Killingworth Recreation

Department's goal is to provide a comprehensive year-round recreational program that meets the needs of the individuals in the community. The Recreation Department has over 100 employees, mostly part-time. Also, over 100 volunteers serve the community through HK recreation programs and sports leagues. The staff are a Director of Recreation, Assistant Director of Recreation, Director of Child Care, and Administrative Assistant. The HK Recreation Department is responsible for planning, organizing, and executing over 120 programs for youth and adults, after school child care, and courses that include athletic, recreational, educational, cultural, and craft activities. Regionalization has given Killingworth residents the use of facilities at the three Elementary Schools, the Middle School, and the High School. At the High School, a full range of facilities are available, including the swimming pool. With the construction of a new middle school located on Route 81 in Killingworth that was opened in 2007, additional soccer, baseball, multi-purpose as well as passive recreation areas have been added.

Considerable amounts of the open space lands in Killingworth are available for public and private recreational uses. Chatfield Hollow State Park and scattered elements of the Cockaponset State Forest provide facilities for hiking, picnicking, and swimming. The land use plan of the South Central Connecticut Regional Water authority provides for hiking and cross country ski trails and stream fishing. The Killingworth Land Conservation Trust maintains several hiking trails.

LIBRARY

In 1992, the Killingworth Library Association, Inc. contributed \$35,000 towards the Town's purchase of the former CBT building with its two acres on Route 81, to secure the site for today's Killingworth Library. Seeking to create a learning focal point and activity center, the library board launched a competitive bid process for an architectural firm, and selected Tunney and Associates to create a post and beam addition that increased the size of the building sevenfold. The doors to the new library opened December 1, 1995 and ever since, the building has served as a source of knowledge, education, and discovery, as well as a community, business, and personal resource center for all residents of Killingworth.

Today's library is open 52 weeks a year, for a total of 2,392 hours of service to the public. It is fully handicapped accessible (after KLA secured a grant to install ADA-compliant automatic door openers in 2015) and its Meeting Room is used year-round by dozens of local groups, clubs and organizations. The library offers a collection of fiction and non-fiction books, reference works, periodicals, audio books, multimedia items and has one of the most extensive large-print collections in the area. The library board secured grants to help fund the upgrade of its business and personal resource center, which now has state-of-the-art computer workstations, free Wi-Fi access, and a color copier with scanning and fax functions. An "Early Nonfiction" section and After School Edge desktop computers were added to the Children's Room. KLA also secured grant money for energy efficiency and building enhancement projects including: energy efficient lighting, a new staff kitchen and bathroom facilities, and workroom counter work space and storage. In 2013 the building received a new roof; in 2016 the wood siding (which was rotting in places) was replaced with new vinyl siding; and window replacements have been done over the past several years.

In 2017, nearly 40% (2,534) of town residents were registered library cardholders. The barcode number on the back of the library card gives free access to the library's subscription databases, including Consumer Reports Online, Cypress Résumé Builder and 77 online Mango language courses. Patrons can also use it to download eBooks and eAudios from the State Library's database collection, and renew materials online. In 2016-2017 more than 24,100 visits were made to the

library. Librarians handled 1,586 reference transactions, and circulated more than 40,200 print and multimedia items. Interlibrary loan activity was 1,305 items borrowed and lent. Audiovisual circulation was 12,387. Library computer and Internet usage had 7,040 user sessions. Program attendance was 5,220. And the library expanded its offering of passes to area museums and attractions, adding a pass to the Connecticut River Museum in Essex.

Library services and day-to-day operations are performed by three full-time staff: a library director, assistant library director and children's librarian; two part-time staff: a technical services/circulation desk staff, and a circulation desk staff; and more than 40 circulation desk, backroom, and library board volunteers who logged more than 6,200 hours of service to the library last year. Long-term plans include an expansion of the library building to provide additional services and programming to better serve the community. With added space, future offerings may include: 1) an area for quiet work/study rooms, as well as public makerspaces to facilitate hands-on learning and discovery, and 2) an expanded meeting space to accommodate large program attendance and the consistently high demand for meeting facilities. An association library, the KLA received 73% of its funding from the Town in 2016-17 and generated the rest of its revenue through fund raising, including the 12th annual John P. Hine, Jr. Memorial Golf Tournament and the first community Earth Day Celebration.

EMERGENCY SERVICES

When an emergency occurs in Killingworth, residents dial 911. Emergency calls are received by Valley Shore Emergency Communications (VSECI), the town's contracted Regional Emergency Communications Center (RECC) which is located at the State Police barracks in Westbrook. Upon receipt of the enhanced 911 call, VSECI is provided resident data which includes the caller's name, phone number and address. Once the call is categorized (police, fire or medical) the VSECI 911 Telecommunicator either transfers the call to the State Police (police emergency) or, dispatches the local fire department, ambulance and/or rescue squad.

Police protection for the town is provided by the Connecticut State Police and the resident trooper program. The resident trooper who is under the jurisdiction of Troop F in Westbrook, 860 256-5761, is located in the new Emergency Operations Center adjacent to the Town Hall at 323 Route 81. The town has one fire company comprised of two stations; one (Station 1) is centrally located next to the Town Office Building at #333 Route 81 and the other (Station 2) is a short distance off Route 148 on Little City Road (#15). The Fire Company operates with approximately fifty State of Connecticut certified volunteer firefighters and five non-firefighting volunteers. Additional or updated information about Killingworth's Fire Company may be obtained at www.killingworthfire.org. Their routine call phone number is 860 663-1785. Upon receipt of a 911 emergency and dispatch, the Fire Company responds with apparatus from both stations depending on the type of incident and necessary human and mechanical resources. The Company also conducts rescue operations which include response to serious injuries, medical emergencies, car accidents and hazmat incidents. These medical type incidents are conducted in close concert with the Killingworth Ambulance Association (KAA) by trained Emergency Medical Responders (EMR's) and Medical Response Technicians (MRT's) licensed by the State of Connecticut Office of Emergency Medical Services (OEMS).

The Killingworth Ambulance Association (KAA) is housed in a building north of the fire station at #325, Route 81. KAA is staffed by about twenty-five (25) volunteer State certified EMT's and MRT's. In addition, Killingworth is also served by the Middlesex Hospital paramedic program which

is also dispatched by VSECI RECC. The paramedic responds as available to all serious incidents. Additional information may be obtained from their website at www.killingworthems.org.

The Office of Emergency Management addresses Homeland Security and natural disaster issues. A new Emergency Operations Center located adjacent to the Town Hall was completed in 2016 using a STEAP Grant issued by the State. The Haddam Killingworth Middle School (HKMS) is now the American Red Cross (ARC) Regional Shelter for this area. By joining the Valley Shore Emergency Management Association, Killingworth has agreed to share information, equipment and manpower with area towns and has an Emergency Operation Plan to address post 9/11 issues. The Valley Shore Emergency Management Association (VSEMA) now sponsors a Community Emergency Response Team (CERT) which will respond when additional man power is needed. The new EOC is being used for CERT training with Federal funds available through the State. All emergency services in town work closely together. Training and personnel commitments are maintained at high levels in order to provide residents with the highest level of service from the first call to 911 until the conclusion of the emergency.

ROADS AND BRIDGES

1. Roads. There are approximately 112 town roads totaling about 60 miles of paved length and 10 miles of unpaved length in Killingworth. Responsibility for proper road construction and maintenance rests with the Board of Selectmen. Road classification and functional capacity are the concern of the Planning and Zoning Commission through either implementation of the Town Plan of Development or subdivision review and approval powers. Road design and construction standards for subdivisions are described in the Killingworth Road Regulations. These regulations were adopted pursuant to the Killingworth Road Ordinance. The Connecticut River Estuary Regional Planning Agency previously developed a Regional Transportation Plan for the nine-town region. The transportation issues which the Connecticut River Estuary's Planning program focused on were: A. a comprehensive transportation system that will fully utilize existing traffic networks before creating additional capacity, B. preserve the rural and historic character of the region, C. protect land use patterns as planned by the region and municipalities that enhance the small town character of the region and promote a high quality of life for residents, D. promote transportation improvements that enhance community interaction and preserve the social and economic network in each town and within the region, E. guide future land use in accordance with local, regional, and state plans of conservation and development, F. provide planning for handicapped accessibility to multiple modes of transportation including pedestrian facilities and public transit, G. incorporate facilities for pedestrian and bicycles in the planning programs and initiate actions that will begin planned projects, H. encourage systems and programs to lower vehicle emissions which include: reducing the vehicle miles traveled (VMTs), promoting ridesharing/carpooling programs, and reducing excessive traffic volumes.

Connecticut's Routes 80, 81, and 148 together form the framework of Killingworth's traffic circulation infrastructure. These roads are state maintained/owned and therefore any alterations such as grade, width, alignments, or other improvements remain a state responsibility. The town of Killingworth is responsible for all improvements and/or maintenance to the remainder of the roads in the community. Exceptions to this are roads which are maintained by the road developer and private roads which are the responsibility of the road owners/users (typically a Land Owners Association).

The main north-south route through the town is Route 81. This road provides access to the region's major Interstates (Interstate I-95 to the south and Interstate I-91 to the north via Route 9).

The main east-west route through town is Route 80 which provides access to the New Haven metropolitan area and other points west. To the east Route 80 provides access to Route 9 south to I-95. Route 148 travels northwest from Chester to North Madison roughly paralleling Route 80 to the south. Route 148 serves as an inland connector between the region's north-south routes. In 2011, the traffic rotary was reconfigured by the State to become a round-a-bout. This was primarily done in the interest of traffic calming and safety. There are presently no major improvement plans by the Connecticut Department of Transportation for any of these roads (Routes 80, 81, and 148) in the near future except for periodic resurfacing and drainage improvements. Town roadway maintenance and improvements over the past ten years consisted of crack sealing on 12 town roads, chip sealing of 27 and overlay repairs to 12 others.

Killingworth's road system can be divided into six classifications. The first type is older roads, typically through roads often built to substandard specifications. These roads were located by early settlers and gradually improved over the years. Because these roads were the first constructed in town, they serve as the collectors for the newer subdivision streets. As a result they often carry greater numbers of vehicles than new development roads. Many of these roads are lined with stone walls and large trees and often have dangerous curves and intersections. Higher usage as well as substandard construction results in higher maintenance and repair expenses necessary to upgrade these roads to minimum current safety standards.

The second type road classification is the newer subdivision roads or local streets. These can be through roads or more often cul-de-sac roads which primarily serve residential subdivisions. These roads are constructed to current road specifications. At the time a development is proposed, the design of the roads is reviewed by the town engineer to ensure its proper design with regard to safety as well as maintenance. These roads are often bonded during construction to ensure their proper construction. Upon completion, the developer then offers the road for acceptance by the town as a town maintained road. If construction is satisfactory to the town engineers, the road is accepted and becomes part of the town-maintained infrastructure.

A third type of road classification used in town is a Private Road. These roads typically serve private residential areas and are owned and maintained by landowner associations. Roads of this type are often very lightly traveled and their construction specifications are often adjusted to this usage varying from a gravel road to a road which meets current town standards.

The fourth type of road currently in use are those designated as Scenic Roads. A Scenic Road is designated as such as a result of some special attribute which the road may have such as views, stands of trees, stonewalls, etc. This designation normally applies to older roads but can apply to any road. Scenic road designations are applied for by petition of owners of frontage land along the road to the Planning and Zoning Commission. A scenic road designation permits certain exemptions to current road standards which if enforced might destroy a special road attribute felt worth preserving. There are presently 6 roads in Killingworth designated as Scenic Roads; Beckwith Road, Chestnut Hill Road, North Chestnut Hill Road, Spencer Hill Road, Titus Coan Road, and Abner Lane.

The fifth type of road classification used in town is the Lane. This road classification has somewhat lower standards than local streets and can be used for a limited number of lots when there is no potential for future development. Its purpose is to provide a more aesthetically appealing road more closely matching the original town roads while still meeting current safe road specifications.

A final category are unimproved town roads. If subdivisions have frontage on an unimproved

town road, the Planning and Zoning Commission shall determine whether the road can support the projected traffic volume. If it cannot, the applicant must submit a plan for upgrading the road. The applicant shall share in the costs of upgrading to a maximum of 75%.

2. Bridges. There are 29 bridges and culverts that are larger than 6 feet in span length in Killingworth. Drainage pipes and below road structures less than 6 feet in span or diameter are not tracked by the CTDOT Bridge Department as bridges or culverts, but instead typically fall under the Highway Department's purview. Since there are no interstates, overpasses or major river crossings in Killingworth, all of our bridges are for traversing brooks and range from pipe and concrete box culverts to concrete slab or multi-bam type bridges. Bridges over 20 feet in span length are recorded in the National Bridge Inspection Standard (NBIS) database. Connecticut Department of Transportation's Bridge Safety Unit inspects and updates the database for these structures on a biennial basis. They are divided into two categories (State bridges – on State Routes or in Chatfield Hollow State Park and Town bridges – on local roads). There are 16 NBIS State bridges and 3 NBIS Town Bridges. Due in large part to failures and partial failures of aging corrugated pipe culverts, the State of Connecticut began a safety inspection program within the past 10 years for bridges and culverts with span lengths from 6 to 20 feet in length. These structures are part of their Non-NBIS bridge inspection program and when they are on local roads they are considered Town bridges.

The State bridges are maintained by CTDOT, while maintenance for the Town bridges is the Town's responsibility. The State of Connecticut has replaced five bridges over the past ten years; three on Route 148 and one each on Routes 79 and 81. These were replaced using alternating 1-way traffic or detours. Currently a replacement for the Country Road Town bridge on the border with Madison is being designed. Since this is a border bridge, each Town will pay half of the 20% share required to be paid by the Towns. Towns can apply for State or Federal Funding for up to 80% of the cost of bridge replacement for NBIS bridges in poor condition; however, this typically requires significant paperwork and the process can take up to 3 years through construction. One example of use of State and Federal funding was for the replacement of the twin-barrel, corrugated metal Reservoir Road culvert over the Menunketesuck River. It was replaced in 2009 with a twin cell concrete culvert. In 2008, the Town Maintenance crew performed partial depth patching and overlay of the of the River Road bridge over Deer Lake Brook.

As can be seen in the "Roadway Bridges in Killingworth" (Table 3-2) the condition coding indicates that none of structural items (columns I to N) are rated 4 or less (poor or worse) and only one of the Town bridges has a condition rating of 5 (fair). This one structure is the Paper Mill Road Bridge over Chatfield Hollow Brook and the component rated 5 is the superstructure. Thus, it can be stated that as of September 2017 all of the bridges in Killingworth are in fair to good condition. While there is a likelihood of the Paper Mill Road bridge superstructure dropping to poor (4) condition over the next 10 years, if preventative maintenance is not provided. Bridges in poor (4) condition sometimes need to be load posted, but rarely need to be closed until they drop to a serious (3) condition state. Regardless, it would be wise to begin programming preventative maintenance or repairs for this structure now. The table also shows that the "Waterway Adequacy" (ability to handle flood level flows) is satisfactory (6) to very good (8) for all but one bridge which is fair (5). Most of the "Approach Roadway Alignments are also very good (8), with three town bridges having appraisal ratings of 6, 4 and 3. This means that for those few structures the traveling public would need to slow considerably to navigate either a significant horizontal or vertical curve as they approach and cross the bridge. Lastly, the "Deck Geometry" for most of the bridges in Killingworth is poor (4) or worse, which means that the shoulder widths / lateral clearances to the bridge railings is less than desirable.

Roadway Bridges in Killingworth														As of	9/1/2017		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Parent Asset	Asset Name (Bridge #)	Structure	NBI 7: Facility Carried by NBI 6A: Feature Intersected: Narrative	NBI 36A: Traffic Safety Features: Bridge Railings	NBI 36B: Traffic Safety Features: Transitions	NBI 36C: Traffic Safety Features: Approach Guardrail	NBI 36D: Traffic Safety Features: Approach Terminal	NBI 58: Deck	NBI 59: Superstructure	NBI 60: Substructure	NBI 61: Channel and Protection	NBI 62: Structural Evaluation	NBI 67: Structural Evaluation	NBI 68: Deck Geometry	NBI 69: Underclearances, Vertical and Horizontal	NBI 71: Waterway Adequacy	NBI 72: Approach Roadway Alignment
Bridges over 20' in length (NBIS) and owned and maintained by the State:																	
State Bridges	01133	ROUTE 80	CHATFIELD HOLLOW BROOK	1	0	0	0	7	6	6	6	6	6	4	N	8	8
State Bridges	02486	ROUTE 79	HAMMONASSET BROOK	1	1	1	1	8	7	7	8	7	4	4	N	7	8
State Bridges	02492	ROUTE 80	BROOK	N	N	N	N	N	N	N	7	5	5	N	N	8	8
State Bridges	02495	ROUTE 81	INDIAN BROOK	0	0	0	0	1	6	5	5	2	2	N	6	8	8
State Bridges	02496	ROUTE 81	INDIAN BROOK	0	0	0	0	N	6	6	6	6	2	N	6	6	8
State Bridges	02497	ROUTE 81	BROOK	1	1	1	1	6	N	N	6	6	4	N	8	8	8
State Bridges	02498	ROUTE 81	DISTRICT BROOK	1	1	1	1	N	N	N	8	7	7	4	N	6	8
State Bridges	02580	ROUTE 148	BROOK	1	1	1	1	8	7	7	7	7	5	N	8	8	8
State Bridges	02581	ROUTE 148	BROOK	N	N	N	N	N	N	N	6	6	4	N	8	8	8
State Bridges	02584	ROUTE 148	BROOK	0	0	0	0	N	N	N	8	7	2	N	6	8	8
State Bridges	02585	ROUTE 148	BROOK	0	0	0	0	N	N	N	7	7	2	N	6	8	8
State Bridges	05269	ROUTE 80	MENUNKETESUCK RIVER	N	N	N	N	N	N	N	7	7	7	N	N	7	8
State Bridges	06307	CHATFIELD HOLLOW R	CHATFIELD HOLLOW BROOK	0	0	0	0	N	N	N	7	7	2	N	8	6	6
State Bridges	06511	CHATFIELD HOLLOW R	CHATFIELD HOLLOW BROOK	0	0	0	0	5	7	6	7	N	6	2	N	8	8
State Bridges	06738	ROUTE 148	BROOK	0	0	0	0	N	N	N	5	5	2	N	6	8	8
State Bridges	06739	ROUTE 148	BUNKER HILL BROOK	N	N	N	N	N	7	7	7	N	7	2	N	6	8
Bridges over 20' in length (NBIS) and owned and maintained by the Town, but eligible for State and Federal Funding.																	
Town Bridges	04712	RIVER ROAD NO. 1	DEER LAKE BROOK	0	0	0	0	7	7	7	6	N	7	4	N	7	4
Town Bridges	04716	RESERVOIR ROAD	MENUNKETESUCK RIVER	1	0	1	1	N	N	N	7	7	7	5	N	9	8
Town Bridges	06614	ABNER LANE	POND MEADOW BROOK	0	0	0	0	7	7	8	8	N	7	2	N	8	7
Bridges 6'-20' in length (Non-NBIS) and owned and maintained by the Town.																	
Town Bridges	065001	Burr Hill Road	an unnamed brook					N	N	N	7	6	6		N	7	8
Town Bridges	065002	Bunell Bridge Road	Hammonasset River					N	N	N	6	6	6		N	7	8
Town Bridges	065003	Emanuel Church Road	an unnamed brook					N	N	N	6	6	6		N	8	8
Town Bridges	065005	Birch Mill Road	Pond Meadow Brook					N	N	N	7	7	7	6		3	3
Town Bridges	065006	Alders Bridge Road	an unnamed brook					N	N	N	6	6	6		N	7	8
Town Bridges	065007	Roast Meat Hill Road	Menunketesuck River					N	N	N	6	6	6		N	7	8
Town Bridges	065008	River Road	an unnamed brook					N	N	N	7	6	6		N	8	8
Town Bridges	065009	Paper Mill Road	Chatfield Hollow Brook					8	5	7	7	N	5		N	8	6
Town Bridges	065010	River Road	an unnamed brook					N	N	N	5	6	6		N	5	8
Town Bridges	065011	Roast Meat Hill Road	Indian River					N	N	N	7	7	7		N	6	8
Pipes or culverts that are less than 6' in length are not considered bridges.																	
Coding Guide: For Columns E thru H: blank - not coded, N - Not Applicable, 0 - doesn't meet current standards, 1 - meets current standards.																	
Condition=> For Columns I thru R: blank - not coded, N - Not Applicable, 1 - Failed, 2 - Critical, 3 - Serious, 4 - Poor, 5 - Fair, 6 - Satisfactory, 7 - Good, 8 - Very Good, 9 - Excellent.																	
NBIS = National Bridge Inspection System																	

Table 3-2. Roadway Bridges in Killingworth

PUBLIC TRANSPORTATION

9 Town Transit is operated by the Estuary Transit District and provides public transportation to the 9 Town Member Towns of Chester, Clinton, Deep River, Essex, Killingworth, Lyme, Old Lyme, Old Saybrook, and Westbrook. Dial-A-Ride services only are also provided by contract to Durham, East Haddam, and Haddam.

There are four fixed bus routes: Shoreline Shuttle with stops in Old Saybrook, Westbrook, Clinton, and Madison; Riverside with stops in Chester, Deep River, Essex, and Old Saybrook; Southeast with stops in Old Saybrook, East Lyme, Old Lyme, and New London; and Midshore with stops in Middletown, Haddam, Chester, Deep River, Essex, and Old Saybrook.

A new Route 81 fixed route bus service is scheduled to become operational in 2018. This route begins in the center of Madison and travels along Routes 1 in Madison and Clinton, 81 in Clinton, Killingworth, and Haddam, and 154 to downtown Middletown. Free connections will be available to CT Transit New Haven, CT Transit Hartford, and Middletown Transit bus services as well as connections to the other 9 Town Transit routes.

9 Town Transit provides the Dial-A-Ride service to Killingworth residents. Dial-A-Ride is a door-to-door shared ride service to and from anywhere in the Estuary region.

CHAPTER 4

EXISTING LAND USE AND ZONING

EXISTING LAND USE PATTERNS

Killingworth is a rural residential town with a long agrarian past. It never had a typical village center like so many of its neighbors because it was the isolated northern section of the old Town of Killingworth, which was settled in 1663. The original settlement of the town with its community center and institutions was on the coastal plain in what is now the Town of Clinton. Killingworth was divided into two towns in 1838, the rural northern section retaining the name Killingworth.

The population of the town declined throughout the nineteenth century as the westward migration depopulated it along with much of rural New England. Killingworth reached its low point in 1930 when only 482 people were reported as residents, making it one of the least populated of any of the 169 Connecticut municipalities at that time. This small population was scattered in isolated rural settings throughout the town's large geographic area. Consequently, when the town began to grow after World War II, the town's low density, spread out character was the dominant image of the Town in the minds of both long-time residents and new-comers alike. This scattered land-use pattern provided the basis for the zoning controls which in 1964 established single-family residences on lots of two acres or more as a uniform residential zone classification throughout the town with very little land specifically set aside for any other use.

Killingworth is geographically the largest of the nine towns within the Estuary Region and has a total land area of 36.0 square miles. The total town area is 23,040 acres. Of this total land area, only 2 percent is occupied by water bodies. The two large water bodies within the town are the Killingworth Reservoir and a portion of the Hammonasset Reservoir. Killingworth is primarily rural and wooded in character. However, the suburban character of the town becomes evident along the town's road network where subdivisions have been built.

Land use and land cover are shown in the Figure 4.1 and Table 4.2.

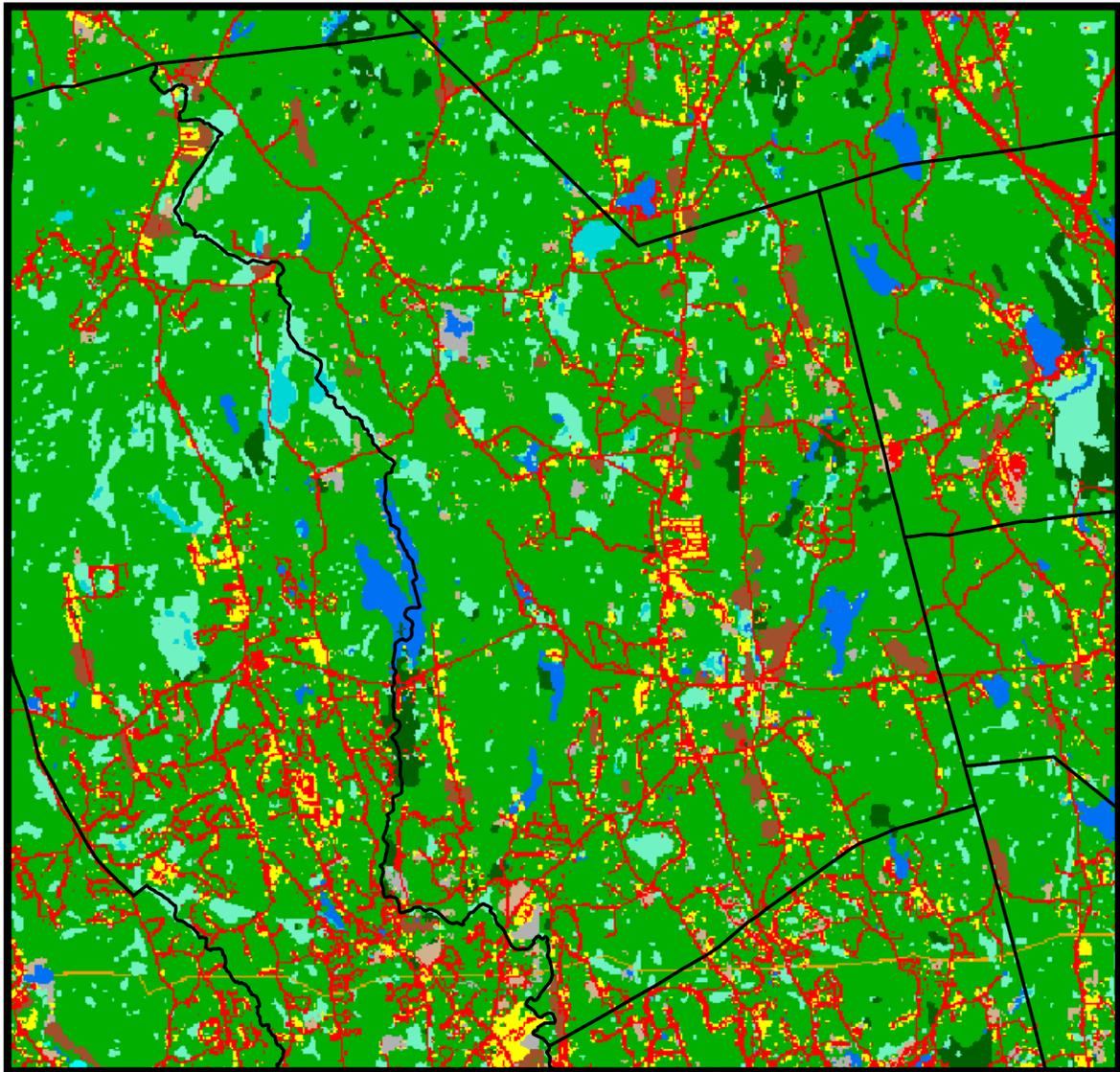
In 2006, 2164 acres were developed (land occupied by buildings, roads, parking lots, and other improvements) (Table 4-1). The predominant use of land in Killingworth is for residential purposes. The Commercial District is located in the center of town along Routes 80 and 81. Commercial development is in the form of strip development and small, commercial clusters. The commercial buildings are not large except for two large buildings near the traffic circle. The most concentrated development is the shopping center just south of Killingworth circle on Route 81. A total of 50 acres are devoted to commercial uses. The industrial use category is small in extent with two acres currently used for industrial purposes. The Industrial Zone is located on Route 80 at the Deep River Town line. Small portions of Killingworth land are taken up by institutional uses, town and state roads and highways, and utilities.

Killingworth, CT

Connecticut's Changing Landscape

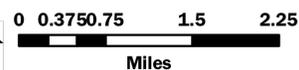
Land Cover

2006



2006 Land Cover

	Developed		Water
	Turf & Grass		Non-forested Wetland
	Other Grass		Forested Wetland
	Agricultural Field		Tidal Wetland
	Deciduous Forest		Barren
	Coniferous Forest		Utility (Forest)



This map is a product of the Center for Land use Education And Research (CLEAR) at the University of Connecticut. For more information on CLEAR or this map, visit <http://clear.uconn.edu>.

This map is intended for planning and educational purposes only. It is based on the interpretation and classification of remotely sensed satellite images, and the accuracy at any given location cannot be guaranteed. See CLEAR website for more information <http://clear.uconn.edu>.

Copyright University of Connecticut.

This map created 12/22/08.



Figure 4-1. Land Use/Cover

More than 5,000 acres is currently committed to open space, including both state forest lands and water company land. In total, Killingworth has more land set aside as committed open space than any other town in the Estuary Region. Killingworth plays a unique role in this respect. Rarely does a town have within its jurisdiction such a large amount of land set aside for recreation, conservation or natural resource purposes as Killingworth does. The town's watershed provides a major source of drinking water for two public water suppliers, one to the New Haven metropolitan area (South Central Connecticut Water Authority) and the other to the shoreline communities from Guilford to Old Saybrook (Connecticut Water Company). The protection of the quality of this important resource is one of the public trusts that Killingworth must keep in mind when making land use management decisions since fully two-thirds of the town's territory lies within the watersheds of these public water supply sources (see Chapter 1). Besides the watershed land just mentioned, the State of Connecticut controls land for state park and forest use and other land is set aside for town, non-profit, or private use as recreational or conservation lands.

The remainder of the land in Killingworth, representing well over half of the land area, is in private ownership and still in its natural state. Most of this land is forested (Figure 4-1). This land is potentially available for future development should population and economic demands dictate. Much of the development that has taken place has been on land most suited for development. Much of the remaining undeveloped land contains inland wetlands, steep slopes, and ledge and is not suited for development (see maps in Chapter 1).

LAND USE CHANGE

Land use change in Killingworth is shown in table 4-2 and figure 4-2. This data is scheduled to be updated by CLEAR depending on availability of funds.

Table 4-2. Land Use Change 1985-2006

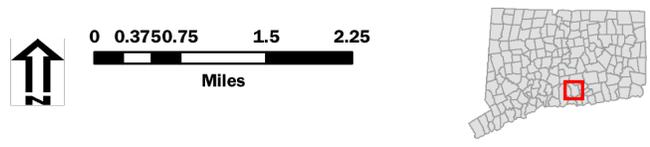
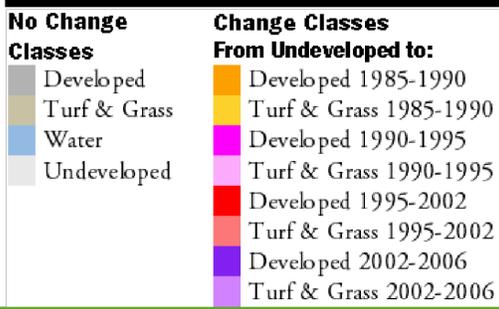
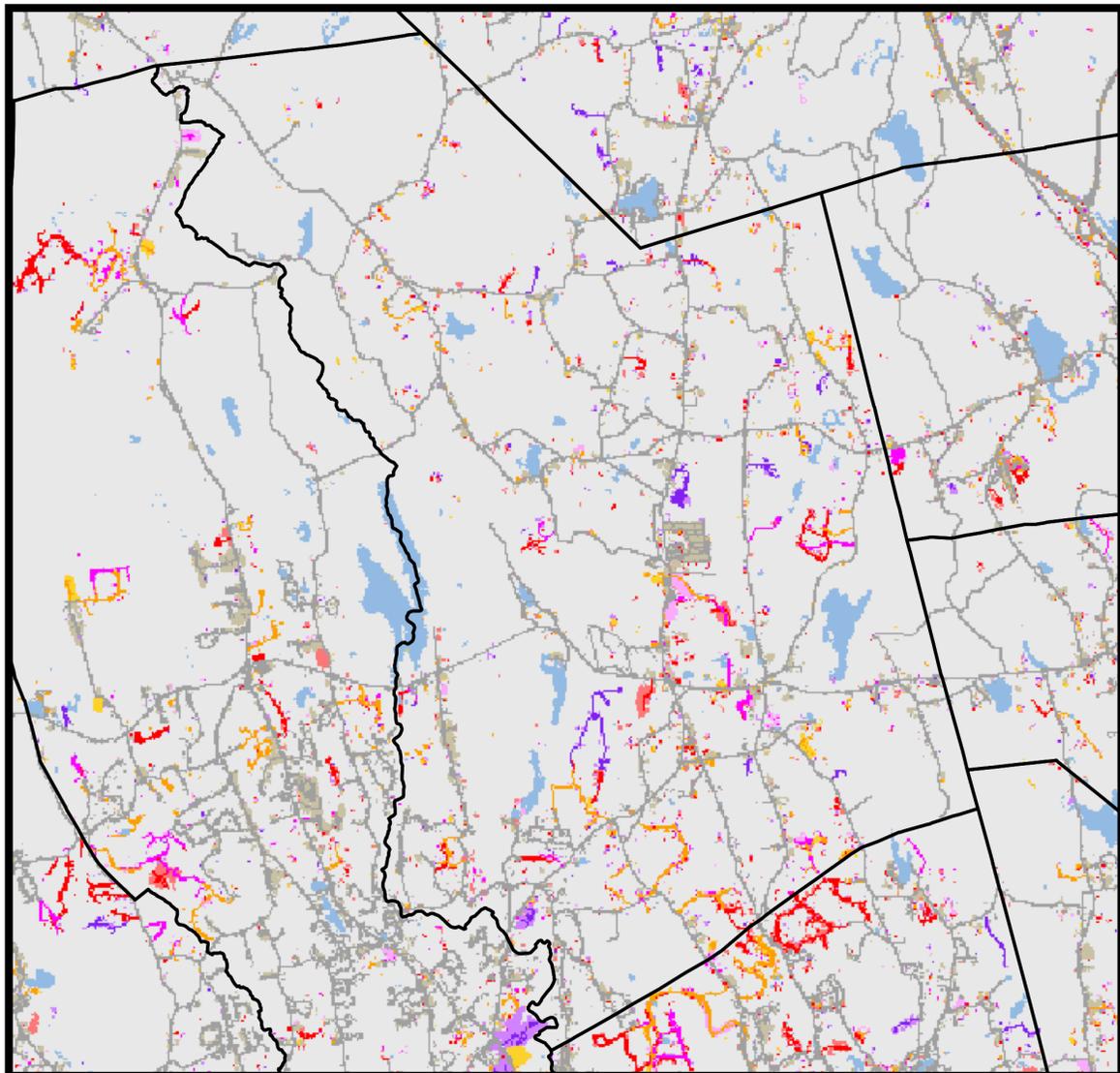
	1985		2006		% Change	
	Acres	% of town	Acres	% of town	Acres	% change
Developed	1612	7	2164	9.4	552.6	34.3
Turf & Grass	341	1.5	782	3.4	440.6	129
Other Grasses	196	0.9	290	1.3	93.8	47.8
Agricultural Field	615	2.7	544	2.4	-71.1	-11.6
Deciduous Forest	17624	76.6	16604	72.2	-1020.4	-5.8
Coniferous Forest	502	2.2	484	2.1	-18.1	-3.6
Water	388	1.7	400	1.7	11.8	3
Non-Forested Wetland	174	0.8	145	0.6	-29	-16.7
Forested Wetland	1403	6.1	1355	5.9	-47.2	-3.4
Barren	136	0.6	223	1.0	87.1	64.3
Utility Right-of-Way	11	0	11	0	0	0

Although much of the land in Killingworth is undeveloped, rapid changes have taken place in recent years. The largest changes between 1985 and 2006 in acreage were a 553 acre increase in developed land, a 441 acre increase in other turf and grass, and a 1020 acre decrease in deciduous forests. These changes are for the most part due to increased residential development resulting in a decrease in forests and increase in grassy lawns. Most development occurs along existing town roads and new subdivision roads. These trends have slowed during the past five years.

Killingworth, CT

Connecticut's Changing Landscape

Land Cover Change 1985-2006



This map is a product of the Center for Land use Education And Research (CLEAR) at the University of Connecticut. For more information on CLEAR or this map, visit <http://clear.uconn.edu>.

This map is intended for planning and educational purposes only. It is based on the interpretation and classification of remotely sensed satellite images, and the accuracy at any given location cannot be guaranteed. See CLEAR website for more information <http://clear.uconn.edu>.

Copyright University of Connecticut. This map created 12/22/08.



Figure 4-2. Killingworth Land Cover Change

EXISTING ZONING

Current zoning divides the town into four districts:

1. Commercial District
2. Industrial District
3. Rural Residence District
4. Floodplain District

1. Commercial District. The Commercial area is located along Routes 80 and 81 and is divided into a Large Business Zone and a General Commercial Zone. The minimum lot area in Commercial Districts is one acre. Buildings in the Large Business zone must be greater than 5,000 square feet in total floor area and not more than 20,000 square feet. Buildings in the General Commercial zone may not exceed 5,000 square feet in total floor area.

The Commercial area on the West side of Route 81 is bounded northerly by a point 520 feet north of Route 80 and southerly by a point 450 feet south of Stevens Road. The Commercial area on the East side of Route 81 is bounded by a point 480 feet North of Route 80 and, southerly by a point 600 feet south of Stevens Road. This Commercial area is 340 feet deep, measured beginning twenty-five (25) feet from the centerline of Route 81. In addition, a Commercial area encompasses land adjacent to the Route 81 and Route 80 intersection, including the triangle bounded by Route 81, Route 80, and Chittenden Road. The Commercial area extends East on the South side of Route 80, beginning at its intersection with Route 81, to a point 325 feet West of Roast Meat Hill Road. The Commercial area extends East on the North side of Route 80 to the West property line of the town-owned recreation field West of Roast Meat Hill Road. This Commercial area is 300 feet deep, measured beginning twenty-five (25) feet from the centerline of Route 80.

Large Business Zone. The Large Business Zone extends from the traffic circle of Routes 80 and 81 as follows: Large Business Zone. The Large Business Zone on the West side of Route 81 is bounded northerly by a point 520 feet North of Route 80, measured from a point beginning twenty-five (25) feet from the centerline of Route 81, and southerly by Chittenden Road. It is 340 feet deep, measured from a point beginning twenty-five (25) feet from the centerline of Route 81*. The Large Business Zone on the Northeast side of Route 81 is bounded southerly by Route 80 and westerly by Route 81. It is bounded northerly by a point 480 feet north of Route 80, measured from a point beginning twenty-five (25) feet from the centerline of Route 80. From that point, it is 925 feet deep, measured from a point beginning twenty-five (25) feet from the centerline of Route 81. The Large Business Zone on the Southeast side of Route 81 is bounded northerly by Route 80 and southerly by Chittenden Road. It is 340 feet deep, measured from a point beginning twenty-five (25) feet from the centerline of Route 81.

*The west boundary of the section north of Route 80 is extended to include a triangle as shown on Map #2107 filed in the Town Clerk's office on August 17, 2017.

General Commercial Zone. All the remainder of the Commercial area is the General Commercial Zone.

2. Industrial District. The Industrial District is the area bounded north by Route 80, east by the Deep River Town line, west by the easterly lot line of lot number 36B and south by a line 300 feet south of Route 80. The minimum lot area is two acres.

3. Rural Residence District. All the remaining land is Rural Residence. The minimum lot area is two acres.

4. Floodplain District. The Floodplain District is superimposed on the other three districts. The boundaries of this district are coterminous with the boundaries of the "Special Flood Hazard Areas" which are delineated on the map entitled "Floodplain Insurance Rate Map: Town of Killingworth, Connecticut, Middlesex County."

In 1989, Killingworth adopted soil based zoning in order to maintain the quality of surface and ground waters and the open space character of the town and to protect the public health and safety. Under this type of zoning, the lot size is determined by the ability of the soil type(s) to support an on-site septic disposal system. The minimum lot area is a two acre equivalent minimum buildable lot area. To determine the two acre equivalent area, the areas composed of different soil classifications are multiplied by a factor and added to yield a total of at least two. The area of soils having slight limitations (Class A) for septic disposal is multiplied by a factor of 1.0, the area of soils with moderate limitations (Class B), is multiplied by a factor of 0.75, the area of soils with severe limitations (Class C and D) is multiplied by 0.5, and the area of inland wetland soils (Class E) is multiplied by 0.25. A minimum buildable lot area of 2.0 as determined by this method is required. At least 1 1/2 acres of the minimum buildable lot area must be comprised of soils belonging to Class A, B, C, or D. Under this type of zoning, the minimum lot size required is two acres for a lot composed of 100% Class A soils to 5 acres for a lot containing 3 acres of Class C soils and 2 acres of Class E soils. In 2004, the regulation was amended so that soils with 14 inches or less to bedrock, rock outcrops, vernal pools, and soils with a slope in excess of twenty-five percent shall not contribute to the minimum buildable lot area.

CHAPTER 5

CONSERVATION AND DEVELOPMENT POLICIES PLAN FOR CONNECTICUT

INTRODUCTION

The Conservation and Development Policies Plan for Connecticut 2005-2010 (the Plan) provides the policy and planning framework for administrative and programmatic actions of capital and operational investment decisions of state government. The objective of the Plan, developed in accordance with Section 16a-24 through 33 of the Connecticut General Statutes, is to guide a balanced response to the current and future human, economic, and environmental needs of the state. The overall Plan strategy is to reinforce and conserve existing urban areas, to promote staged, appropriate, sustainable development, and to preserve areas of significant environmental values.

The Plan is comprised by two components – the Plan text and the locational guide map. Both components include policies that guide the planning and decision-making process of state government relative to: (1) addressing human resource needs and development; (2) balancing economic growth with environmental protection and resource conservation concerns; and (3) coordinating the functional planning activities of state agencies and to accomplish long-term effectiveness and economics in the expenditure of public funds. The policies contained in the Plan text provide the context and direction for state agencies to implement their plans and actions in a manner consistent with six growth management principles. The policies contained in the locational guide map spatially interpret the principles with respect to each area's potential to fulfill and to balance the conservation and development priorities of the state. The Statutes require that towns take the Plan into consideration when formulating their own Plans of Conservation and Development. For this reason, portions of the State Plan relevant to Killingworth are summarized here.

PLAN LOCATIONAL GUIDE MAP

The locational guide map comprises four development and four conservation categories. It divides the state into eight land categories according to each area's characteristics and suitability for different forms of development or conservation action (Table 5-1). The categorization of lands, together with each area's specific strategy, priority, and guidelines, demonstrates how the goals and policies of this Plan have different applications and impacts according to an area's character of development, social structure, economic base, natural conditions, and public service facilities. The guide is, therefore, both an interpretation of the goals and policies framework of the state and an important tool for the unified, coherent, and effective implementation of the goals and policies for both physical and human resources.

The overall Plan strategy is to reinforce and conserve existing urban areas, to promote staged, appropriate, sustainable development, and to preserve areas of significant environmental value. Areas that have valued intrinsic qualities perform useful natural functions, or have existing or potential value for significant public use need to be protected from degradation or inappropriate development. However, protecting the environment is not simply identifying areas where no growth should occur. In many cases, development is possible that is compatible with the basic environmental or renewable resource values or physical safety problems of the land.

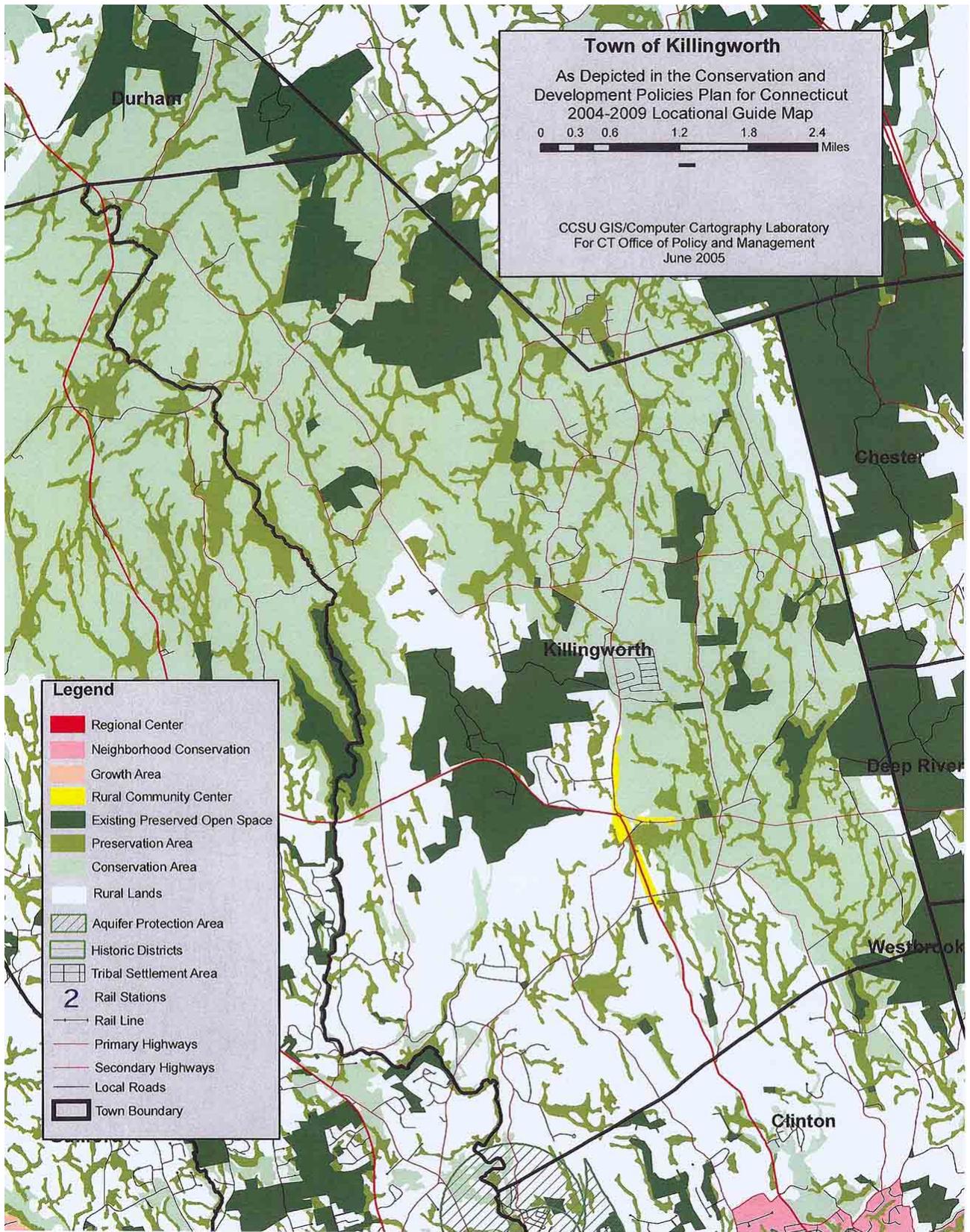


Figure 5-1. Locational Guide Map for Killingworth

3. Concentrate development around transportation nodes and along major transportation corridors to support the viability of transportation options.
4. Conserve and restore the natural environment, cultural and historical resources, and traditional rural lands.
5. Protect and ensure the integrity of environmental assets critical to public health and safety.
6. Promote integrated planning across all levels of government to address issues on a statewide, regional and local basis.

The following sections address in greater detail policies for the Development Areas and Conservation Areas shown in the locational guide map. Recommendations in the growth management principles relevant to Killingworth are described in the following sections.

HOUSING

Local land-use regulations must encourage the appropriate development of multifamily, mixed-use, mixed income and low to moderate-income housing. Housing policy needs to be managed in a manner that promotes inclusionary zoning practices at the municipal level, affords municipalities the ability to maintain the unique character of their communities and address housing choice and mobility on a regional basis. Connecticut General States, Section 8-2, state that zoning regulations of every Connecticut municipality shall;

“... encourage the development of housing opportunities, including opportunities for multifamily dwellings, consistent with soil types, terrain, and infrastructure capacity, for all residents of the municipality and the planning region in which the municipality is located, as designated by the Secretary of the Office of Policy and Management under section 16a-4a. Such regulations shall also promote housing choice and economic diversity in housing, including housing for both low and moderate income households ...”

TRANSPORTATION

Today’s suburban communities are characterized by their low-density, single use patterns of development that seldom support any form of transportation other than the automobile. Suburban arterial roadways (routes 80, 81, and 148 in Killingworth) are forced to handle significantly more traffic than they were designed to accommodate. Many of the existing and projected highway capacity problems occur on state maintained arterial roads. Congestion on these roads often results from strip development and poorly designed access along commercial corridors. Roadways cannot efficiently handle both rapid through traffic and local on/off movements.

The Plan offers some solutions for rural towns that lack public transportation. An access management plan is one mechanism that can be used to preserve and improve the capacity of existing arterial roadways by controlling the number, location, and design of driveways and side streets within a corridor. By adopting access management policies through zoning regulations, plans of development, site plan review procedures, or driveway ordinances, municipalities, in cooperation with state and regional transportation planners, can limit the adverse impacts associated with development.

Flexible design standards for roads and bridges, context-sensitive design, and traffic calming techniques are other strategies that can be considered during a project’s design phase, when

supported by complementary local land use controls. Although not appropriate for all roadways, these strategies can be effective in certain instances on state roads in Rural Community Centers and Historic Areas where the desire to slow traffic, enhance pedestrian safety, and/or preserve community character takes precedence over vehicle throughput. Traffic calming strategies can also be incorporated into certain low-volume, local street designs to slow traffic through neighborhoods and allow pedestrians and cyclists to co-exist safely with automobiles.

RURAL AREAS

The urban-rural distinction increasingly blurs as urban scale development spreads farther into the countryside. Many rural towns now grapple with development controls ill-suited to the task of preserving the community character that makes them unique and attractive. Uniform large lot zoning, road standards based mainly on traffic movement, strict on-site parking requirements and similar measures replicate a creeping suburbanization of the landscape, degradation of valued natural and cultural resources, loss of prime agricultural land, increasing dependence on the automobile, and perhaps even growing social isolation.

The Plan seeks to properly scale responses to identified rural economic and social issues and to concentrate development activities within or adjacent to traditional village areas in order to maintain rural character and to protect environmentally sensitive places. Techniques such as open space development (cluster development with its primary aim the preservation of open space), regulations to encourage new development that mesh with historical development, mixed use development in community centers, and traditional street networks are some of the methods to maintain rural character and the resources that define that character.

Investment in infrastructure has shaped community character. Public sewer and water systems and highway improvements support urban scale densities that are not consistent with rural character. Recent advances in on-site wastewater treatment technology have the potential to complicate greatly the issue of infrastructure in rural land use, even though their use will continue to be limited by soils and groundwater conditions. Their greater treatment efficiencies may enable substantially larger and more intensive development projects without conventional sewer service. Yet, they may also provide communities more flexibility in applying such techniques as cluster development and community centers.

Several guidelines are provided in the Plan for development and infrastructure in rural areas. These include:

Encourage development in rural lands of a form, density and location compatible with the carrying capacity of the natural environment, and which avoids the need for large scale and costly urban infrastructure for water supply, waste disposal, and transportation.

Encourage land use plans and land use regulations to protect the rural environment through controls and techniques, such as cluster subdivisions, that direct development patterns in conformity with rural values. Further, rural communities should pursue a watershed planning framework that encourages inter-town cooperation to promote water quality and natural resource protection.

Ensure new projects are consistent with “rural design” principles and do not have

unacceptable adverse impacts on districts and sites of historic significance, important natural areas or concentrations of prime farmland.

Foster application of best available design practices and control methods to nonpoint water pollution sources.

Vigorously pursue sewer avoidance programs and limit development to those uses and densities that ensure indefinite functioning of on-lot or small community water supply and waste disposal systems; review zoning regulations and eliminate insufficient lot sizes, assure sufficient oversight of the permitting and maintenance of septic systems to ensure that on-site septic systems function indefinitely, and encourage enactment of local ordinances that require septic tanks to be inspected every three to five years and pumped out as needed; further, limit water pollution control facilities to project costs required to correct an existing pollution problem (as environmental carrying capacity depends on many factors, site-specific factors, and proper installation and maintenance have to be considered in any decisions as related to actual lot size).

OPEN SPACE

It is a goal of the state to have at least 10% of Connecticut's land area (320,576 acres) owned by the state as open space for the beneficial use and enjoyment of the public as additions to the state's system of parks, forests, wildlife, fisheries and natural resources management areas. It is also a goal of the state to assist municipalities, private non-profit organizations, and water utilities to preserve an additional 11% of the state's land area (352,634 acres) for a total of 21% of the state's land preserved as open space by the year 2023 (Connecticut General Statutes Section 23-8(b)). The Plan recommends continued support for state acquisition or state assisted acquisition of open space lands for natural resource protection to meet the overall statutory goal of preserving 21% of the state's area.

Preservation Areas should be managed to the degree feasible as no-build areas and no net loss areas. Preservation Areas are defined as: existing rivers and water bodies, tidal and inland wetlands, Class I type reservoir lands and wellhead lands not in water utility ownership, habitats of state endangered, threatened and special concern species, natural and archeological areas of regional and statewide significance, agricultural land where development rights have been acquired, floodways within the 100-year flood zone, and open space areas designated in local plans and approved by local legislative bodies. For wetlands, there needs to be a better understanding of what buffer areas are adequate to protect wetlands and associated resources. Policies should seek to achieve no net loss of wetlands and watercourses through development planning that avoids wetlands whenever possible, prevents or minimizes pollution or other environmental damage to wetlands and watercourses, and provides for compensatory mitigation. For floodways, a comprehensive, integrated flood prevention program and an early warning system with appropriate measures to remove existing structures that incur repeated flood damage or cause adverse flooding impacts and to avoid new development are needed to reduce flood damage. Lakes and associated watersheds should be managed to enjoy optimal water quality and recreational benefits.

Conservation Areas represent resource lands for production of food, wood, water, and mineral, or are important for sustaining native flora and fauna and the landscapes essential to scenic and recreational enjoyment. Conservation Areas are defined as Class II type reservoir lands and aquifer

protection areas and other high yielding aquifers that are not Existing Preserved Open Space or Preservation Areas regardless of ownership, prime agricultural lands that have not been protected by public actions, contiguous large forest blocks, significant sand and gravel resources, historic areas, trap rock ridges, greenways, the flood fringe of the 100 year flood plain, scenic and recreation river corridors, and areas protected by conservation easements. Policies for Conservation Areas should plan and manage for the long-term public benefit by promoting research, education, resource management, regulations, financial and technical assistance or public acquisition as necessary to achieve proper use and protection. Where development projects will affect natural areas or recreational areas, the resource and environmentally sensitive areas should be incorporated into an undeveloped open space or passive recreation portion of the property.

It is a goal of the Plan to protect existing agricultural land. Prime agricultural lands should be recognized in regional and municipal plans and regulations and promoting such preservation techniques as the transfer of development rights, use of land trusts, and cluster development. A policy regarding forestlands is to retain healthy, vigorous forestlands and achieve sustainable yields of forest-based benefits through scientific management of these resources. In watershed and river management, integrated water use, water quality, land use data, and the instream biotic resource and habitat needs must be considered. Inappropriate development in the flood fringe should be prevented. Recommendations are also made for the protection of historic and cultural resources, mineral resources, and multipurpose resource lands such as greenways.

DRINKING WATER SUPPLIES

A goal of the Plan is to effectively establish, protect, and manage sufficient high quality water sources, treatment facilities, and delivery systems to meet existing and future needs. Current and future sources of drinking water must be continuously protected from intensive development and potentially deleterious land uses. Groundwater resources essential for current and future drinking water must be identified and protected from harmful land uses and development practices. Nonpoint sources of pollutants from land use are a major threat to surface water and groundwater. Threats include stormwater runoff, erosion and sedimentation, fertilizers, pesticides, and chemical pollutant releases and failing septic systems. In addition, there is a growing concern related to harmful microbial agents – bacteria, viruses, and protozoa. The Plan lists many policies and recommendations for the protection of drinking water supplies. Some of these are listed below.

Protect public health by meeting or exceeding state and federal drinking water standards for water supplies, by preventing the degradation of water supplies through the proactive protection of drinking water sources, and by providing adequate levels of treatment.

Encourage new land uses within existing and potential public water supply watersheds and aquifers that are compatible with and operate in accordance with appropriate preservation and protection management strategies. Guide intensive development away from existing and potential water supply watersheds and aquifers and consider the cumulative effect of incremental growth in state, regional, and local planning programs and regulations.

Evaluate regional and municipal plans of conservation and development and municipal zoning regulations to promote protective measures with the most stringent measures focused on critical areas, which are those closest to either a reservoir or

diversion and its tributaries or a well field. Permit land use types and intensities that do not require sewer service. Design and manage land uses so that any waste discharges are treated completely on-site without contamination of ground or surface waters. Minimize site disturbance and utilize a site's characteristics for development through the use of cluster zoning, open space, conservation easements, or similar techniques. Continue to build stewardship and a conservation ethic in communities to protect and improve water quantity and quality.

Continue to implement the Aquifer Protection Areas Program to achieve Level A mapping for all existing and potential well fields and to bring into conformance all land uses with state and locally adopted land use regulations. Promote the adoption of model land use regulations and implementation at the local level of aquifer protection programs.

Site, design, install, operate, maintain, repair, and renovate septic systems to function indefinitely and thus avoid the need to install sewers.

As a general density guideline for water supply watersheds, require minimum lot sizes of one dwelling unit per two acres of "buildable" area (excludes wetlands). Consistent with the carrying capacity of the land, encourage cluster-style development to lessen impervious surfaces and avoid development in more sensitive areas.

2018-2023 REVISIONS TO 2005-2010 PLAN

Revisions to the above plan were made in "Conservation & Development Policies: The Plan for Connecticut, 2018-2023," in accordance with Connecticut General Statutes Section 16a-29. The Plan is built around six Growth Management Principles, each with recommended policies:

1. Redevelop and Revitalize Regional Centers and Areas with Existing or Currently Planned Physical Infrastructure. Among State Agency Policies is to ensure the safety and integrity of existing infrastructure over its useful life through the timely budgeting for maintenance, repairs and necessary upgrades; encourage local zoning that allows for a mix of uses "as-of-right" to create vibrant central places where residents can live, work, and meet their daily needs without having to rely on automobiles as the sole means of transport; and promote urban areas as centers for arts, entertainment and culture, while also supporting community-based agriculture, historic preservation, and access to urban green spaces and waterways.
2. Expand Housing Opportunities and Design Choices to Accommodate a Variety of Household Types and Needs. The Plan notes that Connecticut's population is aging. State Agency Policies include enhancing housing mobility and choice across income levels and promote vibrant, mixed-income neighborhoods through both ownership and rental opportunities; supporting adaptive reuse of historic and other existing structures for use as residential housing; promoting housing and/or affordable housing as part of mixed use and transit-oriented developments within walking distance to public transportation facilities; identifying innovative mechanisms, utilizing decentralized or small-scale water and sewage systems, to support increased housing density in village centers and conservation subdivisions that lack supporting infrastructure; and to encourage and promote access to parks and recreational opportunities, including trails, greenways, community gardens and waterways, for affordable and mixed-income housing.

3. Concentrate Development Around Transportation Nodes and Along Major Transportation Corridors to Support the Viability of Transportation Options. Among State Agency Policies are to promote compact, pedestrian-oriented, mixed use development patterns around existing and planned public transportation stations and other viable locations within transportation corridors and village centers; encourage a network of pedestrian and bicycle paths and greenways that provide convenient inter- and intra-town access, including access to the regional public transportation network; and to improve transit service and linkages to attract more customers through better integration of all transportation options and advances in technology, while providing convenience, reliability, safety and competitive modal choices.

4. Conserve and Restore the Natural Environment, Cultural and Historical Resources, and Traditional Rural Lands. It is widely recognized that Connecticut's natural, cultural and historical resources, along with its rural landscapes, have intrinsic values which contribute to the state's high quality of life. Less obvious are the functional values that these resources provide, such as storm water management, flood control, oxygen production and carbon storage, and the filtration and purification of water for human consumption and habitat preservation. State Agency Policies are to continue to protect permanently preserved open space areas and facilitate the expansion of the state's open space and greenway network through continued state funding and public-private partnerships for the acquisition and maintenance of important multi-functional land and other priorities identified in the State's Open Space Plan (i.e., Green Plan); limit improvements to permanently protected open space areas to those that are consistent with the long-term preservation and appropriate public enjoyment of the natural resource and open space values of the site; protect and preserve Connecticut Heritage Areas, archaeological areas of regional and statewide significance, and natural areas, including habitats of endangered, threatened and special concern species, other critical wildlife habitats, river and stream corridors, aquifers, ridgelines, large forest areas, highland areas, and Long Island Sound; revitalize rural villages and main streets by promoting the rehabilitation and appropriate reuse of historic facilities, such as former mills, to allow a concentration of higher density or multiple use development where practical and consistent with historic character; and revitalize rural villages and main streets by promoting the rehabilitation and appropriate reuse of historic facilities, such as former mills, to allow a concentration of higher density or multiple use development where practical and consistent with historic character.

5. Protect and Ensure the Integrity of Environmental Assets Critical to Public Health and Safety. The Plan notes that among the competing interests faced by land use decision-makers, none is of greater importance than protecting the public health and well-being of Connecticut's citizens. Best practices for protecting the air we breathe, the water we drink, and the food we eat are rooted in the value Connecticut has placed upon its environment and working lands when planning for the future. Protecting and maintaining the functional qualities of natural systems is vital to maintaining our quality of life. State Agency Policies are to identify water supply resources sufficient to meet existing demand, to mitigate water shortages during droughts, and to meet projected growth and economic development over at least the next 50 years; ensure that water conservation is a priority consideration in all water supply planning activities and regulatory decisions; discourage new development activities within floodway and floodplain areas, manage any unavoidable activities in such areas in an environmentally sensitive manner and in compliance with applicable laws, and seek to prevent the loss of life and property by maintaining existing dikes, channels, dams, and other barriers, or removing such structures where removal would be a more cost-effective option for reducing threats to downstream property; and to minimize the impacts of development on drinking water sources by utilizing development forms and densities that limit impervious surface coverage to

10% of the overall area to be developed and which preserves the most amount of land in a natural or undisturbed state.

6. Promote Integrated Planning Across all Levels of Government to Address Issues on a Statewide, Regional and Local Basis. CGS Section 22a-1a provides the basis for this principle by stating that “it is the continuing policy of the state government, in cooperation with federal and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Connecticut residents.” State Agency Policies include develop and implement a robust framework for geographic information sharing that will service the common needs of all users and permit the orderly storage, organization, and handling of large amounts of geographic data; initiate a progressive program for the sharing of planning data among state agencies, regional planning organizations, and municipalities; and encourage regional planning organizations and economic development districts to develop coordinated and effective regional plans and strategies for implementing projects that address the priorities of each region.

LOCATIONAL GUIDE MAP (LGM)

The State Plan of Conservation and Development makes some changes to the use of the Locational Guide Map. CGS Section 16a-31(a) requires state agencies to determine the consistency of their proposed actions with the State C&D Plan. CGS Section 16a-25 defines the State C&D Plan as “the text of such plan and any accompanying locational guide map.” Since this consistency mandate only applies to specific state agency actions, the State C&D Plan is considered advisory to municipalities when they update their municipal plans of conservation and development and/or render local land use decisions.

The Continuing Committee provided clarification on the role of the LGM, when it endorsed the 2013-2018 State C&D Plan just prior to its adoption by the General Assembly. Since the LGM is a component of the State C&D Plan, it is not intended to be utilized, by itself, as a basis for a state agency to approve or deny funding when rendering applicable funding decisions.

Although state agency staff and other interested parties may use the underlying LGM data for general planning purposes, the only formal application of the LGM is limited to instances when a sponsoring state agency has already determined that a proposed “growth-related project” is consistent with State C&D Plan policies and it must comply with the administrative requirements of CGS Section 16a-35d.

CHAPTER 6

LAND USE PLAN

INTRODUCTION

This Plan of Conservation and Development, referred to as the “Plan,” is a statement of the policies, goals, and standards for future development and land use in Killingworth. The underlying foundation on which a Land Use Plan is constructed is a clear cut set of goals and objectives that the Town's Planning and Zoning Commission recognizes as being representative of the Town's best interests with regard to future land use decisions. Considerable study has gone into the preparation of this Plan over the past two years. Background information includes the Town Plan Questionnaire, maps, reports and analyses on natural resources, economics, population, housing, and existing land use and recommendations in the Conservation and Development Policies Plan for Connecticut 2005-2023 (Chapters 1-5). This Town Plan of Conservation and Development has been made available for review by Lower Connecticut River Valley Council of Governments, the Board of Selectmen, and several Town agencies and commissions. It has been placed on the web for review by town residents and officials. In determining the final land use recommendations contained within the Plan, the Commission thoroughly reviewed the background studies described in Chapters 1 through 5 and the comments of the agencies. In addition, the Commission gave careful consideration to the various comments and suggestions made during public hearings. The specific recommendations for achieving the goals of the Plan are presented in this chapter.

GENERAL GOALS AND OBJECTIVES

1. Goals and Objectives. The rural-residential nature of the Town is characterized by low-density residential use, forested lands, agricultural lands, open spaces, parks, and historical features. The Town Plan of Conservation and Development contains land use recommendations that are designed to ensure that future growth and development within Killingworth is controlled and directed in a manner so as to be compatible with preserving the rural-residential character of the Town. Two issues considered critical in preserving the character of Killingworth are protection of water quality and the preservation of open space. The Plan recognizes the importance of quality natural resources, especially water resources, for the continued health of the community. In particular, it is essential that ground and surface water supplies be protected. The Plan also recommends continued acquisition by the Town of permanent open space for recreation and preservation of significant wildlife habitats.

2. Conservation and Development Policies Plan for Connecticut. This plan outlines broad goals and strategies for development and resource management in the State of Connecticut. This Town Plan of Conservation and Development is consistent with the development and conservation priorities as shown for the Town of Killingworth on the Locational Guide Map in Chapter 5). The Plan also takes into consideration and is consistent with the Connecticut River Estuary Region Plan of Development 1995.

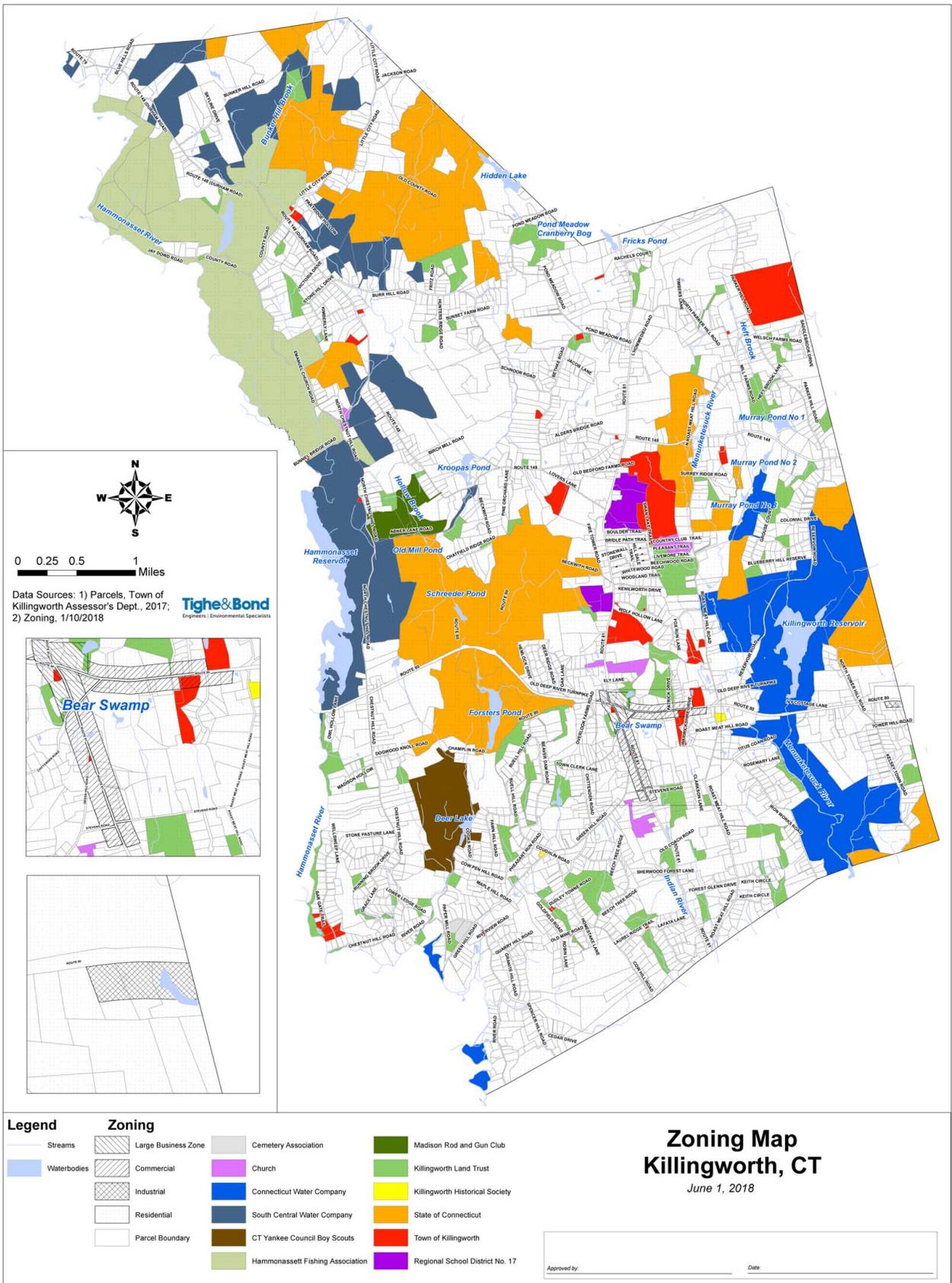


Figure 6-1. Land Use Plan, Town of Killingworth

LAND USE RECOMMENDATIONS

1. Land Use Plan. The Land Use Plan is shown in Figure 6-1. It is recommended that the existing four zoning districts and their boundaries be maintained. Recommendations for uses in the zoning districts are described in following sections. The map in Figure 6-1 was prepared by Tighe and Bond using Geographic Information Systems (GIS) technology which uses computer technology to encode, store, analyze, and display geographic data. It allows for overlay of different geographic data maps making it a powerful tool for land use planning. The town has acquired the equipment necessary for using GIS technology which can be applied to mapping, natural resource management, open space acquisition, town planning, public administration, environmental assessment, tax assessment, land use records, and other applications. It is recommended that future land use and subdivision applications and site plans include digital data and GPS data coordinates that can be used to create new digital versions of the Town parcel maps for the use of the Assessor and land use agencies. Individuals from each land use agency should be trained in GIS technology.

2. Residential Lot Size. The underlying or basic lot size permitted in the Rural Residence District should not be less than two acres (87,120 square feet). Under Conservation Subdivision and Retirement Subdivision regulations, smaller lot sizes are permitted in exchange for increased dedication of open space. The density of development should be determined by a number of factors including suitability of soils for the proposed use, conservation of natural resources, preservation of open space and other lands, flood hazard areas, aquifers, public watershed areas, inland wetlands, streambelts, greenways, farmlands and agricultural soils, and historic areas. Development should not jeopardize or significantly diminish the town's environmental quality and rural-residential character.

3. Protection of Water Supplies. To protect water supplies, ensure adequate on-site waste disposal, and avoid community sewage systems and a town-wide sewer system, future land uses must be carefully regulated in accordance with the soil capabilities of the land itself to support additional development. Public Law 132 states that "Any planning commission, zoning commission or planning and zoning commission of any municipality may use soil survey maps of the Soil Conservation Service of the United States Department of Agriculture as a standard in determining land use, planning, zoning or development regulations." Current soil-based zoning, in which lot size is determined by the suitability of the soil type for septic disposal, has been successful and should be maintained.

Recommendations for protection of surface water, ground water, streams, aquifers, and watersheds are listed below.

A. Aquifers and watersheds. Land use within areas containing significant aquifers and water supply watersheds should be carefully controlled to avoid any possible contamination of these important ground water resources. An aquifer exists in the southeastern corner of Killingworth (see Locational Guide Map in Chapter 5). About two-thirds of the Town's area lies within the watersheds of the South Central Connecticut Regional Water Authority and the Connecticut Water Company (Chapter 1). Killingworth presently has in place regulations governing certain activities allowed in aquifer areas. Further protection efforts will be required in the future under the state Aquifer Protection Area Program. Regulations and aquifer maps will have to be updated to be consistent with the Department of Environmental Protection's Aquifer Protection Land Use Regulations. These regulations place limits on land

uses within an Aquifer Protection Area and any development must conform to Aquifer Protection Area standards. Watershed protection regulations as recommended by the Department of Energy and Environmental Protection should be considered.

The State's Conservation and Development Policies Plan makes several recommendations that are applicable to Killingworth for the protection of aquifers and watersheds. These recommendations are adopted as a part of this Town Plan.

- a. Any new land uses within existing and potential public water supply watersheds and aquifers should be compatible with and operate in accordance with appropriate preservation and protection management strategies. The most stringent measures should be applied to areas closest to either a reservoir or diversion and its tributaries or a well field.
- b. Avoid sewage collection systems.
- c. Prohibit the disposal of domestic wastewater into existing and potential surface drinking water supply sources.
- d. Site, design, install, operate, maintain, repair, and renovate septic systems to function indefinitely and thus avoid the need for a municipal sewer system.
- e. As a general density guideline for water supply watersheds, require minimum lot sizes of one dwelling unit per two acres of "buildable" area (excludes wetlands).
- f. Consistent with the carrying capacity of the land, encourage conservation-style development to lessen impervious surfaces and avoid development in more sensitive areas.
- g. Through public education for septic system users, reduce disposal of materials that could threaten system operations and water quality.
- h. Encourage composting of organic waste.
- i. Manage aquifer protection areas and water supply watersheds by not creating point or non-point contamination, not disturbing vegetation for more than one growing season, not permanently disturbing ground cover vegetation in areas with slopes greater than 5%, and not allowing subsurface sewage disposal systems in areas with soils of twenty inches or less or in poorly drained soils

B. Preservation areas. Those areas designated as Preservation Areas in the State Plan of Conservation and Development (Chapter 5) should be managed to the degree feasible as no-build areas and no-net-loss areas. Preservation areas are defined as existing rivers and water bodies, tidal and inland wetlands, Class I type reservoir lands and wellhead lands not in water utility ownership, habitats of state endangered, threatened, and special concern species, natural and archeological areas of regional and statewide significance, agricultural land where development rights have been acquired, floodways within the 100 year flood zone, and open space areas designated in local plans and approved by local legislative bodies. The following policies are recommended to protect these areas:

- a. Target these resources for protection in public acquisition programs (open space).
- b. Do not cause or promote expansion of development into these areas other than activities that may be ancillary to the basic open space or environmental resource values.
- c. Only entertain plans and proposals not consistent with the preservation values of an area when there is a lack of available alternative sites and there is an overriding public benefit.
- d. Incorporate into projects within or adjacent to these areas, site planning, architectural, or design restrictions, land use restrictions, buffers or fencing appropriate to protect and manage the area and to prevent subsequent pressure for additional development or uncontrolled access.

C. Impervious surfaces. Common impervious surfaces are asphalt, cement, and roofing material, all associated with development. Impervious surfaces prevent water absorption into the soil, leading to greater runoff. When rainwater runs off parking lots and other impervious (paved/pavement-like) surfaces, it collects pollutants such as salt and petroleum products that can get carried into adjacent streams, rivers, lakes, and oceans, adversely affecting their ecological health and water quality. Impervious surfaces seal the ground, preventing rainfall from naturally infiltrating into the soil and recharging groundwater supply. The resulting increases in surface flows contribute to increases in erosion and sedimentation, flooding, peak stream flows, and stream channel erosion.

In 2011, the Planning and Zoning Commission adopted regulations setting limits on the amount of impervious surfaces allowed on lots in all districts.

D. Stormwater management. In 1991, the Connecticut General Assembly passed Public Acts 91-398 and 91-170 requiring, in part, that zoning regulations and plans of conservation and development adopted by coastal municipalities be made with reasonable consideration for greater protection of Long Island Sound water quality. Although Killingworth does not abut Long Island Sound, its waters flow into Long Island Sound. Killingworth serves as a water source for communities from Old Saybrook to New Haven. The Department of Environmental Protection prepared a Model Ordinance for Stormwater Management that can be adopted by all Connecticut municipalities.

Increased development without proper consideration of stormwater impacts can be a significant source of pollution to Long Island Sound, its tributaries, and other waters of the state. The state's water resources are valuable natural, economic, recreational, cultural, and aesthetic resources. The protection and preservation of these waters is in the public interest and is essential to the health, welfare, and safety of the citizens of the town. It is therefore recommended that provisions be made to protect and preserve the waters within Killingworth from nonpoint sources of pollution through the proper management of stormwater flows and minimization of inputs of suspended solid pathogens, toxic contaminants, nitrogen, and floatable debris to these flows.

To achieve these goals, the Planning and Zoning Commission adopted ARTICLE XXXVI Stormwater Management Plan in 2011. A Stormwater Management Plan

shall be included as a part of any special permit, subdivision, or resubdivision application. The intent of the regulation is to set forth stormwater management plan requirements, including design practices and technical standards, to be incorporated in the planning, design, construction and maintenance of development proposals, redevelopment proposals and other activities that change the land's surface and alter hydrologic conditions resulting in pollution and adverse impacts to the surface water, groundwater and other natural resources of the Town of Killingworth.

E. Tree cover. Tree cover has been found to be a good indicator of water quality. In addition, trees reduce the amount of stormwater runoff. The Connecticut Stormwater Quality Manual recommends that all new development minimize the total amount of clearing and preserve the natural vegetation of the site. The Planning and Zoning Commission adopted ARTICLE XXXV Tree Preservation Plan in 2008. In order to preserve the wooded nature of the Town of Killingworth, provide protection for this resource by minimizing the loss of trees from development, and to reduce stormwater runoff, the applicant shall submit a plan for the protection of specimen trees and significant trees. The plan shall describe procedures to identify, protect, and preserve specimen and significant trees.

4. Open space. Along with protection of water quality, permanent preservation of open space is of critical importance in preserving the character of Killingworth, maintaining quality of life for residents, and in stabilizing taxes. Unlike many other towns, Killingworth still has the opportunity to create an interconnected network of open space and greenways throughout the town. Lands should continue to be set aside as permanent open space for the purposes of preservation of woodlands, streams, natural areas, and agricultural lands. Some open space areas should be available as passive and active recreational areas to all town residents. Besides preserving sensitive parcels of land, open space acquisition has a stabilizing influence on the tax base. Although some tax revenues are lost as a result of placing land in open space, the loss in revenue is not as great as the increased expenditures above tax revenues required for services, especially education, as a result of residential development. Studies have shown that in the State of Connecticut, the more open space land and forest land a town has, the lower the tax rate. For example, in a study of Woodbridge, CT (Jim Gibbons, Cooperative Extension Service), the cost of education for a two-child home at \$9,000 a student, is \$18,000. Taxes on the home are \$6,600, representing a loss to the town of \$11,400 annually. The average time of occupancy is 15 years before turnover to another family with children. In addition, open space enhances the value of surrounding residential land and homes that are adjacent to open space appreciate more in value. A long-term goal is that protected open space should ultimately form an interconnected network of conservation land throughout the town. Mechanisms and recommendations for preserving open space in Killingworth are listed below.

A. Open space inventory. The types of land to be considered for acquisition are the following:

- a. Natural Resources Protection. Land that has significant topographic, conservation, or natural resource value based on the characteristics of the land (unique or fragile lands, rare and endangered species habitats, aquifer recharge areas, riparian buffers).
- b. Outdoor Recreation. Land that has active or passive recreational value.

- c. Municipal Facilities. Land that has future development value for Town buildings such as schools or municipal facilities.
- d. Natural Resource Management. Agricultural lands farms, forests, fisheries, aquifers.
- e. Greenways. Connected parcels of open space.
- f. Protection of Public Health and Safety. Steep slopes, soils with shallow bedrock, soils with high water table, flood-prone areas.
- g. Community Character. Land that has significant historical or archeological value based on the character of the land and or improvements thereon. Includes scenic vistas, historic sites, streams, stone walls, and tree-canopied roads.

An inventory of lands in Killingworth with these characteristics should be prepared to identify lands that should be acquired. Pursuant to Section 7-131a of the General Statues, the Conservation Commission is authorized to maintain an inventory of open areas and natural resources, and may be assisted by the Planning and Zoning Commission, Land Use Committee, Recreation Commission, or other agencies. The Conservation Commission has coordinated the creation of the Killingworth Natural Resources Inventory, the set of maps in Chapter 1. An Open Space Committee has been established by the Board of Selectmen. One of its charges is to identify and prioritize lands suitable for open space acquisition. It could also be responsible for making recommendations to the Selectboard for expenditures of any funds to acquire and maintain open space lands. Decisions to purchase open space should be based on the Natural Resources Inventory (Chapter 1), the Plan of Conservation and Development, and an Open Space Plan developed by the Open Space Committee or Conservation Commission. It is important that there be effective communication and coordination among land use agencies including the Planning and Zoning Commission, Conservation Commission, Inland Wetlands and Watercourses Commission, Land Conservation Trust, and Open Space Committee.

B. Open space in subdivisions. Currently, the Subdivision Regulations require that 15% of the area of parcels over twenty acres in size be dedicated to open space. In addition, current Conservation Subdivision regulations provide bonuses for dedicating additional open space not less than 30% of the subdivision area. Such subdivisions have the effect of clustering housing on the land most suitable for septic disposal. In most cases, the open space that is dedicated is the least desirable or most inaccessible land in the parcel. It is recommended, therefore, that the natural and historic features be identified first and the lots designed around these. The Subdivision Site Plan currently identifies regulated features such as wetlands, floodplains, aquifers, and steep slopes. Open space should, in addition, include land which may be developable but which contains features that should be protected such as old-growth woodlands, historic sites, colonial roads, wildlife habitats, prime farmland, and scenic views. The open space should not include an inordinate amount of wetlands or steep slopes. The plan should also include abutting open space in order to create an interconnected system of greenways and open space. Features identified as significant would be required to be included in open space. House sites and roads should be located so as to be in harmony with the protected features. Lot lines should be drawn to make use of features such as woodlands, stone walls, and scenic views. In addition, access ways (trails) should be designed to connect various parts of the neighborhood and allow residents to traverse through the open space.

C. Open space trust fund. Another mechanism for preserving open space is for the town to purchase it. The Town of Killingworth should purchase large tracts of land that would otherwise undergo residential development for open space. In addition, the town could acquire special natural areas, historic sites, agricultural lands, streams, or parcels suitable for recreation or parks. The establishment of an Open Space Trust Fund would permit the Town to act in a timely and expeditious manner to acquire desirable parcels of land before the opportunity is lost. Besides outright purchase of land, purchase of development rights or conservation easements are other options for preserving open space.

Funds for the Open Space Trust Fund could be included in the town budget on an annual basis. Because a relatively small amount of money would be set aside each year, the impact on the mil rate would be small. Another funding option that could be considered is payment of fee in lieu of open space by developers. Other methods that have been used to raise funds for open space acquisition include bonds, lease purchase contracts, real estate transfer taxes, taxing new development, and development impact fees.

D. Payments in lieu of open space. The Connecticut General Statutes Section 8-25, as amended by Public Act 90-239 gives the Planning and Zoning Commission the option of authorizing a subdivider to pay a fee to the Town in lieu of dedication of open space as set forth in Section §485-52 of the Killingworth Subdivision Regulations. Such authorization may be made by the Commission if it determines that there are inadequate areas in the subdivision which merit preservation under Section §485-52, that the open space offered by the applicant is not of an adequate size for recreational use, the location of the open space is not suitable for recreational or conservation purposes, or that there are other areas in the Town of Killingworth where preservation would be more beneficial to the public health, safety, and welfare. In these cases, the Commission may require the applicant, and the Commission may accept, the payment of a fee in lieu of said open space. The amount of said fee shall not exceed ten percent of the fair market value of the land to be subdivided prior to approval of the subdivision, as determined by an appraiser jointly selected by the Planning and Zoning Commission and the applicant, the cost of said appraisal to be paid by the developer. Under Section 8-25b, the fund to which payments are made shall be used for the purpose of preserving open space or acquiring additional land for open space or for recreational or agricultural purposes. The benefit of such an approach is that payments are made to the Town when a parcel of land does not have desirable open space land and that the funds received can be applied to the purchase of more desirable land for open space in another area.

E. Lands available for open space designation under Public Act 490. Another mechanism for open space protection is placing land in open space under Public Act 490. Under Public Act 490, the Planning and Zoning Commission can develop policies defining open space. Parcels placed in open space under 490 are taxed at a lower rate in order to encourage owners to retain the land instead of selling for development.

Pursuant to the provisions of Section 8-23 of the Connecticut General Statutes, the Killingworth Planning and Zoning Commission in 1997 amended the Plan of Conservation and Development to designate, pursuant to the authority of Section 12-107e of the Connecticut General Statutes, the following areas of open space land:

A. All land within a parcel in excess of five (5) acres shall qualify for Public Act 490 open space designation providing such excess land to be dedicated to open space is at least two (2) acres.

B. Any open space land, including tracts of land having an area of five (5) acres or less, held in perpetuity for educational, scientific, aesthetic or other equivalent passive uses, for the benefit of the public in general, and not held or used for development for any residential, industrial, or commercial purpose, if a possessory freehold interest in such tract is owned by any of the following:

- a. Any organization to which a determination letter has been issued by the Internal Revenue Service that contributions to it are deductible under the applicable sections of the Internal Revenue Code as amended;
- b. The South Central Connecticut Regional Water Authority;
- c. The Connecticut Water Company;
- d. The Central Connecticut Council of the Boy Scouts of America;
- e. The Hammonasset Fishing Association;
- f. The Girl Scouts of America;
- g. The Madison Rod and Gun Club;
- h. The Killingworth Land Conservation Trust; and
- i. The Killingworth Historical Society

C. All tracts of land designated as open space by the Killingworth Planning and Zoning Commission, formally dedicated by the developer and conveyed to the legal entity that will ultimately own a possessory freehold interest in any such tract.

D. For the purposes of this designation, lots or parcels of land separately described in deeds of other instruments shall be considered as forming a single tract if such lots or parcels are contiguous with one another at any point and are under the same ownership. Lots or parcels which are separated by a public street shall not be considered to be contiguous.

These designations of open space under Public Act 490 are reaffirmed in this Plan of Conservation and Development. Should any of the agencies listed above, for example the water companies, decide to sell property, the Town should act expeditiously to acquire these lands so that they remain in open space and are not developed.

F. Greenways. In 1995, the General Assembly passed Public Act 95-335 that establishes a statewide greenways program and encourages municipalities to develop greenways. Greenways are corridors of open space that protect and preserve natural resources, river corridors, wildlife migration pathways, fishways, scenic landscapes, ridgelines, and historical resources, and which offer recreational opportunities such as hiking or biking trails. They may be located along defining natural features such as ridgelines or rivers or along man-made corridors such as woods roads or abandoned town roads. Greenways in the Town of Killingworth should be identified and preserved. As in the case of open space, it is critical that a survey and inventory of natural and cultural resources be taken first. Priority should be given to protecting watercourses in Killingworth as greenways. The three major watercourses in Killingworth are the Hammonasset River, Pond Meadow Brook which joins Chatfield Hollow Brook and flows into Forster's Pond, Deer Lake, and the East Branch of the

Hammonasset River, and Heft Brook and the Murray Ponds which flow into the Menunketesuck River. Portions of these watercourses are currently protected by water companies, land trusts, the State of Connecticut, and hunting and fishing organizations. Efforts should be made to protect additional areas and connect currently protected areas. This can be accomplished by dedication of open space, conservation easements, and purchase of land by the Town, State of Connecticut, and land trusts. These techniques should also be used to connect other areas of existing open space in Killingworth so as to form an interconnected network of greenways and open space.

G. Agricultural lands. Consideration should be given to preserving prime agricultural land as an important natural resource and ensuring that agricultural uses and keeping of animals are permitted uses in Killingworth. Also, agriculture is experiencing a renaissance in Connecticut. Food security concerns, a recognition of the benefits of eating locally, and new resources for farmers and farmland protection have prompted a renewed interest in agriculture. Small boutique farms, sustainable farming ventures, and new farm community programs are increasing in Connecticut. Sound forest management practices on public and private lands should be encouraged to protect the immediate and long-term viability of forests. Three techniques that could be used for farmland preservation are:

- a. During review of subdivision or special exception applications, the Planning and Zoning Commission should consider the impact of uses and building sites on prime agricultural soils as described in the Soil Survey of Middlesex County. Wherever possible, the proposed use should have minimal impact on prime agricultural soils.
- b. Existing farmland or land with potential for farming could be eligible for open space dedication. Developers should be encouraged to dedicate farmlands as open space.
- c. Under Public Act 78-232, the State of Connecticut can buy development rights to farms. The State employs a number of criteria in determining the suitability of parcels for acquiring development rights. The Town, however, should assist individuals who wish to sell development rights and encourage the State to consider these parcels.
- d. Since the last Town Plan was adopted, regulations permitting Ag-tivities/Agritourism activities have been adopted. These activities are considered to be accessory to an established agriculture operation permitted under § 500-43 A (4) and carried on under private ownership. These uses should be incidental and subordinate to the use of the property for farming. Ag-tivities are appropriately scaled events of limited duration on a farm that are incidental to agricultural uses, including, but not limited to, hayrides, corn mazes, festivals and other similar activities; on-farm sales such as farm stands and pick-your-own operations retailing farm and farm-related products; and on-farm processing operations provided they comply with all applicable state and municipal health codes. Agritourism refers to the act of visiting a working farm or any agricultural, horticultural or agribusiness operation for the purpose of enjoyment, agricultural educational instruction, demonstration of production of farm products, or active involvement in the activities of the farm or operation. Since the regulations were adopted, two such farms have been approved. Both have been highly successful and a benefit to the Town. It is recommended that such activities be continued and encouraged. These uses on large parcels of land are preferable to large-scale housing development and contribute to the rural-residential character of Killingworth.

5. Alternative housing. It is recognized that housing in Killingworth is expensive and often beyond the reach of children of residents or the elderly who may wish to scale down from a large house to a more manageable residence. There are no easy solutions to these problems, which are mainly due to the high cost of land that makes it difficult and uneconomical for developers to provide affordable housing. The current Zoning Regulations contain provisions for alternative housing designed to accommodate a more efficient use of existing housing stock and to meet the housing needs of smaller households, the elderly, and those of median income. These are regulations governing affordable housing, accessory apartments, two-family dwellings, and apartments. In addition, age-restricted housing is permitted through the Retirement Subdivision regulation. Alternative housing options are described below.

A. Affordable housing subdivision. Article VII Affordable Housing of the Zoning Regulations provides for affordable housing for the purpose of promoting the inclusion of below-market rate housing units in residential developments so as to increase the diversity of the Town's housing stock and provide housing for those of low or moderate income. These regulations which permit a smaller lot size are not binding on developers but are presented as a guideline as to what is considered compatible with the rural-residential nature of Killingworth and the necessity of protecting ground water supplies.

B. Accessory apartments and two family dwellings. Accessory apartments are permitted by special exception under current regulations within certain existing single-family residences for the purpose of providing rental housing for the elderly, single persons, or small families. Accessory apartments may be created within single family residences built five years prior to application and shall not change the single-family character of the dwelling. In 2016, accessory apartment regulations were amended to allow certain detached structures to be used as accessory apartments. An accessory apartment may be permitted on certain single family residential properties containing five or more buildable acres within an existing detached structure. An accessory caretaker apartment may be permitted on certain single family residential properties containing twenty (20) or more buildable acres within a newly constructed detached structure. Two family dwellings are permitted for the purpose of providing rental housing for the elderly, single persons, or small families. Two family dwellings are permitted on lots containing two two-acre minimum buildable lot areas. These alternatives should be continued.

C. Retirement housing subdivision (Age-restricted housing). The Planning and Zoning Commission adopted ARTICLE XXXIV Retirement Housing Subdivision in 2008. The purpose of this article is to provide housing for persons over age 55 that is consistent with the overall intent of these regulations and the Town Plan of Conservation and Development, namely to preserve the rural, low-density character of the Town of Killingworth and to protect subsurface groundwater supplies. This article permits variations to conventional subdivisions in density and residential use facilities, in order to promote the development of housing for older persons and to provide incentives for the preservation of open space land.

D. Apartments. In 2012, a regulation was adopted to permit mixed Uses in the Large Commercial District. A mixture of permitted commercial uses and residential dwelling units may be permitted in the Large Commercial District under certain conditions. The regulations allow for apartments to be placed in the upper floors of large commercial buildings. In 2018, five of 16 apartments in the 257 Route 80 building were designated affordable apartments under CT Gen Stat § 8-30g.

E. Other alternative housing techniques. Flexible zoning techniques can be used to promote a wider range of housing development available to a varied economic population. These include floating zones, planned development districts, and overlay zones. Under CT Gen Stat § 8-2i, inclusionary zoning, the Planning and Zoning Commission can set aside affordable housing units in any special permit, special exception, or subdivision application. Although there are no specific proposals for such alternative zoning techniques at the present time, they could be considered in the future as needs or circumstances warrant.

6. Tax Base. Killingworth has relatively little commercial and industrial development with a heavy investment in buildings and equipment that would add to the tax base. For this reason, the burden of the tax base falls on residential property creating hardships for those of median or fixed incomes. Eighty five per cent of the grand list is residential property. The largest proportion of the Town's budget is devoted to education. Residential growth results in an increase in the school population and a further increase in the tax rate. However, Killingworth is primarily a residential community and there has been little interest or enthusiasm toward attracting industry or creating a large Industrial District. This attitude is the result of concern that industrial uses may not be compatible with residential neighborhoods and maintaining the rural-residential character of the Town. Therefore, alternative methods consistent with the rural-residential character of the town should be considered with the goal of stabilizing tax rates on residential property.

A. Stabilization. The Town Plan contains several recommendations designed to stabilize the tax base.

- a. Lands should be set aside as permanent open space for the purposes of recreation and preservation of natural resources. Placing land in open space avoids the increased expenditures for education and services over tax revenues that occur with residential development.
- b. Maintain an attractive commercial area that would attract suitable businesses to Killingworth. Steps to achieve this are described under “Economic Development” below.
- c. Continue to encourage the establishment of customary home occupations.
- d. The Town of Killingworth should continue to acquire certain large parcels of land that would otherwise be developed. Alternative uses, such as private recreation areas as permitted under current Zoning Regulations, for large parcels of land should be permitted as an alternative to residential subdivision.
- e. Encourage age-restricted housing that would provide housing for persons over age 55 without increasing the school-age population.

7. Commercial Development. The following goals and guidelines should be applied to future commercial development in Killingworth:

A. Goals and guidelines.

- a. Commercial uses and expansion should be carefully controlled to insure compatibility

with existing uses and promoting an attractive commercial center.

- b. Commercial development should avoid strip development and unoccupied buildings.
- c. Development in the Commercial District should take place in a manner beneficial to both the Town and businesses.
- d. Commercial development that provides services that are currently not available locally to Killingworth residents should be encouraged.
- e. Attract commercial developments that would provide some tax relief to residents without greatly increasing requirements for local town services such as sewers, refuse disposal, and fire and police protection.
- f. Large commercial developments should be limited to the center of town but should be compatible with historic buildings in that area.
- g. A village or cluster concept design for commercial buildings compatible with the rural-residential nature of the Town should be encouraged.

B. Commercial districts. To insure these goals are met, current Commercial District regulations adopted since the last Town Plan should be retained. These provide for a large business zone located near the intersection of the two arterial roads, Routes 80 and 81. Businesses in this zone should include offices, corporate headquarters, technical, biomedical, and research facilities, and larger retail facilities. Buildings in this zone must be larger than 5,000 square feet in floor area but not greater than 20,000 square feet. The remainder of the Commercial Zone along Routes 80 and 81 is the general business/residential zone which contains commercial buildings, residences, some historic buildings and sites, and open areas. The commercial zone outside of the central large business zone should be designed to promote land use that will continue the pleasing integration of housing with attractive, small commercial uses. Convenience stores and retail shops should be designed to provide a variety of goods, services, and attractions to meet the everyday needs of local residents. Uses in this zone would also include residences, home occupations, medical/professional offices, veterinary clinics, real estate offices, antique shops, farms stands, tourist homes, and sit-down restaurants. Buildings in this zone may not exceed 5,000 square feet in floor area so as to be compatible with existing businesses and residences. Additional development should be consistent with soil types and ability of Routes 80 and 81 to handle additional traffic. All commercial developments should be in harmony with scenic vistas, historic structures, and residences present in the Commercial District.

C. Commercial cluster development. Commercial cluster developments or village-type developments should be encouraged instead of development occurring along uniform front lots which parallel roadways. This form of development requires new buildings to be sited in groups, with varying setbacks and rural landscaping between structures and the roadway. This serves to maximize the open space around each cluster and assists in preserving scenic views of the surrounding rural landscape. The intent of the Plan is to avoid commercial development being lined up along the entire highway that is zoned for commercial development and to minimize the number of driveways and commercial traffic congestion. This form of clustering can be achieved through the sensitive placement of detached

buildings that respect traditional architectural styles. In some areas, it may be necessary to increase the depth of the commercial zone in order to accommodate cluster developments. Side setbacks should be adequate to protect historic buildings and visually important rural landscapes between the developments.

D. Building design. To assist in controlling unattractive commercial sprawl and to help maintain the rural-residential character of Killingworth, commercial structures should be planned so that they are compatible with the other characteristics and structures in the Commercial District. To accomplish this, the Zoning Regulations include design standards for special exception applications including commercial developments. The design standards include requirements for site development, building form and materials, and rural landscaping. The standards are designed to promote and preserve the aesthetic qualities associated with historical rural New England towns, enhance the historic nature of the central area of town, harmonize and remain compatible within the Commercial District, avoid strip development, and preserve the rural appearance of the area.

E. Economic development. In the Town Plan Questionnaire, among features of the town that need improvement, the “tax base” received the second highest number of responses. One way to achieve this is to attract businesses that will provide enough property tax revenue to reduce the tax burden on residential property. Research in the 1990s concluded, however, that Killingworth’s limited infrastructure (no public water supply or sewers) and our remoteness from major highways or public transportation constrain the possibilities for attracting a business or industry that would add significantly to the tax base.

However, steps could be taken to enhance economic development in the existing Commercial District. Increasing traffic flow along the town’s major corridors, especially Route 81, represents an opportunity for businesses along those routes. In addition, the internet age has made it easier for people to work out of their homes. As these home occupations grow, they should be encouraged to move into larger quarters in the Commercial District.

Enhancing economic development depends on having an attractive and cohesive commercial district that would attract businesses and customers. Uncontrolled commercial sprawl should be avoided. Currently, the Commercial District consists of isolated and unconnected businesses and clusters. In most cases, people use the commercial district as a one-stop destination to a single business. Steps could be taken to enhance the Commercial District by tying together individual businesses making it easier for people to visit more than one business. These include design standards for buildings that make them attractive and compatible with other buildings. Sidewalks with colonial-style lighting, benches, bike racks, and plantings would tie businesses together. This would be difficult with existing buildings but could be required for new developments and applications for modifications to existing businesses. Other possibilities are traffic-calming measures, cross walks, street-scaping, and a town-owned central parking area in a park-like setting. Efforts should be made to attract businesses not presently available, most notably a grocery store, but also businesses like antique and specialty shops, ice cream parlor, book store, toy store and similar shops that would encourage walking traffic throughout the commercial district. Together, these steps would make the commercial district more vibrant and cohesive and a destination in itself for people of all ages. This, in turn, should promote economic development that would enhance the town’s grand list.

F. Telecommuting, (also known as working from home, telework, remote work, or e-commuting) is a work arrangement in which employees work outside the office, often working from home or a location close to home (including coffee shops, libraries, and various other locations). With technology advances, telecommuting opportunities continue to rise. While the traditional telecommuting model typically fits well within residential districts, the Town should support growth of these activities beyond the residential setting. Larger facilities in the commercial district could support many types of mobile work including telecommuting and customary home occupations.

8. Industrial Development. In the Town Plan Questionnaire, the majority of residents did not believe that additional lands should be made available for industrial purposes. Some residents support controlled light industrial uses to contribute to maintaining a stable tax base and creating employment opportunities within the community. Although consumer oriented, high technology, or service sector establishments in a park-like setting might be compatible with a rural-residential character, there is little likelihood Killingworth could attract such establishments. Killingworth's potential for industry has been examined by a report of the Economic Development Research Committee and a report of the Connecticut River Estuary Regional Planning Agency entitled "Review of possible economic development sites within the Town of Killingworth." Generally, these reports concluded that it is unlikely Killingworth could attract suitable industry or compete with neighboring towns. Reasons for this include lack of suitable sites for industrial uses, lack of access to convenient transportation and suitable highway access, absence of necessary services and infrastructure such as road network, sewer and water utilities, communications, natural gas, and waste disposal options, and the necessity for protecting the Town's water resources. It would not be an efficient use of town resources to direct efforts toward attracting new business and industry that is highly unlikely to locate in Killingworth. In the event a suitable business and location could be identified, a zone change could be requested. If that were approved, an application could be submitted under the existing regulations for Industrial Districts.

9. Customary Home Occupations. One possible approach for new economic development in Killingworth is to encourage growth of existing home occupations and establishment of new home occupations. This form of development provides for small entrepreneurial enterprises scattered throughout the town and using the present labor force. Experience indicates that with careful regulation home occupations can be located in many residential areas without detriment to neighboring properties. While there must be limits to the nature and size of home occupations, some flexibility is desirable, taking into consideration site characteristics and the character of the surrounding area.

If home enterprise is to be encouraged, the Town should also make provision for the successful growth of such activities beyond the confines of a residential setting. This can be accomplished by providing the opportunity for relocation to larger facilities in the commercial zone. It is more likely that Killingworth could retain and accommodate expansion of businesses originating in town than it could attract new businesses from outside of town.

10. Recreation. Killingworth currently has playing fields at four locations:

Sheldon Park: baseball and softball fields, tennis courts, basketball court, horseshoe pits, fishing, playground, pavilion

Rocco M. Reale Memorial Field: Little League Baseball

Bethke Field: softball, baseball practice field

Eric W. Auer Killingworth Recreational Park: multi-purpose; access for hikers and riders

Such town-owned recreational areas and facilities should encompass a full range of community needs including bicycle paths, natural parks, hiking trails, horse-back riding trails, swimming areas, and ice skating and be easily accessible to all of the Town's residents. Ball fields and soccer fields should be included in the recreational area in the Town-owned property that includes the town center. Large areas or connected smaller tracts, or greenways are suitable for hiking, cross-country skiing, and bicycling. Appropriate organizations, such as the Conservation Commission and The Killingworth Land Trust, should be enlisted to help in the planning of such trails and paths. Land for these facilities can be acquired through purchase by the Open Space Trust Fund, as described above, or through open space dedicated during subdivision approval. Finally, carefully regulated private recreational areas and facilities should be encouraged to provide both recreation for residents and an alternative to residential subdivision of large tracts of land.

11. Municipal Facilities. The Town's municipal facilities appear to be generally adequate at the present time, except for the Town Hall. It should be recognized that if the town continues to grow, there will be increased pressure on municipal facilities. The Town Hall has two modular additions attached to the former Hesel house. These modules are deteriorating and in danger of collapse. The vault, in which town records are stored, is rapidly reaching capacity. Either replacement of the modules or a new addition to the Town Hall will be required in the near future. A proposal to replace the modular units with a permanent post and beam addition to the Town Hall in a style that evokes a barn attached to a farmhouse was defeated in a referendum. Instead of periodically replacing the modular units, an addition to the Town Hall should be reconsidered, addressing concerns that were raised with the first plan. Although the earlier plan was defeated, in the Town Plan Questionnaire, 61.3% of respondents favored construction of a new permanent Town Hall while 19.9% favored replacing the existing modular units. Thus, there may be increased awareness for the need of a new Town Hall. A Town Barn Committee has been formed to evaluate the potential for rehabilitation and repurposing of the barn and to recommend a cost-effective plan to accommodate various public uses.

Special consideration should be given to continued improvement of the municipal land on Route 81. In the Town Plan Questionnaire, 61% of respondents favored proceeding with the development of a Town Center and Town Green, while 39% were opposed. A Killingworth Municipal Land Use Plan for a Town Center specifying the location of all uses, including municipal facilities, Town Green, compactor, recreational facilities, and roads was adopted at a town meeting (Figure 3-1). Development should be pursued according to this plan unless an alternative plan is approved at a town meeting. The plan should allow for the placing of buildings around an open green to form an attractive town center. Presently, funds for the town center have been expended and no action is being taken to implement the plan.

12. Public Facilities. Generally, the Town's public facilities meet the needs of the Town and, based on projected population growth, should be adequate for at least the near future. Special attention should be given to the protection of water supplies from sources of pollution, to the avoidance of sewers, and for disposal of hazardous waste. Continued provision should be made for refuse disposal and recycling facilities that avoid pollution and are in harmony with the environment and character of the Town. The present compactor should be moved to a less obtrusive site on Town property and a design more in harmony with the surroundings should be

chosen. The Killingworth Library occupies a relatively new, expanded facility. The Town's emergency services appear to be adequate to meet the needs of the Town for the next decade. However, the construction of large houses and buildings and the new Middle School place additional demands for fire protection. The town should continue to support the Killingworth Volunteer Fire Department and the mutual aid program and sharing of resources with other towns. The Connecticut State Police and resident trooper program provide protective coverage for the Town. The Town should continue to support the resident trooper program and, if necessary, expand it in the future. The resident trooper and Office of Emergency Management are located in the new Emergency Operations Center. Many residents cite the need for a Post Office to be located in Killingworth. Although neighboring towns of comparable population have post offices, efforts by selectmen to secure a post office for Killingworth have been unsuccessful. Intense political intervention at higher levels will be necessary to rectify this inequitable situation. No further expansion of cemeteries is required as the Evergreen Cemetery, Congregational Church columbarium, and nearby Catholic cemeteries meet present needs. Attention should be given to the protection and restoration of the old cemeteries in town which are undergoing serious deterioration. Efforts are being made by the Killingworth Historical Society and Municipal Historian to clean and reset gravestones. The Town working with the Historical Society could seek grants for the repair of historic tombstones.

At this time, the Board of Education is planning to consolidate schools in District 17 from five schools to four. This is due to declining enrollment, decreasing State aid, and aging infrastructure. The school-aged population in District 17 is expected to decrease from 1806 in 2015 to 1422 in 2025. The plan would create two K-3 Primary Schools, one in Killingworth and one in Haddam, and to close one Elementary School in Haddam. It would also create a new Intermediate Program, Grades 4 and 5, to be housed at the current Haddam-Killingworth Middle School, along with a Middle School Program, Grades 6-7-8, also at Haddam-Killingworth Middle School, each Program with its own Administrator. The High School would be unchanged.

13. Roads and Bridges. Present road standards in the Road Regulations should be re-examined to determine whether in some instances unnecessarily high design standards, especially road width, for residential streets can be avoided. The scenic quality of many of Killingworth's roads should be maintained consistent with safety. Dangerous intersections should be identified for future improvements. The traffic circle at Route 80 and 81 was deemed dangerous and so the State Department of Transportation replaced the rotary configuration with a round-a-bout in 2011. Consideration should be given to the establishment of sidewalks in the Commercial zone to allow for convenient pedestrian traffic between commercial establishments and improving pedestrian traffic circulation in the area of the circle. Where possible, subdivision roads should channel traffic to main roads. The Town has a long-range plan for care of roads and bridges.

A. Town roads. Town roadway maintenance and improvements over the past ten years consisted of crack sealing on 12 town roads, chip sealing of 27 and overlay repairs to 12 others. The Town authorized a pavement study by Nathan Jacobson, Town Engineer, to inspect and evaluate the existing pavement condition for all paved town roads in two phases. Each phase consisted of approximately 50 miles with Phase I typically being for poorer condition roadways and phase II for the balance. The various defects and density of those defects recorded, resulted in Pavement Condition Indices (PCIs) being assigned to each section of roadway. The PCI can range from 0 to 100 and is used to then categorize them into Excellent, Good, Fair, Deficient and Very Poor. The study also looked at maintenance and

repairs performed to assess whether the rate of deterioration for various roadway segments was low, medium or high. With the above information, the study made one of four treatment recommendations for each segment of roadway including Preventative Maintenance, Chip Seal, Pavement Overlay, and Reclaim and Pave. The final study summary which was published in 2017 recommended 21 of the surveyed roads for preventative maintenance, 42 for chip sealing, 28 for overlay, and 15 for reclaim and pave (many of which have already been done). The study found that the roads in Killingworth, which include 10 miles of gravels roads, are in generally good condition and the Town plans to make the necessary upgrades over the next five years as well as continuing with an ongoing preventative maintenance program. These studies also focused recommendations for repair on the poorest sections of each roadway evaluated and typically not the whole length of roadway. The town of Killingworth currently has a fairly aggressive road repair program and has recently shifted their practice of chip sealing the year after a road is repaved, to waiting 2 to 3 years afterward. Damage to roads from flash flooding is unpredictable.

B. Traffic congestion. Many existing and projected highway capacity problems occur on state-maintained arterial roads. Congestion on these roads often results from strip development and poorly designed access along commercial corridors. Roadways cannot efficiently handle both rapid through traffic and local on/off movements. This is particularly true of Route 81 in Killingworth. It is recommended that a baseline traffic evaluation be performed for all roads in Town in order to evaluate the amount of traffic on roads and where traffic management plans and/or road improvements are desirable. An access management plan is one mechanism that can be used to preserve and improve the capacity of existing and arterial roadways by controlling the number, location, and design of driveways and side streets within a corridor. By adopting access management policies through zoning regulations, the Town Plan, site plan review procedures, or driveway ordinances, it is possible to limit the adverse impacts associated with development. Flexible design standards for roads and bridges, context-sensitive design, and traffic calming techniques are other strategies that can be considered during a project's design phase, when supported by complementary local land use controls. These strategies can be effective in certain instances on State roads in Rural Community Centers when the desire to slow traffic, enhance pedestrian safety, and/or preserve community character takes precedence over vehicle throughput. Traffic calming strategies can also be incorporated into certain low-volume, local street designs to slow traffic through neighborhoods and allow pedestrians and cyclists to co-exist safely with automobiles.

C. Scenic roads. A scenic road ordinance was adopted by the Town of Killingworth in 1985. The purpose of the ordinance is to help preserve Killingworth's rural character and beauty by enabling property owners to preserve scenic rural roads abutting their property. There are presently 6 town roads in Killingworth designated as Scenic Roads – Beckwith Road, Chestnut Hill Road, North Chestnut Hill Road, Spencer Hill Road, Titus Coan Road, and Abner Lane. Route 148 and parts of Route 80 should be considered for designation as scenic highways by the State.

D. Bridges. Based on the fair to good condition of the Town-owned bridges over six feet in length (summarized in Table 3-2 in Chapter 3), it is anticipated that the need for bridge replacement or rehabilitation will be minor over the next ten years. The Connecticut Department of Transportation's biennial inspections and reporting will notify the Town of any recommended or required repairs. However, it is recommended that the Town-owned

bridges receive preventative maintenance to mitigate future construction costs and liability. For instance, there is a strong likelihood that the Paper Mill Road bridge superstructure will drop from its current fair (5) condition rating to poor (4) condition over the next 10 years, if preventative maintenance is not provided. In the event any of our bridges fall into the poor (4) condition category, the Town should begin the process of obtaining State and Federal funding for rehabilitation or replacement. This would help ensure that the design and reconstruction can occur prior to the subject structure degrading to a critical condition, necessitating closure.

14. Historic Preservation. Much of Killingworth's character is due to the presence of its historical buildings, houses, and sites. The following historical assets in Killingworth should be preserved, maintained, or improved.

1. The Killingworth Congregational Church on Route 81 and the Emmanuel Episcopal Church on Emanuel Church Road.
2. Approximately 150 historically significant houses and structures as inventoried in Killingworth's Survey of Architecturally Significant Buildings, prepared in cooperation with the Connecticut River Estuary Regional Planning Agency in 1980.
3. Eight one-room schoolhouses built between 1800 and the late 19th century. Four are in private ownership, two are owned by the Killingworth Historical Society, and two by the Town.
4. Numerous mill and factory sites. Some are uninventoried, but can be identified on the 1859 and 1874 maps of Killingworth.
5. Titus Coan's (important missionary to Hawaii) birthplace at the end of Titus Coan Road.
6. The site of the first society house (early town hall) and first meetinghouse (church) built in Killingworth southwest of the junction of Routes 80 and 81.
7. Seven town-owned graveyards no longer in use.
8. The historic Town center which is the area extending along both sides of Route 81 from the municipal buildings south to Chittenden Road and on Route 80 east of the traffic circle.
9. Stonewalls which mark the Town rights-of-way on many roads and mark pastures and original property boundaries.
10. The agricultural renaissance cairns on Buell Hill (Deer Lake subdivision).
11. The stagecoach stop on Tower Hill Road (half is on Town property).
12. Important archeological sites such as Native American rock shelters.

Several methods can be used to preserve historical assets. When tracts of land are subdivided, the Planning and Zoning Commission should whenever appropriate and possible require that historically significant sites, structures, and assets and public access to them be donated to open

space. Stone walls, carriage roads, mill sites, cow pens, and house foundations should be shown on site plans and means for protecting them be described in the Historical and Archeological Preservation Plan. Significant sites could be obtained through the Open Space Trust Fund. All historically significant structures, sites and assets and archeologically important sites should be protected whenever possible from threats including but not limited to highway expansion, reservoir expansion, utility construction, traffic congestion, demolition, filling, or excavation. Town roads that provide access to historically significant sites should be maintained, not abandoned. The seven town-owned graveyards should be maintained. The Town of Killingworth should use town-owned land in a manner compatible with nearby historic buildings.

Special attention should be paid to preservation of the historic Town center because the appearance of this area contributes greatly to the character of the Town and has the greatest impact on people living in Killingworth or traveling through Killingworth. This can be achieved through regulations for the Commercial District that insure commercial uses and historic buildings are compatible.

15. Historic Districts. Another method of historical preservation is the establishment of Historic Districts. Historic Districts can be used to preserve the external architectural integrity of antique houses where they are clustered together. This method may not be the most suitable for Killingworth because the Town's old houses are widely scattered and do not in most areas fall into groups or "districts". However, some potential areas for small historic districts exist.

1. Chestnut Hill Road.
2. Roast Meat Hill Road from its junction with Route 80 to approximately one mile south.
3. Pond Meadow Road near its junction with Burr Hill Road.
4. Route 148 west of Schnoor Road to Kroupa's Pond.
5. Route 81 from the traffic circle to approximately one mile north.
6. Cluster of original Lane family houses on Schnoor Road.

Procedures for the establishment of Historic Districts are described in the State Statutes.

16. Historic Overlay Zone. Several of Killingworth's historic houses are located on Route 81 north of the traffic circle. Except for the Killingworth Café, these houses are located in the Residential Zone. Being located on a busy State highway, these houses are often difficult to sell as residences. As a result, they run the risk of being neglected or abandoned. One way to avoid this is to allow the houses to be used for certain commercial uses through a Historic Overlay Zone.

A Historic Overlay Zone is an additional layer of regulations (e.g., Commercial) for a specific area that is laid over the underlying zoning regulations (e.g., Residential). The base zoning regulations continue to be administered, but the overlay adds another level of regulations to be considered. Historic Overlay Zoning is when historic district design review is established through a zoning ordinance rather than an independent process such as establishing a Local Historic District. This Historic Overlay tier is applied to an area considered worthy of preservation because of its architectural, cultural or historic significance.

In creating a Historic Overlay Zone regulation, the Planning and Zoning Commission would specify what uses are allowed in these buildings, e.g., doctor's or lawyer's office. Changes proposed for the building would have to be submitted and reviewed by an agency designated by the Commission, e.g., the Historical Review Committee. Any uses and changes made to buildings within

the Historic Overlay District would require a special permit by the Planning and Zoning Commission with a recommendation by the Historic Review Committee. Upon completion, a preservation easement would be granted to the Town and enforceable by the Commission or the Historic Review Committee.

17. Natural Hazards Mitigation Plan. A Natural Hazards Mitigation Plan for the Town of Killingworth has been prepared by the Lower Connecticut River Valley Council of Governments (RiverCOG). The Natural Hazards Mitigation Plan provides the town with information about natural hazards specific to Killingworth, past occurrences, chance for reoccurrence, and potential impacts.

The purpose of the Natural Hazards Mitigation Plan is to:

1. Identify natural hazards that could occur and the geographic areas most likely to be affected by the occurrence of those natural hazards;
2. Assess threats from the occurrence of those natural hazards to natural resources, public infrastructure, private property and people;
3. Review existing actions and capabilities of and among the region(s) and its towns to mitigate threats from occurrence of those natural hazards;
4. Recommend additional actions to further prevent loss of life and reduce property damages associated with the occurrence of natural hazards; and
5. Update plans to remain eligible at the time a community applies for and when the Federal/State agencies award funds for hazard mitigation actions.

The Natural Hazards Mitigation Plan for Killingworth is hereby adopted as part of this Plan of Conservation and Development.

ZONING ENFORCEMENT

The Plan of Conservation and Development provides a basis for enacting regulations to carry out the Plan's recommendations. Regulations are drafted and enacted by the Planning and Zoning Commission following a public hearing. The Zoning Regulations for the Town of Killingworth are only effective if they can be enforced. Under Article XXXII of the Zoning Regulations, the Regulations shall be enforced by the Zoning Enforcement Officer. For most violations, a conversation between the Zoning Enforcement Officer and the offending party is sufficient to resolve the problem. When it is not, a "Notice of Violation" is sent. If there is no response to the Notice of Violation, a "Cease and Desist" order is sent. The Cease and desist order can be appealed to the Zoning Board of Appeals within thirty days. If the violation continues after thirty days and is not reversed by the Zoning Board of Appeals, the Planning and Zoning Commission can refer the violation to its legal counsel who will file for an injunction in Superior Court to cease the violation. This procedure, although usually ultimately successful, is lengthy sometimes taking months or years to be heard by the court, during which time the violation continues. There are also significant expenses to the Town in attorney and court fees.

The Connecticut General Statutes give municipalities the authority by ordinance to impose fines for violations of zoning regulations.

Sec. 8-12a. Establishment of municipal penalties for violations of regulations. (a) Any municipality may, by ordinance adopted by its legislative body, establish penalties for violations of

zoning regulations adopted under section 8-2 or by special act. The ordinance shall establish the types of violations for which a citation may be issued and the amount of any fine to be imposed thereby and shall specify the time period for uncontested payment of fines for any alleged violation under any such regulation. No fine imposed under the authority of this section may exceed one hundred fifty dollars for each day a violation continues. Any fine shall be payable to the treasurer of the municipality.

Consideration should be given to the Town of Killingworth adopting such an ordinance as described in Section 8-12a of the State Statutes. It is likely that the possibility of a fine for violations will result in much faster resolution of violations and avoid lengthy and costly legal action on the part of the Town.

IMPLEMENTATION OF THE PLAN

This Plan of Conservation and Development is a guide for the future development of Killingworth. It provides a framework for growth that will protect the Town's natural resources and water supplies, encourage acquisition of open space, foster a small town spirit of community, and provide for expanded economic activity. However, a Town Plan can only suggest ways in which the Town can grow in an orderly manner. Actions are required at the local level by many agencies to make the plan a reality. Decisions affecting development within the Town are made by many groups and individuals. At the local level, the Board of Selectmen, Board of Finance, Planning and Zoning Commission, Inland Wetlands and Watercourses Commission, Water Pollution Control Commission, Conservation Commission, Park and Recreation Commission, Board of Education, and various civic organizations and municipal-appointed committees make decisions that affect development. Decisions by these agencies are necessary to implement individual parts of this Plan. Some of the recommendations in this plan will require drafting of new Zoning, Subdivision, and Road Regulations by the Planning and Zoning Commission. In the past, Town Plan recommendations have not been addressed or implemented by some of the other agencies. Applications for projects and improvements have been submitted on an individual basis without a long-term plan. It is strongly recommended that long-term strategic plans be developed by appropriate boards and agencies regarding municipal facilities, capital improvements and maintenance of roads and bridges, open space acquisition, and recreational facilities including parks and playgrounds. There is an existing approved plan for the Town Center, but it is not being implemented. Although the Planning and Zoning Commission cannot develop plans for other agencies, boards, and commissions, it can require as a condition of approval that applications to the Commission for special exceptions and municipal improvements be presented in the context of long-term plans developed by the individual agencies and that they be consistent with this Town Plan of Conservation and Development.

Regional organizations such as the Lower Connecticut River Valley Council of Governments, the Connecticut River Gateway Commission, and the Middlesex County Revitalization Commission can also have a significant influence on growth and development in the area. Finally, decisions by State of Connecticut agencies on regulatory matters and infrastructure funding may determine the types of activities that are possible at the local level. Decisions made by one group at one level can impact the activities of other groups at other levels. The Town, Lower Connecticut River Valley Council of Governments, and State of Connecticut Plans of Conservation and Development provide a common vision for coordination of decisions affecting Killingworth made by many agencies at different levels.

REFERENCES

- Center for Land Use, Education, and Research (CLEAR). <http://clear.uconn.edu/>
- Connecticut Economic Resource Center (CERC). <http://www.cerc.com/>
- Connecticut River Estuary Regional Planning Agency (CRERPA). Plan of Development. May, 1995. <http://www.crerpa.org/>
- Historical & Architectural Survey of the Town of Killingworth, February 1980, Connecticut Historical Commission, Connecticut River Estuary Regional Planning Agency.
- Lincoln Institute of Land Policy, Municipal Open Space Acquisition. Preparing and Funding Successful Projects. Resource Manual. 1996.
- Map and Geographic Information Center (MAGIC) <http://magic.lib.uconn.lib/>
- Natural Hazards Mitigation Plan for the Town of Killingworth prepared by the Lower Connecticut River Valley Council of Governments
- Nonpoint Education for Municipal Officials ((NEMO). <http://nemo.uconn.edu/>
- Rivers Alliance of Connecticut. Model Municipal Ordinances and Regulations. <http://www.riversalliance.org/ModelOrdinances/modelordinances.cfm#intro>
- Soil Survey of Middlesex County, Connecticut. United States Department of Agriculture, Soil Conservation Service, In Cooperation with Connecticut Agricultural Experiment Station, Storrs Agricultural Experiment Station. 1979.
- State of Connecticut Office of Policy and Management, Policy Development and Planning Division. Conservation and Development Policies Plan for Connecticut 2005-2010.
- The University of Connecticut Cooperative Extension System.
- Town of Killingworth Connecticut. Annual Report, Fiscal Year Ending June 30, 2006.
- Town of Killingworth Planning and Zoning Commission. Killingworth Plan of Conservation and Development, 2008.

APPENDIX

RESULTS OF THE TOWN PLAN QUESTIONNAIRE

From a Town-Wide Opinion Survey
Distributed During 2017
by the
Killingworth Planning and Zoning Commission

Survey coordinated by Stephanie Warren,
Former Commission member

on behalf of the
Town of Killingworth
Killingworth Town Hall
Killingworth, Connecticut
06419

Introduction

As a part of their effort to gain a better understanding on the feelings of residents on land use issues in town and to continue the process of updating the Town's Plan of Conservation & Development, the Killingworth Planning and Zoning Commission made available a questionnaire to town residents seeking comments on conservation and development issues. The questionnaire was placed on the web on Survey Monkey. Survey forms were mailed by bulk mail to all postal customers in Killingworth. A total of 2,669 surveys were sent to Killingworth residences. 615 were returned for a 22.8 rate of return, a significant response for a survey of this type. Responses were tabulated by the staff of the Lower Connecticut River Valley Council of Governments. The report which follows includes tabulated responses to specific questions. A synopsis of the answers received by written comment is included at the back of this report.

It must be recognized that the results of this survey are not intended to represent a statistical sampling of residents' opinions, rather a suggestion of the feelings of the respondents who took the time to return the survey. The value of such a survey is not as a measure of public attitudes, but rather as an indicator of the concerns and attitudes of Killingworth residents. In addition, the questionnaire process is not intended to circumvent or replace input acquired during public hearings, town meetings or any other public processes. The questionnaire responses assist the Planning and Zoning Commission in considering which issues seem to need the most attention and consideration and, potentially, more investigation. Responses aid Commission members in beginning to fine tune land use policies that will form the basis of development for the next decade.

Statutory Responsibility for Plan Update

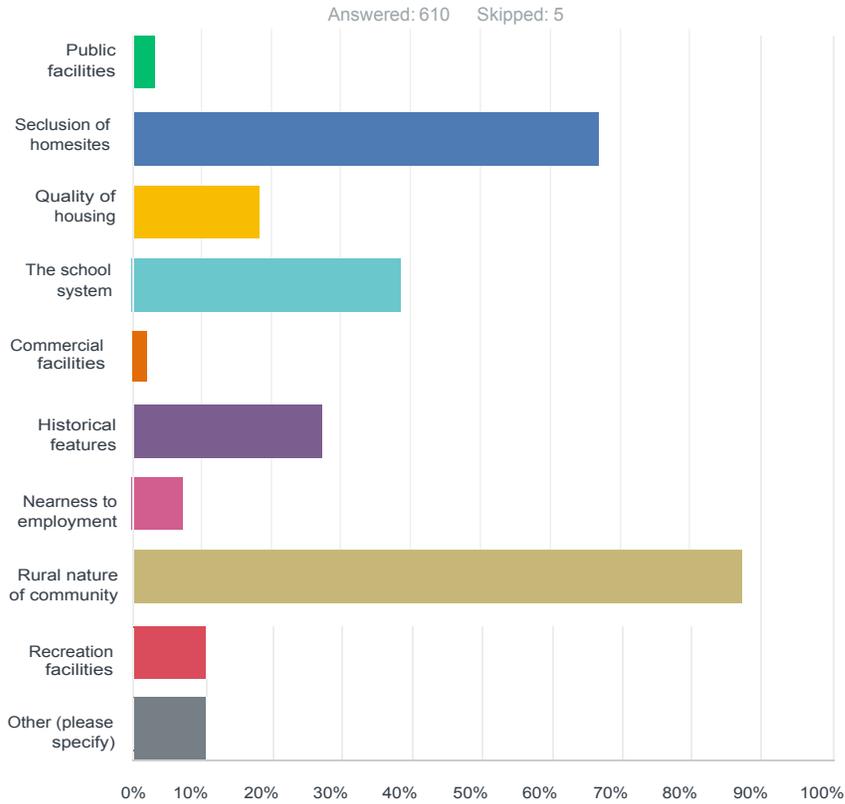
The Commission is undertaking review and revision of the Town Plan of Conservation and Development as is required by state statute outlined in Section 8-23 of the Connecticut General Statutes. Plans of Conservation and Development must be reviewed every ten years and updated as necessary. This survey provides the Commission with information on what town residents feel about the nature of the town and the direction it should take. The results of the survey will be used by the Planning and Zoning Commission in the review and revision of the Town Plan. The Town Plan is important because it forms the basis for the Commission's future planning and implementation of new zoning regulations.

Results

Responses to the questions strongly suggest that Killingworth residents prefer single family homes on secluded, fairly large home sites where they can appreciate their rural countryside. The responses suggest that the Town needs to preserve and enhance the natural environment rather than development taking place at a rapid pace. The majority of the respondents clearly want Killingworth to remain as it is. Responses also suggest that there is concern over taxes and concern over what will happen to the younger population and those on fixed income if taxes and property values continue to go up.

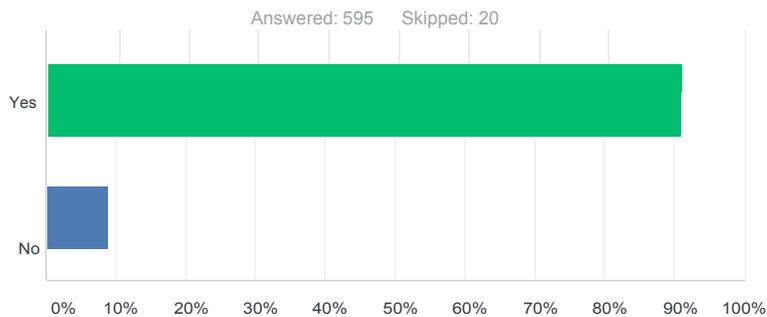
Killingworth PoCD Survey

Q1 What makes Killingworth attractive to you? Choose up to three most important to you.



Answer Choices	Responses
Public facilities	3.44% 21
Seclusion of homesites	67.05% 409
Quality of housing	18.36% 112
The school system	38.69% 236
Commercial facilities	2.13% 13
Historical features	27.38% 167
Nearness to employment	7.54% 46
Rural nature of community	87.38% 533
Recreation facilities	10.66% 65
Other (please specify)	10.49% 64
Total Respondents: 610	

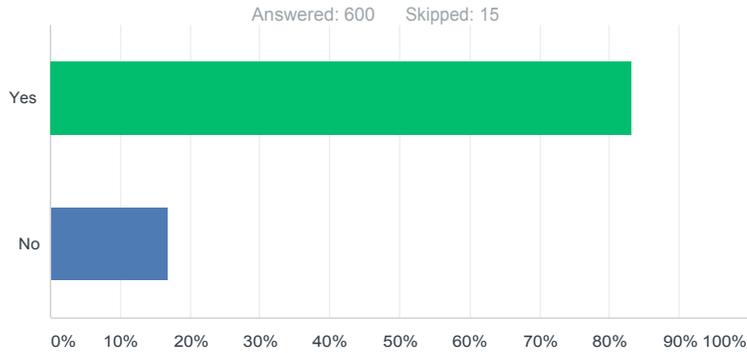
Q2 Do you feel adequate housing (number of residential units) is available in Killingworth?



Killingworth PoCD Survey

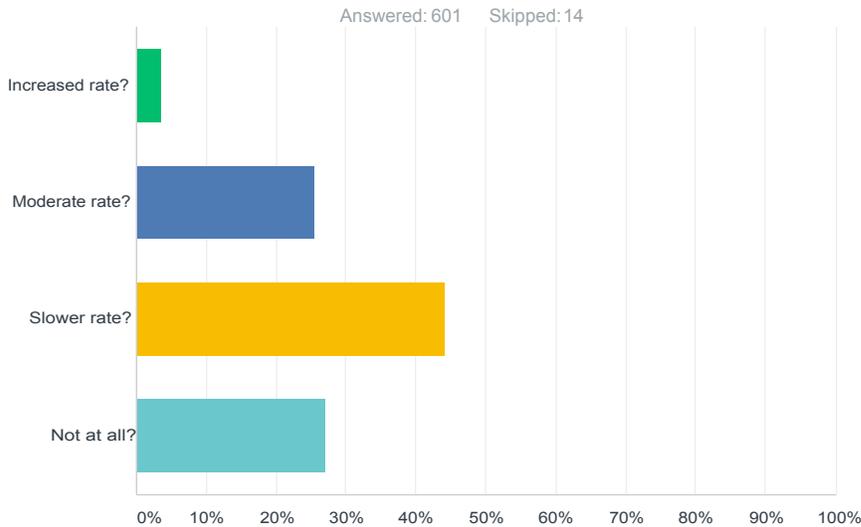
Answer Choices	Responses	
Yes	91.26%	543
No	8.74%	52
Total		595

Q3 Is the housing affordable to your family?



Answer Choices	Responses	
Yes	83.17%	499
No	16.83%	101
Total		600

Q4 Should residential expansion continue at an:

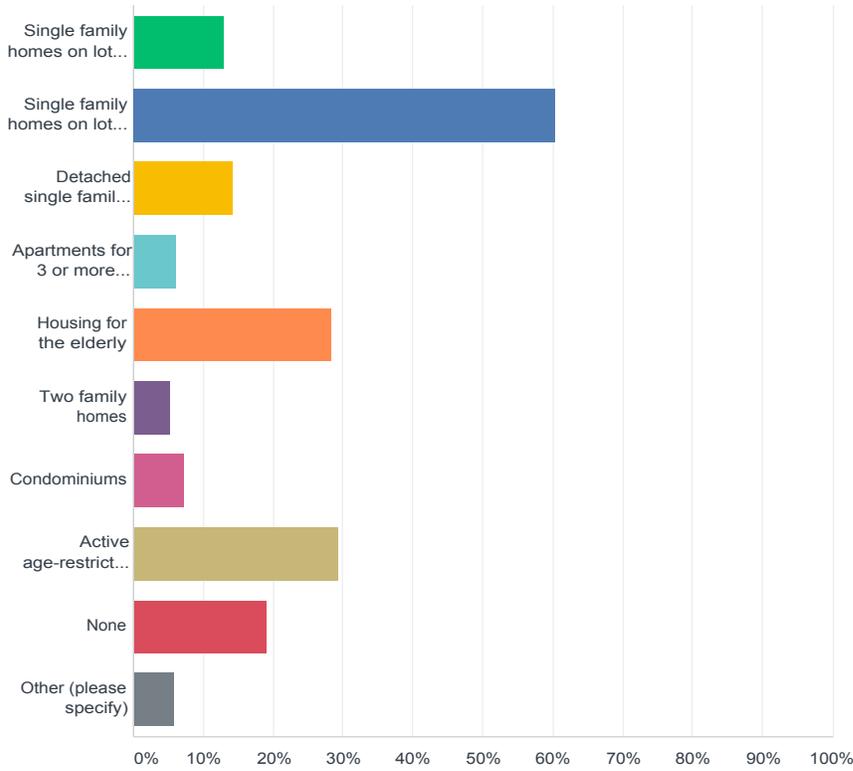


Answer Choices	Responses	
Increased rate?	3.49%	21
Moderate rate?	25.46%	153
Slower rate?	44.09%	265
Not at all?	26.96%	162
Total		601

Q5 What type of residential development should be encouraged? Choose up to three (3) most important to you.

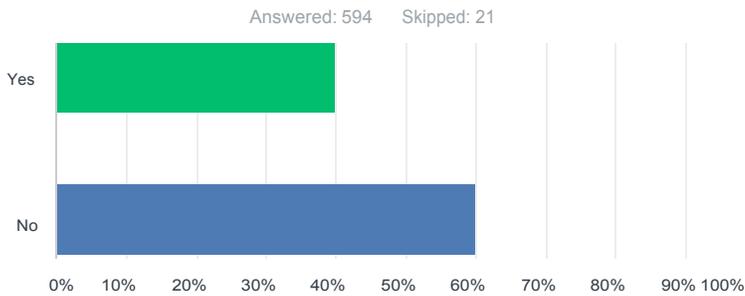
Answered: 606 Skipped: 9

Killingworth PoCD Survey



Answer Choices	Responses	Count
Single family homes on lots smaller than 2 acres	12.87%	78
Single family homes on lots of 2 acres or larger	60.56%	367
Detached single family homes in clusters	14.19%	86
Apartments for 3 or more families	6.11%	37
Housing for the elderly	28.22%	171
Two family homes	5.28%	32
Condominiums	7.43%	45
Active age-restricted (55+) adult housing	29.37%	178
None	19.14%	116
Other (please specify)	5.78%	35
Total Respondents: 606		

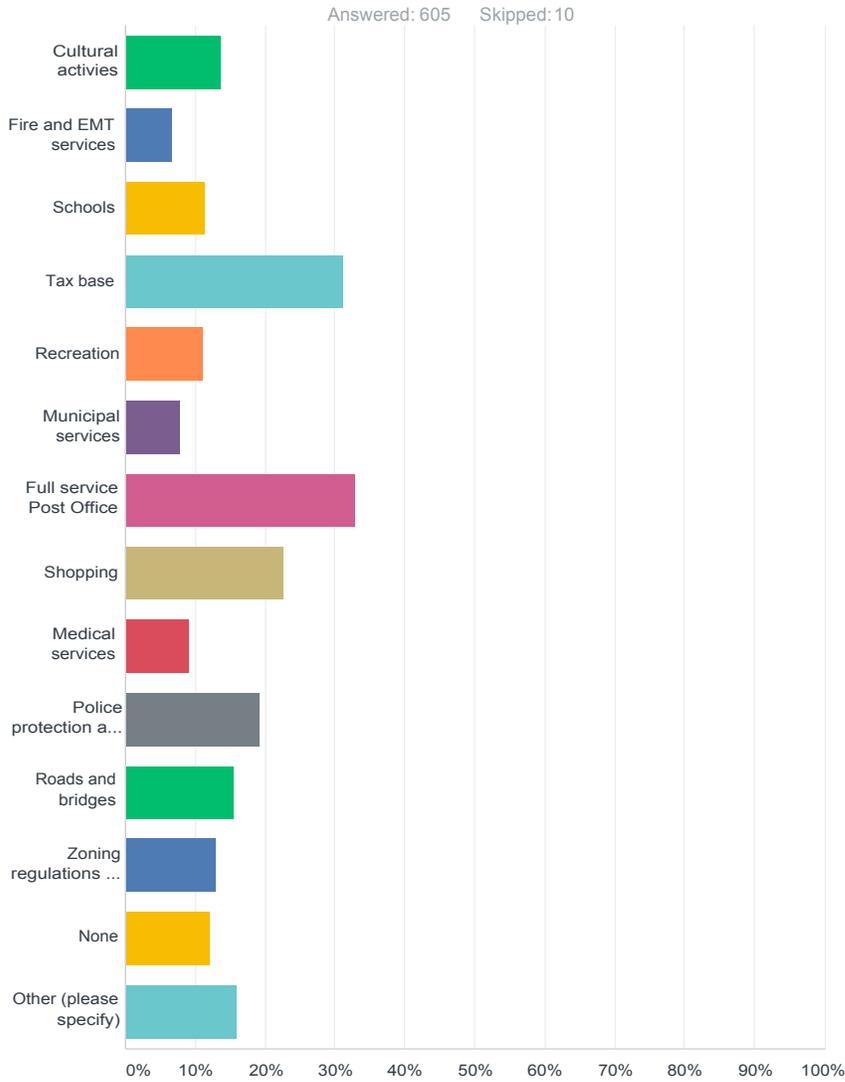
Q6 Would you support cluster housing on one or two acre lots in exchange for increased dedication of open space?



Answer Choices	Responses	Count
Yes	39.23%	233
No	60.77%	361
Total		594

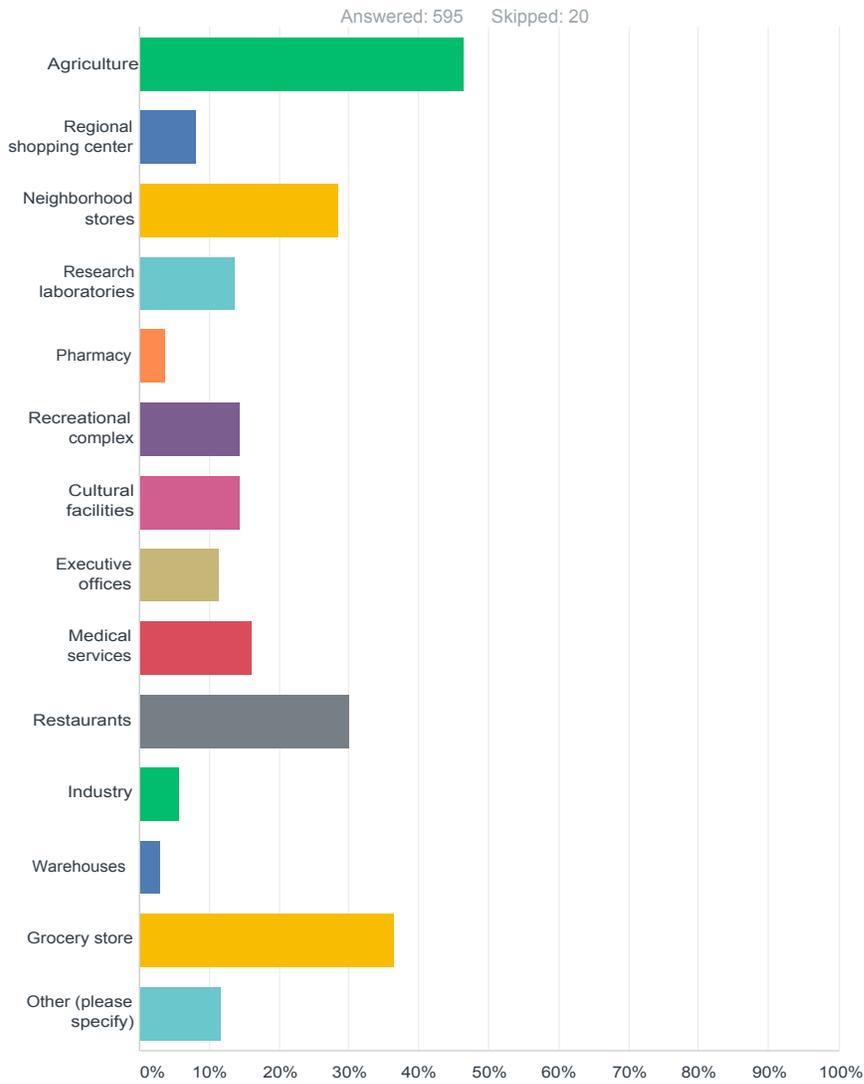
Killingworth PoCD Survey

**Q7 What features of the town do you feel need improvement?
Choose up to three most important to you.**



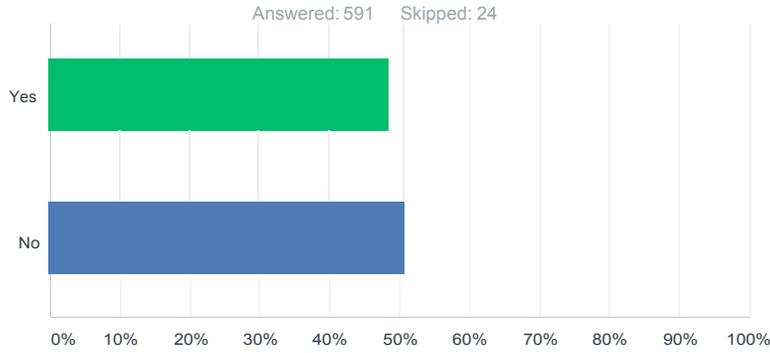
Answer Choices	Responses
Cultural activities	13.55% 82
Fire and EMT services	6.61% 40
Schools	11.24% 68
Tax base	31.24% 189
Recreation	11.07% 67
Municipal services	7.77% 47
Full service Post Office	32.89% 199
Shopping	22.64% 137
Medical services	9.09% 55
Police protection and law enforcement	19.34% 117
Roads and bridges	15.54% 94
Zoning regulations and enforcement	13.06% 79
None	12.23% 74
Other (please specify)	15.87% 96
Total Respondents: 605	

**Q8 What types of non-residential development would you consider desirable?
Choose up to three(3) most important to you.**



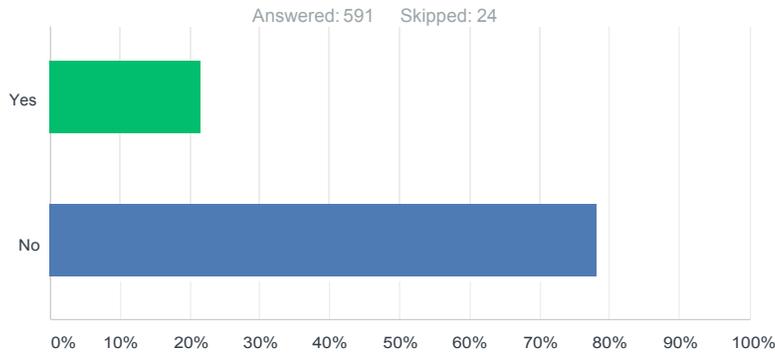
Answer Choices	Responses
Agriculture	46.39% 276
Regional shopping center	8.24% 49
Neighborhood stores	28.40% 169
Research laboratories	13.61% 81
Pharmacy	3.70% 22
Recreational complex	14.45% 86
Cultural facilities	14.45% 86
Executive offices	11.26% 67
Medical services	16.13% 96
Restaurants	30.08% 179
Industry	5.55% 33
Warehouses	3.03% 18
Grocery store	36.30 216
Other (please specify)	11.76 70
Total Responses: 595	

Q9 Should more land be available for commercial purposes?



Answer Choices	Responses	
Yes	48.56%	287
No	51.44%	304
Total		591

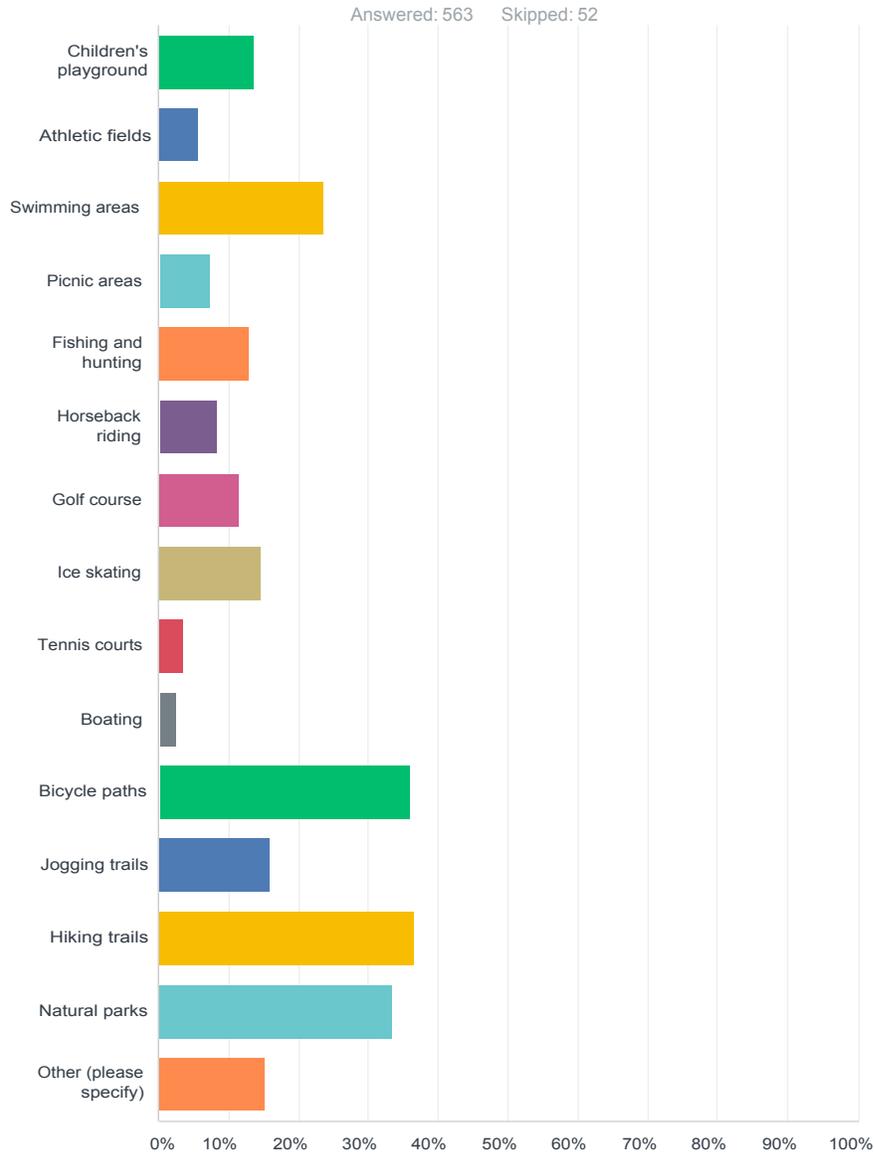
Q10 Should more land be available for industrial purposes?



Answer Choices	Responses	
Yes	21.66%	128
No	78.34%	463
Total		591

Killingworth PoCD Survey

Q11 Which of the following recreational facilities do you feel are needed? Chose up to three (3) most important to you.

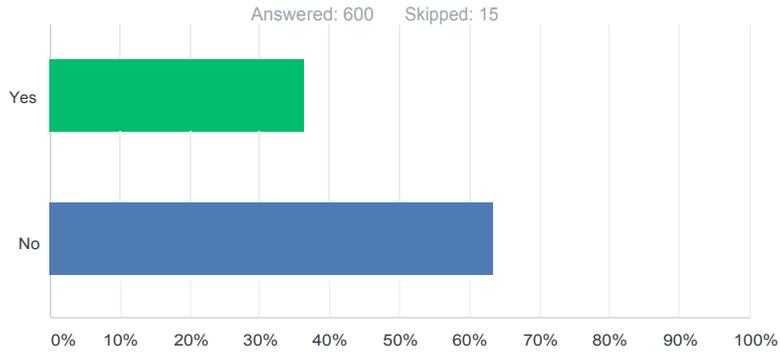


Answer Choices	Responses
Children's playground	13.68% 77
Athletic fields	5.68% 32
Swimming areas	23.62% 133
Picnic areas	7.28% 41
Fishing and hunting	12.97% 73
Horseback riding	8.35% 47
Golf course	11.55% 65
Ice skating	14.74% 83
Tennis courts	3.55% 20
Boating	2.49% 14
Bicycle paths	36.06% 203

Killingworth PoCD Survey

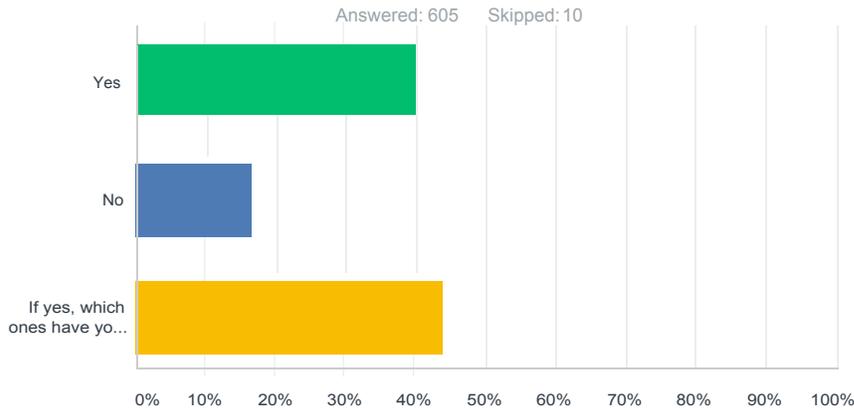
Jogging trails	15.99%	90
Hiking trails	36.59%	206
Natural parks	33.57%	189
Other (please specify)	15.28%	86
Total Respondents: 563		

Q12 Would you support the development of an additional Town recreational complex?



Answer Choices	Responses	Count
Yes	36.67%	220
No	63.33%	380
Total		600

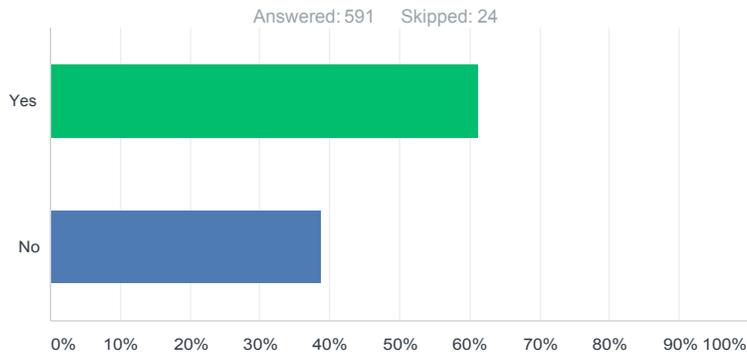
Q13 Are you familiar with the current recreational complexes?



Answer Choices	Responses	Count
Yes	39.17%	237
No	16.69%	101
If yes, which ones have you used?	44.13%	267
Total		605

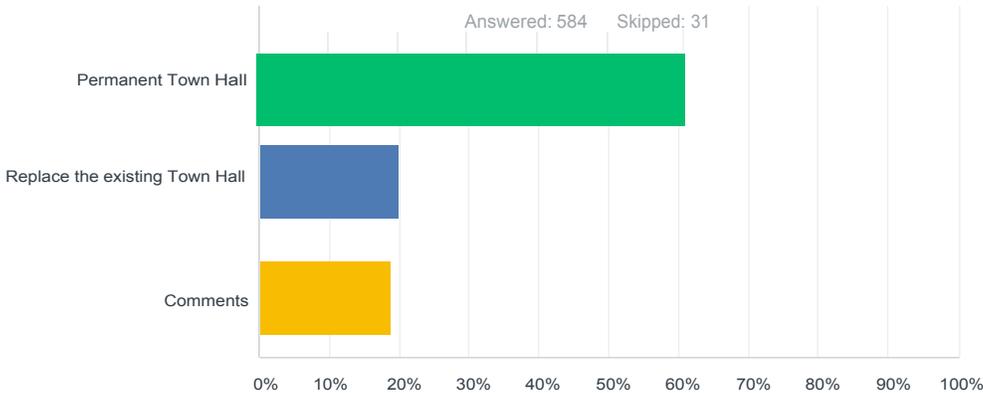
Killingworth PoCD Survey

Q14 A plan for a Town Center was approved in July, 2000. Would you support proceeding with the development of a Town Center and Green?



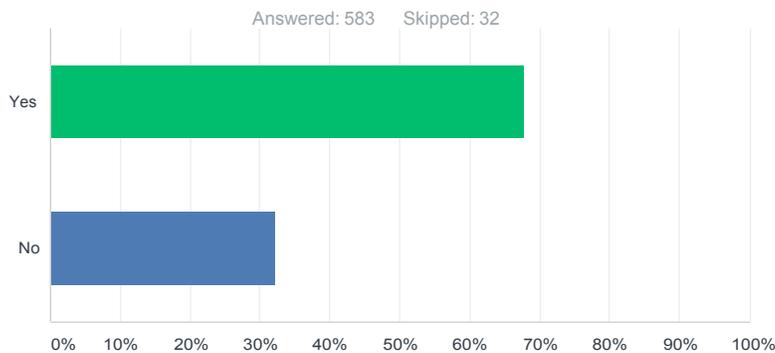
Answer Choices	Responses	Count
Yes	61.25%	362
No	38.75%	229
Total		591

Q15 The existing Town Hall portable units have deteriorated over time and cannot be repaired. Would you support the replacement of the existing Town Hall portable units or the construction of a new permanent Town Hall addition?



Answer Choices	Responses	Count
Permanent Town Hall	61.30%	358
Replace the existing Town Hall portable units	19.86%	116
Comments	18.84%	110
Total		584

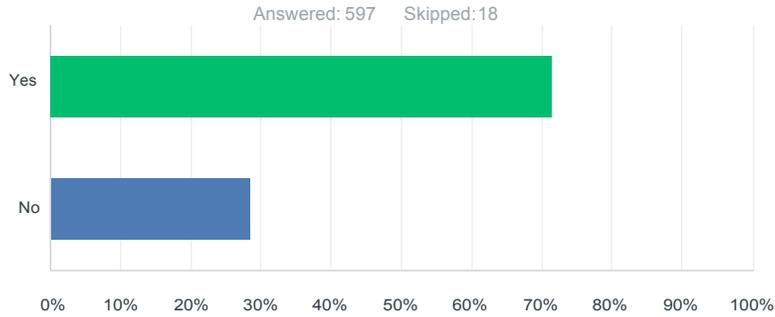
Q16 Would you support establishment of localized historical districts?



Killingworth PoCD Survey

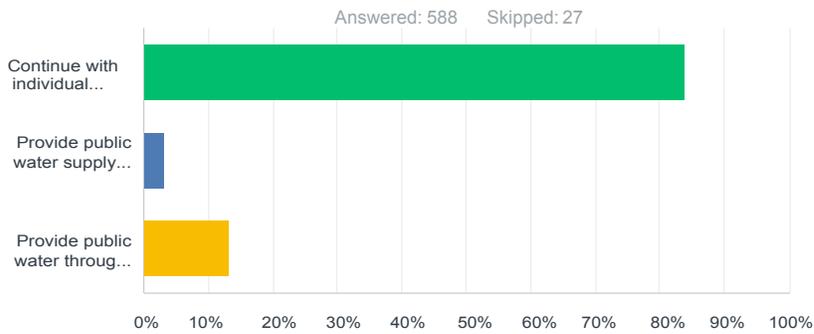
Answer Choices	Responses	
Yes	67.75%	395
No	32.25%	188
Total		583

Q17 Would you favor town purchase of additional open space?



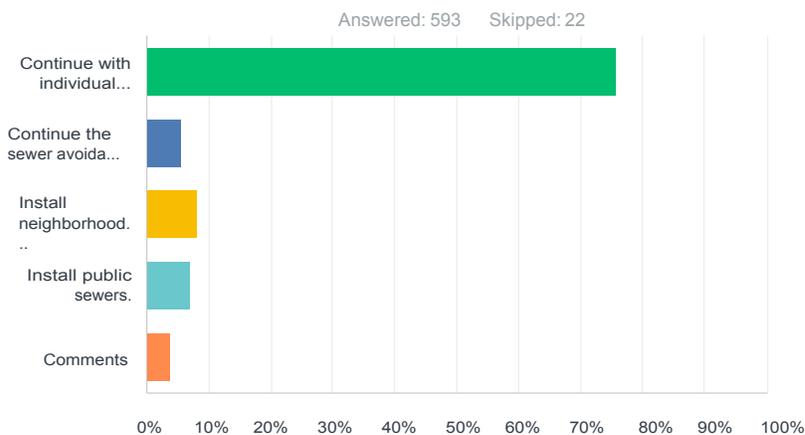
Answer Choices	Responses	
Yes	71.52%	427
No	28.48%	170
Total		597

Q18 Killingworth presently has no public water systems. Should the town:



Answer Choices	Responses	
Continue with individual on-site wells.	83.84%	493
Provide public water supply from underground community wells.	3.06%	18
Provide public water through the Connecticut Water Company.	13.10%	77
Total		588

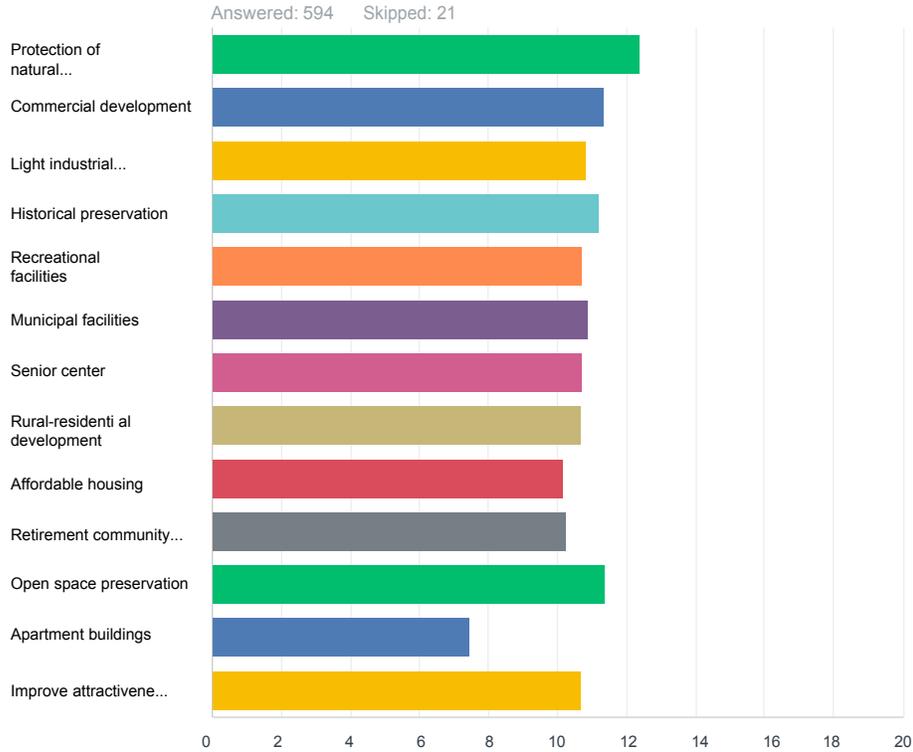
Q19 Killingworth has no town sewer system. Should the town:



Killingworth PoCD Survey

Answer Choices	Responses	
Continue with individual on-site sewage disposal systems.	75.72%	449
Continue the sewer avoidance program.	5.56%	33
Install neighborhood or community sewage disposal systems where needed.	8.09%	48
Install public sewers.	6.91%	41
Comments	3.71%	22
Total		593

Q20 What areas should be emphasized in the future planning for Killingworth? Choose up to four most important to you, ranking them 1 through 4.

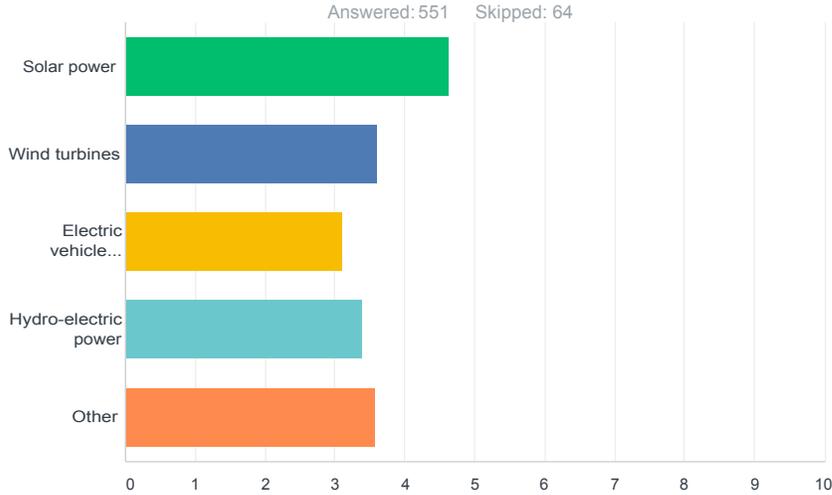


	1	2	3	4	5	6	7	8	9	10	11	12	13	Total	Score
Protection of natural resources	67.45% 315	17.77% 83	7.28% 34	5.57% 26	0.21% 1	0.00% 0	0.64% 3	0.21% 1	0.43% 2	0.21% 1	0.00% 0	0.00% 0	0.21% 1	467	12.37
Commercial development	25.17% 38	28.48% 43	24.50% 37	17.88% 27	0.00% 0	0.00% 0	0.00% 0	1.99% 3	0.00% 0	0.66% 1	0.66% 1	0.66% 1	0.00% 0	151	11.35
Light industrial development	16.80% 21	28.80% 36	20.80% 26	25.60% 32	0.00% 0	2.40% 3	0.00% 0	0.80% 1	0.80% 1	0.00% 0	0.80% 1	1.60% 2	1.60% 2	125	10.84
Historical preservation	7.79% 19	41.39% 101	29.51% 72	17.21% 42	1.23% 3	1.23% 3	0.41% 1	0.00% 0	0.41% 1	0.00% 0	0.41% 1	0.41% 1	0.00% 0	244	11.23
Recreational facilities	11.11% 15	20.00% 27	31.11% 42	25.93% 35	5.19% 7	1.48% 2	1.48% 2	0.74% 1	0.74% 1	0.74% 1	0.74% 1	0.74% 1	0.00% 0	135	10.70
Municipal facilities	11.21% 12	28.04% 30	28.04% 30	22.43% 24	0.93% 1	3.74% 4	1.87% 2	1.87% 2	1.87% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	107	10.87
Senior center	15.00% 18	23.33% 28	24.17% 29	25.83% 31	2.50% 3	0.00% 0	2.50% 3	3.33% 4	1.67% 2	0.00% 0	0.83% 1	0.00% 0	0.83% 1	120	10.71
Rural-residential development	15.96% 15	22.34% 21	31.91% 30	13.83% 13	3.19% 3	0.00% 0	3.19% 3	5.32% 5	2.13% 2	2.13% 2	0.00% 0	0.00% 0	0.00% 0	94	10.67
Affordable housing	14.95% 16	17.76% 19	27.10% 29	23.36% 25	0.00% 0	3.74% 4	0.00% 0	0.93% 1	3.74% 4	4.67% 5	0.00% 0	0.93% 1	2.80% 3	107	10.17
Retirement community facilities	8.93% 10	16.07% 18	32.14% 36	29.46% 33	1.79% 2	0.00% 0	0.89% 1	1.79% 2	2.68% 3	2.68% 3	3.57% 4	0.00% 0	0.00% 0	112	10.25

Killingworth PoCD Survey

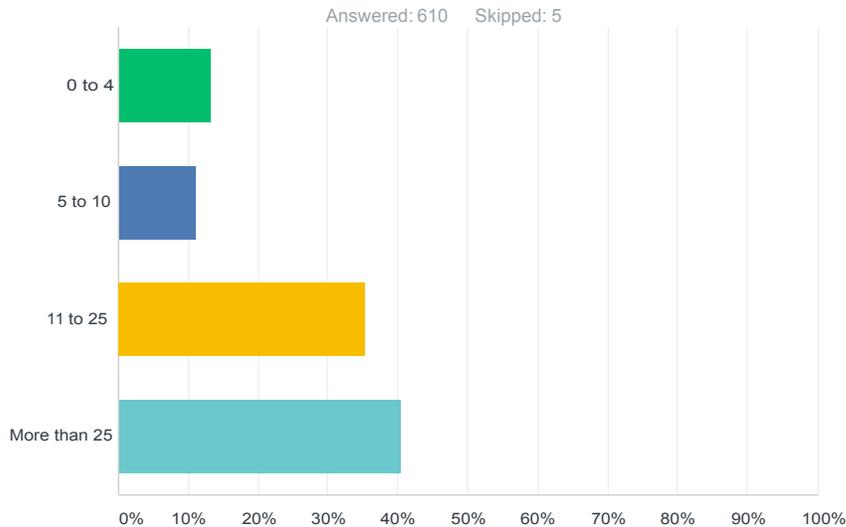
Open space preservation	19.43% 68	34.86% 122	26.00% 91	16.29% 57	0.57% 2	0.29% 1	0.29% 1	0.29% 1	0.00% 0	0.29% 1	1.14% 4	0.57% 2	0.00% 0	35 0	11.37
Apartment buildings	8.11% 3	5.41% 2	27.03% 10	18.92% 7	2.70% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	2.70% 1	21.62% 8	13.51% 5	37	7.46
Improve attractiveness of the Commercial District	16.16% 32	14.65% 29	25.76% 51	37.37% 74	0.51% 1	0.51% 1	0.51% 1	0.51% 1	0.00% 0	1.52% 3	0.51% 1	0.00% 0	2.02% 4	19 8	10.68

Q21 Of the following "Green Initiatives," which would you be in favor of? Please indicate your preferences, ranked from 1 to 4.



	1	2	3	4	5	Total	Score
Solar power	77.08% 370	13.13% 63	5.42% 26	4.17% 20	0.21% 1	480	4.63
Wind turbines	14.61% 52	50.00% 178	16.85% 60	17.98% 64	0.56% 2	356	3.60
Electric vehicle charging stations	11.01% 36	22.94% 75	32.42% 106	32.42% 106	1.22% 4	327	3.10
Hydro-electric power	15.53% 50	27.64% 89	35.71% 115	21.12% 68	0.00% 0	322	3.38
Other	42.03% 29	15.94% 11	10.14% 7	20.29% 14	11.59% 8	69	3.57

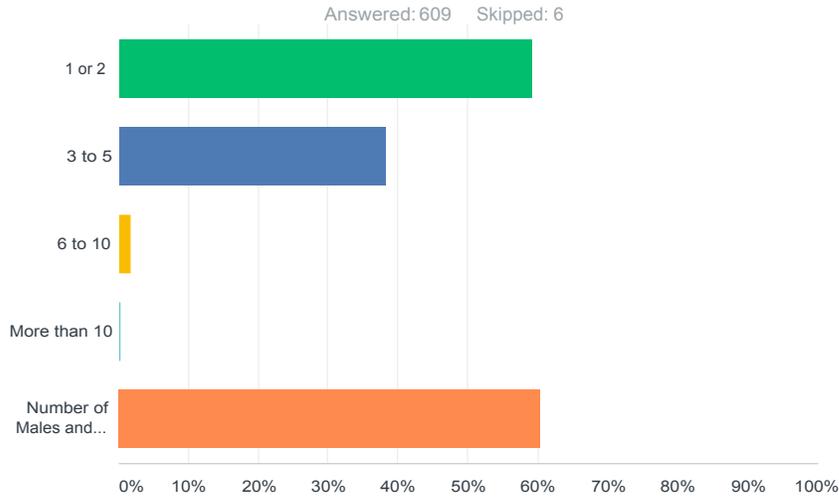
Q22 How many years have you lived in Killingworth?



Killingworth PoCD Survey

Answer Choices	Responses	
0 to 4	13.28%	81
5 to 10	10.98%	67
11 to 25	35.41%	216
More than 25	40.33%	246
Total		610

Q23 How many persons in your family including yourself?



Answer Choices	Responses	
1 or 2	59.11%	360
3 to 5	38.26%	233
6 to 10	1.97%	12
More than 10	0.49%	3
Number of Males and Females (M, F)?	60.43%	368
Total Respondents: 609		

There were many responses to the following questions. A small number of representative comments are listed here.

Q24 What do you like BEST about Killingworth?

Answered: 525 Skipped: 90

Rural character.
Rural, small town atmosphere, location near beach and state parks.
Rural, quiet.
It's quiet nature.
It's low key government approach.
Wooded nature of town.
Fine school system.
Parks and recreational facilities for children.

Q25 What do you like LEAST about Killingworth?

Answered: 473 Skipped: 142

People who complain about the town but never get involved.
Impact of increasing property taxes on elderly who wish to remain in their homes in the town they love.
Driving 20-30 miles to work places. Driving 10-5 miles to any places.
The town has no center, no identity, no green, just some unrelated buildings on Route 81.
The Rt 81 traffic. It's getting very heavy. At some point a stop light might be a needed control.
Taxes are too high.
Lack of post office and grocery store.

Q26 Any other comments or suggestions you would like to make regarding the Town Plan or other issue?

Answered: 231 Skipped: 384

This was hard. I am embarrassed by how little I know about planning and zoning.
Leave Killingworth the way it is.
The people that have supported this town for decades appreciate the value of our town as a rural, quiet community and are aware that town services are minimal and don't really care. City people come and want to change the character of this town making it like the city they came from.
Create a town center that connects the town hall, municipal building, churches along a common axis that has some identity other than some drives on a state highway.
The traffic circle is a joke.
It's going well – take small sure steps to insure all the needs of the community have some say in the progress of their town.
Avoid industry and strip commercial development.
Maintain the rural character of Killingworth.
Control taxes.