

REGIONAL PLAN OF CONSERVATION AND DEVELOPMENT 2007



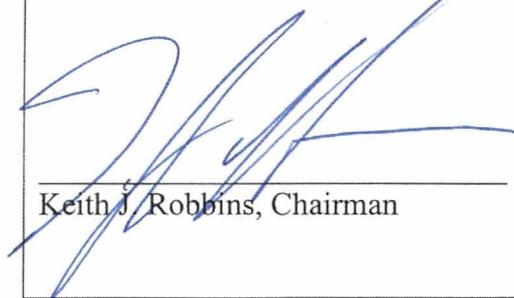
SOUTHEASTERN CONNECTICUT COUNCIL OF GOVERNMENTS

REGIONAL PLAN OF CONSERVATION AND DEVELOPMENT

Southeastern Connecticut Council of Governments
5 Connecticut Avenue, Norwich, CT 06360

Certification of Adoption

This Plan was adopted at a legally convened meeting of the Southeastern Connecticut Council of Governments on October 17, 2007.



Keith J. Robbins, Chairman



Dennison Allen, Secretary

The preparation of this document was financed in part by grants from the U.S. Department of Transportation, Federal Highway Administration, the Connecticut Department of Transportation, the Connecticut Office of Policy and Management, and by contributions from the member municipalities of the Southeastern Connecticut Council of Governments. The opinions, findings, and conclusions expressed herein are those of the Southeastern Connecticut Council of Governments and do not necessarily reflect the official views or policies of the funding agencies.

SOUTHEASTERN CONNECTICUT COUNCIL OF GOVERNMENTS

REPRESENTATIVES:

Keith Robbins, First Selectman, Bozrah, Chairman
Joseph Jaskiewicz, Mayor, Montville, Vice Chairman
Thomas Sparkman, First Selectman, Lisbon, Treasurer
Dennison Allen, First Selectman, Sprague, Secretary

Stan Soby, First Selectman, Colchester
Beth Hogan, First Selectman, East Lyme
Richard Matters, First Selectman, Franklin
Anne Hatfield, First Selectman, Griswold
Dennis Popp, Mayor, City of Groton
Harry Watson, Mayor, Town of Groton
Susan Mendenhall, Mayor, Ledyard
Margaret Curtin, Mayor, City of New London
Nicholas Mullane, First Selectman, North Stonington
Benjamin Lathrop, Mayor, Norwich
Robert Congdon, First Selectman, Preston
Larry Reitz, First Selectman, Salem
William Brown, First Selectman, Stonington
Donald Maranell, Warden, Stonington Borough
Gilbert Grimm, First Selectman, Voluntown
Daniel Steward, First Selectman, Waterford

ALTERNATES:

Hubert Poppe, City of Groton
Mark Oefinger, Town Manager, Groton
Sharon Wadecki, Ledyard
Martin Berliner, City Manager, New London
Joseph Ruffo, Interim City Manager, Norwich
Gerald Grabarek, Preston
James Fogarty, Salem
Joan Charron-Nagle, Sprague
George Sylvestre, Stonington
Scott Bates, Borough of Stonington

SCCOG STAFF:

James S. Butler, AICP, Executive Director
S. Richard Guggenheim, Assistant Director
Thomas Seidel, Planner III
Richard Serra, Planner III
James Rabbitt, AICP, Planner III
Juliet Leeming, Planner II
Wendy Leclair, Executive Secretary
Claudia Tamayo, GIS Coordinator
Jane Dauphinais, Director of SECHA

REGIONAL PLAN OF CONSERVATION AND DEVELOPMENT STEERING COMMITTEE

COG REPRESENTATIVES:

Dennison Allen, First Selectman, Sprague
Martin Berliner, City Manager, New London
Nicholas Mullane, First Selectman, North Stonington
Mark Oefinger, Town Manager, Groton

RPC REPRESENTATIVES:

Robert Baron, Montville
James Ford, Colchester
Peter Roper, Town of Groton
Arthur Sharron, Norwich

REGIONAL PLANNING COMMISSION

REPRESENTATIVES:

Robert Baron, Montville, Chairman
Arthur Sharron, Norwich, Vice Chairman
James Ford, Colchester, Secretary

Seymour Adelman, Bozrah
Greg Ellis, East Lyme
Peg Ayer, Franklin
Martin McKinney, Griswold
David Rose, City of Groton
Peter Roper, Town of Groton
Mike Cherry, Ledyard
John Dempsey, Jr., Lisbon
Eleanor Butler, New London
Wilma Gregoropoulos, North Stonington
Thomas Fenton, Preston
James Mulholland, Salem
Paul Holland, Stonington
Lissa vanDyke, Borough of Stonington
Ken Hollister, Voluntown
Edwin Maguire, Waterford

ALTERNATES:

Stacey Brown, Colchester
Ashley Peterson-Schinella, East Lyme
John McGuire III, Franklin
Robert Parrette, Griswold
Hubert Poppe, City of Groton
James Sherrard, Town of Groton
John Phetteplace, Ledyard
Lawrence Alice, Lisbon
Bart Ferrante, Montville
Elaine Boissevain, North Stonington
Richard Morell, Norwich
David Bingham, Salem
Thomas Ward, Waterford

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Regional and Municipal Planning	2
1.2	State Planning	3
1.3	Plan Purpose and Organization	3
2.0	OVERVIEW OF PREVIOUS REGIONAL PLANNING EFFORTS	5
2.1	1967 Regional Development Plan	5
2.2	1976 Regional Development Plan	7
2.3	1987 Regional Development Plan	8
2.4	1997 Regional Conservation and Development Policy Guide	9
3.0	REGIONAL POPULATION CHARACTERISTICS	11
3.1	Population Change and Distribution	11
3.2	Population Projections	13
3.3	Population Characteristics	16
3.4	Summary	22
4.0	HOUSING	23
4.1	Housing Characteristics and Activity	24
4.2	Regional Factors Affecting Housing	25
4.3	Summary	29
5.0	ECONOMIC TRENDS	33
5.1	Economic/Labor Force Characteristics	33
5.2	Unemployment Characteristics	39
5.3	Economic Clusters	40
5.4	Summary	42
6.0	TRANSPORTATION	44
6.1	Background	44
6.2	Existing Conditions	44
6.3	Future Direction	51
7.0	WATER AND SEWER SYSTEMS	53
7.1	Water Supply Systems	53
7.2	Sewer Systems	58
7.3	Summary	59

TABLE OF CONTENTS CONTINUED

8.0	NATURAL RESOURCES	60
8.1	Wetland Soils	60
8.2	Floodplain	63
8.3	Steep Slopes	63
8.4	Other Soil Constraints	66
8.5	Aquifers	66
8.6	Natural Diversity Areas	67
8.7	Coastal Resources and Management	69
8.8	Natural Hazard Mitigation	71
8.9	Summary	72
9.0	SOLID WASTE	73
9.1	Southeastern Connecticut Waste-to-Energy	73
9.2	Connecticut Solid Waste Management Plan	75
10.0	HISTORIC PRESERVATION	76
10.1	Federal Protection	76
10.2	State Protection	78
10.3	Municipal Protection	79
11.0	LAND USE, GROWTH PATTERNS AND ZONING	81
11.1	Patterns of Land Use and Zoning	82
11.2	2005 Land Use	87
11.3	Summary	95
12.0	PUBLIC PARTICIPATION PROCESS	96
12.1	<i>Regional Plan of Conservation and Development</i> Steering Committee	96
12.2	Public Meetings/Workshops	96
12.3	Questionnaire	96
12.4	Public Hearing	100
13.0	RECOMMENDED PLAN	101
13.1	Regional Conservation and Development Plan Map	101
13.2	Description of Map Categories	102
13.3	Regional Issues, Goals, Objectives, and Recommended Actions	104
13.4	Related Planning Activities	118
13.5	Plan Implementation	119
14.0	PLAN CONSISTENCY	122
	<u>APPENDIX</u>	
	Questionnaire and Response Summary	125

LIST OF FIGURES

Figure 1	Population Change, 1950-2005	11
Figure 2	Population Density by Census Block Group	14
Figure 3	Age-Gender Distribution, 1990-2000	17
Figure 4	Age Groups as Percentage of Total Population, 1970-2000	18
Figure 5	Average Household Size, 1980-2000	24
Figure 6	Selected Economic Profile, 2000	26
Figure 7	Percent Change in Demographic Characteristics, 1990-2000	27
Figure 8	Education Attainment Levels, 1970-2000	33
Figure 9	Regional Unemployment Rates, 1980-2006	40
Figure 10	Proposed Full Route Tourist Transit System Including Future Feeders	49
Figure 11	Water and Sewer Service Areas	54
Figure 12	Potential Aquifers	57
Figure 13	Wetland Soils	62
Figure 14	FEMA Flood Zones	64
Figure 15	Steep Slopes, Outcrops, and Shallow Soils	65
Figure 16	Natural Diversity Database	68
Figure 17	Coastal Area Management (CAM) Zones	70
Figure 18	Historic Features	77
Figure 19	Historic Land Use Pattern Increase in Developed land, 1962-2005	83
Figure 20	Generalized Local Zoning	85
Figure 21	Distribution of Zoning Categories by Municipal Classification, 1999	86
Figure 22	Generalized Land Use, 2005	93
Figure 23	Regional Conservation and Development Plan, 2007	123

LIST OF TABLES

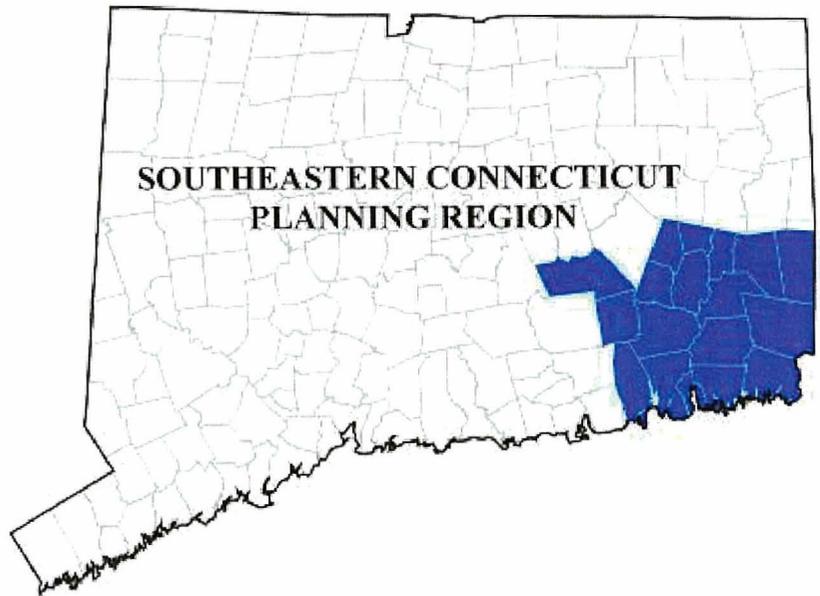
Table 1	Population Change, 1980-2005	12
Table 2	Population Projections	15
Table 3	Ethnicity	19
Table 4	Poverty Trends per Municipal Classification, 1989-1999	20
Table 5	Median Household Income	21
Table 6	Housing Units Authorized, Demolitions and Net Gain	31
Table 7	Education Attainment Population 25 and Older, 2000	34
Table 8	Top Five Employers, 2004	36
Table 9	Employed Civilian Population, 16 and Older, by Industry, 2000	37
Table 10	Natural Resource Features	72
Table 11	Land Use Trends, 1962-2005	84
Table 12	Land Use Totals in Acres by Town, 2005	91



1.0 INTRODUCTION

Section 8-35a of Chapter 127 of the Connecticut General Statutes requires that “...each regional planning agency shall prepare a plan of development for its area of operation, showing its recommendations for the general use of the area... Any regional plan so developed shall be based on studies of physical, social, economic and governmental conditions and trends and shall be designed to promote with the greatest efficiency and economy the coordinated development of its area of operation and the general welfare and prosperity of its people.” This document has been developed to meet all of the specific requirements of this statute.

Southeastern Connecticut encompasses 20 units of municipal government, in addition to two sovereign Native American Tribal Nations. The region contains 560 square miles of land that is bordered by the State of Rhode Island to the east, by the Long Island Sound to the south, with the Estuary, Midstate, Capitol, Windham and Northeastern regions located to the west and north. Multi-modal access to the region and its favorable location between Boston and New York City, give southeastern Connecticut a distinct competitive advantage. The region’s shoreline, natural, cultural and historic resources are only a few of the many assets that provide a multitude of recreation and entertainment opportunities as well as contribute to the high quality of life the region’s residents and visitors enjoy.



In 1961, the region’s towns joined together to create the Southeastern Connecticut Regional Planning Agency (SCRPA). The Regional Planning Agency developed and adopted the first *Regional Development Plan* for southeastern Connecticut in 1967. SCRPA readopted the Plan in 1976 and 1987 after completing extensive updates. In 1992, the region formed the Southeastern Connecticut

Council of Governments (SCCOG), which succeeded SCRPA as southeastern Connecticut's regional planning entity. In 1997, the *Regional Conservation and Development Policy Guide for Southeastern Connecticut* was adopted. Since that time, southeastern Connecticut has experienced economic shifts that manifest themselves in land use changes. The continuing reduction of defense and manufacturing related employment coupled with the concurrent boom in casino-related development and employment has altered the basic economic structure of southeastern Connecticut. This is one of a number of identifiable sources of pressure influencing land development patterns in the region.



Housing near Crescent Beach, East Lyme

In the future, the interface between land development for economic reasons and the inherent limitations of the region's natural resources, principally related to the continued availability of clean water, will influence the sustainability of all future development. The region's economic and environmental well being will ultimately be determined by an understanding of the opportunities and limitations with respect to our natural and physical resources and the manner in which they are utilized. It is toward that

end that this Plan is presented.

1.1 REGIONAL AND MUNICIPAL PLANNING

In the late 1950's, Connecticut abolished county government in favor of regional planning. The state enabled municipalities to join together and create regional planning agencies to address issues that extended beyond individual municipal boundaries. Underlying this process was the identification of potentially adverse impacts to one municipality stemming from actions taken by another municipality. Notwithstanding this shift to regional planning, Connecticut continues to maintain its long tradition of "home rule." Embedded in this tradition are the function of planning and zoning and the use of the property tax to underwrite the cost of municipal services. Under this system, the region's cities and towns are solely responsible for making land-use decisions within their own borders that ostensibly enhance their property tax grand list. The competitive economics of land use

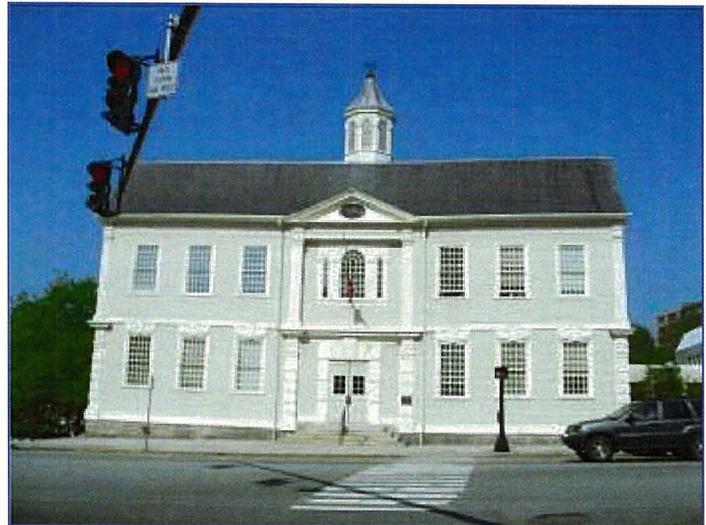
management by individual municipalities does not, by nature, lend itself to inter-municipal cooperation. Furthermore, it is easily understood how individual municipal plans of conservation and development, implemented in conjunction with municipal zoning regulations, in effect determine regional conservation and development patterns. In Connecticut, conservation and development plans are primarily implemented through local land-use regulation.

Under the Connecticut General Statutes, local municipalities are required to update their municipal plans of conservation and development every 10 years. As of this writing, only two towns in southeastern Connecticut have municipal plans older than 10 years, with one of those plans currently being updated.

1.2 STATE PLANNING

In 2006, in accordance with Section 16a-24 through 33 of the Connecticut General Statutes, the General Assembly approved the latest State Plan: *The Conservation and Development Policies Plan for Connecticut, 2005-2010*.

The State Plan contains six “growth management principles” intended to better integrate a variety of state planning functions. While the State Plan recognizes “home rule” and local land use regulatory authority, the State Plan nevertheless attempts to influence local land use decisions through state infrastructure plans and capital investments, which may



State Courthouse, New London

include: the designation of funds related to transportation facilities, public water supply, and sewer lines; sewage treatment plant upgrades; and the acquisition of property for restricted development purposes such as open space designation.

1.3 PLAN PURPOSE AND ORGANIZATION

One of the purposes of regional planning is to provide a larger context for land-use decisions made by the individual towns that will ultimately enable the region to respond more effectively to future change. The 2007 *Regional Plan of Conservation and Development* is an advisory document

intended to present general recommendations based on a review of regional trends and the identification of issues of regional concern. The Plan's goals, objectives and recommendations are based on independent research and analysis as well as responses to a survey, input from a public hearing, public meetings and workshops, and ongoing collaboration with other regional organizations on a number of regional issues and concerns.

The 2007 Regional Plan document is organized into three primary components:

- A review and discussion of the background information and regional trends, as well as an assessment of the region's current resources and limitations affecting land-use decisions;
- The identification of the five issues of regional concern and associated goals, objectives and recommended actions for each; and
- The 2007 Regional Conservation and Development Plan Map.

Throughout the process of developing this Plan, the SCCOG consulted with its member municipalities and reviewed State statutory requirements to ensure consistency with municipal and state planning goals and objectives.

It is noted that there are numerous national and international issues that lie beyond the scope of this Plan but have had some influence in its preparation. These include issues such as climate change, energy use and development, and air quality. While the SCCOG may have no direct authority to address these issues, it does recognize that they must be kept in mind when planning for the future of the region.

2.0 OVERVIEW OF PREVIOUS REGIONAL PLANNING EFFORTS

The Southeastern Connecticut Regional Planning Agency/Southeastern Connecticut Council of Governments have previously formulated and adopted regional plans of development in 1967, 1976, 1987, and 1997. These plans, along with this 2007 Plan, document the patterns of growth in southeastern Connecticut. Each plan was intended to guide future growth by means of established goals and objectives. One measure of their success would be how many of their goals and objectives were realized. Due to the fact that much of a regional plan must actually be implemented by each of the region's municipalities that regulate land use within their own borders, and because by their very nature previous iterations of the regional



Union Station (1968), New London

Plan contained some fairly general recommendations, it is difficult to precisely present a scorecard showing how well the regional plans of development influenced the future of southeastern Connecticut. However, an overall review of what has occurred since the first Plan is revealing and provides encouragement that the regional planning process is worth the effort put into it.

2.1 THE 1967 REGIONAL DEVELOPMENT PLAN

The 1967 *Regional Development Plan* was prepared at a time when only 8% of the region was considered developed, compared to 34% today. This comparison is only intended to provide an order of magnitude as opposed to a precise trend for two reasons: Colchester was not yet a member of this regional agency until 1971 and the methodology and tools for calculating developed area have changed significantly as explained elsewhere in this document. The 1967 Plan was significantly off in predicting a 2000 population of 470,000, almost double the 242,777 reported in the 2000 Census, but based this rate of growth on the previous twenty-year trend.

The primary goal of the 1967 Plan was: “Create a healthy, economically and socially sound, and attractive environment for the residents of southeastern Connecticut.” In support of this stated goal, the Plan listed additional goals including the encouragement of a development pattern that does not destroy the region’s scenic qualities; development of a diversified economic base; provision of a variety of housing types and range of choice for the region’s residents, regardless of economic status; the acquisition of open space and recreation areas; construction of a transportation system to provide convenient access to all points within the region and points beyond; and the provision of a system of



Day Pond State Park (circa 1960's), Colchester

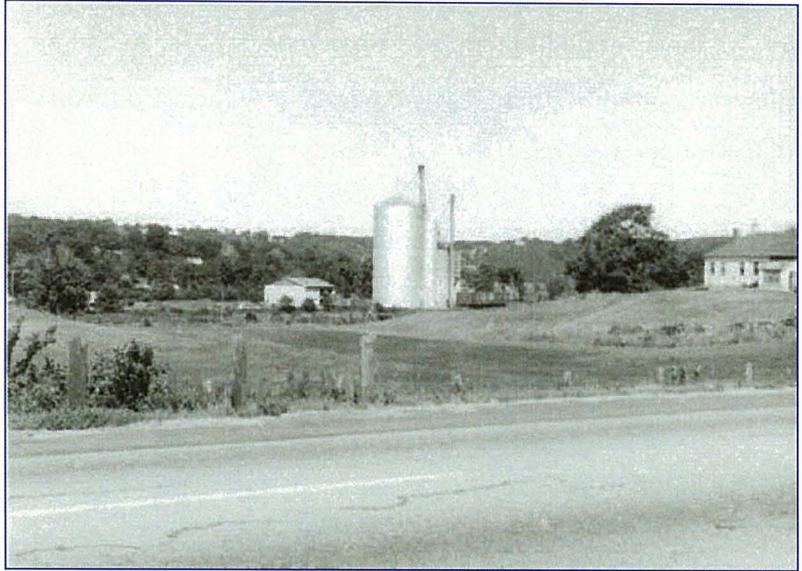
public facilities to serve the rapidly growing needs of the region. Some stated objectives of the Plan included the discouragement of urban sprawl; expansion of the non-defense industrial sector of the regional economy; expansion of the region’s tourist industry; continuation of agriculture as a regional economic activity; coordination of local zoning to a degree to reflect regional housing needs; the provision of non-highway transportation facilities; the provision

of a basis for regional action on water supply problems; and the provision of convenient, accessible areas for the inoffensive disposal of refuse.

The 1967 Regional Development Plan map proposed that 55 areas containing 10,555 acres, much of which is developed today, be established as major industrial sites. The Plan proposed several new highways into the region. Two of these were not completed: a Route 85 Expressway (a.k.a. Route 11) from Waterford northerly through Salem, and a Route 117 Expressway from Bluff Point in Groton north to the Connecticut Turnpike (now I-395) in Lisbon. One of the proposed highways was almost completed: the Route 2 Expressway from I-95 in Stonington westerly toward the Connecticut Turnpike in Montville. The Plan also called for an evaluation by the federal government of the long-term feasibility of a proposal for a major jetport facility in eastern Connecticut, a project that generated significant local controversy, and which never came to fruition.

2.2 THE 1976 REGIONAL DEVELOPMENT PLAN

The 1976 *Regional Development Plan* noted at its outset, that the 1967 Plan remained the region's plan for the future with relatively minor amendment. The 1967 Plan was considered to be outdated in 1976 because new information on environmental resources had become available; population growth had slowed significantly; extensive sewerage programs had started in a number of towns; and because the public's attitude toward regional development and planning had changed. In 1976, much of southeastern Connecticut remained largely undeveloped, with only 14% of the region's land area used for intensive purposes. The 1970 population of 220,402 reflected a 23% increase over the 1960 regional population. The Plan noted the uncertainty of population projections, but by using four different methodologies, projected a 1980 population of 252,000 for the region.



Farmland (circa 1968), Southeastern Connecticut

The general goal of the 1976 Plan, similar to the 1967 Plan goal, was: "Protect the natural environment while creating a physically healthy, economically and socially sound, and attractive human environment for all residents of southeastern Connecticut." This Plan contained goals pertaining to the region's development pattern, the economy, housing, open space preservation, transportation, public facilities, health, mental health, and welfare.

The plan mapped development limitations in order to propose or identify land areas most suitable for future development. A review of that map suggests that the region has been somewhat successful in confining intensive development to those areas recommended for such, and also in maintaining and preserving existing and recommended future open space and natural areas. In terms of SCRPA's role in implementing the Regional Plan, the 1976 Plan stated: "The regional plan proposes objectives and outlines courses of action, but the Regional Planning Agency has no power to implement the plan. It must persuade an awesome number of municipal, state, and federal agencies and private individuals and organizations to follow the recommendations of the plan. Because of this, the plan, far from

being an end in itself, is really the beginning of a continuing and very complex process of implementation.” The Plan went on to state that the Regional Agency’s Plan implementation program would involve assistance, initiation, and coordination.

2.3 THE 1987 REGIONAL DEVELOPMENT PLAN

In 1987, shortly before SCRPA became a Council of Governments, the agency adopted a new *Regional Development Plan*, which recognized the 1976 Plan as outdated in several respects. The 1987 Plan contained goals and objectives similar to the preceding plans, and reiterated the previous Plans’ recognition that SCRPA would serve in an advisory and coordinating capacity with regard to Plan implementation.

The 1987 Plan followed the basic format of the previous Plan, but contained new information and

data about the region. The Plan determined that the region’s developed area had grown to represent 17.1% of the region’s total land area. The region’s higher density residential, mixed urban, commercial, industrial and institutional uses had started to spread beyond the inverted “T” along the coast of Long Island Sound and the Thames River valley. Suburban towns accounted for more than 63% of the region’s new growth.



Ponemah Mill (1968), Taftville

For the first time, the 1987 Plan recognized the need for a regional approach to solid waste disposal, and it endorsed the Southeastern Connecticut Regional Resources Recovery Authority’s (SCRRRA) siting of a waste-to-energy plant in Preston. The region’s population had only grown by 2.4%, to a 1980 population of 225,666. This was cited as the slowest rate of population growth since the first decade of the 19th Century. Based on the prior two-year increase in housing activity, the 1987 Plan projected a 1990 population for the region of 245,180 and a 2000 population of 268,265. The

language of the Plan was clear in that these projections were only estimates, and recognized that the continuing trend of declining average household size would necessitate a re-examination of these projections. That decline in household size has since occurred.

2.4 THE 1997 REGIONAL CONSERVATION AND DEVELOPMENT POLICY GUIDE

The 1997 Plan for the region deviated in format from the three preceding plans. It was more of a strategic plan as opposed to a traditional comprehensive land use plan, and even differed in name. It was entitled the *Regional Conservation and Development Policy Guide for Southeastern Connecticut*. The Policy Guide had a companion document that contained the background material on the region's physical characteristics traditionally contained in Plan documents. The 1997 Plan estimated the region's population to be 235,500, and forecasted a modest growth to 264,200 by the year 2015. The Plan stated that as of 1995, 21% of southeastern Connecticut was already intensively developed; an increase of 4% from the figure cited in the 1987 Plan.

The 1997 Plan focused on five major topic areas: governmental structure; economic development; environmental protection; transportation systems, and public utilities infrastructure. The Plan's stated goal under the topic of governmental structure was a reduction of governmental fragmentation, with one objective being SCCOG oversight of regional public service organizations. In discussing economic development, the Plan recommended that the Council of Governments coordinate its activities with those entities having primary economic development responsibility.

To protect the region's natural resource base, the 1987 Plan encouraged local plans to be compatible with regional and state plans, and expressed support for legislation that would expand regional advisory review powers on matters related to land use. The Plan also expressed support for legislation that would reform the property tax structure so as



Construction of the Mohegan Pequot Bridge, between Montville and Preston (circa 1968)

to lessen its influence on land use decision-making. The Plan summarized a number of transportation challenges facing the region and stated as its goal the development of a balanced regional transportation system that would strive to meet the needs of all segments of the population.

Finally, in defining its fifth regional issue, the Plan recognized that more than any other single factor,



Route 52 (circa 1968), now I-395

utility infrastructure helped determine a region's development future and called for a series of actions that would lead to utility improvements.

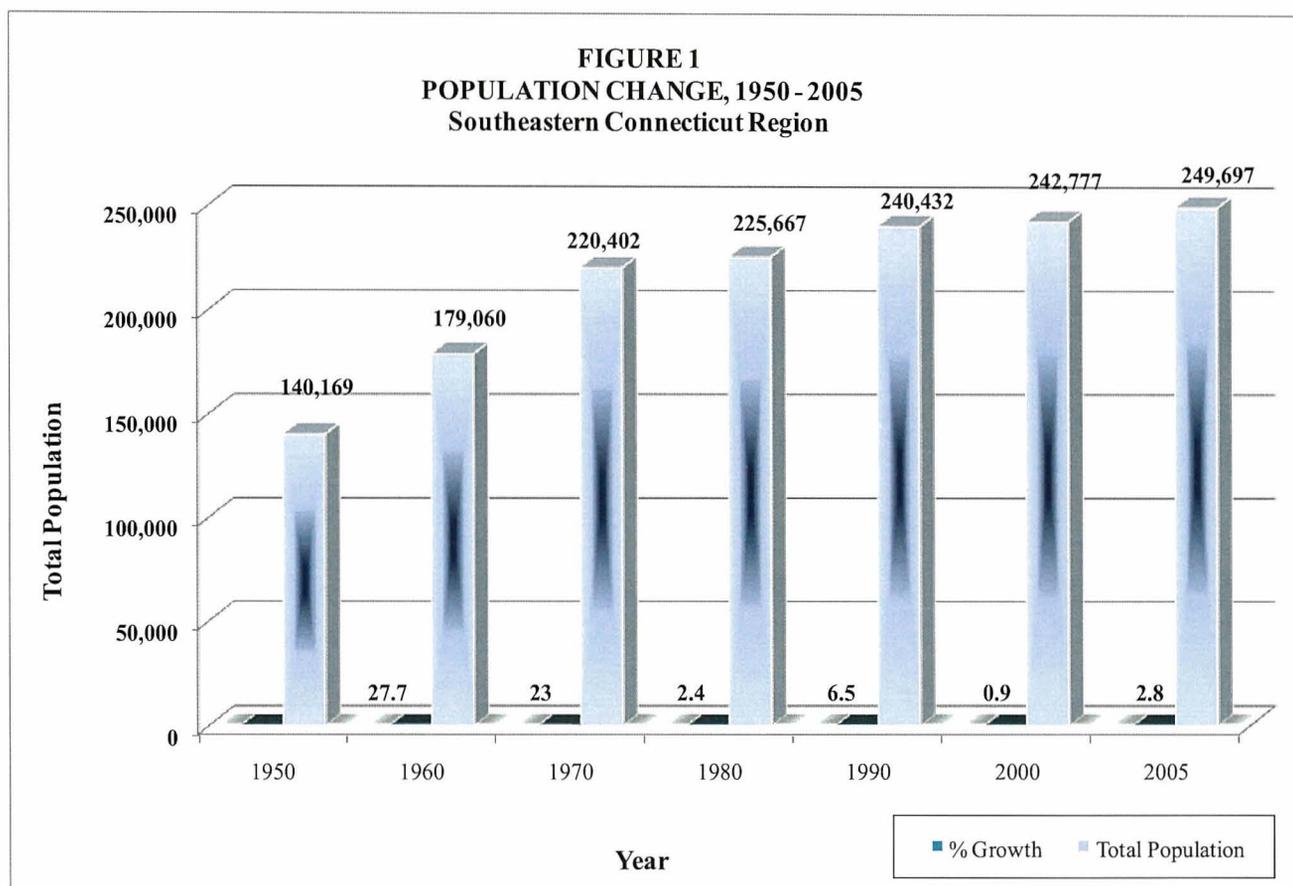
It is with an understanding of and respect for this previous Plan experience that the SCCOG undertakes the formulation of the 2007 *Regional Plan of Conservation and Development*.

3.0 REGIONAL POPULATION CHARACTERISTICS

The following discussion of population characteristics is based largely on data from the 2000 Census and is confined to those population characteristics that have a significant influence on updating the *Regional Plan of Conservation and Development*. A more detailed discussion of demographic data is contained in the report *Social Indicators, 2000*, published by the SCCOG in 2003.

3.1 POPULATION CHANGE AND DISTRIBUTION

The population of southeastern Connecticut totaled 242,777 in 2000, a net increase of 2,345 persons between 1990 and 2000, representing a growth rate of just less than 1%. The Connecticut Department of Public Health estimated that the region's population as of July 1, 2005 had reached 249,697 persons, as depicted in Figure 1, and Table 1. There has been a 2.8% increase for the five-year period since the 2000 Census. Although these recent growth rates have been slow, the region experienced an overall increase in population of 206% during the 20th century.



Source: U.S. Census Bureau and SCCOG

TABLE 1
POPULATION CHANGE, 1980-2005
Southeastern Connecticut Region

1980 Census	1990 Census	2000 Census	2004 Estimate	2005 Estimate	% Change 2000-05
------------------------	------------------------	------------------------	--------------------------	--------------------------	-----------------------------

URBAN TOWNS:						
Groton	41,062	45,144	39,925	40,522	41,366	3.6
New London	28,842	28,540	25,671	26,375	26,174	2.0
Norwich	38,074	37,391	36,117	36,721	36,598	1.3
Urban Totals	107,978	111,075	101,713	103,618	104,138	2.4

SUBURBAN TOWNS:						
Colchester	7,761	10,980	14,551	15,334	15,389	5.8
East Lyme	13,870	15,340	18,118	18,629	18,459	1.9
Griswold	8,967	10,384	10,807	11,194	11,254	4.1
Ledyard	13,735	14,913	14,687	15,149	15,172	3.3
Lisbon	3,279	3,790	4,069	4,231	4,234	4.1
Montville	16,455	16,673	18,546	19,846	19,612	5.7
Preston	4,644	5,006	4,688	4,846	4,867	3.8
Sprague	2,996	3,008	2,971	3,011	2,992	0.7
Stonington	16,220	16,919	17,906	18,381	18,336	2.4
Waterford	17,843	17,930	19,152	19,089	18,940	-1.1
Suburban Totals	105,770	114,943	125,495	129,710	129,255	3.0

RURAL TOWNS:						
Bozrah	2,135	2,297	2,357	2,446	2,445	3.7
Franklin	1,592	1,810	1,835	1,927	1,916	4.4
North Stonington	4,219	4,884	4,991	5,201	5,218	4.5
Salem	2,335	3,310	3,858	4,058	4,094	6.1
Voluntown	1,637	2,113	2,528	2,632	2,631	4.1
Rural Totals	11,918	14,414	15,569	16,264	16,304	4.7

Regional Totals	225,666	240,432	242,777	249,592	249,697	2.8
------------------------	----------------	----------------	----------------	----------------	----------------	------------

Source: U.S. Census Bureau and CT Department of Public Health Estimates

Figure 2 depicts the 2000 regional population density by census block group. Historically, the population distribution of the southeastern Connecticut region consisted of an urbanized core along the Long Island Sound coastline as well as both sides of the Thames River extending from Groton and New London up to Norwich. Comparisons of the 2000 Land Use map with earlier Land Use maps reveal that while this basic concentration still exists, a shift has occurred reflecting population losses in the urban areas and gains in the suburban and rural areas. Pockets of concentrated population occur in villages, large subdivisions and in the development areas along river valleys and highway corridors. Most of the recent population growth in the suburban/rural areas is scattered at lower densities, often as infill among existing development and reflective of the large lot zoning that prevails in these areas.



Lisbon Central School Playground

Population densities in 2000 ranged from a high of 4,667 persons per square mile in New London, with a small total land area, to only 64 persons per square mile in Voluntown, where two-thirds of the land area consists of state forests. Overall, the region's average density was 434 persons per square mile, (0.7 persons per acre), well under Connecticut's state average of 703 persons per square mile, (1 persons per acre), but over five times as dense as the nation's average density of 80 persons per square mile, (0.125 persons per acre).

3.2 POPULATION PROJECTIONS

The Connecticut Department of Transportation (CONNDOT) has compiled population projections for Connecticut municipalities. For the municipalities of southeastern Connecticut, a regional population of 256,770 is forecast for 2010, and 272,050 for 2020. This represents a growth rate of about 6% for both decades between 2000 and 2020. Population projections for the region's municipalities are presented in Table 2.

Population growth reflects several constantly changing variables such as economic conditions and employment opportunities, internal and external to the region, mortgage costs, and household size. Due to the unpredictability or instability of these factors, population projections are merely estimates

POPULATION DENSITY BY CENSUS BLOCK GROUP
Southeastern Connecticut Region

LEGEND

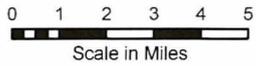
Population Density (persons per acre)

- 0.1 - 1.0
- 1.1 - 3.0
- 3.1 - 6.0
- 6.1 - 10.0
- 10.1 - 17.7

--- Town Boundary

Source:
 U.S. Census Bureau

Note:
 The generalized coastline reflects the
 the resolution of the U.S. Census data



Prepared by:

SCCOG

Southeastern Connecticut
 Council of Governments
 Geographic Information System

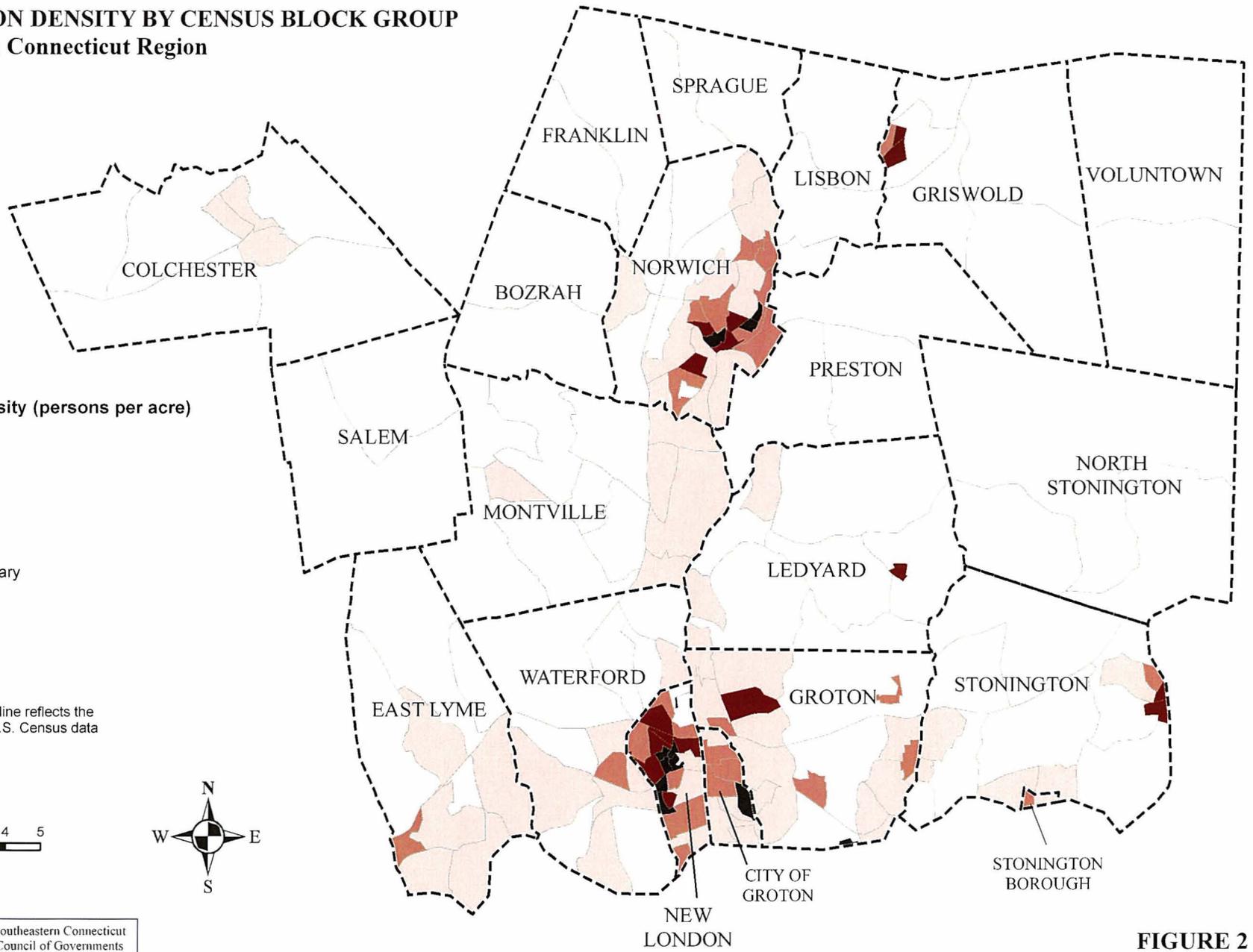


FIGURE 2

TABLE 2
POPULATION PROJECTIONS
Southeastern Connecticut Region

	2000 Census	2010 Projection	2020 Projection
URBAN TOWNS:			
Groton	39,925	43,210	46,180
New London	25,671	27,490	29,230
Norwich	36,117	37,380	39,560
Urban Totals	101,713	108,080	114,970
SUBURBAN TOWNS:			
Colchester	14,551	16,260	17,970
East Lyme	18,118	19,160	20,200
Griswold	10,807	11,590	12,720
Ledyard	14,687	15,300	15,820
Lisbon	4,069	4,220	4,440
Montville	18,546	19,390	20,030
Preston	4,688	5,190	5,690
Sprague	2,971	3,140	3,290
Stonington	17,906	18,430	18,460
Waterford	19,152	19,720	20,900
Suburban Totals	125,495	132,400	139,520
RURAL TOWNS:			
Bozrah	2,357	2,400	2,460
Franklin	1,835	1,890	2,050
North Stonington	4,991	5,150	5,420
Salem	3,858	4,070	4,540
Voluntown	2,528	2,780	3,090
Rural Totals	15,569	16,290	17,560
Regional Totals	242,777	256,770	272,050

Source: CT Department of Transportation, U.S. Census Bureau

to be used to guide future planning and development decisions. This is especially true for the 2020 projections, which CONNDOT will revise when the results of the 2010 Census are made available.

3.3 POPULATION CHARACTERISTICS

Age and Gender Characteristics

Figures 3 and 4 show the trends in age and gender characteristics of the region's population from 1970 to 2000. Increases in the region's number of children, mature workers, and retired persons primarily accounted for the 6.5% population growth between 1990 and 2000, but was offset by losses in the

student-young workers and prime workers categories. For the first time in three decades, females outnumbered males by 122,727 to 120,032 in the year 2000.

Southeastern Connecticut's population continued to age during the most recent decade. The median age has increased each decade since 1970, when the median age was 26.4. The region's median age in 2000 of 37.0 was slightly lower than that of Connecticut's at 37.4, while higher than the national median age of 35.3. Recently the Connecticut



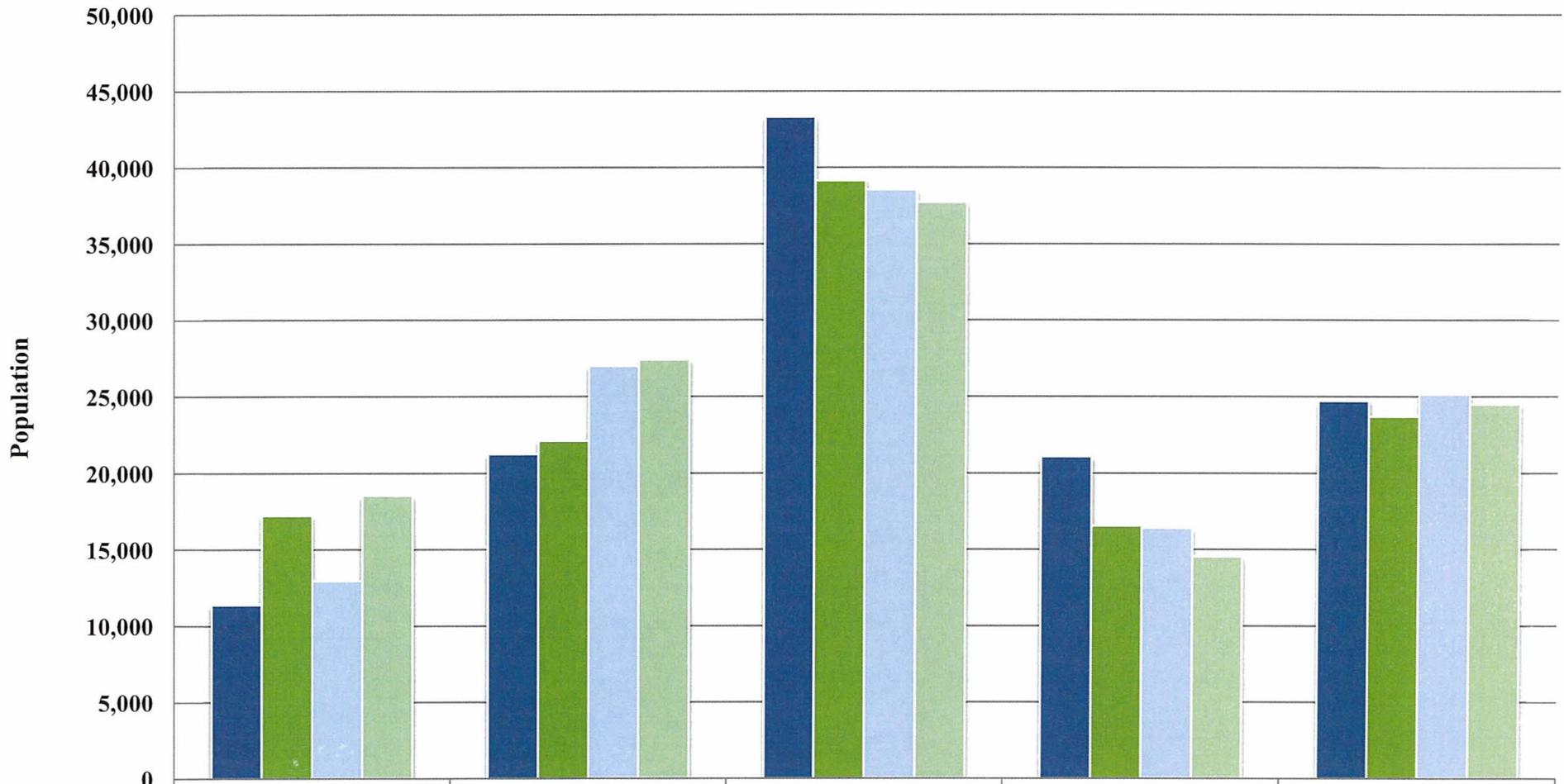
Colchester Elementary School, Colchester

State Data Center updated population projections for the State, which indicate that most of the region's municipalities will grow modestly by 2030 and that the average age of most residents will increase as well.

Ethnic Diversity

To better reflect the nation's growing diversity, respondents to Census 2000 were given the option of selecting one or more categories to indicate their ethnicity. This additional data was not available during the previous Census years and caution must be used when interpreting changes in racial compositions.

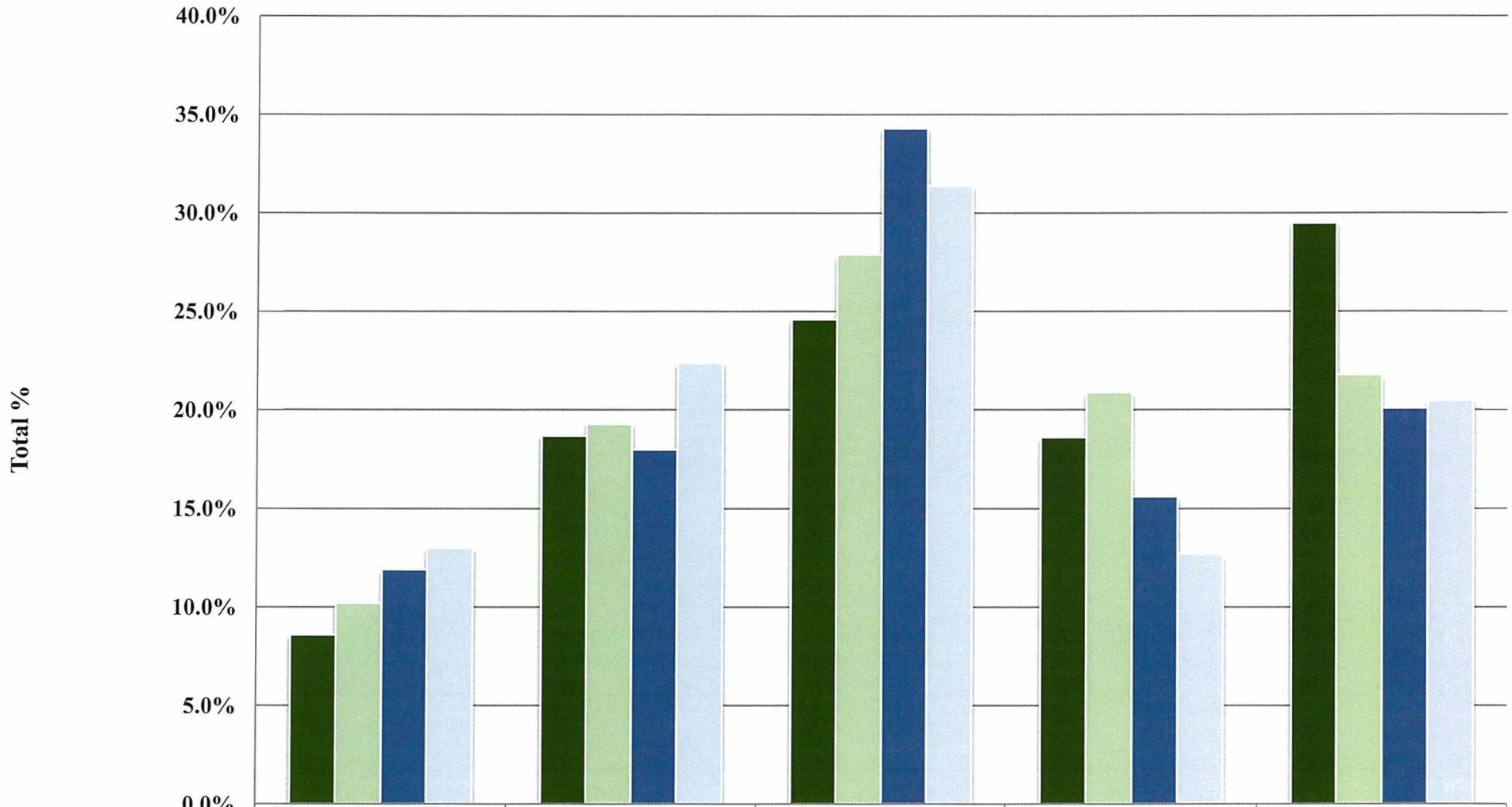
FIGURE 3
AGE - GENDER DISTRIBUTION, 1990 - 2000
Southeastern Connecticut Region



	> 65 (Retired)	45-64 (Mature Workers)	25-44 (Prime Workers)	15-24 (Young Workers)	0-14 (Children)
■ 1990 Males	11,393	21,241	43,299	21,066	24,713
■ 1990 Females	17,218	22,103	39,147	16,547	23,705
■ 2000 Males	12,930	27,007	38,547	16,391	25,157
■ 2000 Females	18,539	27,426	37,732	14,526	24,504

Source: U.S. Census of Population and Housing

FIGURE 4
AGE GROUP AS PERCENTAGE OF TOTAL POPULATION, 1970 - 2000
Southeastern Connecticut Region



	> 65 (Retired)	45-64 (Mature Workers)	25-44 (Prime Workers)	15-24 (Young Workers)	0-14 (Children)
■ 1970 Population 220,096	8.6%	18.7%	24.6%	18.6%	29.5%
■ 1980 Population 225,666	10.2%	19.3%	27.9%	20.9%	21.8%
■ 1990 Population 240,242	11.9%	18.0%	34.3%	15.6%	20.1%
■ 2000 Population 242,777	13.0%	22.4%	31.4%	12.7%	20.5%

Source: U.S. Census Bureau and SCCOG

The following summary in Table 3 compares the white and non-white population between 1990 and 2000. The results are presented below for all respondents to the *one race* question in 1990 (235,942 persons) and to the *one race* or *one or more race* category in 2000 (242,759 persons).

**TABLE 3
ETHNICITY
Southeastern Connecticut Region**

	White	Non-White	Total
1990-One Race	219,989	20,443	240,432 persons reported one race; 100% of total population 240,432.
%	91.5%	8.5%	100%
2000-One Race	209,527	26,415	235,942 persons reported one race; 97.2% of total population of 242,759.
%	88.8%	11.2%	100%
2000-One Or More Races	214,780	35,458	250,238 responses, exceeds population of 242,759 because individuals may report more than one race
%	85.8%	14.2%	100%

Source: U.S. Census Bureau

In 2000, whether *one race* or *one or more races*, the percentage of white population has decreased, while the non-white percentage of total population has increased. This finding is consistent with the past 30 year regional trend.

Household Structure

Southeastern Connecticut reported 93,577 households in 2000. These included 25,064 one-person households and 68,513 households with two or more persons. One-person households have increased 122% since 1970 and now account for 27% of all households. Married couple households remained the dominant household unit, accounting for 51.7% of all households. This does, however, show a significant decrease from 1970 when married couple households represented 70% of all households. The second most predominant type of households in 2000 was the non-family, female householder at 14.8% of all households. The average household size for the region in 2000 was 2.47



House in North Stonington

persons, compared to 3.17 persons in 1970. This decrease reflects, in part, the aging of the population and the increase in single person households.

Income/Poverty

The median household income for the region depicted in Table 5, indicates that the New London County median income, as a percentage of Connecticut’s overall median income, has improved from 89% in 1979 to 94% in 1999. While the region’s income still lags behind the state as a whole, the gap has considerably narrowed. In 1999, thirteen of the region’s municipalities were above the regional median income of \$50,646 and twelve were above the state median income of \$53,935. However, the gap has widened between municipalities with the lowest and highest median incomes in the region. In 1959, Voluntown reported the lowest municipal median income of \$5,344, which was only 75% of the highest southeastern Connecticut municipality, Waterford, which reported a median income of \$7,162. In 1999, the municipality with the lowest median income was New London at \$33,809, only 49% of Salem’s high figure of \$68,750. This latter percentage or ratio is expected to continue as shown in the year 2010 projections.

TABLE 4
POVERTY TRENDS PER MUNICIPAL
CLASSIFICATION, 1989-1999
Southeastern Connecticut Region

Municipal Classification	# Of Persons Below Poverty		% Change
	1989	1999	
Urban Totals	9,795	9,990	1.95%
Suburban Totals	4,744	4,831	1.8%
Rural Totals	415	528	21.4%
Regional Totals	14,945	15,349	2.60%

Source: U.S. Census Bureau and SCCOG Towns

Between 1989 and 1999, the number of persons living below the federal definition of poverty in the region increased by 2.6% to a total of 15,349 as shown in Table 4. This represents a change from the previous decade where persons living below the poverty threshold had decreased by 18%. Although Norwich and New London experienced a modest decrease in poverty level populations, the three urban municipalities, Groton, New London and Norwich, containing 42% of the region’s population, still accounted for nearly two-thirds of the region’s poverty population. New London had the highest concentration of low-income population, with

14.2% of its residents having incomes below the poverty level, over twice the level of concentration of the region as a whole at 6.3%. Proportionally, the suburban towns have less than half as many low-income residents as the urban towns and account for over 30% of the region’s low-income residents.

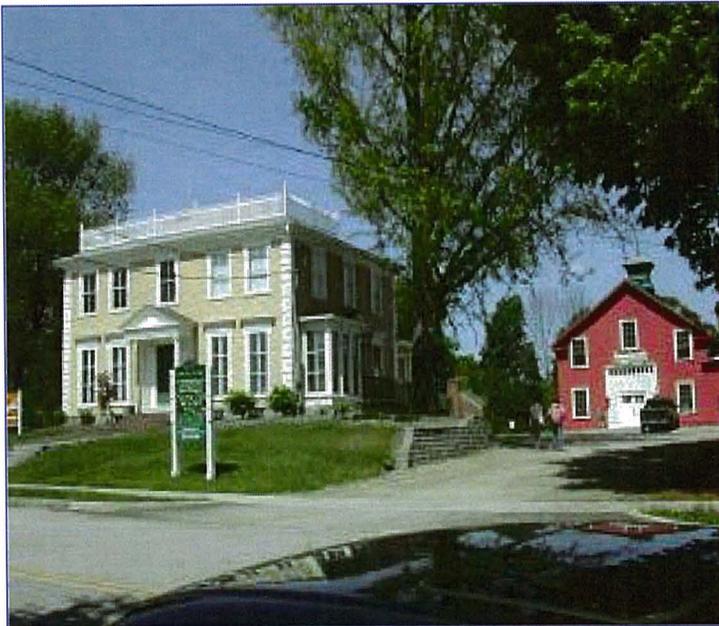
TABLE 5
MEDIAN HOUSEHOLD INCOME
Southeastern Connecticut Region

Municipality	1979 Median Household Income \$	1989 Median Household Income \$	1999 Median Household Income \$	2005 Estimated Median Household Income \$	2010 Projected Median Household Income \$
Bozrah	19,632	43,553	57,059	61,782	69,593
Colchester	20,684	46,389	64,807	73,108	83,542
East Lyme	22,690	46,979	66,539	74,037	84,413
Franklin	23,095	41,780	62,083	68,182	77,160
Griswold	16,406	32,904	50,156	54,950	61,414
Groton	17,217	33,967	46,154	50,259	55,892
Ledyard	23,458	49,811	62,647	69,543	79,321
Lisbon	18,795	38,192	55,149	59,950	67,902
Montville	19,877	42,140	55,086	60,490	68,156
New London	13,728	26,336	33,809	37,670	41,950
N. Stonington	21,820	47,070	57,887	64,225	72,505
Norwich	15,399	29,354	39,181	42,634	47,647
Preston	20,960	42,823	54,942	61,345	68,925
Salem	20,933	49,278	68,750	74,868	85,536
Sprague	19,925	38,247	43,125	46,504	52,180
Stonington	18,833	39,651	52,437	58,174	66,226
Voluntown	16,114	35,699	56,802	63,364	71,495
Waterford	20,832	44,167	56,047	61,367	68,824
New London County	17,874	37,488	50,646	55,269	61,517
Connecticut	20,078	41,721	53,935	59,752	67,510

Source: U.S. Census, CT CERC Data Finder

3.4 SUMMARY

The population characteristics within the region have changed significantly over the last fifteen years. The urban communities have experienced an overall net loss in population while the population of suburban towns increased substantially. The region's population is significantly older overall and, consistent with the past 30-year regional trend, more diverse. The region has seen a sharp increase in the number of one-person households as well as a notable decrease in median income. Despite the



Office Building, Colchester

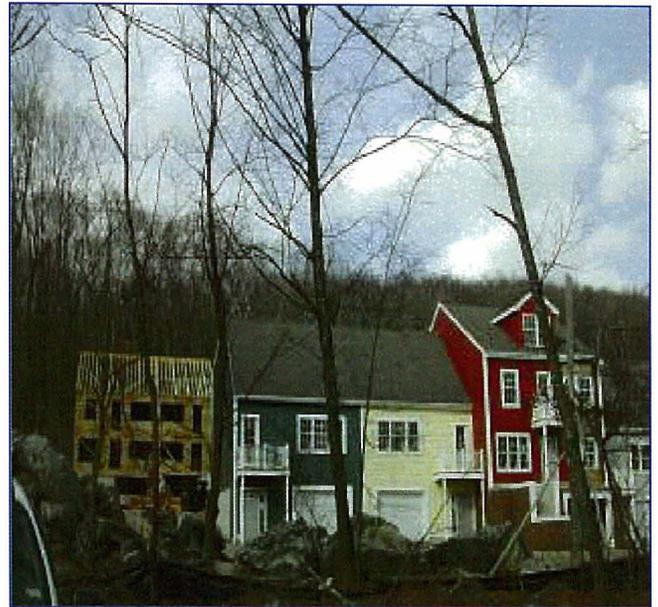
modest recent growth in population, it is projected that the region will grow to more than 272,000 persons by the year 2020, an increase of 12% over the 2000 recorded Census population.

An awareness and understanding of these changes in demographic characteristics provides a clearer picture of the existing population within southeastern Connecticut. The information presented in this chapter provides the context for subsequent chapters that discuss the current issues facing the region, as well as the

region's assets and limitations, natural resources, patterns of land use and zoning, and identified issue areas that have and will continue to influence the region's overall strength and pattern of development.

4.0 HOUSING

The availability of safe, sanitary and affordable housing is widely recognized as a basic need. Housing type, whether owner-occupied, a rental unit, single-family or multi-family, defines a community's character in a variety of ways. The 2002 SCCOG study entitled, *Housing a Region in Transition: An Analysis of Housing Needs in Southeastern Connecticut, 2000-2005*, concluded concisely that the region was not only facing a housing crisis, but that there were a number of obstacles preventing effective management of the complex regional housing issues. The housing crisis was characterized by a limited supply of units, limited choice of housing types and locations, and an increasing lack of affordability. Although the study's conclusions are not unique to southeastern Connecticut, for a region already undergoing a dramatic restructuring of its economy, the failure to address regional housing issues will not only compound or complicate the issues related to the shifting economy, but will also likely have an adverse affect on continued economic growth within southeastern Connecticut.



New Housing Construction, Norwich

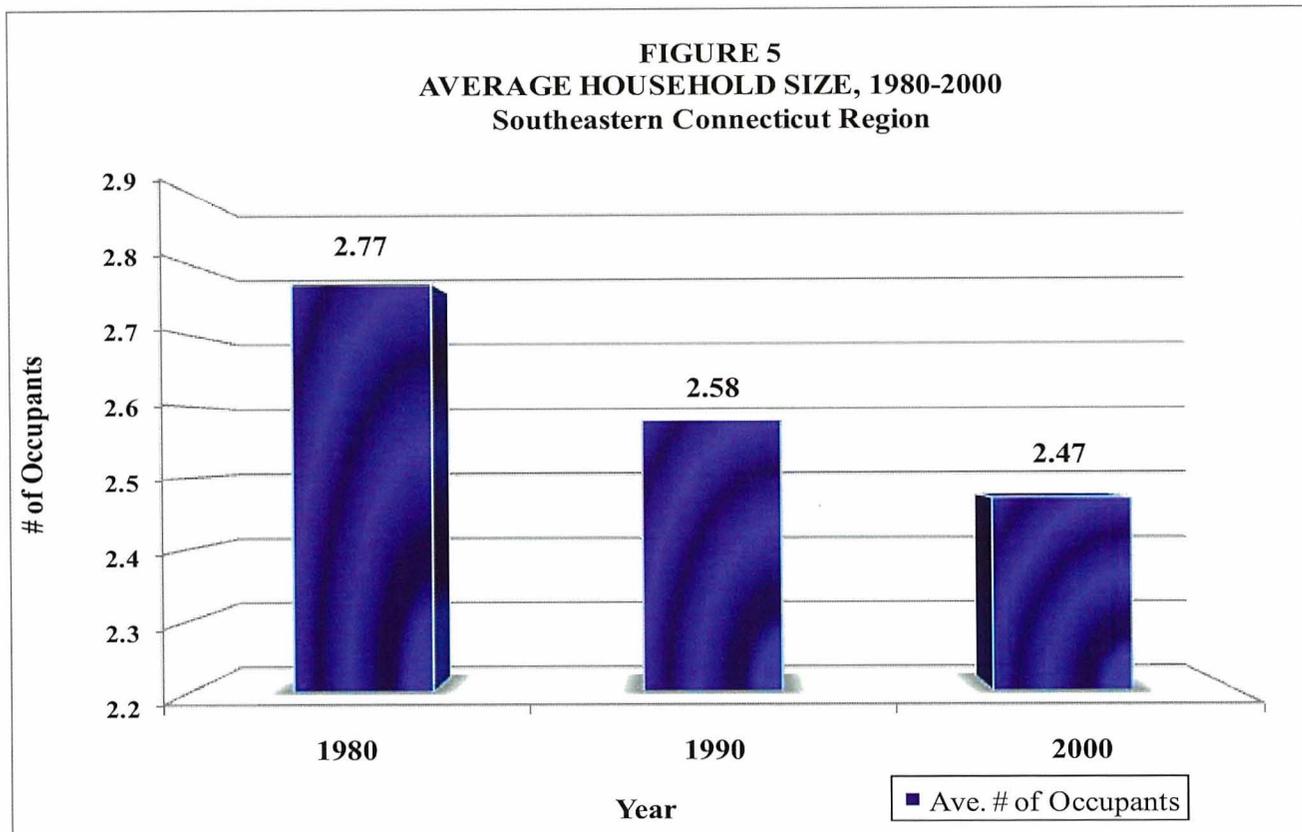
It is important that the region's residents are aware that the housing problem in southeastern Connecticut is intrinsically linked to the following issues and cannot be addressed out of this larger context:

- Regional economic development;
- Regional demographic changes;
- Local land-use policies and regulations, and
- Regional infrastructure, namely water supply, sewerage and transportation facilities.

Raising community awareness and providing a forum by which housing issues can be identified, evaluated and ultimately selected, are the key elements of any plan to address this delicate component of southeastern Connecticut's well being. The following sections review regional housing activity primarily in the last decade.

4.1 HOUSING CHARACTERISTICS AND ACTIVITY

The most significant recent housing trends within the southeastern Connecticut region are the 22% increase in single person households coupled with a 1% increase in the region's population, yet only a 5.8% increase in housing stock, and low vacancy rates for both owner-occupied and rental units (1.4 and 6.4% respectively). These factors, and others, have resulted in a much tighter housing market in 2000 than the previous decade, as well as an overall decline in average household size (See Figure 5).



Source: U.S. Census Bureau and SCCOG

Other important factors reported by the U.S. Census Bureau in 2000, were that of the recorded 102,295 housing units in the region, 93,577 units were occupied. One-person households accounted for 26.8% of these occupied units; two or more person, family households, accounted for 66.8%; and 4.5% were occupied by two or more person, non-family households. Single-family units accounted for 65% of the total household units in the region and are primarily located in suburban and rural areas, thus dominating the market at two-thirds of the supply. In contrast, two-thirds of all other housing types, mostly multi-family, were found in the region's three primary urban municipalities: Groton, New London and Norwich.

The regional trend toward urban exodus in favor of rural or suburban living is widespread and ongoing. One implication of this trend is that the focus on production of single-family units will further limit the range of choice in housing type, cost and location, and will continue to place additional burden on the region's urban municipalities to provide the majority of affordable housing.



A detailed analysis of regional housing characteristics can be found in the before-mentioned SCCOG Housing Analysis.

Spinnaker Subdivision, East Lyme

4.2 REGIONAL FACTORS AFFECTING HOUSING

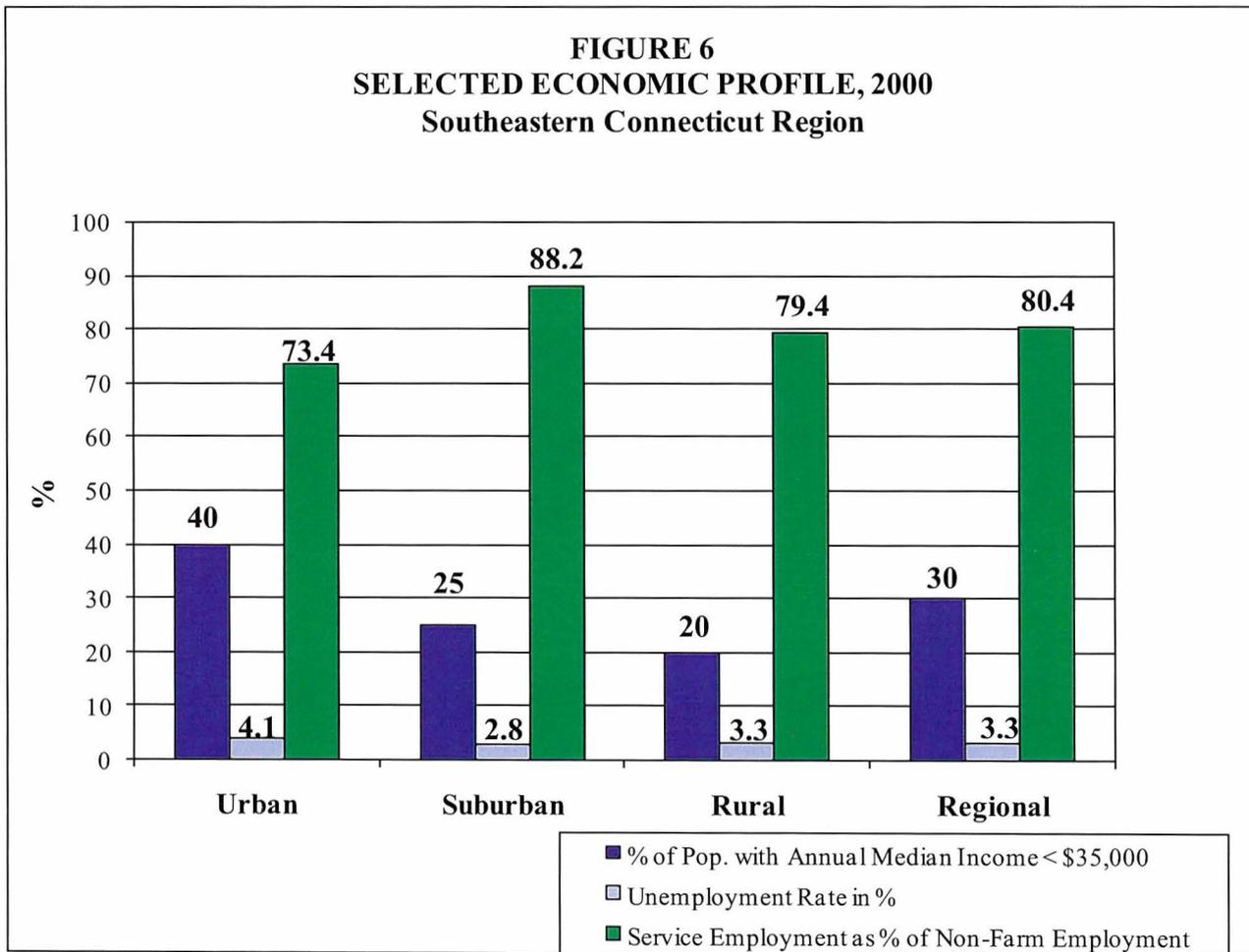
Two of southeastern Connecticut's major housing issues are a limited supply and a lack of affordability. Given the pronounced shift in the regional economy, factors such as median income and the distribution of wealth, housing stock, occupancy and cost, as well as certain demographic characteristics have a direct bearing on the ability of the region's population to rent or purchase suitable housing. The following section will briefly highlight these factors.

Regional Economy

The region has witnessed a profound shift away from a manufacturing based economy toward a service-based economy. In New London County, the Tourism and Entertainment Cluster, accounting for 40% of all civilian, non-farm employment, now dominates the region's economy. The Defense Technology, Engineering, and Advanced Manufacturing Cluster previously dominated the region's economy, but now only comprise 10% of the county's employment. With this change, the region's annual median income has declined as the new service industry jobs require less skill and offer substantially lower pay. Suburban towns in particular are economically dependent on the tourism/service industry as the two casinos are located, for the most part, within the borders of

suburban Ledyard and Montville. However, pressure to provide low-income housing for these service employees still falls primarily on the region's three urban areas. Although the region experienced a 40% increase in median household income, this barely kept pace with the 39.5% increase in cost of living, and was below the 43.1% increase in household income experienced statewide. The region's wealth is distributed unevenly with the median income of the poorest municipality (New London) reported as being 49% of that of the wealthiest municipality (Salem).

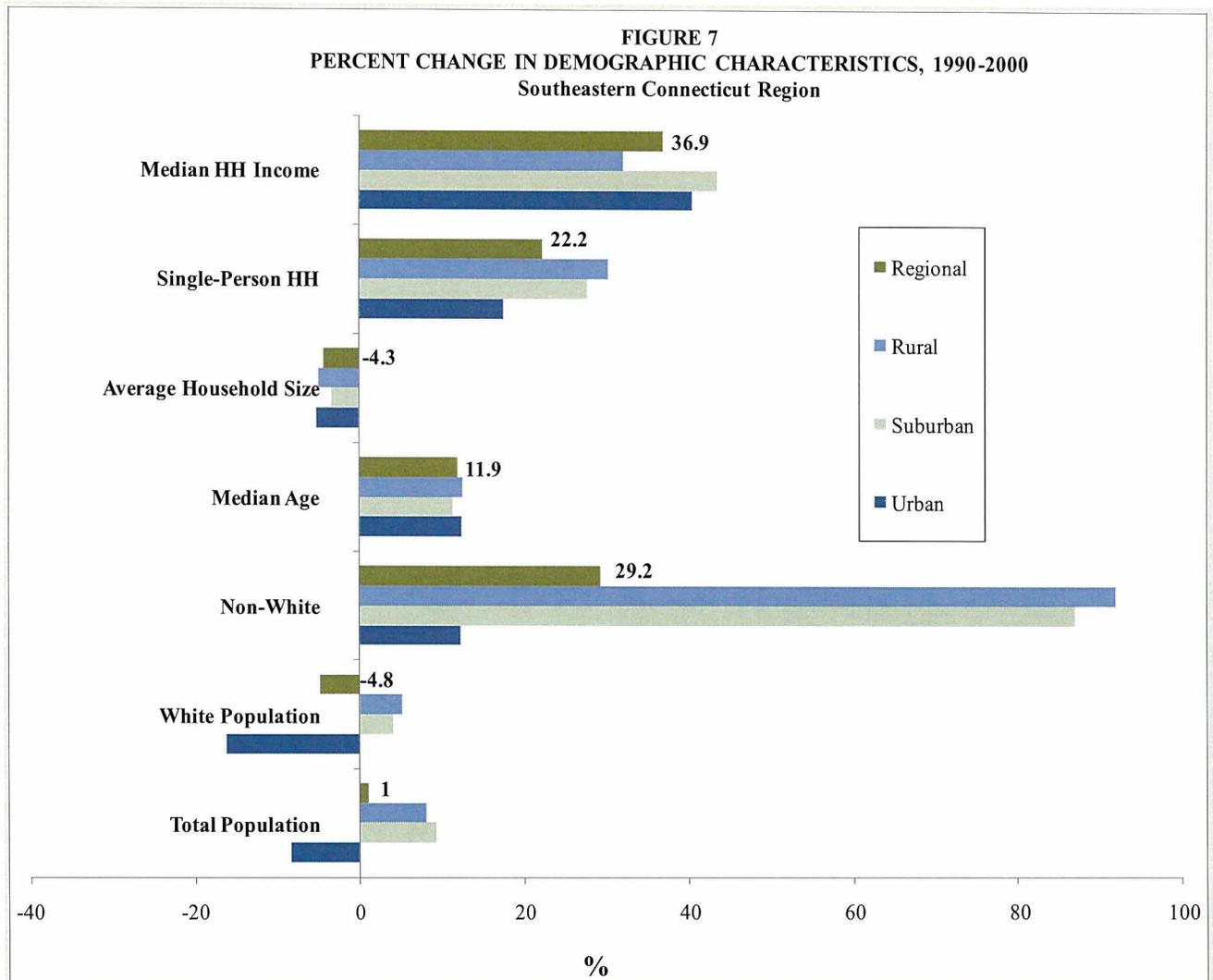
In sum, the region has a growing population of gainfully employed residents, primarily employed in the service industry, who do not earn a wage sufficient for them to compete in the ever-tightening housing market (See Figure 6). Additionally, employment opportunities are not distributed evenly within southeastern Connecticut as evidenced by the "older" more traditional industries being located within urban areas, and the suburban areas' domination of the newer regional economy.



Source: U.S. Census Bureau and SCCOG

Regional Demographic Changes

To summarize the data below, the region's population is older, more racially diverse and more suburbanized. During the period between 1990 and 2000, the region experienced a 4% overall decrease in average household size, a 2% overall decrease in households with children, and a 22%



Source: U.S. Census Bureau and SCCOG

overall increase in single-person households. Ten percent of the population is now above 65 years old. There was a 5% decrease in the white population, while non-white and Hispanic populations witnessed a 29% and 56% increase respectively. As single-person households increase and average household size decreases, the demand for additional housing units becomes great. Fewer appropriate housing units coupled with lower salaries, raise serious issues regarding the regional population's ability to find suitable housing.

Local Land Use Policies and Regulations

The general pattern of zoning in southeastern Connecticut is characterized by two extremes. Small minimum lot sizes and higher densities are found in the region's three urban municipalities where multi-family housing is permitted by right, as opposed to the suburban and rural communities, where the lots are zoned for low density and multi-family units are only permitted by special permit, if at all. This pattern has persisted for decades, the implications of which are significant in terms of



City Hall (background) and Wauregan Hotel (foreground), Downtown Norwich

meeting the region's housing needs. Of the undeveloped land available in the region for development, only 4% is zoned for high density (2002 SCCOG Housing Analysis). Historical dependence on the property tax to fund local governments limits the feasibility of regional agreement, or cooperation, in terms of creating a different environment to allow different zoning patterns.

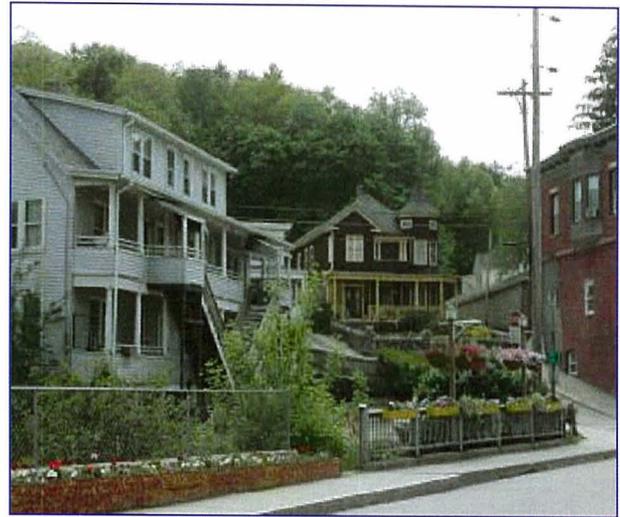
Regional Infrastructure

Further obstacles to providing solutions to the housing crisis relate to the lack of local and regional infrastructure such as water supply, sewerage and transportation facilities. Expansion of these systems into previously limited areas can be controversial and costly, but failure to expand such systems will continue to inhibit the development of the much-needed higher density housing. As stated earlier, housing is intrinsically linked to workforce development and retention. Inadequate infrastructure may discourage future economic investment opportunities within the region as the necessary resident workforce to support local development or new businesses will be inadequate. Limited building sites physically suitable for development without extensive investment, as well as insufficient transportation infrastructure, are all limiting factors to future growth within southeastern Connecticut that will additionally impact regional housing.

Regional Housing Initiatives

The 2002 SCCOG Housing Analysis led to the creation of the Blue Ribbon Housing Initiatives Panel (BRHIP). The stated mission of this organization was to “drive the creation of a diversified housing

stock in southeastern Connecticut to meet the ever-changing demands of the region.” The BRHIP became the Southeastern Connecticut Housing Alliance (SECHA) in 2006, and a full-time staff person was hired to assist the SECHA board in carrying out its work. In 2007, SCCOG and SECHA entered into a Memorandum of Agreement, and this staff person became a SCCOG employee, demonstrating SCCOG’s commitment to seeing more affordable housing built in the region. Although the region appears to be meeting the total number of units that need to be produced on an annual basis, the mix of housing being created is concentrated in high priced, single-family homes in suburbia. SECHA will endeavor to work with the region's municipalities to enable creation of both multi-family and single-family affordable housing stock.



West Main Street, Baltic section of Sprague

4.3 SUMMARY

The 2002 SCCOG Housing Analysis referenced above documented the need for more housing. The study concluded that there was a need for 4,300 to 5,100 additional housing units in southeastern Connecticut between 2000 and 2005. This translates into a rate of between 860 and 1,020 units per year. It was recommended that 65% of these units be owner-occupied units and 35% rental units.



Multi-Family Housing, Montville

An update to the 2002 Housing Analysis was completed in 2004, entitled *Analysis of Selected Data and Updated Forecasts of Housing Need for the Southeastern Connecticut Planning Region, 2000-2010*. This study indicated that there is still a need for housing in the region. The ten-year housing needs estimate indicated a need for between 5,200 and 8,000 new units in order to meet the region’s housing needs from 2000-2010. The study specified that a higher portion of these units should be multi-family rental units and owner-occupied homes at affordable prices.

The housing study prepared by SCCOG in 2002 concluded that scale and complexity of southeastern Connecticut's housing crisis calls for a regional response that embraces a high level of interactive



Multi-Family Housing, Colchester



Housing Units, Baltic section of Sprague

communication. Housing activity between 2000 and 2005 has increased by 31% from ten years earlier. The annual permitted housing totals for the years 2003, 2004, and 2005 exceeded 1,000 units (See Table 6). This level of housing activity occurred only once during the 1990's, in 1994.

Meeting the housing challenge facing southeastern Connecticut will be neither swift nor easy. The current housing situation is attributed in part to five major complex variables that influence housing demand, supply, and affordability. The five factors are: economic shifts which have replaced high-wage manufacturing jobs with significantly lower-paying service industry jobs; population trends which result in the continued movement away from urban communities; zoning policies reflecting the dependence of local government on property taxes; limited infrastructure especially water supply, sewerage and transportation systems which inhibit the development of higher density housing; and limited building sites

which are physically suitable for development without extensive investment. Addressing such issues will require extraordinary regional cooperation. Inter-municipal cooperation will be needed to create an environment within which the region's communities can collectively formulate specific actions to address housing issues. Without such cooperation and agreement, efforts to address housing issues will continue to be fragmented and ineffective.

**TABLE 6
HOUSING UNITS AUTHORIZED, DEMOLITIONS AND NET GAIN
Southeastern Connecticut Region**

Municipality	2000			2001			2002			2003			2004			2005			2006		
	Permits	Demolitions	Net Gain	Permits	Demolitions	Net Gain	Permits	Demolitions	Net Gain	Permits	Demolitions	Net Gain	Permits	Demolitions	Net Gain	Permits	Demolitions	Net Gain	Permits	Demolitions	Net Gain
URBAN TOWNS:																					
Groton	119	2	117	69	3	66	73	4	69	160	7	153	265	15	250	153	9	144	112	16	96
New London	1	85	-84	0	7	-7	8	0	8	52	0	52	84	5	79	77	0	77	66	0	66
Norwich	29	13	16	31	16	15	148	17	131	247	6	241	223	0	223	218	0	218	145	0	145
Urban Totals:	149	100	49	100	26	74	229	21	208	459	13	446	572	20	552	448	9	439	323	16	307
SUBURBAN TOWNS:																					
Colchester	95	1	94	85	0	85	75	3	72	89	3	86	83	3	80	95	2	93	66	1	65
East Lyme	74	10	64	72	12	60	72	7	65	76	11	65	90	10	80	127	11	116	180	0	180
Griswold	39	4	35	46	13	33	46	6	40	55	3	52	74	2	72	71	7	64	87	3	84
Ledyard	40	1	39	51	2	49	53	3	50	83	4	79	68	0	68	53	3	50	37	3	34
Lisbon	19	0	19	19	0	19	19	2	17	18	0	18	19	0	19	4	1	3	18	1	17
Montville	79	6	73	55	12	43	85	9	76	87	3	84	69	0	69	67	17	50	32	7	25
Preston	19	0	19	19	1	18	21	3	18	24	2	22	32	1	31	41	0	41	18	0	18
Sprague	3	0	3	6	0	6	11	0	11	9	0	9	10	0	10	16	0	16	7	0	7
Stonington	69	6	63	64	6	58	83	9	74	105	2	103	89	3	86	79	10	69	101	9	92
Waterford	69	2	67	96	6	90	68	15	53	48	12	36	33	11	22	56	10	46	38	6	32
Suburban Totals:	506	30	476	513	52	461	533	57	476	594	40	554	567	30	537	609	61	548	584	30	554
RURAL TOWNS:																					
Bozrah	11	0	11	13	0	13	9	0	9	11	0	11	11	0	11	9	0	9	12	1	11
Franklin	9	0	9	11	0	11	11	0	11	11	0	11	4	0	4	3	0	3	3	1	2
North Stonington	23	0	23	27	0	27	32	0	32	23	0	23	32	0	32	27	3	24	16	0	16
Salem	18	0	18	23	0	23	34	0	34	26	2	24	34	0	34	28	0	28	13	0	13
Voluntown	15	0	15	12	2	10	11	2	9	17	1	16	12	0	12	7	2	5	9	0	9
Rural Totals	76	0	76	86	2	84	97	2	95	88	3	85	93	0	93	74	5	69	53	2	51
Regional Totals	731	130	601	699	80	619	859	80	779	1,141	56	1,085	1,232	50	1,182	1,131	75	1,056	960	48	912

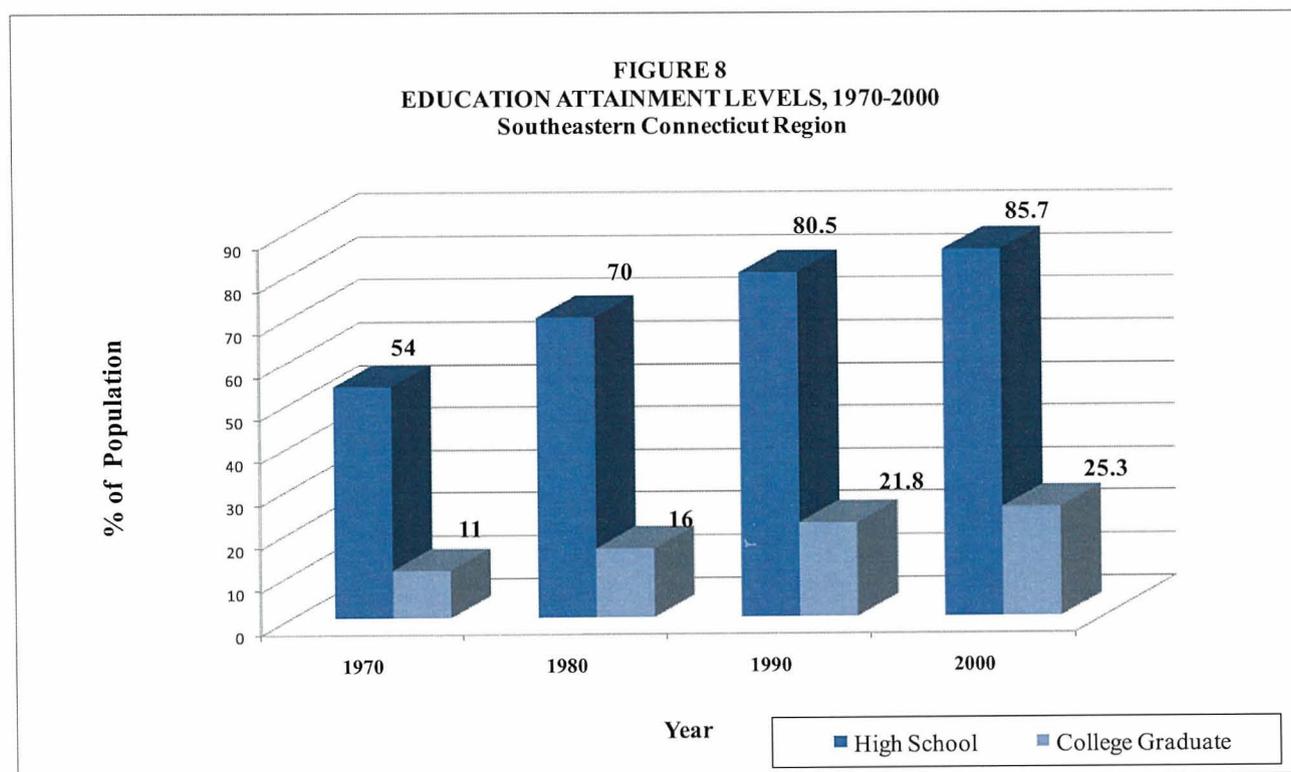
Source: CT DECD Annual Reports on Housing Production and Permit Authorized Construction and DECD Web site.

5.0 ECONOMIC TRENDS

The region's economy greatly influences land use and transportation decisions. Since the early 1990's, the region's economy has undergone a significant restructuring as it continues its transition from one of the nation's most defense-dependent to a more diversified economy. The reduction of defense industry jobs and the growth in the tourism and entertainment industry present continuing challenges. In this present transition, the region risks becoming as dependent on the tourism and entertainment industry as it was previously on the defense industry.

5.1 ECONOMIC/LABOR FORCE CHARACTERISTICS

Southeastern Connecticut has a relatively educated and skilled workforce. Table 7 shows the educational attainment for the region's population 25 years and older in 2000. The educational attainment of the population has improved during the 1990's, with increases in those persons who have high school degrees and those with advanced degrees (See Figure 8 below). Even with this improving trend, the percentage of college graduate level in 2000 is 6% behind that of the overall state population.



Source: U.S. Census Bureau and SCCOG

TABLE 7
EDUCATIONAL ATTAINMENT
POPULATION 25 AND OLDER, 2000
Southeastern Connecticut Region

Completed High School or Higher		Completed Bachelor's or Higher		Total Number
Number	Percent	Number	Percent	

URBAN TOWNS:					
Groton	22,439	88	6,620	26	25,503
New London	12,030	78	3,008	20	15,348
Norwich	19,167	79	4,558	19	24,125
Urban Totals	53,636	83	14,186	22	64,976

SUBURBAN TOWNS:					
Colchester	8,562	89	3,022	32	9,576
East Lyme	11,631	90	4,605	35	12,991
Griswold	6,054	83	1,100	15	7,283
Ledyard	8,884	93	3,121	33	9,510
Lisbon	2,301	83	542	20	2,765
Montville	10,562	84	2,216	18	12,591
Preston	2,882	86	763	23	3,370
Sprague	1,678	83	294	15	2,010
Stonington	11,558	88	4,533	35	13,102
Waterford	11,818	87	3,832	28	13,623
Suburban Totals	75,930	87	24,028	28	86,821

RURAL TOWNS:					
Bozrah	1,465	88	312	19	1,669
Franklin	1,142	89	294	23	1,282
North Stonington	3,118	91	1,002	29	3,425
Salem	2,314	93	1,007	41	2,475
Voluntown	1,475	86	290	17	1,714
Rural Totals	9,514	90	2,905	27	10,565

Regional Totals	139,080	86	41,119	25	162,362
------------------------	----------------	-----------	---------------	-----------	----------------

Source: U.S. Census Bureau

The regional labor force growth has lagged behind employment growth, with an influx of employees commuting from outside the region. According to U.S. Census and the *Comprehensive Economic Development Strategy for Southeastern Connecticut* (CEDS), prepared jointly by SCCOG and the Southeast Connecticut Enterprise Region (seCTer) in 2004, more than 9,000 Rhode Island residents, 8,000 Windham County residents, and 2,000 residents from Hartford County commuted to employment in the southeastern Connecticut region in 2000. This commuting pattern is likely attributed to the employment growth associated with the casino development in the region.

The U.S. Census and CEDS information indicate that between 1990 and 2000, the number of workers in New London County who commuted into the region from other regions increased by 7,390. Commuters from Windham County accounted for the largest part of this increase followed by Middlesex County, Washington County, R.I., and Hartford County. For the same time period, the number of New London County residents working in New London County decreased by approximately 3,500. The largest number of New London County workers that commute elsewhere reported Hartford County as their destination followed by Middlesex County and Windham County as second and third place employment destinations. In 2000, New Haven County replaced Washington County, R.I. as the fourth place recipient of New London County workers.

Economic Diversity

In 1990, A.D. Little Company conducted an economic base study for the region and found that on a per capita basis, southeastern Connecticut was one of the most defense-dependent regions in the country. Since then, the decline in defense related activities coupled with the establishment of casino gaming, have created a more diversified regional economy.



Foxwoods Resort Casino
Photo courtesy of the Eastern CT Tourism District

Although the regional economy is somewhat more diverse today than it was in 1990, the region remains highly dependent on a small number of very large employers. The five largest employers account for 40% of the total employment in southeastern Connecticut. Table 8 lists the five employers and their respective

number of employees. The employee totals listed below do not include the large number of jobs in the region ancillary to these five large employers.

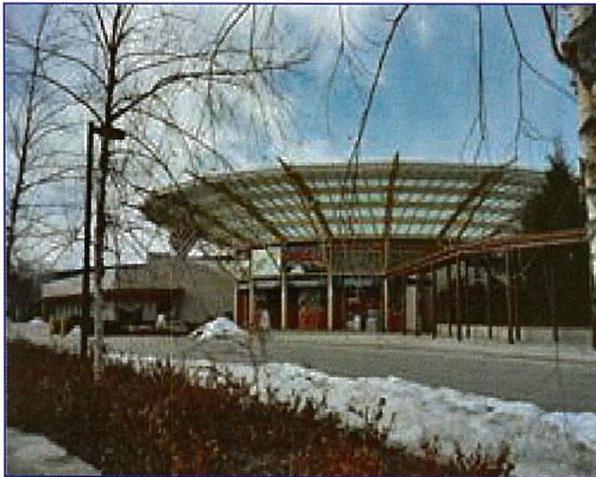
**TABLE 8
TOP FIVE EMPLOYERS, 2004
Southeastern Connecticut Region**

EMPLOYER	# OF EMPLOYEES
Foxwoods Resort Casino	11,000
U.S. Naval Submarine Base	10,500
Mohegan Sun Casino	10,000
Electric Boat Corporation	8,800
Pfizer Corporation	6,000*
Total	46,300

Source: Economy.com 2004, CEDS for Southeastern Connecticut

** Includes Contract Employees*

Table 9 reviews the industries associated with employed persons age 16 years or older in 2000. The U.S. Census Bureau information that profiles southeastern Connecticut's employed labor force, indicates that the characteristics of the region's labor force are similar to that of the state as a whole,



Mystic Aquarium and Institute for Exploration

with a few exceptions. One of the exceptions is in the Finance, Insurance, Real Estate, Rental Leasing category. The region reported 4.1% of its workers in this category versus 9.8% statewide. Another exception, not surprisingly, is that 15.9% of regional workers were classified within the Arts, Entertainment, Recreation, Accommodation, and Food Service category. This percentage far exceeded the state as a whole, which reported 6.7% of employees in that job sector. The region's expanding tourism industry accounts for this difference. The

Arts, Entertainment, Recreation, Accommodation, and Food Service category was second only to Education, Health, and Social Services, which accounted for 20.7% of regional workers. This same category was also the top employment sector for state workers, at 22 percent.

**TABLE 9
EMPLOYED CIVILIAN POPULATION, 16 AND OLDER, BY INDUSTRY, 2000
Southeastern Connecticut Region**

Municipality	Agriculture, Forestry, Fishing, Mining	Construction	Manufacturing	Wholesale Trade	Retail Trade	Transportation, Warehousing, Utilities	Information	Finance, Insurance, Real Estate, Rental Leasing	Professional, Scientific, Management, Administrative, Waste Management	Education, Health, Social Services	Arts, Entertainment, Recreation, Accommodation, Food Services	Other Services	Public Administration	Total Civilian Employed
URBAN TOWNS:														
Groton	65	736	2,876	282	1,819	662	351	665	1,418	3,225	2,938	627	1,010	16,674
New London	10	554	1,323	233	1,443	420	368	400	771	2,882	2,070	353	642	11,469
Norwich	107	995	1,865	368	2,004	527	312	683	1,176	3,586	4,056	792	1,106	17,577
Urban Totals	182	2,285	6,064	883	5,266	1,609	1,031	1,748	3,365	9,693	9,064	1,772	2,758	45,720
SUBURBAN TOWNS:														
Colchester	36	509	912	221	1,126	469	118	694	725	1,559	601	363	453	7,786
East Lyme	91	501	1,307	105	935	408	254	316	896	1,905	760	353	420	8,251
Griswold	86	367	855	195	758	332	104	238	267	994	1,095	265	353	5,909
Ledyard	7	344	1,256	143	546	320	156	313	691	1,441	1,355	288	403	7,263
Lisbon	26	120	352	49	222	156	37	86	131	499	332	91	61	2,162
Montville	38	684	1,217	302	1,183	643	146	317	570	1,574	1,472	257	542	8,945
Preston	77	212	225	96	205	141	52	39	162	557	381	70	174	2,391
Sprague	37	145	292	50	161	75	32	76	80	234	206	72	76	1,536
Stonington	48	514	1,744	158	1,021	282	216	336	704	1,843	1,437	389	333	9,025
Waterford	38	659	1,108	200	1,318	589	302	369	701	2,214	838	296	612	9,244
Suburban Totals	484	4,055	9,268	1,519	7,475	3,415	1,417	2,784	4,927	12,820	8,477	2,444	3,427	62,512
RURAL TOWNS:														
Bozrah	32	109	174	40	149	99	13	38	63	260	120	31	108	1,236
Franklin	32	82	114	46	108	58	14	48	52	230	97	36	80	997
North Stonington	79	278	503	31	206	105	75	74	208	419	491	159	114	2,742
Salem	36	216	322	141	155	178	16	88	168	459	137	122	114	2,152
Voluntown	44	154	212	27	100	81	16	48	95	238	219	50	65	1,349
Rural Totals	223	839	1,325	285	718	521	134	296	586	1,606	1,064	398	481	8,476
Regional Totals	889	7,179	16,657	2,687	13,459	5,545	2,582	4,828	8,878	24,119	18,605	4,614	6,666	116,708

Source: U.S. Census Bureau

The top four employment categories in southeastern Connecticut that account for 62.4% of the region's employment are: Education, Health, and Social Services, at 20.7%; Arts, Entertainment, Recreation, Accommodation, and Food Service, at 15.9%; Manufacturing, at 14.3%; and Retail Trade, at 11.5%. Statewide, the top four employment categories that account for 58.1% of the state's employment are: Education, Health, and Social Services, at 22%; Manufacturing, at 14.8%; Retail Trade, at 11.2%; and Professional, Scientific, Management, Administrative, and Waste Management, at 10.1 percent.

This employment information generally corresponds with the continued decline in the manufacturing sector both regionally and statewide. In 1980, the number of manufacturing jobs in the region had peaked at 28,000. But by 2002, the region experienced a decline of about 11,000 manufacturing jobs, bringing the total down to fewer than 17,000. Global shifts in manufacturing are continuing to pressure the manufacturing base of the region and nation. The trend towards outsourcing may also impact Research & Development activity in pharmaceuticals, potentially affecting another large regional employer, as clinical trials and other specialized activities are being located abroad.

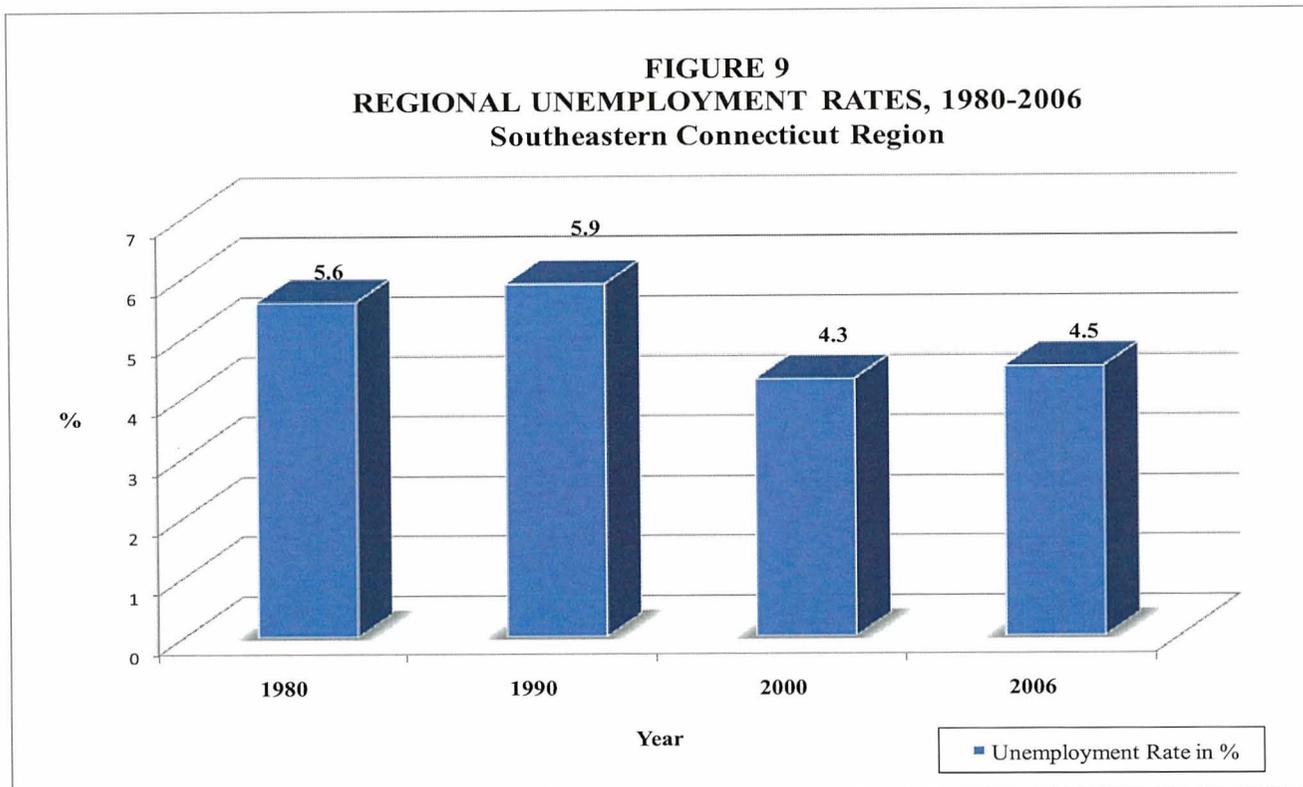


Pfizer R&D Headquarters, Groton

5.2 UNEMPLOYMENT CHARACTERISTICS

Unemployment data from the 2000 Census Bureau indicate that 5,192 individuals, or 4.3% of the total civilian regional labor force, 16 years and older, were unemployed. As indicated in Figure 9, data from previous census years reported higher regional unemployment percentages such as 5.9% in 1990, and 5.6% in 1980. Further review of the Census data showed that many of the region's towns did not deviate significantly from the regional 2000 unemployment rate of 4.3%. Collectively, the rural towns had the lowest unemployment rate, at 2.7%. Salem, with an unemployment rate of 1.8%, had the lowest unemployment rate, both in the rural town category and in the region. The urban towns had the highest unemployment rate as a group, at 5.7%. At 7.4%, New London had the highest unemployment rate, both in the urban towns category and regionally. The suburban towns in southeastern Connecticut had an average unemployment rate of 3.4%. Within this group, the lowest

unemployment rate was Colchester, at 2.9%, and the highest was Sprague, at 4.8 percent. Review of labor force data from the Connecticut Department of Labor since 2000 indicates that the overall rate of regional unemployment has hovered around 4%. The annual average unemployment rate for the



Source: U.S. Census Bureau; CT Department of Labor

region in 2002 was 3.8%. The 2006 regional unemployment rate was slightly higher at 4.5%. The labor force data since 2000 indicate that one significant change from previous reports is that the lowest unemployment percentages are in the suburban towns, as a group, rather than in the rural towns. The urban towns, collectively, continue to have the highest unemployment rate. In 2006, the urban town unemployment rate was 4.8 percent.

5.3 ECONOMIC CLUSTERS

The Comprehensive Economic Development Strategy (CEDS) for Southeastern Connecticut identified six industry clusters that are important to the regional economy. Many of these six industry groups are interconnected, indicative of a complex economy. The six industry groups include:

- **Bioscience Cluster:** While this sector is not centered in the region, it represents an important employment component and one of the five major regional employers. This employer, Pfizer Corporation, recently built its global headquarters for R&D in New London. Currently, Pfizer employs approximately 6,000 people in the region as well as over 1,000 contract employees, who provide ancillary services such as security and maintenance.

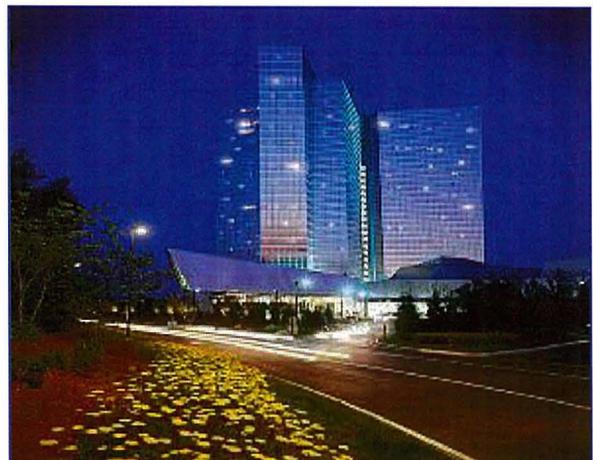
- Defense Cluster:** The Naval Submarine Base and the Electric Boat Division of General Dynamics manufacturing facility remain a significant component of the region's economy. Electric Boat employs an estimated 8,800 people and the Navy has approximately 10,000 servicemen and women, civilian employees and contractors. There are many other defense-related businesses in the region, including companies such as Ship Analytics, Sonalyst and DDL Omni Engineering, all of which provide products and services ranging from software development and equipment design to training. The United States Coast Guard Academy in New London is an important component of this economic sector. It employs approximately 900 people. In addition, the Coast Guard operates a Research and Development Center at Avery Point in Groton.



*U.S. Coast Guard Academy, New London
Photo courtesy of the Eastern CT Tourism District*

- Maritime Cluster:** This sector overlaps with other economic sectors. It includes all of the economic activities that relate to the region's location on Long Island Sound. The activities in this sector range from the U.S. Naval Submarine Base, the Mystic Aquarium and Institute for Exploration, the Mystic Seaport, UCONN Marine Sciences and Technology Center at Avery Point, as well as the region's marinas, fishing boats, and ferries.

- Tourism Cluster:** This sector has been an important component of the region's economy for many years and was closely associated with the region's maritime-related activities as well as other recreational activities associated with the region's forests and parks. The establishment of the two major casinos (Foxwoods and Mohegan Sun) has expanded the significance of this sector to the point that employment related to tourism has become dominant in the region. The CEDS estimates that the tourism sector employs well over 30,000 people and reports total sales of more than \$3.7 billion.

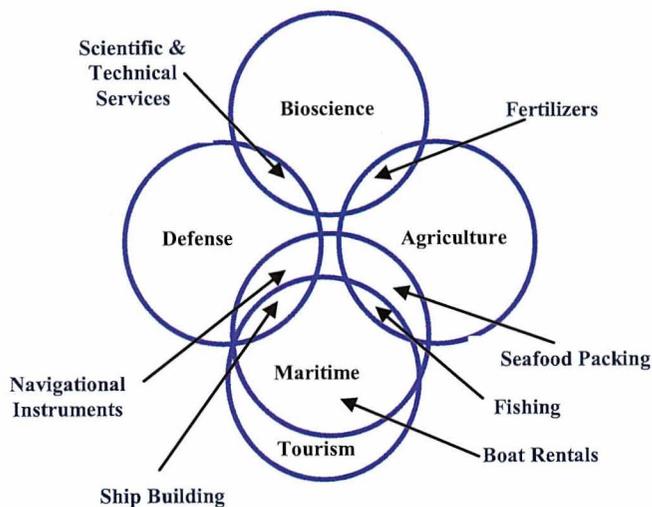


*Mohegan Sun Resort Casino
Photo courtesy of the Eastern CT Tourism District*

- Creative Cluster:** Arts and cultural activities are a developing economic sector. Some of these activities overlap with the tourism industry and involve galleries, historic sites and museums. This sector also includes arts and cultural jobs at colleges and universities in the region.
- Agriculture Cluster:** The rural communities within southeastern Connecticut continue to have economic activities related to agriculture. Over the past several decades, the scale of agriculture activity has decreased, however it remains an important sector in the region's

economy and contributes to the diversity of regional land uses. Data on this sector for the year 2001 indicate that approximately 3,000 individuals are employed in agricultural-related activities that led to greater than \$342 million in sales.

The data used to support the findings presented in this Plan, come from a variety of sources and were compiled using different methodologies. Caution should be taken when comparing similar



information from different sources. Also of note is that the industry clusters do not exist as discrete entities in the complex regional economy. Some industries are included in more than one cluster. The Agriculture cluster overlaps with the Bioscience and Maritime clusters and includes individual industries that may not be included in the U.S. Census category of agriculture, forestry, fishing, and mining category as listed in Table 8.

5.4 SUMMARY

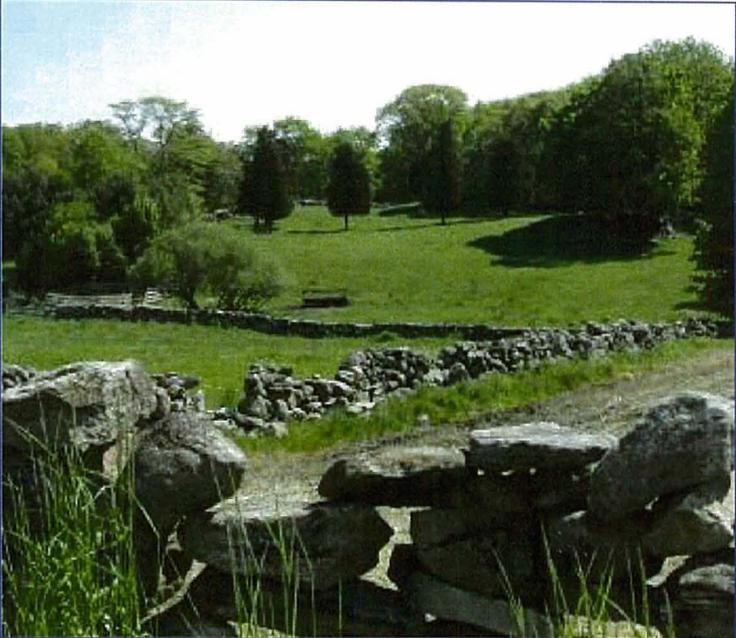
An analysis of the available education and employment data indicates a restructuring of the region's economy and a shift away from higher-paying manufacturing-type jobs to significantly lower-paying service-type jobs. One effect of this shift is that without appropriate employment opportunities to match the increasing education level of the region's population, much of the region's workforce will be forced to go elsewhere to find suitable work. During the past 10 to 15 years, the region lost almost 11,000 manufacturing jobs at an annual average wage of \$67,000. During this same time period, the service sector increased employment by more than 27,000 jobs at an annual average wage of about \$33,000. While the short term effects of this shift on the existing labor pool are significant, the shift to a service



Farm Stand, Voluntown

economy is creating an enormous regional economic development opportunity for investment in a variety of enterprises including restaurants, gift shops, hotels, motels, transportation carriers and housing for new employees to name but a few.

It must be recognized that economic development is both limited and enhanced by the region's unique characteristics. Southeastern Connecticut's attractiveness as an economic development center is primarily a result of its location halfway between New York and Boston; the fact that it is bisected by two Interstate highways; has a river that connects to Long Island Sound; and finally, that there are three operational rail lines. At the same time, for the purposes of this Plan, it is equally important to recognize that not all locations within the region are appropriate for all forms of economic development and that the key ingredient that makes southeastern Connecticut an attractive place to live is its historical development around quaint village center clusters with its emphasis on human scale. As much as anything, this form of development was the result of the geological processes that formed the region. The unique physical character of the region has inherent environmental limitations for certain types of development that must be recognized in a plan of this type.



Scenic Stone Wall, North Stonington



Farmland, Griswold

6.0 TRANSPORTATION

6.1 BACKGROUND

The safe and efficient movement of people and goods is one of the key building blocks of a long-range regional plan. In 1999, Michael Gallis, under contract with the Connecticut Institute for the 21st Century, published a study in which he concluded that Connecticut was in danger of becoming an economic “cul-de-sac” in the competition for global development if the major transportation infrastructure issues facing the state continued to be ignored. The report prompted the response of the Connecticut legislature, which then created a new structure for addressing major infrastructure matters, as well as organizing, financing and identifying new revenue sources. The State has renewed its commitment to acknowledge the importance of transportation infrastructure for the well-being of the people and the economy of Connecticut.

6.2 EXISTING CONDITIONS

Within Connecticut, the southeastern Connecticut region is unique with respect to its abundance of transportation infrastructure assets. Functionally, these regional assets include air, marine, rail, highway and transit, as described below.

Air

The region is home to the Groton-New London Airport, a regional airport facility operated by the



Groton-New London Airport, Groton

Connecticut Department of Transportation. The airport consists of 489 acres located on Long Island Sound, the primary asset of which is a 5,000' runway capable of accommodating commercial aircraft. However, at the present time, the airport is primarily functioning as a general aviation, corporate flight, and military facility as a

result of adverse, air service market forces. The Groton-New London Airport is designated as a non-

primary commercial service airport by the FAA. The limited landmass of the airport constrains the feasibility of expanding existing runways to accommodate air service of larger aircraft, thereby limiting service into, and out of the region. This physical limitation will, by necessity, shift the future emphasis of major scheduled air service access into and out of the region, to the two large airports in relative proximity to the southeast region: Bradley International Airport in Windsor Locks, CT; and T.F. Green Airport in Warwick, RI. Therefore, the region needs to emphasize a shift in focus toward developing regular bus and rail service linking Bradley and T.F Green airports to the southeastern Connecticut region.

Marine

With its location on Long Island Sound, access to southeastern Connecticut by water is virtually unlimited. Historically, marine access to the region predates all other forms of transportation. A deep-water port in New London



Cross Sound Ferry, New London

provides the potential for access to markets all over the world. For shipping of goods, it is only restricted by the associated upland land area available for storage of materials at the Admiral Shear State Pier in New London. In 2004, State Pier in New London began receiving cruise ship visits and continues to do so today.

The Cross Sound and Fisher's Island Ferries utilize another location within the Port of New London to provide passenger service. In addition to Fisher's Island, New York, passenger service by ferry is provided to and from eastern Long Island, New York as well as Block Island, Rhode Island. As the speed of ferry craft improve, numerous future markets and destinations can be envisioned all along the east coast. Likewise, future development along the Thames River as tourist destinations may stimulate the expansion of ferry services to serve these venues. The expansion of ferry services will be limited only by the depth and location of the dredged channel in the Thames River that extends from the U.S. Naval Submarine Base in Groton into the Long Island Sound, clearly making its maintenance the future top marine priority for the region.

Rail

Rail service, both passenger and freight, has a relatively high presence in southeastern Connecticut

with a promise of an even greater presence in the future. Amtrak passenger service on the northeast corridor that connects Washington, DC with Boston, Massachusetts, runs along Long Island Sound as it passes through southeastern Connecticut. Improvements to the infrastructure of the rail line continue to be made with the latest target being the replacement of the rail bridge spanning the Thames River. The electrification of the line has already been completed as part of the Northeast Corridor Improvement Program and inauguration of the actual service. The primary passenger stop in the region is in New London. However, there are secondary stops in Mystic, and just outside the region in Old Saybrook and Westerly, RI. There are approximately 10 passenger trains that pass through the region daily, and an additional train that runs Monday through Friday only, offering through service between Boston and Washington D.C. These include two high speed, Acela Express

trips, to New York and Boston. In addition, Shoreline East, an operating subsidiary of the State of Connecticut, provides two regular daily trips between New London and New Haven.



Union Station, New London

Union Railroad Station in New London has served generations of travelers, and sustaining the facility’s function as a multi-modal transportation center is important to the southeastern Connecticut region. Parking for rail and ferry service near Union Station,

needs to be re-examined in the context of safe vehicular and pedestrian movement in the vicinity of this particular area in New London known as the “Parade.” The location of this station, and its function as a multi-modal transportation hub, makes this area of New London a prime candidate for transit-orientated development.

Freight service operates on both sides of the Thames River in a north-south pattern. On the west side of the Thames River, the New England Central line connects the Admiral Shearer State Pier in New London with Norwich and terminates in Montreal, Canada. On the east side of the Thames River, the Providence and Worcester line makes a connection with the CSX line in Groton with a spur through Groton that passes by the airport and terminates in the City of Groton.

Future infrastructure improvements to the New England Central, Providence, and Worcester rail lines

have been considered as a means of increasing the availability of passenger rail service into and through the region. Likewise, SCCOG has recently been advocating for an increase in Shoreline East service to the region. All options for passenger rail improvement are being scrutinized with respect to three factors: energy costs, congestion on the interstate highways, and growth in the southeast region as a tourist destination.

Highway

There are three highway networks operating within southeastern Connecticut: Federal, State, and Local. By functional classification, together these systems represent a full spectrum of purposes from mobility to access.



Interstate 95 in East Lyme

- **Federal:** Southeastern Connecticut has two interstate highways within its borders: Interstate 95, which runs east-west along the Long Island Sound, and Interstate 395, which runs generally north-south, starting in Waterford, continuing through Norwich and terminating in Worcester, Massachusetts. Capacity improvements and/or transit alternatives along I-95 from the Connecticut River to the Rhode Island border are now clearly warranted. Such improvements have been recommended in the *2004 CONNDOT, I-95 Corridor: Branford to Rhode Island Feasibility Study*, to which SCCOG had input.
- **State:** The southeast region is well covered by an elaborate network of state routes that connect every town in the region with towns outside the region. Generally, the function of arterial state routes has been to connect the major urban areas. However, that role has been changing in recent years as economic development activities on adjacent property have occurred. Major improvements are planned for Routes 11, 2A, and 2.
- **Local:** Each municipality in southeastern Connecticut has an elaborate network of local roads and streets whose function is primarily to enable access to adjacent property. Approximately 67% of all roads in the region are local.

Volume-to-capacity ratios and high-frequency accident locations are regularly studied as part of the ongoing transportation planning process. Utilization patterns on certain federal and state roads have changed in the past 15 years as a function of changes in the economy as the region moved away from a defense-dependent economy to a more diversified one with an emphasis on casino gaming and tourism. However, concurrent with the shift in the economy has been an equally important shift in the residential population into the suburban and rural communities. This has resulted in new housing,

new schools and new roads and has been fueled by favorable mortgage rates and relatively cheap energy. The dichotomy between external tourist-generated traffic and new locally generated traffic has formed the basis of all discussions related to future highway infrastructure investments in southeastern Connecticut.

Transit

Over the past three decades, the southeastern region has witnessed the development of two forms of rubber tired public transportation. With recent changes in the economic base and a shift to tourism, it is possible that a new form of public transportation will emerge.

- Public Transit: In 1975, a year after the Arab oil embargo, nine towns in southeastern Connecticut joined to form Southeast Area Transit (SEAT). At the time of its formation, the primary mission of the SEAT transit system was to ensure that publicly subsidized transit was available to defense workers employed in Groton in the event that energy costs and/or availability jeopardized their access to work. During periods when the fleet was not being used to transport defense employees, buses were put into regular route service in each of the participating nine towns of the transit district. Service levels in the nine towns, and the expansion of service beyond the nine towns have always been hampered by the financial need to subsidize service. During the period following the energy crisis of the late 1970's, regular route service only marginally improved as the demand for defense services diminished. At the same time, lower fuel costs and favorable mortgage rates stimulated a flight to the suburbs. This resulted in an abandonment of the previously high level of public support for expanding public transit. Beginning in 2000, the role of public transit and sources of financial support have expanded and shifted as a result of casino gaming, and the federal Jobs Access and Reverse Commute program, the latter of which has embraced transit as a way to get people off welfare and connect them with employment opportunities.

- Senior Transit: Beginning in 1970, individual municipalities began acquiring vans and small buses to transport senior citizens to various destinations. At the present time, all towns in southeastern Connecticut, except Voluntown, have some form of special transportation service available for its senior citizens. Municipal service levels for seniors vary depending on the size of the senior population. Even though efforts have been made over the years to regionalize municipal transportation services for the elderly, local resistance to this type of change remains high.

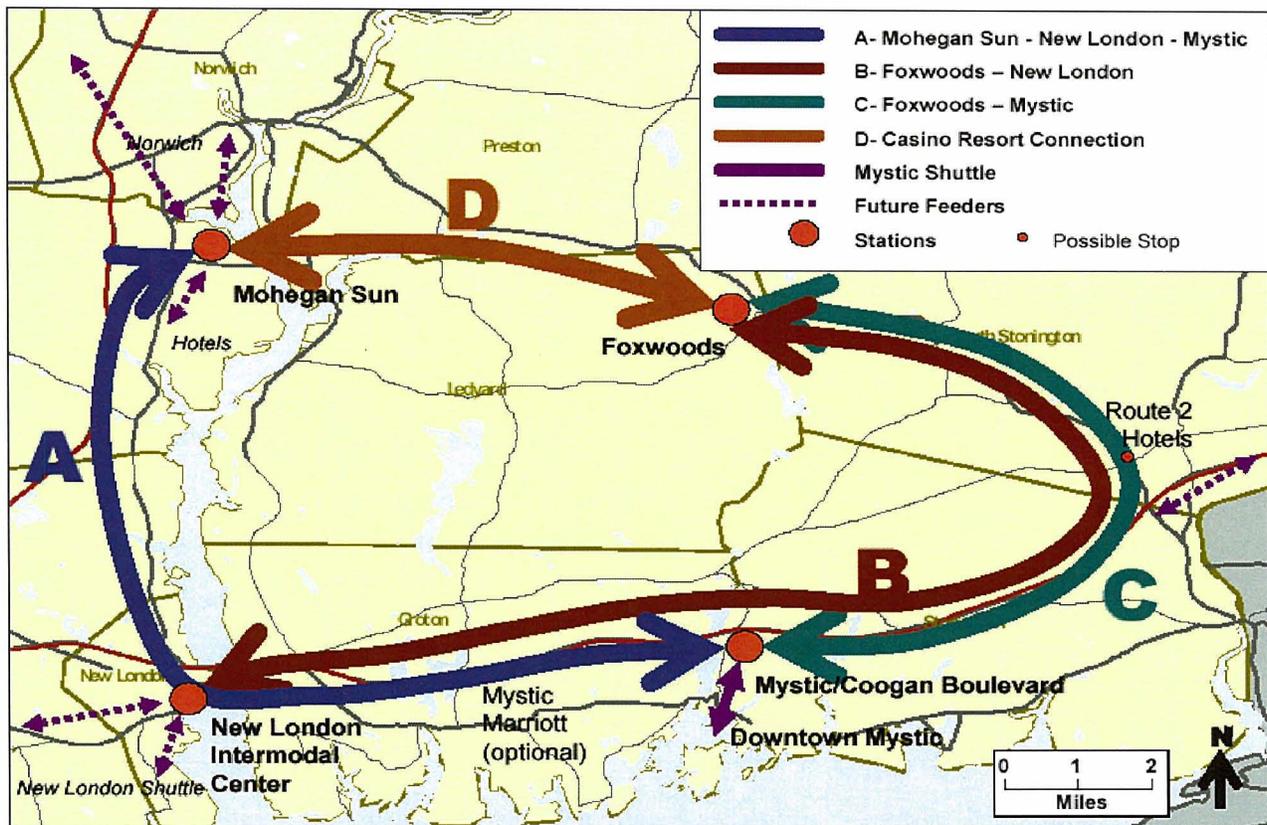


Pawcatuck Neighborhood Center, Senior Transit

- Tourism Transit: Since the opening of Foxwoods Resort Casino in southeastern Connecticut in 1992,

various options have been considered to address tourism traffic. An early response was a regional fixed-guideway system connecting New London with Norwich and Westerly, Rhode Island. Later, this idea was discarded in favor of a more flexible, less costly, bus system. The initial thrust of the effort was to get tourists off of roads and into transit in order to control congestion primarily for the benefit of local residents. Recently, the purposes of such a system have shifted reflecting the recognition that it will benefit the burgeoning tourism economy by attracting those who are concerned with energy costs and congestion especially on the interstate highways. The development of special purpose regional tourism transportation has become a matter of high priority for the southeast region. In 2005, SCCOG completed its *Intermodal Connections Study Southeast*, a feasibility study and business plan for such a system, and has been actively pursuing funding to conduct a pilot demonstration project (See Figure 10).

**FIGURE 10
PROPOSED FULL ROUTE TOURIST TRANSIT SYSTEM
INCLUDING FUTURE FEEDERS
Southeastern Connecticut Region**



Source: *Intermodal Connections Study Southeast*, SCCOG

Pedestrian-Bicycle

Similar to many areas of the country that have suburbanized through zoning since the 1950's, southeastern Connecticut has evolved in a way characterized by the separation of dissimilar land uses, and by automobiles as the transportation mode of choice enabling connections between these dissimilar land uses. Non-motorized travel by pedestrians and by bicycles has been all but discarded

as a transportation mode, with many municipalities' subdivision regulations not requiring sidewalks. As a result, pedestrian and bicycle activities now take place primarily in publicly held recreation areas and other open space areas with off-road trails.

Planning for the connection of diverse areas that were never intended to be connected, is daunting. Yet development patterns that evolved when energy costs were relatively low now warrant rethinking



Bike Path along the Shetucket River, Lisbon

and new ways to promote safe walking and biking must be explored. With restrictions on use of federal funds for sidewalks just now beginning to be lifted, southeastern Connecticut will need to invest in a new form of infrastructure that will first link residential areas with schools, then with retail-commercial districts to provide the opportunity for biking and pedestrian access as an alternate means of travel.

Intelligent Transportation Systems (ITS)

Use of new and emerging technologies in transportation for the purposes of safety, convenience and energy conservation will gain increasing momentum in the years to come. At present, the transportation industry is in its initial stages of introducing technologies for these purposes. The thrust of this effort has been to try and control or manage, congestion that occurs either as a result of an accident or inadequate capacity by alerting vehicle operators and offering them travel options. In-vehicle Global Positioning Systems (GPS) will become more common and add efficiencies to travel. Intelligent Transportation Systems (ITS) are also beginning to make significant contributions to the transit industry with GPS systems' ability to locate the exact position of a bus and to inform passengers as to the exact time of the next arriving bus. A CONNDOT project, endorsed by SCCOG, will install an ITS system of cameras, variable message signs, and highway advisory radio transmission antennae from the Connecticut River easterly along I-95 to the R.I. border and along I-395 from southeastern Connecticut north to Plainfield. This project is scheduled to be completed in 2007.

Transportation System Stress

Generally, there are three major sources of stress for transportation infrastructure in southeastern Connecticut. These include: energy cost and availability; new traffic-causing development; and limited funding.

- Energy Cost and Availability: For the most part, energy cost and availability are external matters, over which the region exerts little, or no, influence or control other than to react through ways that promote conservation. For the past three decades, numerous techniques and studies have identified ways in which the transportation sector can use energy more efficiently. These include more fuel efficient vehicles, carpooling, walking/biking, use of transit, the four day work week, and telecommuting to name but a few. Many of our energy problems can also be traced to inefficient land use patterns that unnecessarily create separate districts for home, work, school, shopping and recreation. In the short term, conservation, at every level, is the preferred technique for dealing with energy matters. However, since the economy of the region is growing even more dependent on tourism, energy costs and availability may very well hinder that emerging economic trend and act as a major source of stress.
- New Traffic-Causing Development: As the southeastern Connecticut region moves to diversify its economy by encouraging the development of more tourism venues, one measure of success will be relative traffic generation. By conventional standards, southeastern Connecticut's highway system is both fragile and primitive. The existing federal interstate highways have only four-lane capacity and the state arterial system in the region is comprised mostly of two lane roads. Again, commercial development along these arterials has brought some property tax relief to the municipalities through which they pass but the concomitant cost has been higher traffic generation. Simply put, the capacity of many of the region's key roadways is becoming exhausted, or risks being exhausted, as a result of traffic-causing development, the causes of which will likely persist well into the foreseeable future.
- Limited Funding: The cost of correcting capacity deficiencies in all of the region's transportation modes are increasing geometrically when compared to the arithmetic ability of government to raise sufficient revenues to make these corrections. Financial needs significantly outstrip resources. Funding for the region's highest priority projects including: the completion of Route 11; capacity and safety improvements to I-95; major capacity improvements to Route 2, 2A, and 32; and major expansions to transit, all require considerably more funds than are available currently or in the near future. Therefore, lack of funding and lack of funding options will act as an enormous source of stress for the region's transportation system.

6.3 FUTURE DIRECTION

In 1995, the region began to pursue in earnest major regional transportation infrastructure improvements needed during the next twenty years as evidenced by the initiation of the Route 2/2A/32 *Environmental Impact Study*. The Federal Highway Administration issued a Record of Decision for this project in 2005. In 1999, the Route 11 Draft *Environmental Impact Statement* (EIS)

was completed. As of June 2007, the final EIS for this project has not been approved. In 2004, the CONNDOT published its *I-95 Corridor Feasibility Study*. In 2001, the Connecticut General



Route 11, Salem

Assembly created a new transportation planning and policy structure. At the regional level, Transportation Investment Areas (TIAs) were created around the state's major interstate corridors. Because of its location at the nexus of I-95 and I-395, the southeastern Connecticut region lies within two of the state's TIAs: the I-395 Corridor TIA and the Southeast Corridor TIA. At the state level, a Transportation Strategy Board (TSB) was created comprised of 15 members, five of whom represent their respective TIAs, and five of whom are

commissioners of key state departments. The remaining five members are private citizens.

In 2003, the State TSB funded a SCCOG study entitled, *Intermodal Connections Study Southeast*,



Mystic Drawbridge between Stonington and Groton

which set forth a business plan for a tourist transit system in southeastern Connecticut. Most recently, legislation titled *An Act Concerning the Roadmap for Connecticut's Economic Future*, enacted by the General Assembly in 2006, added the potential for passenger rail service to the future transit mix in eastern Connecticut. It is envisioned that, if funded, this service will add an important ingredient in the array of options potentially available as new job opportunities open up in eastern Connecticut.

As each of these transportation infrastructure improvement projects progresses at its own pace toward implementation, it is not possible to predict the completion of any of these major infrastructure developments. It is believed, however, that the region together with its state and federal partners has a reasonably good grasp of the issues and has created a diverse and multi-faceted planning program to address the transportation infrastructure, organization, and management needs over the course of the next twenty years.

7.0 WATER AND SEWER SYSTEMS

The location of public water and sewer systems has, and will continue to have, a profound effect on the development of the region. Identification of new water sources and the completion of a number of recently recommended interconnection projects will help ensure that the region's water supply and transmission will be sufficient to overcome projected constraints to future development within the region. As new water supplies and distribution networks are developed, new sewerage systems will have to be developed as well. Figure 11 shows the existing service areas for both water supply and sewer systems in the southeastern Connecticut.

7.1 WATER SUPPLY SYSTEMS

The Southeastern Connecticut Water Authority's (SCWA) *Southeastern Connecticut Regional Water Supply Plan*, published in 2003, estimates that demand for water will exceed supply as early as the year 2010. Therefore, the ability of the region to achieve its long-term development goals will be



Groton Reservoir

directly linked to a collective effort to secure future water supply sources. However, the reality is that since the identified future supply sources are not evenly distributed throughout the region, the burden for water supply protection will fall more heavily on certain towns.

Within southeastern Connecticut, there are over 100 water supply systems that have private, municipal or regional ownership. Together, these systems

serve approximately 70% of the region's population. The vast majority of these water systems, over 80%, individually serve fewer than 1,000 people, whereas the largest five systems collectively serve over 100,000 people. It is estimated that approximately one-third of the developed land area of the region is served by these water systems. SCWA's *Regional Water Supply Plan* estimates that at present, 20% of the water volume yield comes from groundwater wells, with surface water reservoirs producing 80% of the yield. On a regional scale, the present yield is estimated to be adequate to meet

WATER AND SEWER SERVICE AREAS Southeastern Connecticut Region

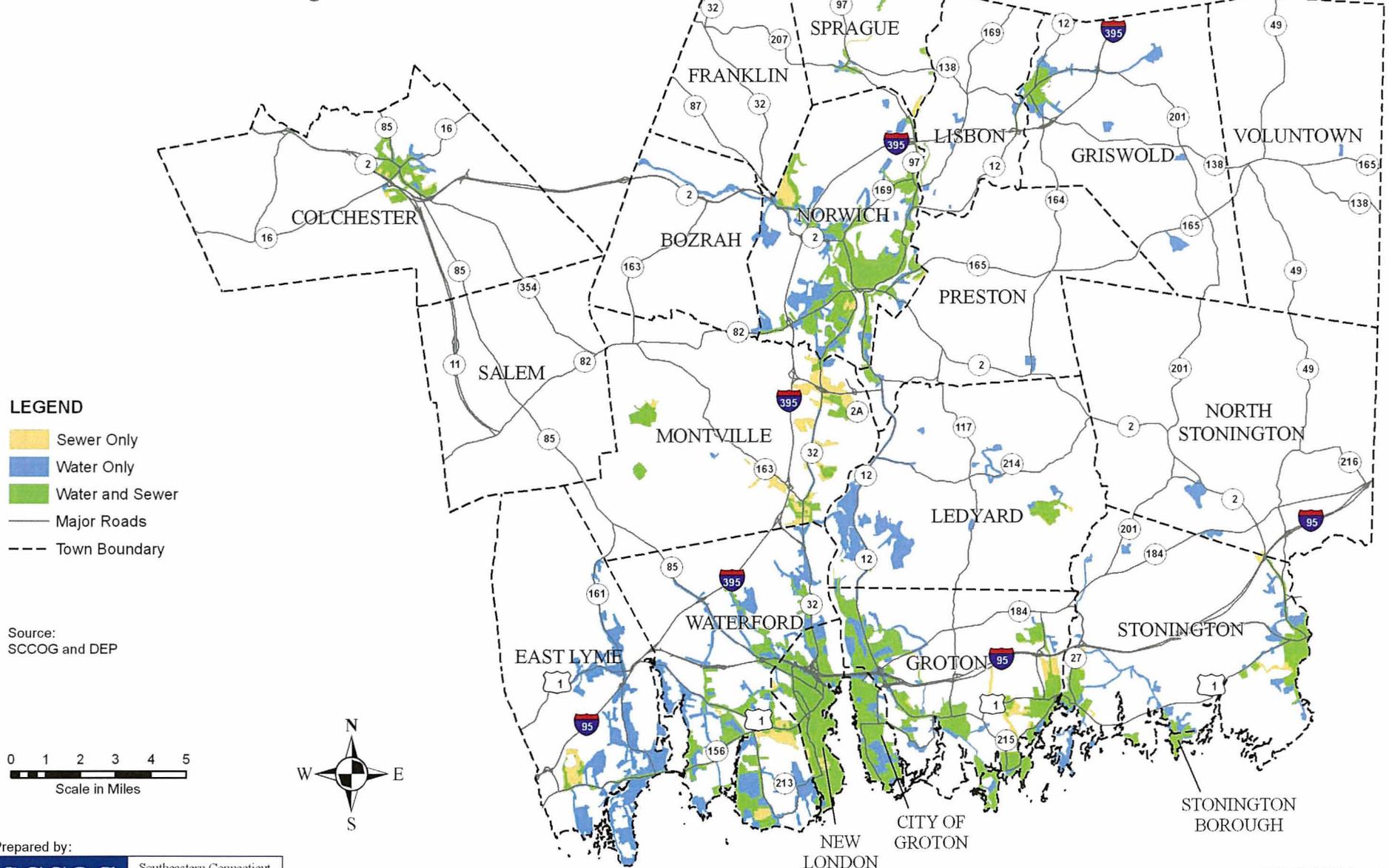
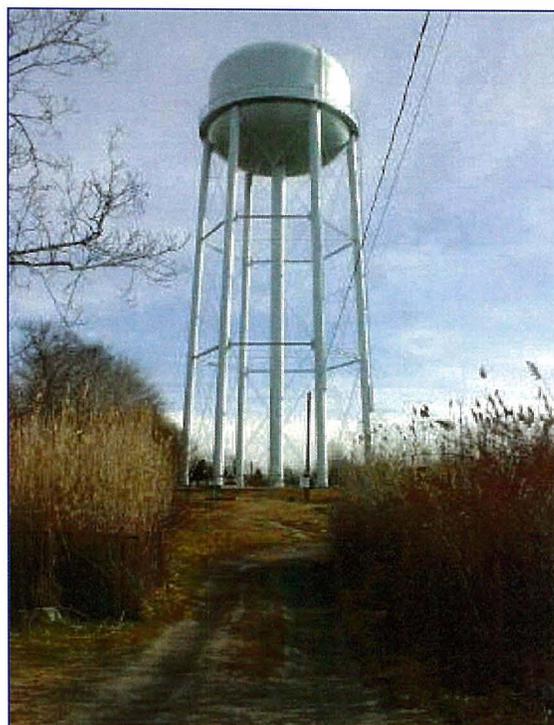


FIGURE 11

near future demand. However, a significant component of this estimate is based on system interconnections that do not yet exist. While interconnections will not increase the overall yield of water supply in the region, they will allow for a more even distribution of existing water supplies until new sources can be developed. There are a total of eleven interconnection projects recommended in the *Regional Water Supply Plan*. The most significant of these interconnections, the Thames River Regional pipeline, was completed in the spring of 2006 and connects the Gales Ferry area of Ledyard to the Uncasville area of Montville, with a crossing beneath the Thames River. This interconnection is projected to be operational by the summer of 2007. The other ten recommended projects are as follows:

- East Lyme/Waterford Connection, Boston Post Road to intersection of Flanders Road and Boston Post Road in East Lyme.
- Groton/Aquarion Interconnection, New London Road.
- Norwich/Colchester Interconnection, Sisson Road in Lebanon to Norwich Avenue.
- Quinebaug River Well Interconnection, Lisbon at Griswold town line south of I-395.
- Montville Spur to Connect SCWA Systems, Montville.
- Pawcatuck Well Site and Ledyard Connection, North Stonington near Pawcatuck River to Ledyard.
- Stonington Transmission Main, Stonington from North Stonington well site to Mystic.
- Whitford Brook and Ledyard Connection, Ledyard near Whitford Brook to Route 214.
- Route 117 Groton/Ledyard Interconnection, Ledyard from Route 214 to Groton.
- Pawcatuck Route 1/Westerly Connection, Interconnection between Aquarion and Westerly.



Water Tower, Stonington

The essence of SCWA's *Regional Water Supply Plan* and by extension, the SCCOG *Regional Plan of Conservation and Development* is that new sources of ground water will be required to satisfy future demand from all forms of development.

SCWA's *Regional Water Supply Plan* emphasizes future groundwater sources over surface water sources. This is primarily due to factors related to permitting and appropriate site location. Accordingly, protecting potential future groundwater sources becomes extremely important for the

region's economic viability. Potential new groundwater supply sources identified in SCWA's *Regional Water Supply Plan* and the 2001 Water Utility Coordinating Committee's (WUCC) *Coordinated Water System Plan* are shown in Figure 12.

A watershed source protection initiative has resulted from Connecticut Special Act 06-6, which requires the City of Groton and its Utilities Department in partnership with the Towns of Groton, Ledyard, Montville, Norwich, Preston and Waterford, to develop a drinking water quality management plan for the preservation of Groton's drinking water and the long-term maintenance of the Thames River Regional pipeline. The Connecticut Department of Public Health, in conjunction with the Departments of Environmental Protection, and Department of Public Utility Control, and the Office of Policy and Management are required to review the plan. On or before January 1, 2009, the Commissioner of Public Health shall submit the department's findings and recommendations, including specific recommendations concerning necessary statutory changes to the joint standing committees of the General Assembly that oversee planning and development, environmental, public health, and energy and technology.

The water quality management plan is a grass roots initiative intended to balance the need for economic development while protecting the watershed of the drinking water reservoir. Working committees have been meeting over the last year and have completed a draft water quality management plan. The committees meet monthly and are now working on tasks such as land use measures, water quality monitoring, and community education and outreach programs.

Another recent initiative, which could impact regional water supply and transmission in the region, is the re-activation of the SCCOG Regional Water Committee. This Committee has been tasked by the SCCOG with identifying steps needed to realize a more regional, cooperative approach to the provision of water in southeastern Connecticut. The Committee issued its report in 2007, which suggested that there exist a number of barriers to the creation of an integrated regional water supply system, including:

- The lack of a unit of general government at the regional level;
- A fragmented local governmental structure; The large number of water supply systems;
- Unclear relationships among key regional organizations concerned with water; and,
- Constraints posed by each organization's operating statutes.

SCCOG now intends to work with SCWA and the region's large water utilities to overcome these governance impediments to an integrated regional water system.

POTENTIAL AQUIFERS
Southeastern Connecticut Region

LEGEND

-  Potential High Yield Location
-  Coarse-Grained Stratified Deposits
-  Waterbodies
-  Watercourse
-  Town Boundary

Source:
 SCCOG, U.S. Geological Survey,
 Connecticut Geological and Natural
 History Survey (DEP), and Regional
 Water Supply Plan, 2003

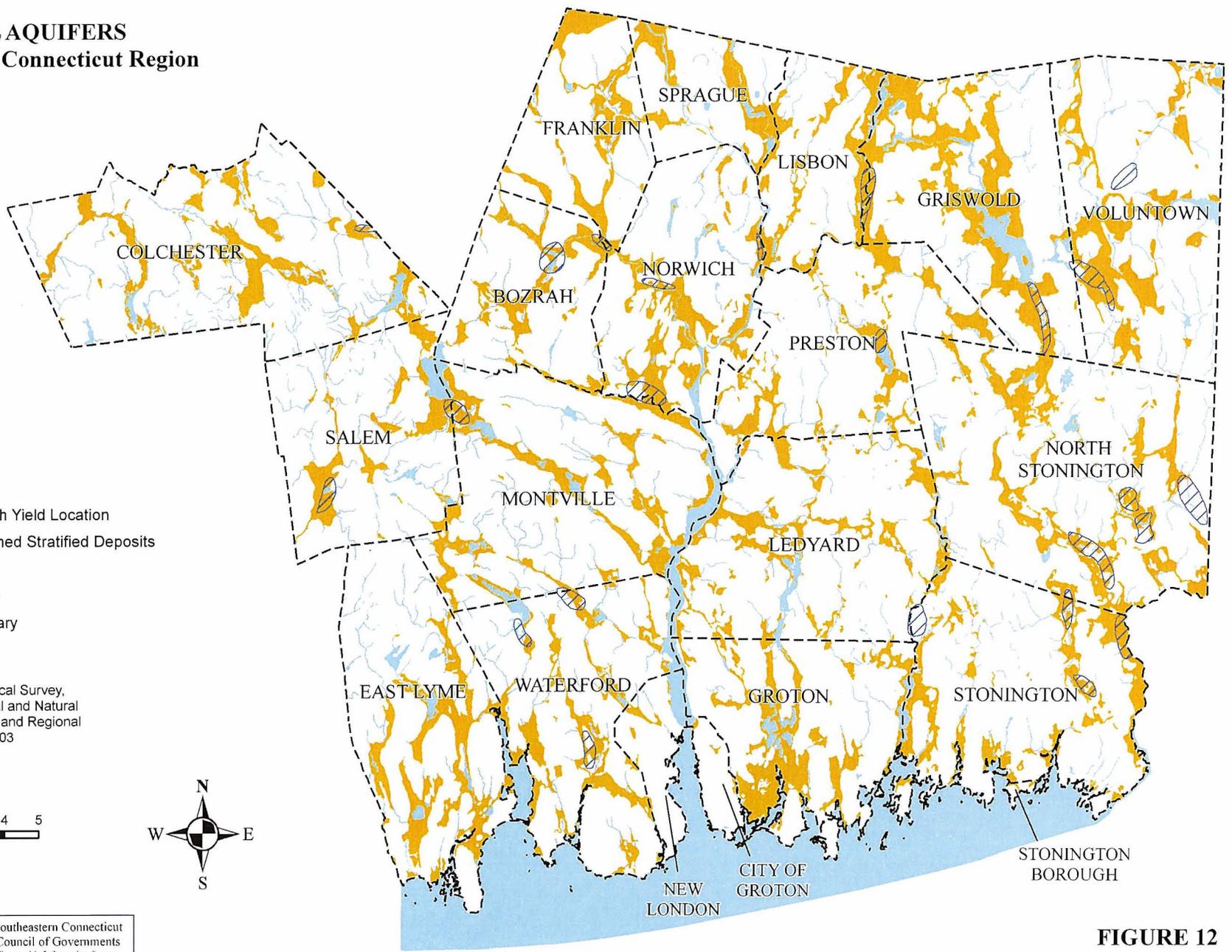
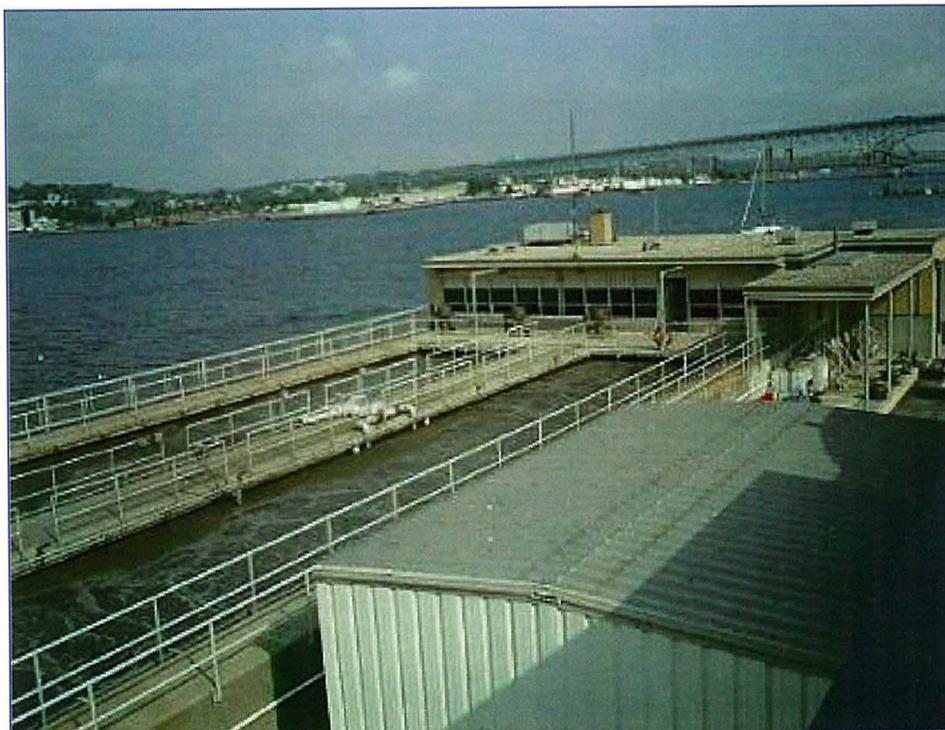


FIGURE 12

7.2 SEWER SYSTEMS

The availability of public sewer systems has a very significant influence on the locality of intensive land uses. The region is served by 15 sewage systems and 12 wastewater treatment plants. The distribution pattern is similar to that of the water supply service area. Sewer systems are primarily



Wastewater Treatment Facility, City of Groton

confined to the region's urban core and adjacent larger suburban areas. These areas reflect the density of development along the Thames River and shoreline areas of the region. Bozrah, North Stonington, Salem and Voluntown have no public sewer service. The towns of Franklin, Lisbon, Ledyard, and Preston have limited sewer service. East Lyme, Groton, Montville, New London, Norwich,

Stonington, and Waterford are the municipalities with the most extensive sewer service. The Mashantucket Tribal Nation also operates a treatment facility that serves the Tribal Reservation. In terms of land area, it is estimated that sewer service areas cover over one-quarter of the developed land area within southeastern Connecticut.

The various land use density patterns allowed by municipal zoning regulations, to a large extent, coincide with the sewer service pattern. Because of the high capital costs required to construct new wastewater treatment facilities, every attempt should be made to utilize these existing systems to service future intensive development. Conversely, where density does not require public sewers, private septic systems are the preferred method for treating wastewater, providing they do not result in groundwater contamination.

7.3 SUMMARY

While water supply systems cover an estimated one-third of the region's developed land area and serve approximately 70% of the region's population, this area consists of approximately 50 square miles and only comprises 9% of the region's total land area. Public sewer systems cover approximately one-quarter of the region's developed area. This area totals 33 square miles, which is only 6% of the region's total land area. Either combined water and sewer systems or water only systems serve approximately 55 square miles, which is approximately 29% of the region's developed area and 10% of the region's total land area.

Groundwater wells are envisioned as having the biggest potential for future water supply. The Southeastern Connecticut Water Authority's *Regional Water Supply Plan*, published in June 2003, stipulates that a projected deficit will begin to occur between 2010 and 2020. Despite the potential high yield groundwater source locations identified in this plan, and the system interconnections proposed by this plan, this deficit will significantly constrain new development by 2040.

8.0 NATURAL RESOURCES

Economic growth and continued quality of life are both important priorities for the people of southeastern Connecticut. The health of the region's natural resources including forests, clean air, surface and ground water sources, unique landforms and wildlife are not only essential to serve both priorities, but are also highly dependent on sound local and regional land use policy and decisions.

Programs such as NEMO (Nonpoint Education for Municipal Officials) now exist to assist local municipalities in making crucial land use decisions. Created in the early 1990's, NEMO strives to provide information, education and assistance to local land use officials on ways to accommodate growth while protecting their natural resources and community character.

In a regulatory setting, natural resources are often viewed as potential limitations or obstacles for development. In some cases this is true. But important natural resource features can be critical components that need protection in a sensitive ecosystem. Often these natural resources can be planned around, where development is designed to minimize potential adverse impacts. The region's natural resources, especially potable water, must be seriously considered in making land use recommendations at the local level.



Tidal Wetlands at Rocky Neck State Park, East Lyme

Otherwise, at some point in the future, the region will not be able to take advantage of desirable economic development opportunities as they become available.

8.1 WETLAND SOILS

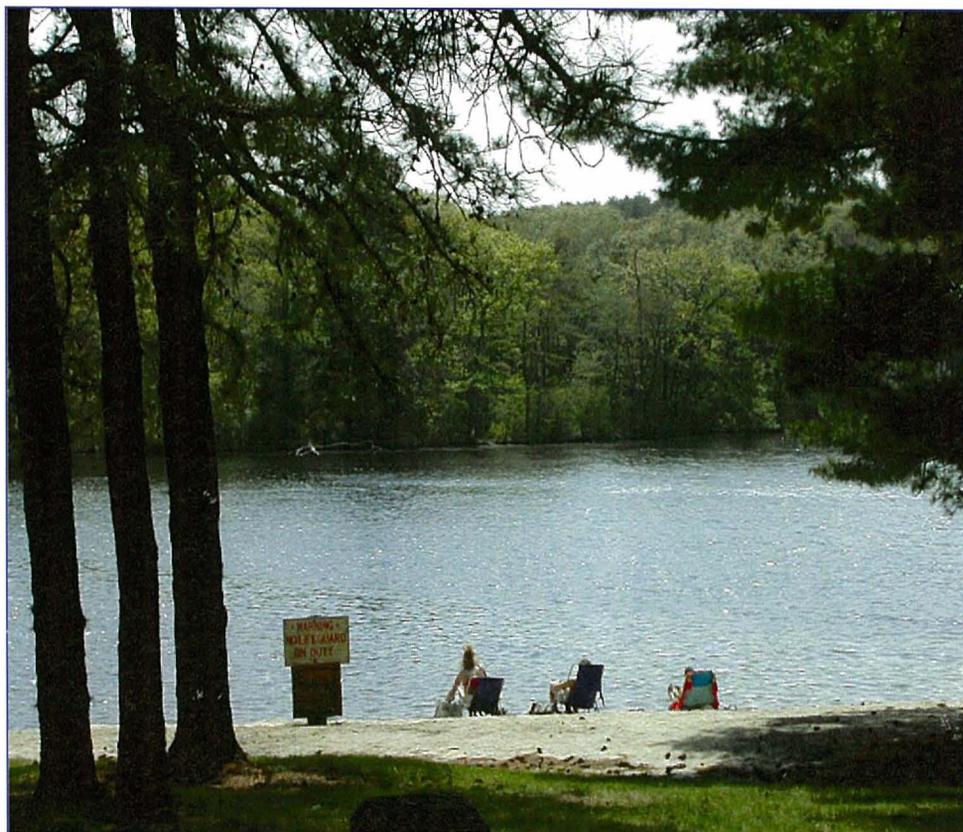
In Connecticut, soils that are classified by the U.S. Department of Agriculture Natural Resources Conservation Service as poorly and/or very poorly drained, alluvial, or flood plain, are considered inland wetlands, and whose importance is recognized in sections of the Connecticut General Statutes.

The statutes stipulate that the municipalities regulate activities that affect inland wetlands and watercourses. The region's wetland resources provide several important functions including serving as habitats for wildlife and finfish, flood and storm water control, nutrient retention, sediment trapping and aquifer recharge. While wetlands also contribute to the visual and aesthetic qualities of the region, the before mentioned functions are the most critical for the health and well-being of the region's natural environment.

The region is laced with a network of surface water bodies of all sizes, including rivers, streams and brooks, and all forms of wetlands. In total, there are 64,000 acres, or approximately 100 square miles, in this water network. This area represents approximately 18% of the region's total land area. Inland wetland soils alone comprise nearly 52,000 acres. This represents approximately 81 square miles, or 14% of the region's total land area.

These natural resource areas have a critical physical relationship to land use. While as previously stated, they can be viewed as constraints to site development, their general functions are far more important in that they sustain the overall health of the natural environment that can in turn support land development.

Accordingly, while the importance of these areas has been recognized by various levels of government, the primary responsibility for their viability is vested with local government through the land-use regulatory function. Figure 13 graphically depicts the distribution of these areas throughout the region.



Pachaug State Park, Griswold

WETLAND SOILS
Southeastern Connecticut Region

LEGEND

- Alluvial and floodplain soils
- Poorly drained soils
- Poorly drained and very poorly drained soils
- Very poorly drained soils
- Waterbodies and Watercourses
- Watercourse
- Town Boundary

Source:
 Natural Resources Conservation Service,
 United States Department of Agriculture



Prepared by:

SCCOG

Southeastern Connecticut
 Council of Governments
 Geographic Information System

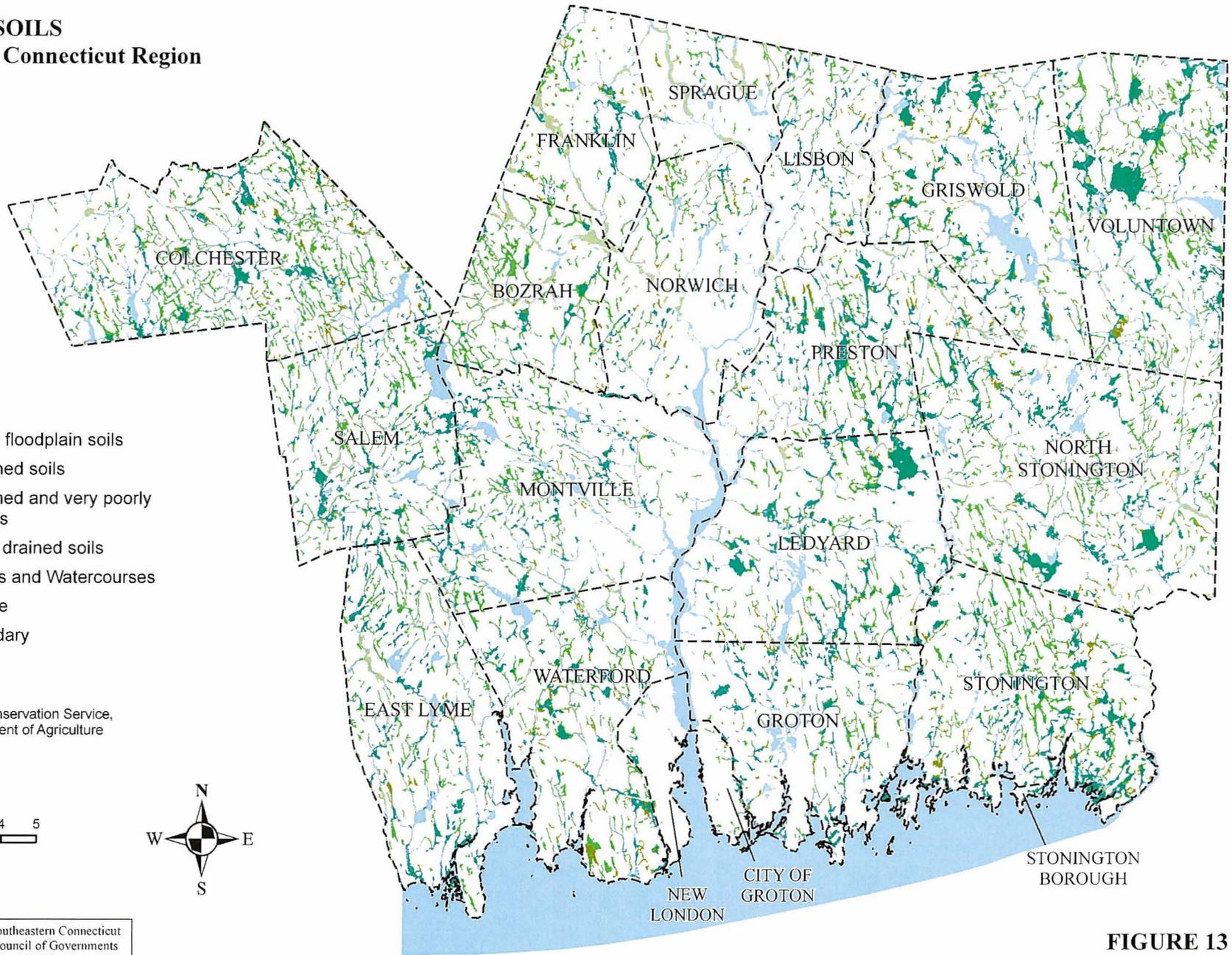
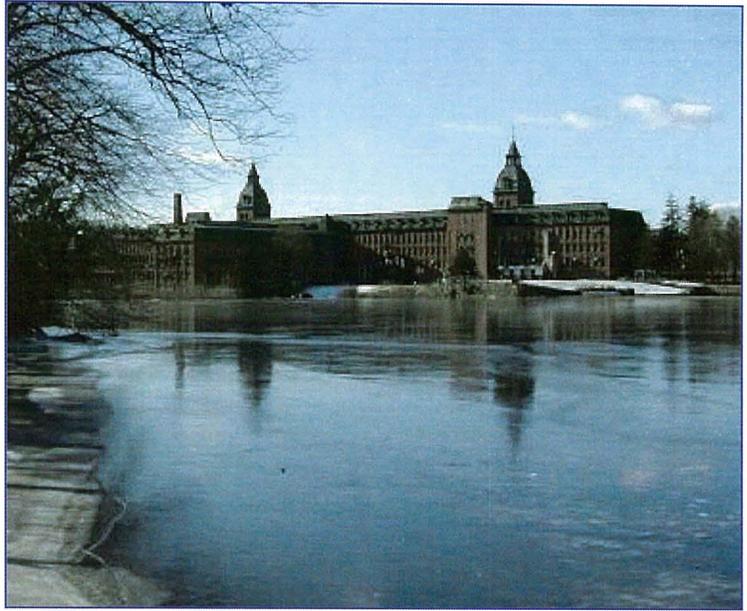


FIGURE 13

8.2 FLOODPLAIN

The Federal Emergency Management Agency (FEMA) has developed detailed maps showing the flood prone areas for the country, which include both coastal and inland areas. As shown in Figure 14, approximately 11% of the region's total land area lies within the 100-year flood zone totaling approximately 39,000 acres or 61 square miles. Coastal areas subject to flooding in a 100-year storm (1% probability of occurring in any year) generally have elevations between sea level and 15 feet. Inland flood-prone areas follow the waterways and wetlands quite closely.



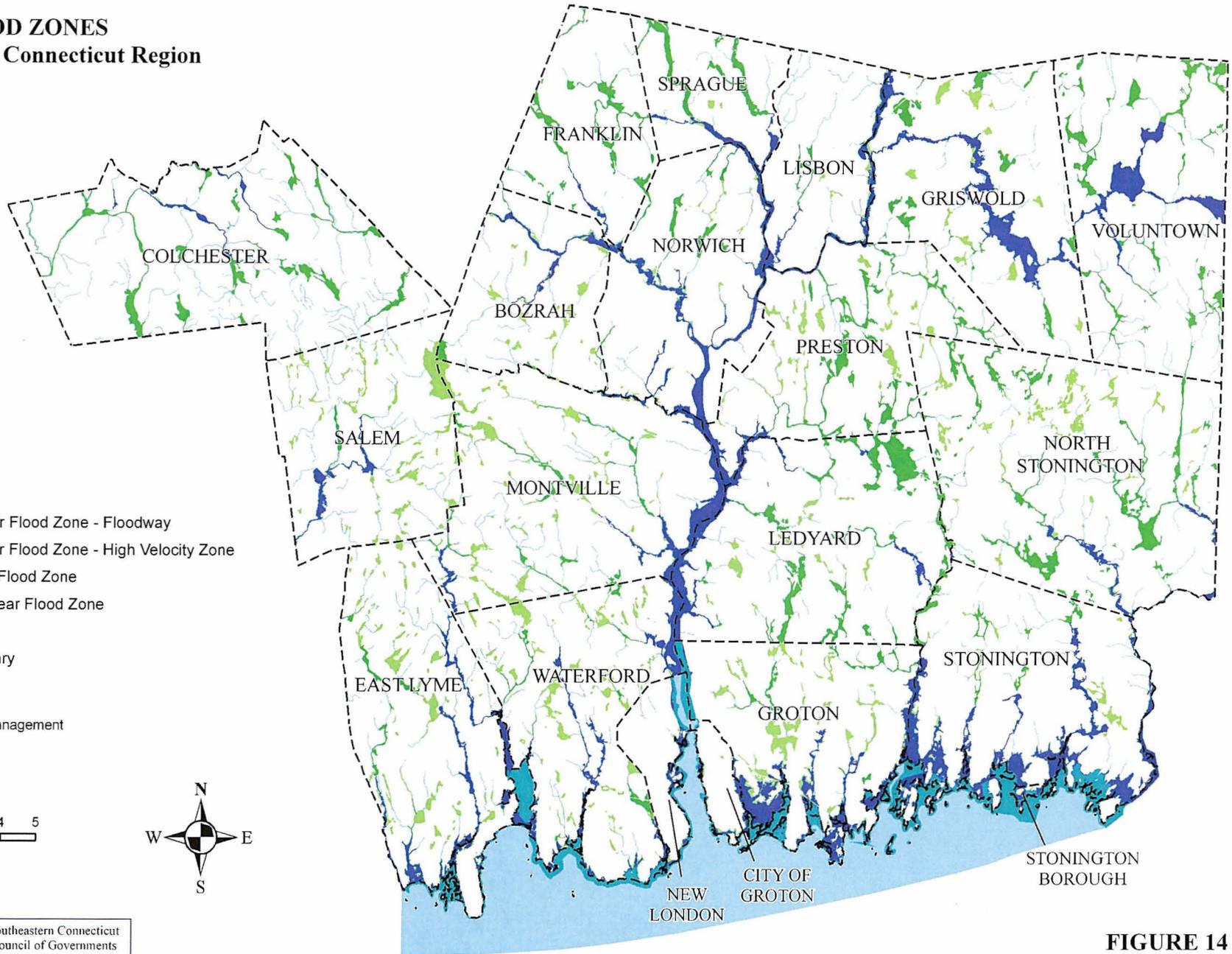
Swollen Shetucket River, looking toward the Taftville section of Norwich

Because of the threat of flooding and the corresponding danger to life and property, land use in floodplains requires special attention. Additionally, these areas serve as the natural habitat for plant and animal species that are critical to the ecosystem. Some areas within the 100-year flood zones were developed in the 19th and early 20th centuries before the flood zones' ecological significance were recognized. Today, any new construction, or substantial reconstruction in flood zones, must adhere to specific standards as required by the National Flood Insurance Program. These standards typically include restrictions on the filling of marshes and swamps, building code requirements concerning floor elevations, and other construction specifications including those for utilities and sewage disposal systems.

8.3 STEEP SLOPES

Development that occurs, both during and after the construction phase, on slopes in excess of 15%, increases the potential for soil erosion. Heightened concern regarding site stability and other structural factors results in increased design, construction, and overall site work costs, in order to prevent contamination of any natural resources down gradient to the site. As illustrated on Figure 15, approximately 16% of the region is comprised of slopes exceeding 15%, which are generally regarded as a severe constraint to development. This equates to more than 56,000 acres, or 88 square miles.

FEMA FLOOD ZONES
Southeastern Connecticut Region



LEGEND

- AE - 100 Year Flood Zone - Floodway
- VE - 100 Year Flood Zone - High Velocity Zone
- A - 100 Year Flood Zone
- X500 - 500 Year Flood Zone
- Watercourse
- Town Boundary

Source:
 Federal Emergency Management
 Agency (FEMA); DEP



Prepared by:

SCCOG

Southeastern Connecticut
 Council of Governments
 Geographic Information System

FIGURE 14

STEEP SLOPES, OUTCROPS AND SHALLOW SOILS Southeastern Connecticut Region

LEGEND

-  Soils Less than 20" deep with Slopes Less than 15%
-  Soils Less than 20" deep with Slopes Greater than 15%
-  Soils Greater than 20" Deep with Slopes Greater than 15%
-  Rock Outcrop
-  Waterbodies
-  Town Boundary

Source:
Natural Resources Conservation
Service (NRCS)

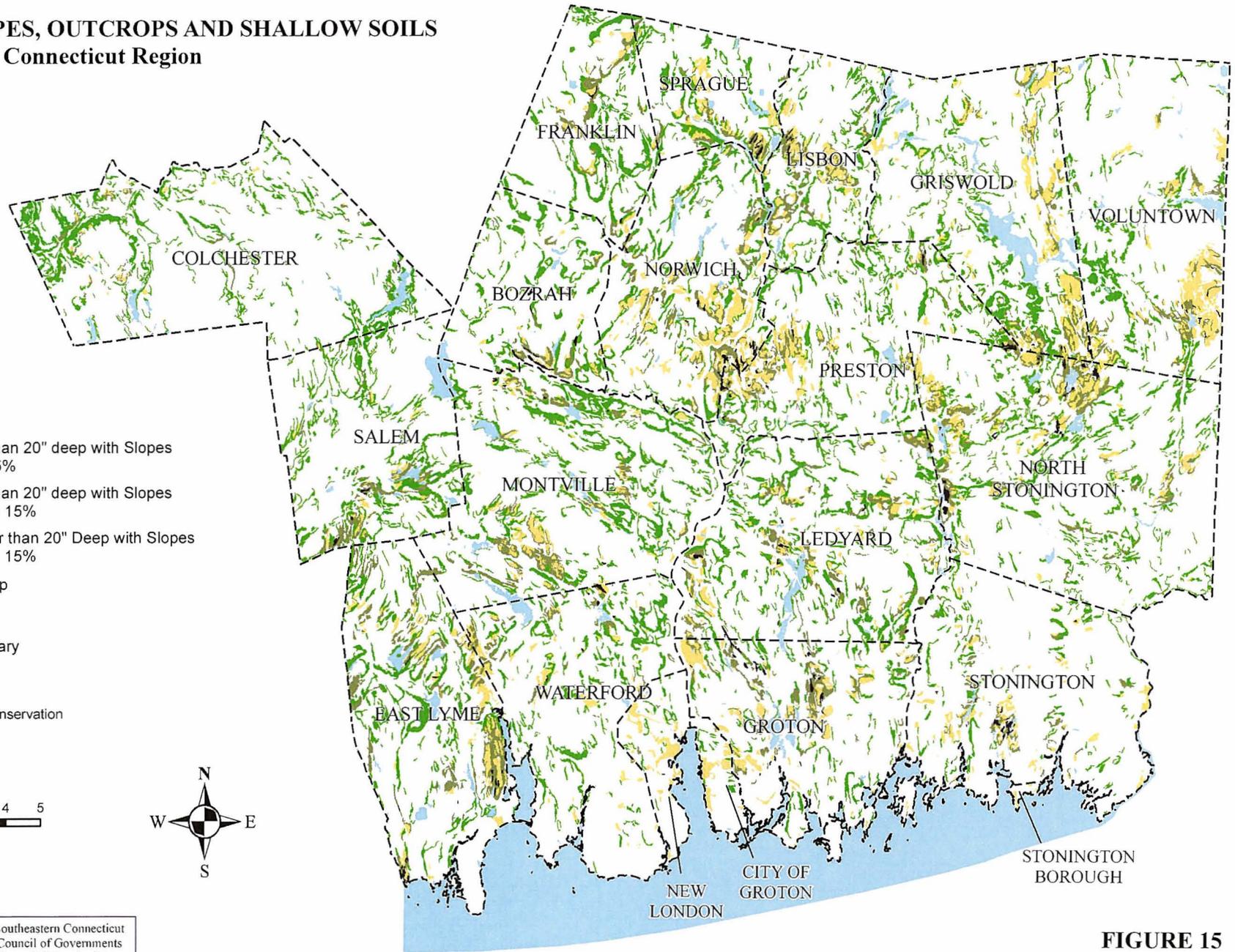
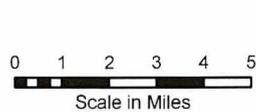


FIGURE 15

8.4 OTHER SOIL CONSTRAINTS

Bedrock outcrops and soils with shallow depth to bedrock, present construction challenges. The presence of these soil conditions makes the installation of septic systems extremely difficult and



Rock Outcrops, Ledyard

severely limits the effective operation of leaching fields, which can lead to groundwater contamination. Additionally, these particular two conditions contribute to soil erosion. Knowledge of the soil conditions at a potential site is crucial when determining its suitability for or the type of development appropriate for the site. Figure 15 shows the areas within the region where soils have a depth to bedrock less than 20 inches, as well as the rock outcrops within the region. It should be noted that bedrock existing at depths less than 48 inches is considered a critical threshold requiring special attention.

Combined, these soil and geological constraints total approximately 34,000 acres or 53 square miles of land area within the southeastern Connecticut region.

8.5 AQUIFERS

Water companies, businesses and homeowners in southeastern Connecticut commonly use groundwater as a potable water source. In fact, groundwater wells are the dominant source of water supply for the Exclusive Service Area¹ providers in the region. Additionally, the Southeastern Connecticut Water Authority's *Regional Water Supply Plan* envisioned groundwater wells as having the biggest potential for future water sources. Aquifers are defined as stratified drift deposits, which have the potential to yield significant quantities of high-quality groundwater. Such stratified drift deposits have been identified by the U.S. Geological Survey and Connecticut Department of Environmental Protection and are shown on Figure 12. These areas account for roughly 19% of the region's total land area, or approximately 68,000 acres or 107 square miles. Within these areas, SCWA's *Regional Water Supply Plan* identified 27 sites with potential for significant yield for public

¹ Pursuant to Section 25-33h-1 of the Connecticut General Statutes, an ESA is defined as an area where public water is supplied by one system. ESAs were created as part of a statewide water supply planning program whose goal was to develop a coordinated approach to long-range water supply planning to ensure future public water supplies for Connecticut.

water supply purposes. Because stratified drift deposits are highly susceptible to contamination, protecting these areas is extremely important. Likewise, land use in and around these areas must be closely regulated and conservation mechanisms such as buffer zones and innovative storm water system management practices should be employed, in order to sustain the quality of groundwater. It could be argued that the future development of the southeastern Connecticut region depends on the protection of this natural resource.

8.6 NATURAL DIVERSITY AREAS

The Connecticut Department of Environmental Protection (DEP) delineates natural Diversity Areas, because they are the habitat of important species of animals or plants. Figure 16 graphically shows the distribution of the numerous natural diversity areas within the region. It should be noted that this map represents the GIS data as of September 2006.

The DEP updates this information every six months; therefore the most recent version, available upon request from the DEP, should be consulted when actually planning specific projects. As of September 2006, there were 229 occurrences of plants, 101 occurrences of vertebrate animals, and 44 occurrences of invertebrate animals within southeastern Connecticut. These natural diversity areas represent sites with valuable natural resources, which if lost, cannot be readily replaced. Accordingly, development, if any, should avoid disturbance of these natural diversity areas.



Pachaug State Forest, Voluntown



Bluff Point Coastal Reserve, Groton
Photo courtesy of the Eastern CT Tourism District

NATURAL DIVERSITY DATABASE

Southeastern Connecticut Region

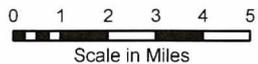
LEGEND

-  Natural Diversity Database Location
-  Waterbodies
-  Watercourse
-  Town Boundary

Data Source:
CT DEP, Sept. 2006

Note:
The Connecticut Department of Environmental Protection (CT DEP) maintains a Natural Diversity Database of endangered, threatened, and special concern species and significant natural communities. Each circle of 1/2 mile diameter shows the general location of an occurrence such a species or community. Exact locations are not given.

The data shown on this map is updated every 6 months. When planning specific projects, it is advisable to obtain the most recent version of this map from DEP.



Prepared by:



Southeastern Connecticut
Council of Governments
Geographic Information System

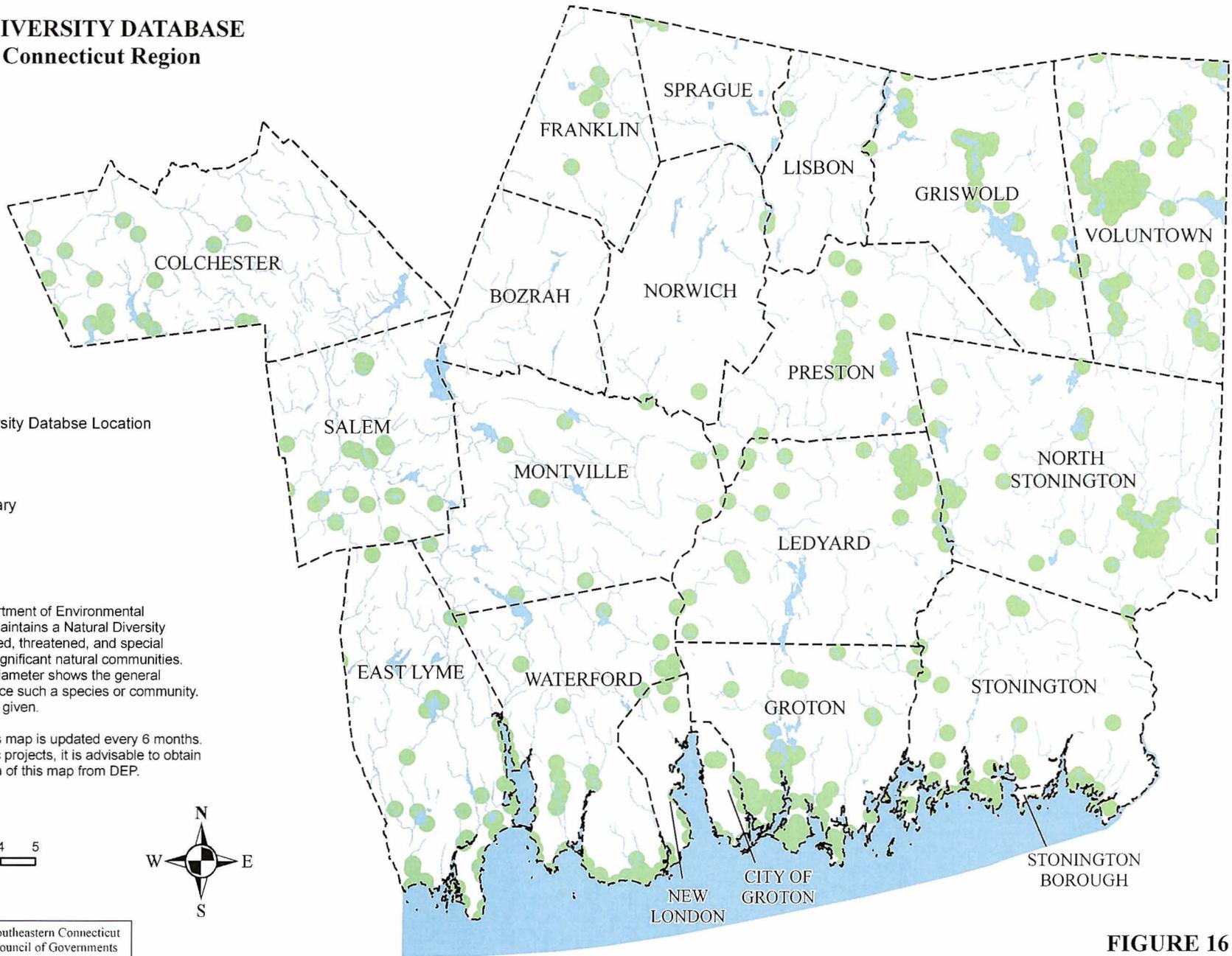


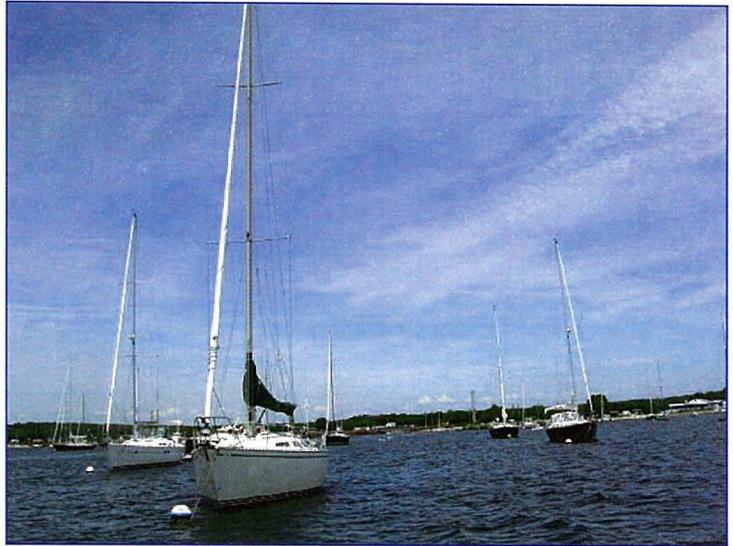
FIGURE 16

8.7 COASTAL RESOURCES AND MANAGEMENT

The chief purpose of the *Connecticut Coastal Management Act*, now codified in the Connecticut General Statutes, is “to insure that the development, preservation or use of the land and water resources of the coastal area proceeds in a manner consistent with the capability of the land and water resources to support development, preservation, or use without significantly disrupting either the natural environment or sound economic growth.”

The coastal boundary is defined by legislation as “a continuous line delineated on the landward side of the interior contour elevation of the one-hundred-year-frequency coastal flood zone, as defined and determined by the Federal Flood Insurance Act...or a one-thousand-foot linear setback measured from the mean high water mark in coastal waters, or a one-thousand-foot linear setback measured from the inland boundary of tidal wetlands, whichever is farthest inland.”

Figure 17 shows the extent of land within the coastal area in the southeastern Connecticut planning region. This area



Stonington Harbor

comprises approximately 26,027 acres, or 41 square miles, which is 7.3% of the region’s total land area.

Within this area, the Connecticut Department of Environmental Protection has mapped special coastal natural resources. Coastal resources are defined as the coastal waters of the state, their natural resources, related marine and wildlife habitat and adjacent shore lands, both developed and undeveloped. These resources together form an integrated terrestrial and estuarine ecosystem. Each of the coastal municipalities in the region has prepared a *Coastal Area Management Plan* based on this inventory. Development plans for projects proposed within the coastal boundary are subject to a local coastal area management consistency review. There are several coastal management issues important to southeastern Connecticut that involve the preservation of coastal resources. These issues include matters related to the provision of public access and utilization and expansion of existing water-dependant uses. Additionally, one of the most significant methods to improve coastal water

COASTAL AREA MANAGEMENT (CAM) ZONES
Southeastern Connecticut Region

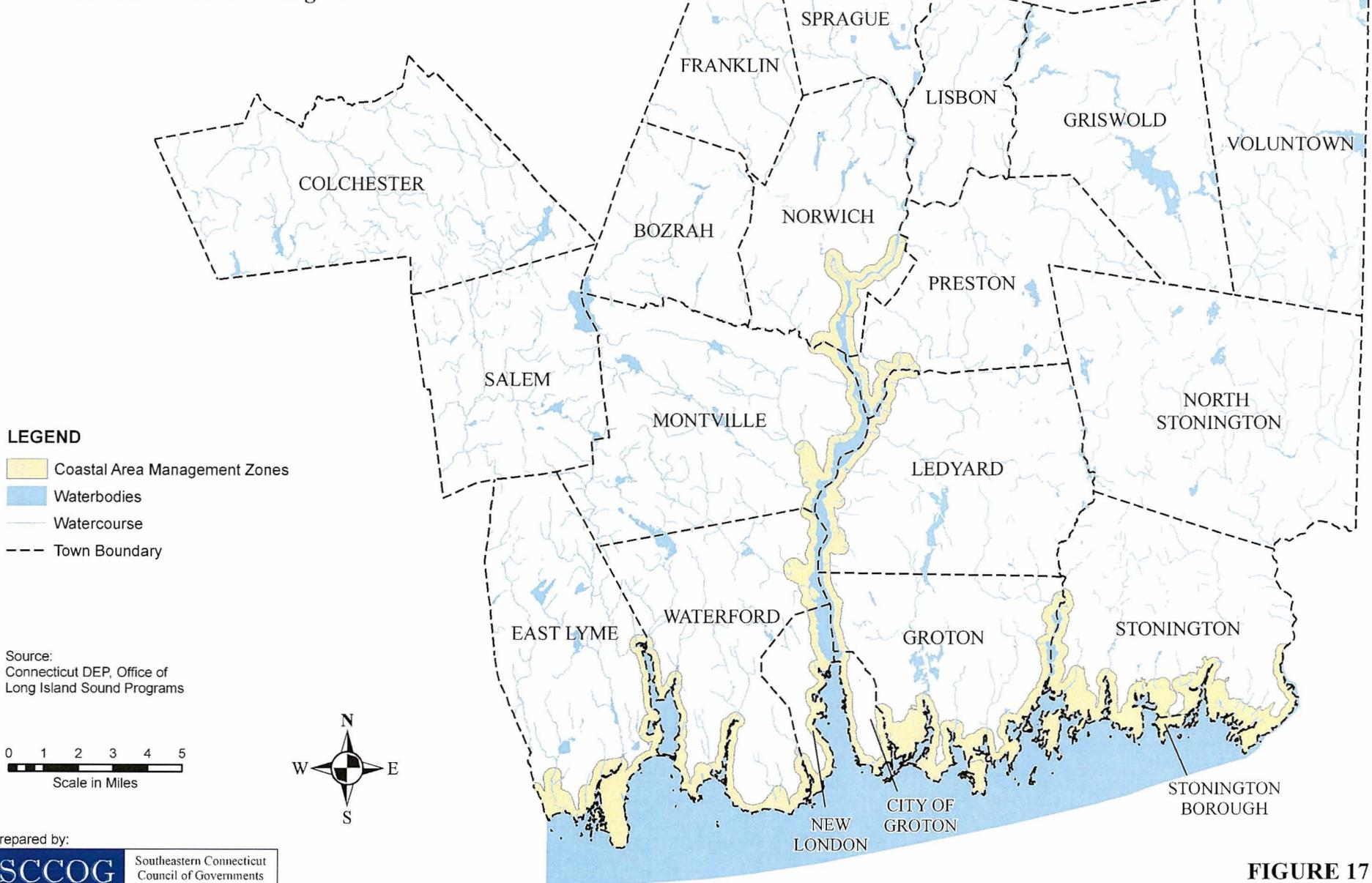
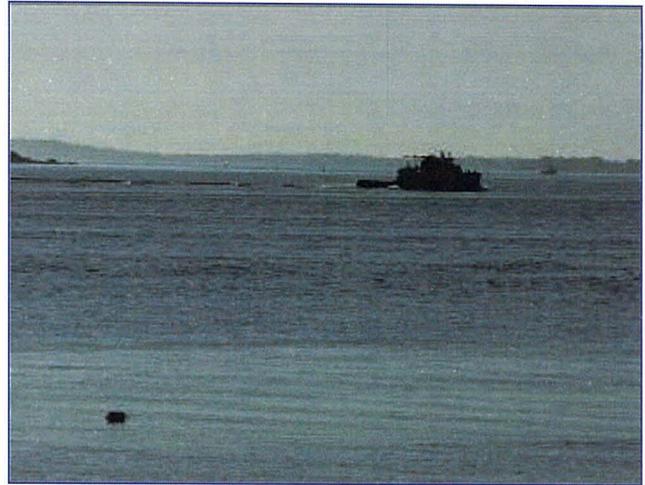


FIGURE 17

quality is to improve management of non-point sources of water pollution. Coastal water quality in the region is generally very good and has been improved by upgrades to area sewage treatment facilities and by managing stormwater runoff throughout southeastern Connecticut. Good coastal water quality not only maintains regional character and quality of life, it is important in that it promotes recreational uses such as swimming, boating and shellfishing, while also enhancing the aesthetic characteristic of the region. SCCOG continues to work with local, state, and federal management agencies in order



Mouth of the Thames River, as seen from New London

to improve the water quality of Long Island Sound and to achieve the goals of the *Connecticut Coastal Management Act* and the Long Island Sound Restoration Program.

8.8 NATURAL HAZARD MITIGATION

In 2000, Congress approved the *Disaster Mitigation Act (DMA)* that established a national program for pre-disaster, natural hazard mitigation. The purpose of the *DMA* was to standardize planning requirements to help eliminate the fragmented planning efforts that were in place and typical of prior FEMA mitigation programs.

SCCOG has prepared a *Southeastern Connecticut Regional Hazard Mitigation Plan*. This plan was adopted by the SCCOG in June 2005. The plan identifies hazards and risks, existing capabilities, and activities that can be undertaken by the southeastern Connecticut municipalities, to prevent loss of life and reduce property damages associated with identified hazards. The *Regional Hazard Mitigation Plan* has determined that the most significant hazard in the southeastern region is flooding, although other natural hazards, such as earthquakes and winter storms, are also of concern. Buildings located in flood hazard areas include residential, commercial, industrial, and critical facility structures. Most of the structures that are threatened by flooding are located within the 100-year floodplain, but some are also in the coastal velocity zone. Additionally, municipalities have expressed concern regarding the impact of potential hazards associated with the many dams located throughout the region.

The *Regional Hazard Mitigation Plan* contains an annex for each town within the southeastern Connecticut planning region. These annexes contain a hazard risk assessment and include

recommended mitigation measures for each municipality. Typically, mitigation measures utilize existing regulatory mechanisms such as local land use and building controls, as well as land acquisition.

Extreme weather events such as hurricanes, tropical storms, flooding and drought may be linked to the changing global climate, which results from a number of human activities and development patterns. Land use and transportation planning that encourages compact, mixed-use development, and that reduces vehicle demand, is essential in any effort to mitigate the potential impacts to the environment associated with climate change.

8.9 SUMMARY

As the region continues to grow outward from its more compact developed core, changes must be managed in a way that protects the region’s significant natural resources. Failure to meet this challenge will severely limit future development, and thereby significantly impact every facet of economic growth and quality of life within southeastern Connecticut.



New Subdivision, Montville

TABLE 10
NATURAL RESOURCE FEATURES
Southeastern Connecticut Region

FEATURE	ACRES	SQUARE MILES
Southeastern Region	358,706	560.5
Aquifer Area	68,000	107
Steep Slope (>15%)	56,000	88
Floodplain	39,000	61
Wetland	52,000	81
Water Bodies	12,000	20
Bedrock Soils	34,000	53

Source: SCCOG GIS analysis

Table 10 identifies the land area corresponding to the significant natural resource opportunities and/or constraints within the region. While there is some overlap between identified natural resources, the data presented indicate that the region faces some fairly significant future development limitations and that caution must be exercised from this point forward if the integrity of the region’s natural resources is to be maintained.

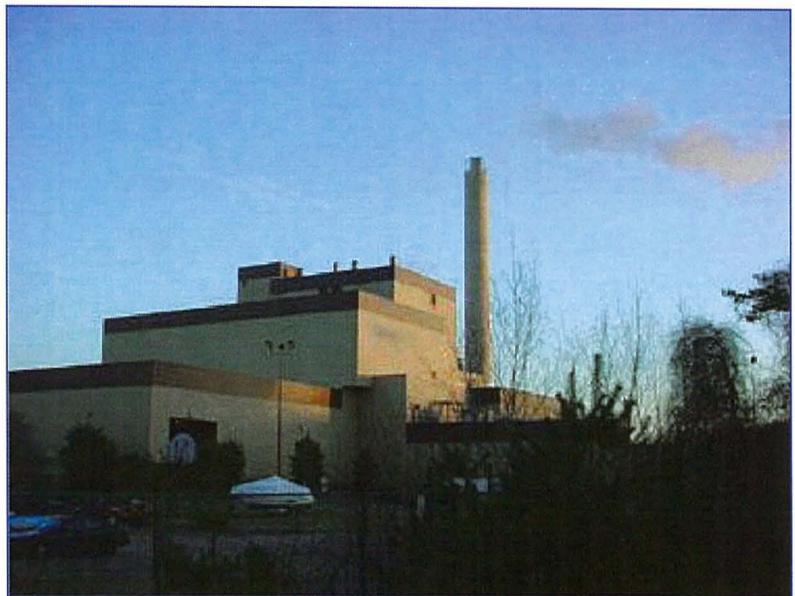
9.0 SOLID WASTE MANAGEMENT

Since the late 1970's, the southeastern Connecticut region has made great strides forward in terms solid waste disposal. Historically, all forms of solid waste were simply buried in local landfills.

9.1 SOUTHEASTERN CONNECTICUT WASTE-TO-ENERGY

In 1985, the Southeastern Connecticut Regional Resource Recovery Authority (SCRARRA) was formed. Several years later SCRARRA constructed a waste-to-energy plant in Preston. That plant has now operated almost continuously since 1992, and sells enough power back to CL&P to meet the demands of 10,000 homes. In fact, about 10% of the power produced by the plant is used to operate the plant itself.

Until 2015, the plant is required to take all member municipalities' solid waste regardless of plant capacity. At present, the plant uses "excess" capacity for non-member "merchant" contracts, but those agreements are subordinate to member towns' contracts. If a member town needs the plant capacity and sufficient capacity is not available, the merchant must find another means of

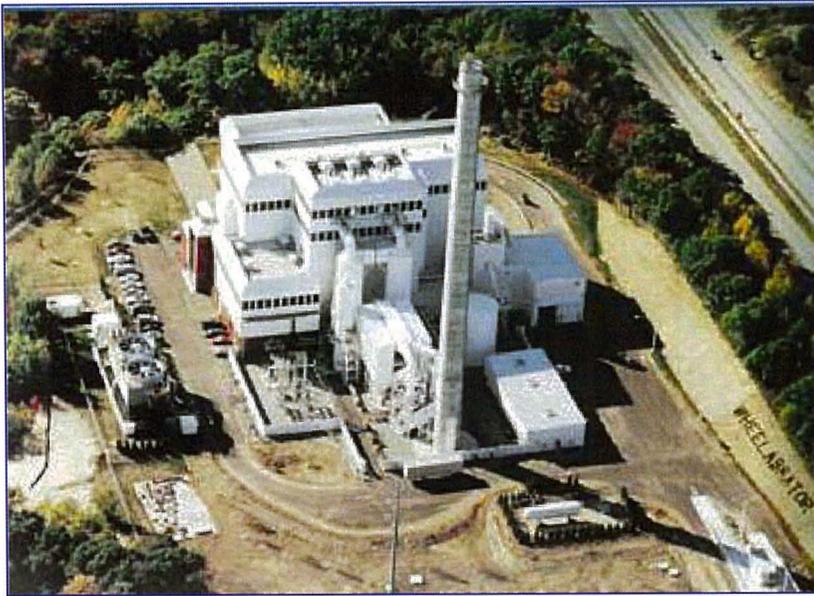


SCRARRA Waste-to-Energy Plant Preston

waste disposal. Of the total 250,000-ton capacity, 75% is reserved for member waste and the remaining 25% is available for private contract waste. The plant processes about 690 tons of waste per day, with about 50% of that being commercial waste and 50% residential waste.

At present, the twelve municipalities in the southeastern region that are members of SCRARRA are: East Lyme; Griswold; Groton (City and Town); Ledyard (including Mashantucket Pequot Tribe waste); Montville (including Mohegan Tribe waste); New London; North Stonington; Norwich; Preston; Sprague; Stonington; and Waterford. Four other southeastern municipalities utilize the SCRARRA facility under contract for the disposal of their solid waste. These are: Bozrah; Franklin; Salem; and Voluntown.

The remaining SCCOG towns, Colchester and Lisbon, dispose of their solid waste at the privately owned waste-to-energy facility in Lisbon. Unlike the Preston plant, the Lisbon plant is a merchant



Wheelabrator Technologies, Inc. Waste-to-Energy Plant, Lisbon

plant, privately owned and operated for profit by Wheelabrator Technologies, Inc. Opened in 1995, the Lisbon plant currently operates near its capacity of nearly 500 tons per day. The owners of the Lisbon plant compete on the open market, generally through short-term contracts, for the best prices. Waste-to-energy is subject to seasonal cycles and other factors that affect prices through supply and demand. This is especially true of merchant operations. However,

while available capacity does fluctuate seasonally, plant expansion is very expensive and complex, making long-term waste management planning difficult.

Since 1999, all ash residue from the Preston incineration process has been taken to an ash landfill in Putnam, Connecticut. Previously, SCRRRA operated an ash landfill on land, now owned by the Mohegan Tribe, on the west side of the Thames River, across from SCRRRA's waste-to-energy plant. That landfill has now been closed. Problems in siting ash landfills led the State to pre-empt local zoning in 1989. In fact, there are only two ash landfills in the state. The ash landfill in Hartford is publicly owned, but estimated to reach capacity and close in the Fall of 2008. The privately owned ash landfill in Putnam is projected to have capacity for at least ten more years. The Lisbon waste-to-energy facility also utilizes the ash landfill in Putnam.

The twelve SCCOG municipalities that are SCRRRA member towns all have contracts that expire in 2015. It is assumed that until then, their disposal needs will be met. Due to the shortage of ash landfill sites, the disposal of ash residue from the SCRRRA plant will become an issue for southeastern Connecticut towns shortly after their contracts with the Authority expire. The Preston and Lisbon plants represent two of six such plants in the State. Others are located in Bristol,

Bridgeport, Hartford and Wallingford. All of these plants currently operate at, or near, capacity. Some wastes, such as construction debris, are almost exclusively shipped by rail to large landfills in Ohio or trucked at great expense to sites in Pennsylvania.

During the next several years, three external circumstances have been identified that may have a major impact on local solid waste issues.

- Contracts with solid waste authorities in other areas of the state are scheduled to expire prior to 2015;
- A considerable amount of refuse from Massachusetts towns is brought to the Lisbon facility; and
- The 96-acre landfill in Hartford, which takes waste from approximately 70 Connecticut towns, is scheduled to close this year.

All of these factors may cause increased competition for disposal capacity that, in turn, will impact southeastern Connecticut municipalities.

9.2 CONNECTICUT SOLID WASTE MANAGEMENT PLAN

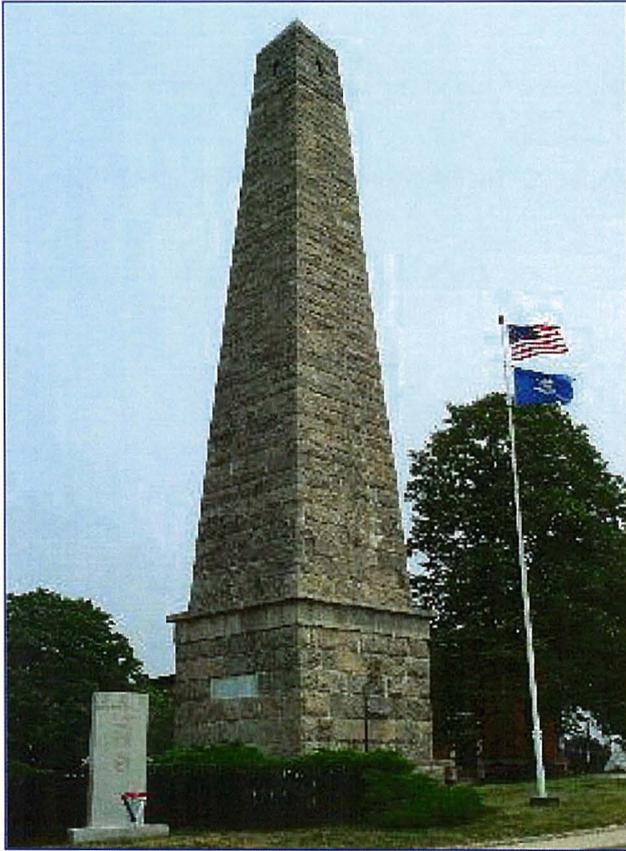
The Department of Environmental Protection amended the *State of Connecticut Solid Waste Management Plan* in 2006. The major goals of this Plan as stated were:

- To significantly reduce the amount of solid waste generated in Connecticut requiring disposal, by way of increased source reduction, reuse, recycling and composting;
- To manage the solid waste that requires disposal in an efficient, equitable and environmentally protective manner, consistent with the statutory solid waste hierarchy; and
- To adopt stable, long-term funding mechanisms that provide sufficient revenue for state, regional and local programs while providing incentives for increased waste reduction and diversion.

The 2006 State Plan set forth as a strategy a 58% diversion rate for municipal solid waste by the year 2024. The estimated diversion rate in 2005 according to the Plan was only 30%, so it is obvious that this strategy will require increased efforts by Connecticut municipalities. Significant resources from the State will be required to prevent this responsibility from being borne solely by municipalities.

10.0 HISTORIC PRESERVATION

Older, well-preserved buildings and historic sites reflect the character of the southeastern Connecticut Region. Over the years, individual homeowners, private groups, and businesses have preserved many



Monument at Fort Griswold, Groton City

buildings. Such preservation through productive re-use has provided needed business and residential space; has improved the appearances of parts of the region; and has enhanced the property values and related tax assessments. During the past several decades, the public sector has become more actively involved in historic preservation and, through legislation, has created programs to protect historic buildings and structures.

The public sector involvement includes federal, state, and local governments, which provide programs that may be utilized as stand-alone preservation tools or as a means to facilitate direct local oversight of designated historic areas. The major public sector programs are described below.

The generalized map in Figure 18 depicts the towns in southeastern Connecticut that have either local historic districts, National Register historic districts or national historic landmarks. This map also shows the historic resource inventory status for each town. This inventory is a comprehensive survey of buildings and structures built before 1950, and is available through the State Historic Preservation Office by written request.

10.1 FEDERAL PROTECTION

National Register of Historic Places

Designating a property on the National Register of Historic Places is the primary tool used to protect historic properties federally. This designation prohibits federal funds from being spent that would adversely affect a property on this list until after a review by the Advisory Council on Historic

HISTORIC FEATURES Southeastern Connecticut Region

LEGEND

Statewide Historic Resource Inventory

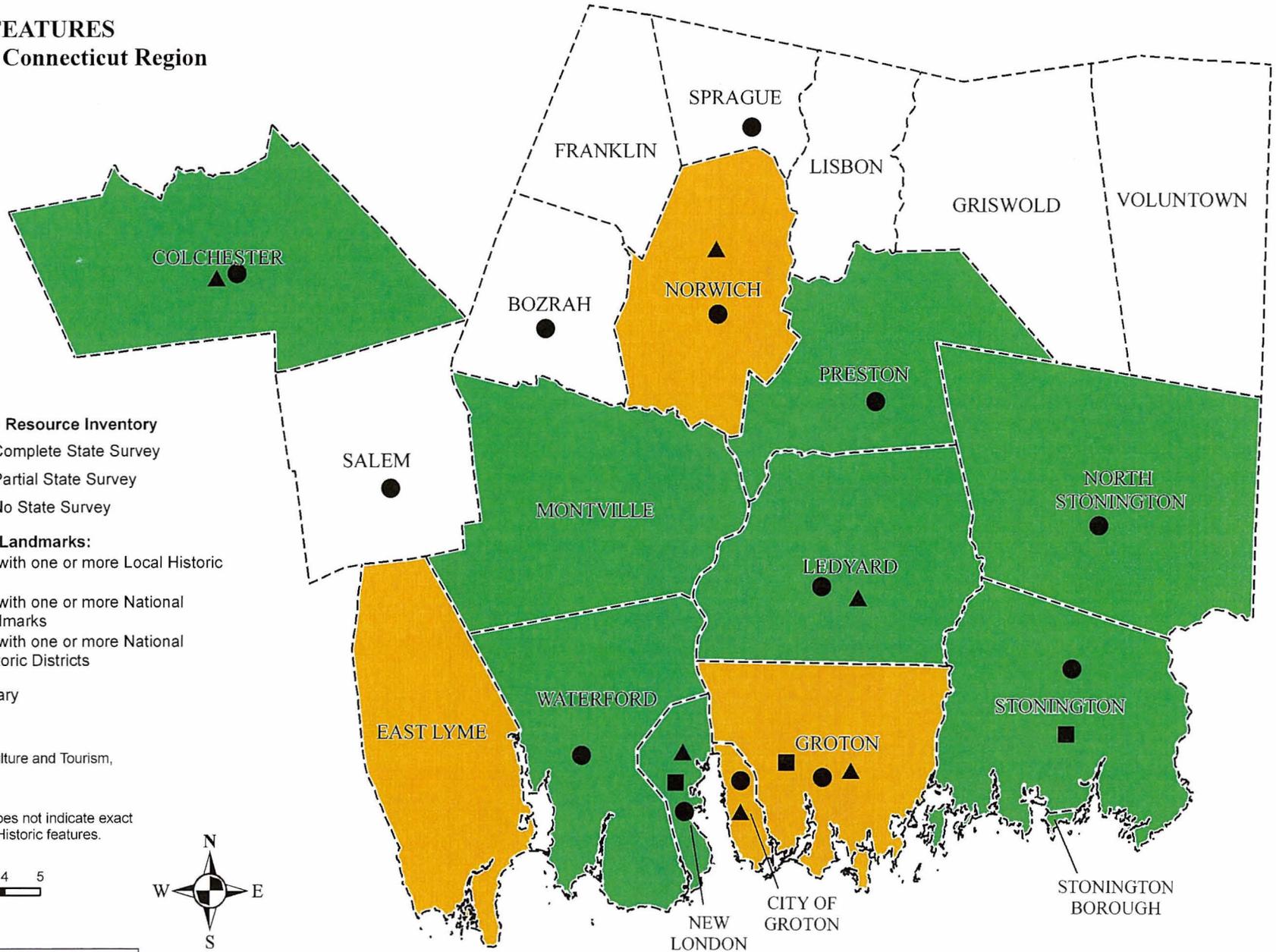
- Towns with Complete State Survey
- Towns with Partial State Survey
- Towns with No State Survey

Historic Districts/ Landmarks:

- Municipality with one or more Local Historic Districts
- Municipality with one or more National Historic Landmarks
- Municipality with one or more National Register Historic Districts
- Town Boundary

Source:
CT Commission on Culture and Tourism,
SCCOG

Note:
Location of symbols does not indicate exact
position or number of Historic features.

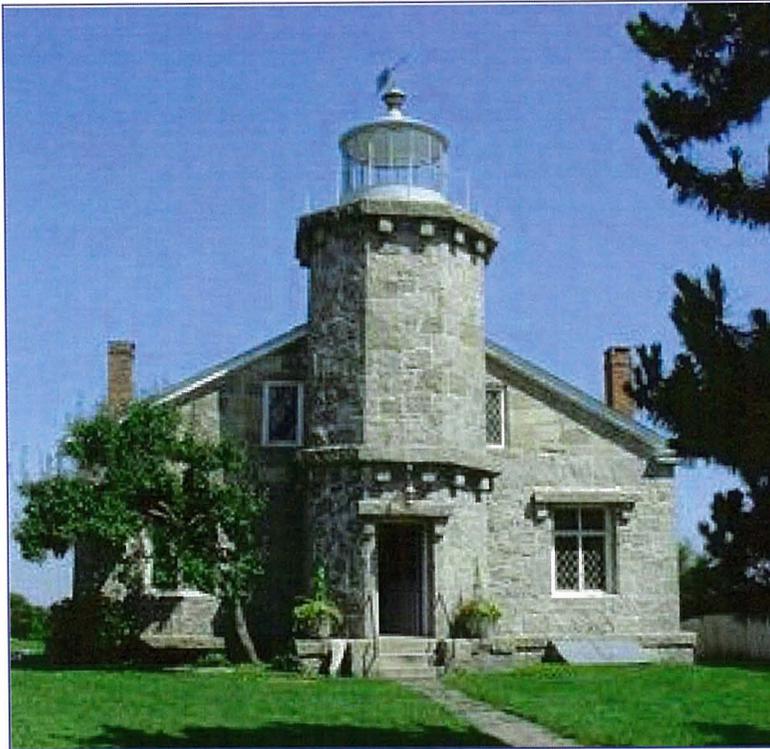


Prepared by:



FIGURE 18

Preservation, an interagency body established by the *National Historic Preservation Act of 1966*.



Lighthouse Museum, Stonington Borough

While the Advisory Council has a right to comment on a project listed, or eligible for listing on the National Register, the Council does not have a right to veto the project.

Designation on the National Register also requires the Secretary of Transportation to reject any highway project that requires the use of land of national, state, or local historic interest unless there is no “feasible and prudent” alternative.

There are currently 169 structures, sites, or districts within southeastern Connecticut listed on the National Register of Historic Places. These

range from 17th and 18th Century structures to the U.S.S. Nautilus, the first nuclear powered submarine, which was constructed and launched in Groton in 1954.

10.2 STATE PROTECTION

Connecticut Register of Historic Places

Created in 1975, the Connecticut Register of Historic Places requires that state agencies prepare a detailed environmental impact statement discussing the impact of any of the projects on a State Registered site. The Register may be reviewed at the State Historic Preservation Office.

Technical Assistance

Technical assistance is available to individuals, organizations, and communities on various aspects of historic preservation. This assistance is available whether or not a historic property is located in a federal or state designated area. This assistance can range from locating funding for historic property restoration, to checking the historic listing status of a property, to providing direct hands-on preservation advice. The State of Connecticut Commission on Culture and Tourism, within which

the State Historic Preservation Office is part, is a source of valuable preservation information.

Additionally, the National Park Service, U.S. Department of Interior provides information on various aspects of historic preservation. Yet another valuable source is the Connecticut Trust for Historic Preservation. Among the various types of assistance the Trust for Historic Preservation provides is the Connecticut Circuit Rider Program. Through this program specialists are ready to drive to any community in Connecticut within hours to assess a situation in person and discuss it with local citizens.

10.3 MUNICIPAL PROTECTION

Local Historic Districts

Sections 7-147a-147k of the Connecticut General Statutes authorize municipalities to establish historic districts and to create a historic district commission to regulate certain aspects of structures within the defined historic district(s). The commission adopts regulations, issues Certificates of Appropriateness that regulate construction, alteration and demolition activities within the district, and grants variances of its regulations where appropriate.



Captain Cook Inn, Preston

The six municipalities in southeastern Connecticut that have established one or more historic districts under the Connecticut General Statutes

are Colchester, the City of Groton, the Town of Groton, Ledyard, New London, and Norwich.

Certified Local Government Program

The federal *National Historic Preservation Act* provides for local municipalities to apply to participate in the Certified Local Government (CLG) Program. The Act establishes minimum federal requirements for participation that include: designating and protecting historic properties;

establishing and maintaining a qualified historic preservation commission; maintaining a system for identifying historic properties; providing for public participation in the local historic preservation program; and performing other agreed upon functions delegated by the State Historic Preservation Office. Each State Historic Preservation Office has developed their own procedures for certifying local governments. The National Park Service and State Historic Preservation Office provide technical assistance and small matching grants to participants for a wide variety of local historic



Shaw Mansion, New London

preservation projects. The State Historic Preservation Office sets aside at least 10% of the State's annual Historic Preservation Fund to finance Certified Local Government historic preservation sub-grant projects. Within southeastern Connecticut, the municipalities of Colchester, Groton, Ledyard, New London, Norwich, and Waterford have achieved Certified Local Government status.

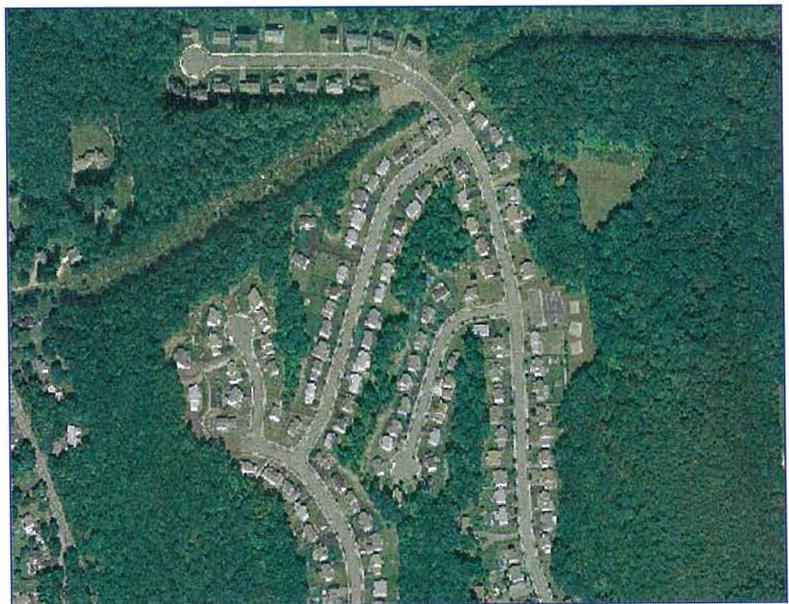
Local Land Use Control

Municipalities may also choose to adopt land use regulations that protect significant historic and cultural resources. Subdivision and zoning regulations can include a requirement that developers give the same care in protecting historic resources as they do to sensitive environmental features, such as wetlands, floodplains and steep slopes. Subdivision and site plans may be required to include significant historic features, such as stone walls, along with the typical inclusion of topography, vegetation, layout of lots, and other features. Standards relating to historic preservation can also be included in the design requirements of the zoning and subdivision regulations.

11.0 LAND USE, GROWTH PATTERNS, AND ZONING

Over the course of the past five decades, the Southeastern Connecticut Council of Governments (SCCOG) and its predecessor, the Southeastern Connecticut Regional Planning Agency (SCRPA), have been inventorying land use and land use changes in the southeastern Connecticut region. The reason for conducting these comprehensive inventories is to create an analytical tool to understand regional development needs as they relate to land uses changes at the local level. It is important to note that the actual process of tabulating this data has evolved dramatically during this 40-year span, from the utilization of calculators, planimeters and area-graphs to the present use of a computerized geographic information system (GIS).

Previously, land use data was compiled using aerial photographs and field surveys. This information was then plotted on U.S. Geological Survey quadrangle sheets. The quadrangle sheets were periodically updated with the availability of newly flown flights and air photos. Now, computerized property line based data is collected from member municipalities and overlain with recent air photos on the computer. This technique allows for a more accurate assessment of land use activity and more precise determination of land area. In fact, all but three municipalities in the region employ some form of parcel based computer mapping. While in many cases, the tabulated data is now more reflective of the specific land use activity of a parcel area than was the case in previous plan efforts, the new information may not



Deerfield Subdivision, Groton

be directly comparable to earlier tabulations due to the differences in data collection methods mentioned above. Interestingly enough, even with the use of the more sophisticated methods of data collection and tabulation, the comparison of present and previous data does indicate many proportional similarities. Most of these similarities are in the land use categories other than the “residential” category. Additionally, it should be noted that although the new technology allows for

the more precise tabulation of land use acreage, each individual town might classify land use differently. As an example, only four SCCOG municipalities categorize land as being “Mixed Urban Uses,” as shown in Table 11.

11.1 PATTERNS OF LAND USE AND ZONING

The general distribution pattern of land uses in southeastern Connecticut between 1962 and 2005 is shown on Figure 19. The pattern of developed area within the region follows, to a large extent, the inverted “T” population density pattern, coinciding with the location of the Interstate highways through the region. Concentrated development extends east along the shoreline towns and I-95 corridor, and north along the Thames River and I-395 corridor. The 2005 developed land data shows that additional pockets of growth have occurred outside of the historic pattern. The map also shows the large areas of low-density uses and undeveloped land still available within southeastern Connecticut. Table 11 provides a comparison of land-use by category between 1962 and 2005.

Assessing past trends in land use and current patterns of growth provides insight into the practical



Senior Housing, Waterford

application of the region’s municipal land use regulations. It also provides an opportunity to adjust the collective vision of regional development patterns through amended municipal regulations.

All of the municipalities in the southeastern Connecticut planning region have adopted zoning regulations. These land use regulations are utilized to protect property values and as a means to secure a tax revenue base. The more intensively zoned land reflects the historical trend of development in the region along the

shorelines of the Long Island Sound and the Thames River. Exceptions to this pattern are noted in nodes of non-residential designations along the major transportation corridors.

Figure 20 shows the generalized zoning categories for the region. Regionally, 90% of the area is zoned for residential uses, with the remaining 10% zoned for non-residential uses. The distribution of zoning categories by municipal classification (urban, suburban and rural), are shown on Figure 21.

HISTORIC LAND USE PATTERN INCREASE IN DEVELOPED LAND 1962 - 2005 Southeastern Connecticut Region

LEGEND

- Developed Land 1962
- Developed Land, 2005
- Waterbodies
- Major Roads
- Town Boundary

Source:
SCPRA Staff, 1962
SCCOG Staff, 2007

Note:
Developed land consists of residential,
industrial, institutional, governmental,
utility and transportation uses.

Colchester was not a member of the
Southeastern Region in 1962.

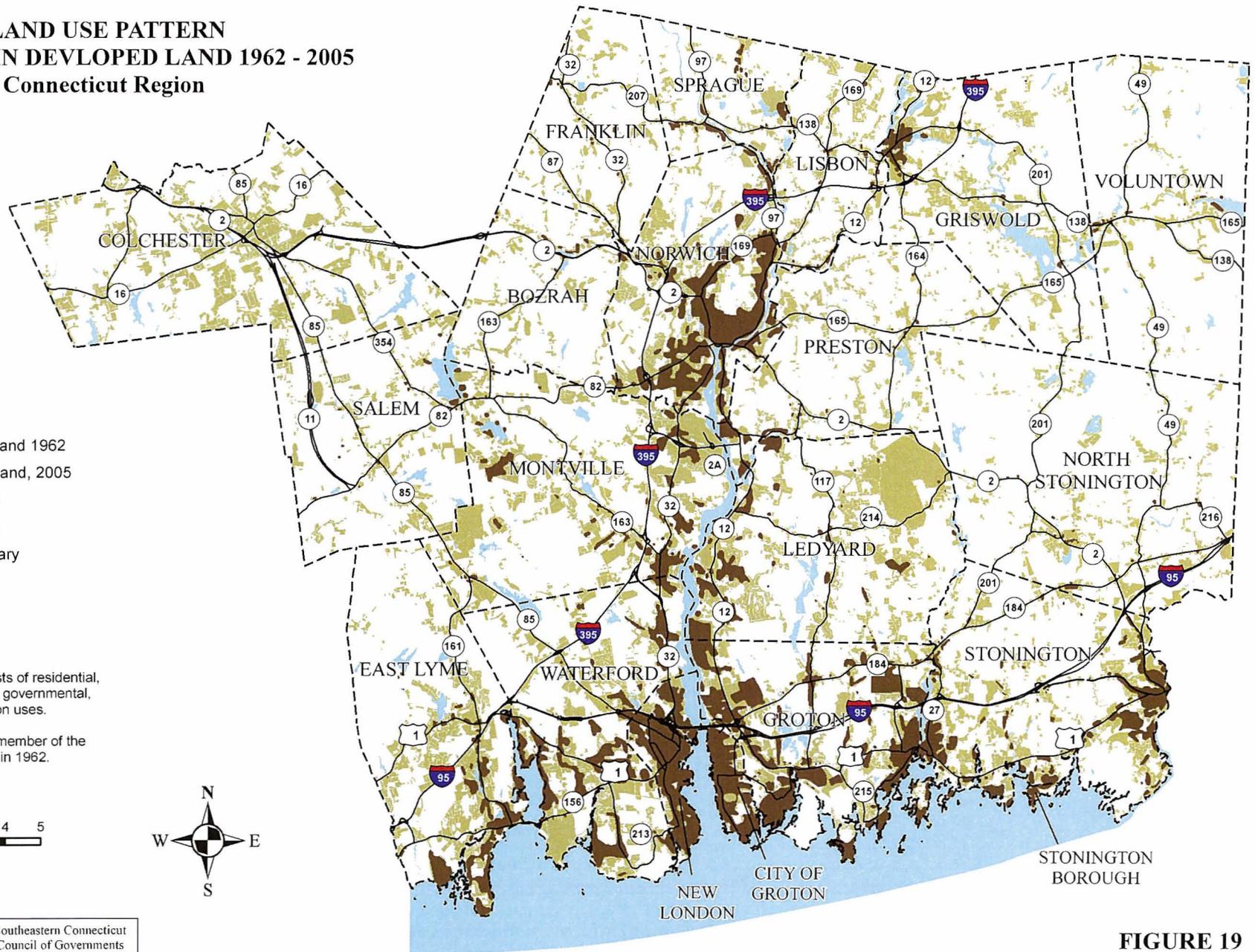


FIGURE 19

**TABLE 11
LAND USE TRENDS, 1962-2005
Southeastern Connecticut Region**

LAND USE CATEGORY		1962		1970		1980		1990		2000		2005	
		% TLA	% TDL	% TLA	% TDL								
Developed Land	Medium & High Density Residential	3.68	43.76	4.41	30.89	4.88	28.62	6.87	33.46	8.54	34.24	7.20	21.04
	Low Density Residential	2.05	24.32	2.50	17.51	3.86	22.66	4.16	20.27	6.79	27.14	14.98	43.79
	Commercial	0.39	4.62	0.48	3.38	0.62	3.65	0.90	4.38	1.06	4.24	1.53	4.46
	Intensive Industrial	0.23	2.69	0.22	1.55	0.25	1.48	0.54	2.64	0.63	2.5	1.06	3.10
	Extractive Industrial	0.24	2.89	0.19	1.32	0.42	2.47	0.36	1.74	0.24	0.94	0.59	1.73
	Institutional	1.62	19.30	2.15	15.07	2.55	14.94	2.57	12.51	2.48	9.9	3.08	9.00
	Mixed Urban Use	NA	NA	0.03	0.09								
	Transportation, Communication & Utilities	0.20	2.42	4.33	30.28	4.47	26.20	5.13	24.99	5.26	21.04	5.72	16.74
TOTAL %	8.4	100.0	14.3	100.0	17.1	100.0	20.5	100.0	25.0	100.0	34.2	100.0	
Designated Open Space		% TLA	% TOS	% TLA	% TOS								
	Active Recreational	1.39	7.93	2.50	13.12	2.84	21.19	2.80	15.15	2.53	12.97	2.34	10.26
	Agriculture, Agricultural Reserve	8.14	46.32	6.94	36.35	NA*	NA*	4.13	22.33	3.76	19.29	5.08	22.29
	Open Space	8.04	45.75	9.64	50.53	10.57*	78.81*	11.57	62.53	13.22	67.74	15.37	67.44
TOTAL %	17.6	100.0	19.1	100.0	13.4	100.0	18.5	100.0	19.5	100.0	22.8	100.0	
Undeveloped Land		% TLA	% TUL	% TLA	% TUL								
	Undeveloped Land	74.01	100.00	66.63	100.00	69.55	100.00	60.96	100.00	54.58	98.39	42.24	98.11
NATR	Native American Tribal Reservation (NATR)	NA	NA	NA	NA	NA	NA	NA	NA	0.88	NA	0.77	NA
Total Land Area	Calculated Total Land Area in Square Miles	513**		559.20		559.20		559.20		559.50		560.70	
	TOTAL %	100.0		100.0									

Source: SCCOG Towns

TLA: Total Land Area
TOS: Total Open Space

TDL: Total Developed Land
TUL: Total Undeveloped Land

* Note: In 1980, the Agriculture, Agricultural Reserve acreage was included in the Open Space acreage.

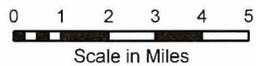
** Note: Colchester was not a member of the Southeastern Connecticut Region until 1971

GENERALIZED LOCAL ZONING Southeastern Connecticut Region

LEGEND

- Residential (< 20,000 s.f.)
- Residential (20,000 - 39,000s.f.)
- Residential (40,000 - 59,000s.f.)
- Residential (60,000 - 79,000s.f.)
- Residential (> 80,000 s.f.)
- Industrial
- Commercial
- Tribal Reservation
- Other
- Waterbodies
- Town Boundary

Source:
SCCOG Towns



Prepared by:
SCCOG Southeastern Connecticut
Council of Governments
Geographic Information System

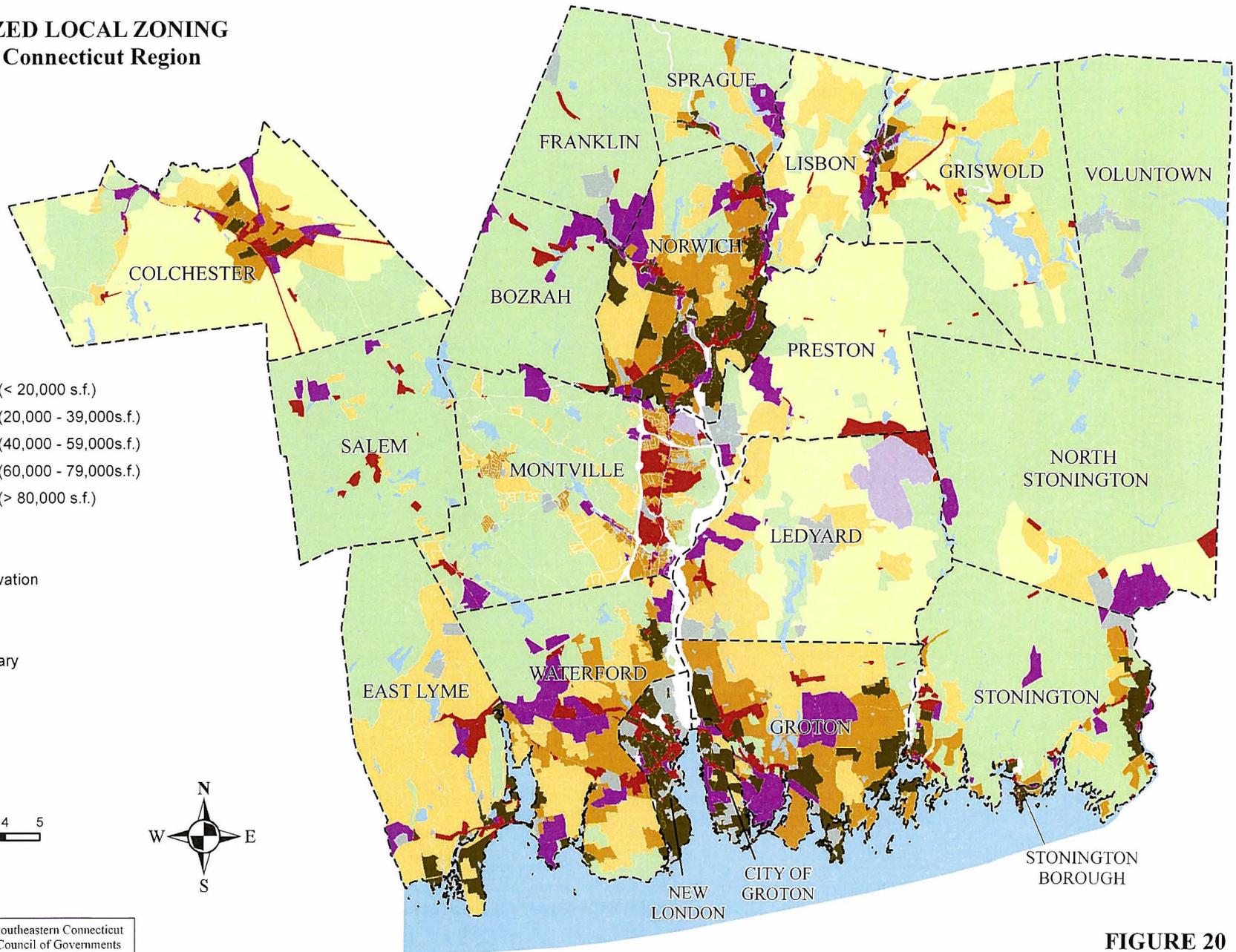
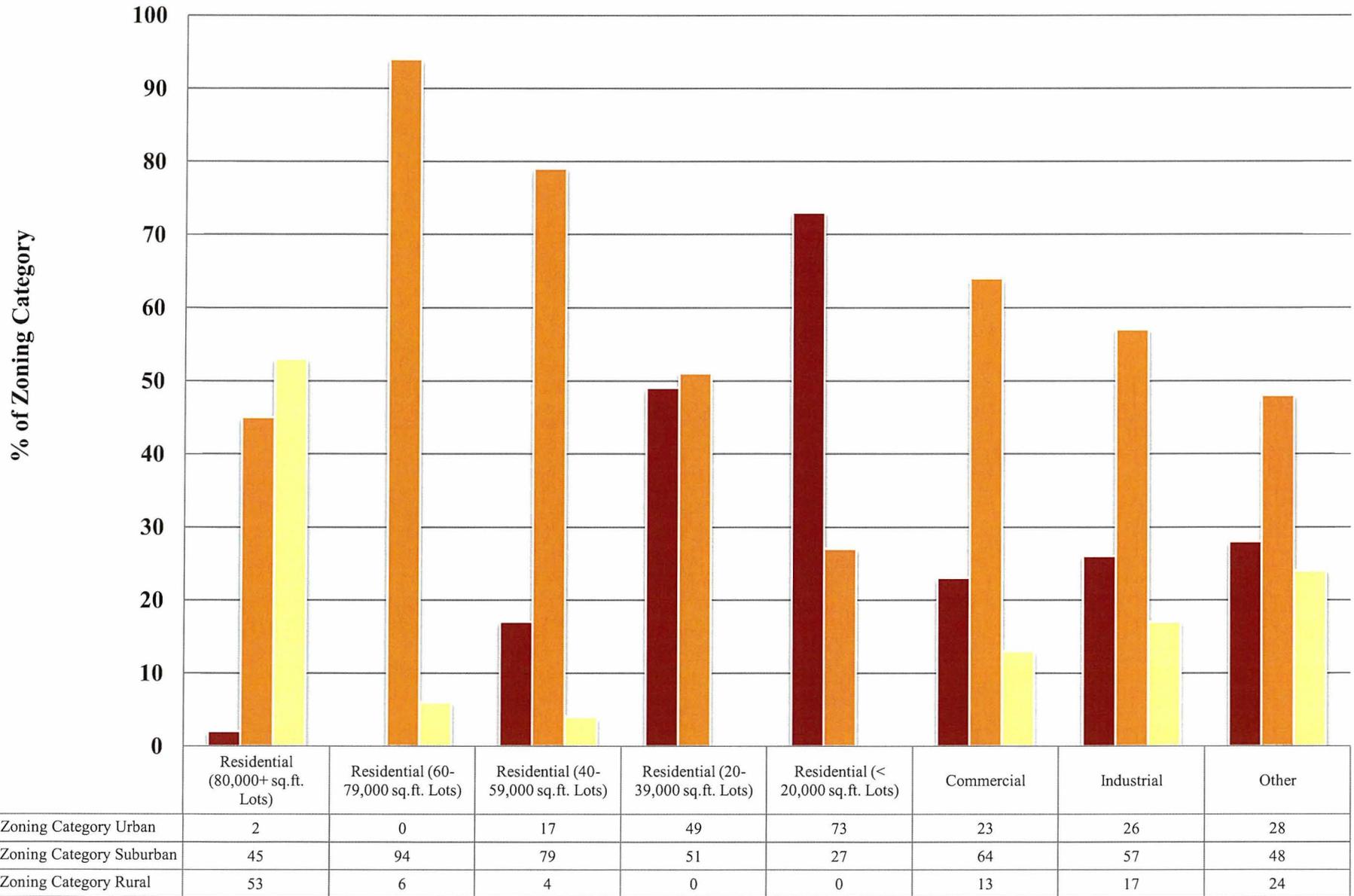


FIGURE 20

FIGURE 21
DISTRIBUTION OF ZONING CATEGORIES BY MUNICIPAL CLASSIFICATION, 1999
Southeastern Connecticut Region

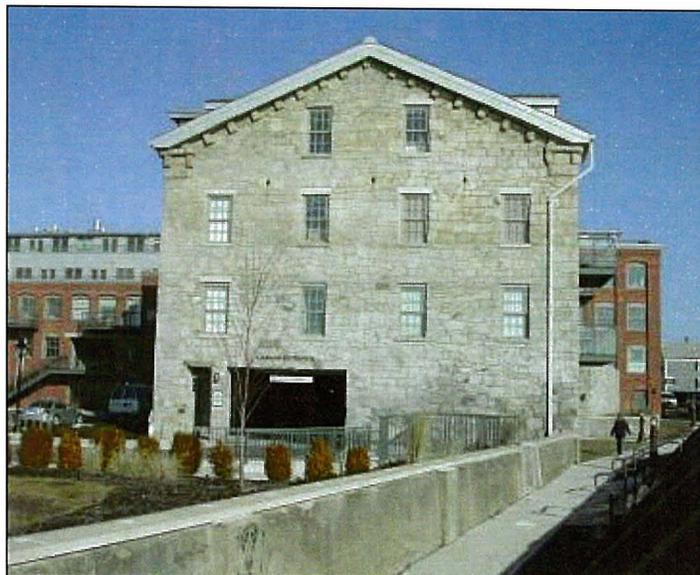


Source: SCCOG Towns

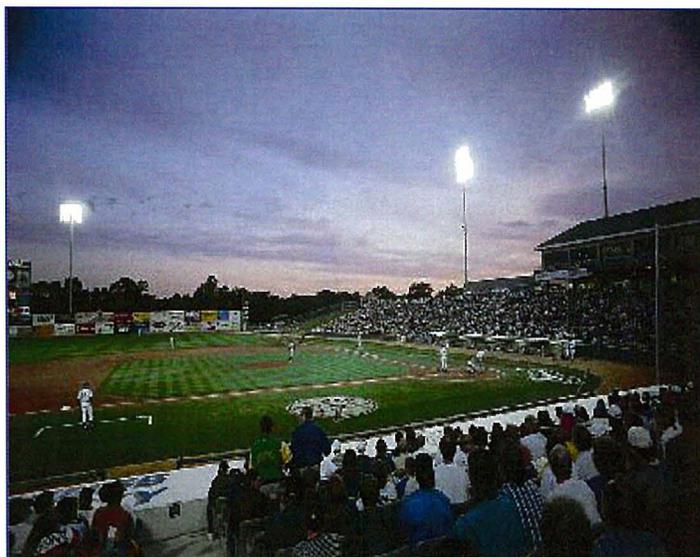
According to 1999 and 2003 regional zoning inventories prepared by SCCOG, of the towns' total land area, approximately 79% of the urban towns', 90% of the suburban towns' and 94% of the region's rural towns' land area, is zoned for residential uses.

11.2 2005 LAND USE

The total developed area within the southeastern Connecticut region comprises slightly more than 34% of the region's 560.7 square miles. For the purposes of this review, the region's member municipalities are divided into three density classifications: urban suburban, and rural. Urban towns include Groton (City and Town), New London, and Norwich. Suburban towns include Colchester, East Lyme, Griswold, Ledyard, Lisbon, Montville, Preston, Sprague, Stonington (Town and Borough), and Waterford. Rural towns include Bozrah, Franklin, North Stonington, Salem and Voluntown. The three urban towns account for slightly more than 20% of the region's total developed land area. The ten suburban towns account for approximately 65% of the region's developed land, while the five rural towns account for the remaining 15% of region's development. Total designated open space lands, including active recreation areas, active agricultural activities, and agricultural reserves, comprise approximately 23% of the region's total area. Land area classified as undeveloped totals 236.9 square miles, or approximately 42% of the region's total area. Native American Tribal Reservations comprise the small remaining percentage (0.77%) of the region's area.



Stonington Commons, Stonington Borough



Dodd Stadium, Norwich
Photo courtesy of the Eastern CT Tourism District

The land use information presented in Table 12 and on Figure 22 depicts the compilation of 2005 data in the land use categories summarized below.

Developed Land

- Low Density Residential: less than one housing unit per acre. Included in this category is a sub-category of Very Low Density Residential. The sub-category includes parcels greater than five acres. There were 2,760 large, privately owned parcels in this sub-category, containing a total area of 46,657 acres. Due to the fact that these large parcels are largely undeveloped, a five-acre maximum was created for residential use calculation purposes, reflective of the largest minimum area required for residential use in many municipalities. The Very Low Density Residential area was redistributed. A total of 13,800 acres were added to the low-density category and the balance of 32,657 acres was added to the undeveloped land category.
- Medium and High Density Residential: one or more housing units per acre. This combined category includes medium density residential, consisting of parcels with one to five housing units per acre, and high density residential consisting of parcels with more than five housing units per acre.
- Intensive Industrial: manufacturing, warehousing, storage areas.
- Extractive Industrial: mining, sand and gravel operations.
- Commercial: retail, wholesale, services, business and professional offices.
- Institutional: governmental and institutional buildings and open areas connected with such uses. This category is the combination of Extensive Institutional open areas such as Camp Rell in East Lyme as well as Intensive Institutional uses such as town halls and school buildings.
- Mixed Urban Use: intensively developed urban areas where different land uses, such as residential and commercial, coexist on a single parcel.
- Transportation, Communications, Utilities: highways,



House and Horse Farm, Salem



Connecticut College, New London

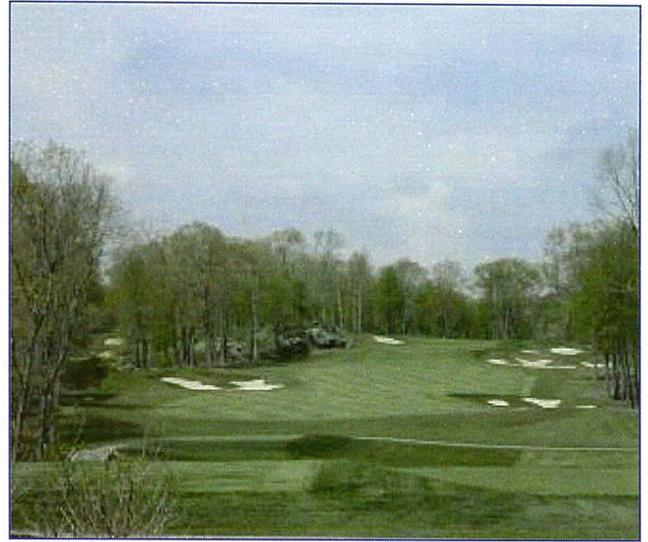


New Commercial Development, Route 32, Montville

public and semi-public facilities providing services such as transportation, communications, gas, electricity and water.

Dedicated Open Space

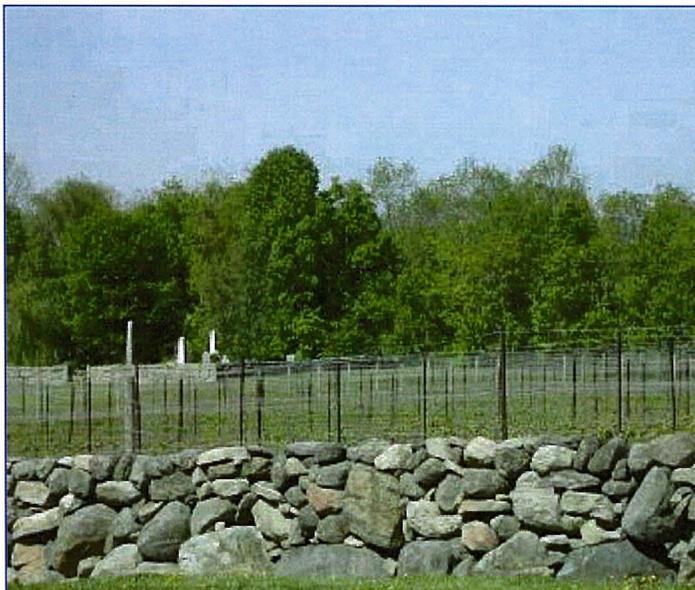
- Total Open Space: cemeteries, state forests, public-private preserves, and any water utilities' holdings.
- Active Recreation: public and private parks, playgrounds, camping areas, golf courses, and other outdoor facilities.
- Agriculture: other agriculture lands such as cropland, orchards, vineyards, nurseries, pastures, open fields, and dairy, poultry, swine, beef and horse farms that are not considered to be Agricultural Reserves (defined as agricultural lands protected under the Connecticut development rights purchase program).



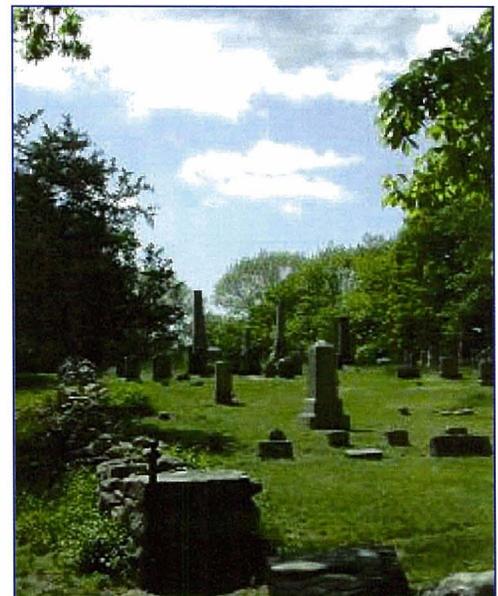
Lake of Isles Golf Course, North Stonington

Other Land Use Designations

- Federally Recognized Native American Tribal Reservations (NATR): Reservations of Native American Tribes that have been recognized by the federal government. Land uses within the region's two NATR include high and low density uses such as commercial, residential, recreational, and open space.
- Undeveloped: vacant land including water bodies and a portion of very large low-density residential parcels that are undeveloped as described above.



Jonathan Edwards Winery, North Stonington



Cemetery, Salem



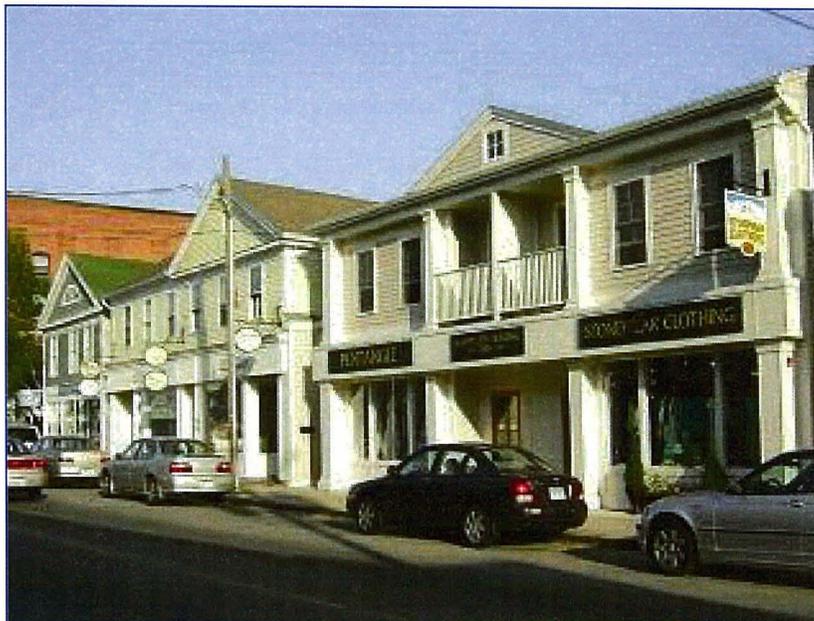
TABLE 12
LAND USE TOTALS IN ACRES BY TOWN, 2005
 Southeastern Connecticut Region

MUNICIPALITY	LOW AND VERY LOW DENSITY RESIDENTIAL	MEDIUM AND HIGH DENSITY RESIDENTIAL	INDUSTRIAL INTENSIVE	INDUSTRIAL EXTRACTIVE	COMMERCIAL	INSTITUTIONAL	MIXED URBAN USE	TRANSPORTATION COMMUNICATION AND UTILITY (TCU)	TOTAL DEVELOPED LAND	TOTAL OPEN SPACE (W/ CEMETERIES)	ACTIVE RECREATION	AGRICULTURE (INCLUDES AGRICULTURAL RESERVES)	TOTAL DESIGNATED OPEN SPACE	NATIVE AMERICAN TRIBAL RESERVATION	UNDEVELOPED	TOTAL ACRES IN TOWN
URBAN TOWNS																
Groton	829	4,687	447	0	704	1,488	0	2,355	10,510	4,064	297	58	4,419	0	4,015	18,944
New London	83	1,136	156	0	248	507	37	728	2,895	317	107	0	424	0	178	3,497
Norwich	2,540	3,509	470	4	858	894	21	1,812	10,108	1,565	233	604	2,402	0	5,490	18,000
Urban Totals:	3,453	9,332	1,073	4	1,811	2,889	58	4,895	23,513	5,946	637	662	7,245	0	9,683	40,441
SUBURBAN TOWNS																
Colchester	7,114	1,273	185	89	282	281	54	1,784	11,063	5,506	71	776	6,353	0	13,328	30,744
East Lyme	2,969	2,633	108	0	300	4,085	0	1,181	11,276	2,561	1,143	356	4,060	0	7,002	22,337
Griswold	4,098	912	21	300	96	137	0	877	6,440	4,356	326	1,752	6,434	0	9,525	22,400
Ledyard	4,265	2,005	290	80	253	563	8	1,004	8,467	3,742	318	648	4,708	2,214	9,702	25,090
Lisbon	2,284	327	49	117	150	57	0	543	3,527	106	354	548	1,008	0	6,153	10,688
Montville	4,315	2,849	615	855	477	576	0	1,421	11,108	3,247	482	432	4,161	560	11,816	27,647
Preston	3,262	334	83	149	163	556	0	636	5,183	513	205	2,219	2,937	0	11,658	19,779
Sprague	1,310	217	284	0	19	130	0	318	2,278	1,023	264	289	1,576	0	4,594	8,448
Stonington	5,113	2,122	370	0	501	400	0	1,907	10,413	2,463	965	1,339	4,767	0	9,972	25,152
Waterford	3,491	2,667	335	15	737	926	0	2,289	10,460	2,025	645	66	2,736	0	8,184	21,378
Suburban Totals:	38,221	15,339	2,340	1,605	2,977	7,710	62	11,960	80,215	25,542	4,772	8,425	38,739	2,774	91,934	213,663
RURAL TOWNS																
Borah	1,458	164	136	11	39	69	0	449	2,326	401	555	1,307	2,263	0	8,056	12,645
Franklin	1,141	287	92	34	190	35	0	450	2,229	947	117	2,824	3,888	0	6,427	12,544
North Stonington	4,594	320	14	308	329	255	0	1,019	6,839	4,404	1,658	2,761	8,823	0	19,602	35,264
Salem	3,147	155	140	126	131	37	0	970	4,706	2,727	505	1,153	4,385	0	9,747	18,838
Voluntown	1,737	227	18	35	24	66	0	792	2,899	15,369	147	1,096	16,612	0	5,947	25,457
Rural Totals:	12,077	1,153	400	514	713	462	0	3,680	18,999	23,848	2,982	9,141	35,971	0	49,779	104,748
TOTAL REGION																
Total Acres:	53,751	25,824	3,813	2,123	5,501	11,061	120	20,535	122,727	55,336	8,391	18,228	81,955	2,774	151,396	358,850
Total Square Miles:	84.0	40.4	6.0	3.3	8.6	17.3	0.2	32.1	191.8	86.5	13.1	28.5	128.1	4.3	236.6	560.7
% of Total Acreage	14.98%	7.20%	1.06%	0.59%	1.53%	3.08%	0.03%	5.72%	34.20%	15.42%	2.34%	5.08%	22.84%	0.77%	42.19%	100.00%

Source: SCCOG Towns

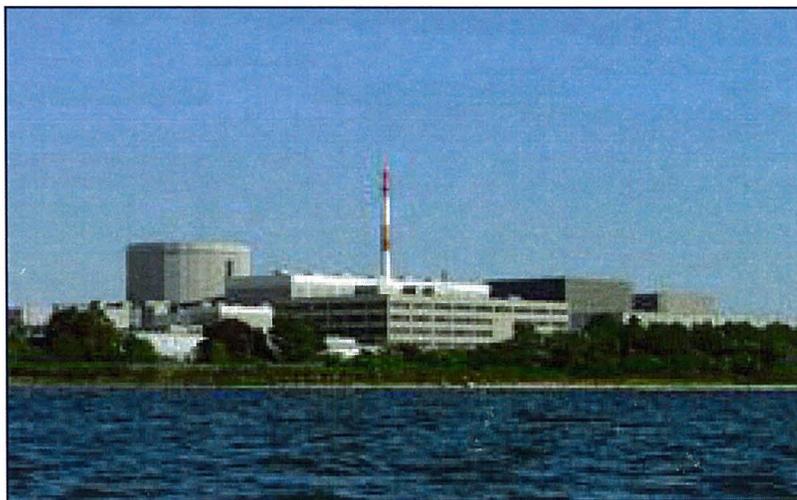
11.3 SUMMARY

Due to the change in data collection and tabulation process, it is difficult to directly compare previously collected land use data with current data, however, the proportional distribution of the various land use categories indicate a continuation of past general trends (See Table 10). These trends indicate an increasing percentage of land area being developed for residential use. This should not be surprising since the vast majority of land in the region is zoned for residential use in direct correlation with market place demand. The increasing number of residences



Downtown Mystic
Photo courtesy of the Eastern CT Tourism District

leads to the nearby location of non-residential activities, such as commercial and personal services. A continuing challenge for the region is to ensure that non-residentially zoned land be available for development. Such zoning designations must reflect site characteristics that lend themselves to more intensive non-residential development schemes as well as needed infrastructure accessibility.



Millstone Nuclear Power Plant, Waterford

12.0 PUBLIC PARTICIPATION PROCESS

The following summarizes the process used to solicit input received from the public and local officials during the course of the formulation of this Plan. In addition to the distribution of a questionnaire that solicited opinion on a variety of land use and development issues, four public meetings/workshops and a public hearing were held. A Steering Committee oversaw staff preparation of the Plan document, and staff regularly provided Plan progress reports to the Council of Governments and the Regional Planning Commission.

12.1 REGIONAL PLAN OF CONSERVATION AND DEVELOPMENT STEERING COMMITTEE

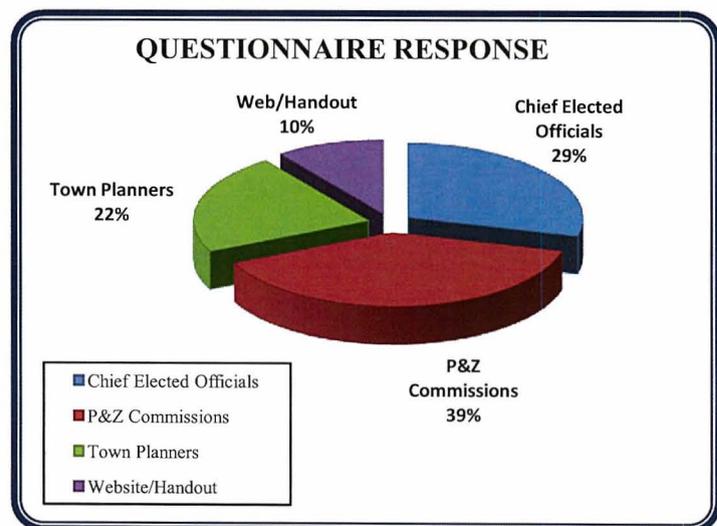
At the outset of this process, a Steering Committee was formed to guide staff work on the Plan. The Committee was comprised of four members of the Regional Planning Commission and four members of the SCCOG who reviewed and commented on background information and the overall document preparation. In addition, SCCOG staff gave status reports to the Council of Governments and the Regional Planning Commission on the progress of updating the Plan at their regular meetings that are open to the public.

12.2 PUBLIC MEETINGS/WORKSHOPS

In the course of preparing this *Regional Plan of Conservation and Development*, four public meetings or workshops were held to receive input concerning issues of regional concern. As discussed below, local municipal official and public comment was solicited via questionnaire. These public comments, alongside a technical analysis of regional data, were key determinants in the formulation of the 2007 Plan.

12.3 QUESTIONNAIRE

As part of the process in preparing this *Regional Plan of Conservation and Development*, SCCOG distributed questionnaires to the region's chief elected officials, land use commissions, and municipal planners in an attempt to identify and quantify prominent issues facing



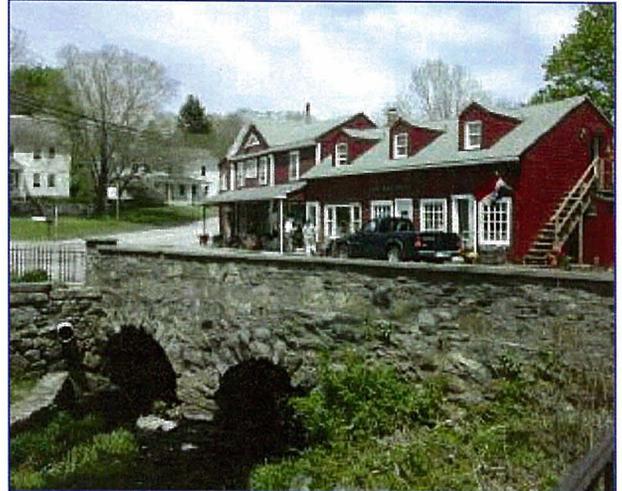
the region. The questionnaires were also posted on the SCCOG web site and distributed at two public workshops. In total, 75 questionnaires were completed and evaluated. The survey result was tabulated for the whole and by municipal classification. The questionnaire was broken into seven primary categories: Growth Patterns/Impacts and Sprawl; Resource Protection; Planning Document Authority; Affordable Housing; Transportation; Intergovernmental Issues; and Development Priorities. A copy of the questionnaire and a response summary is attached as Appendix A at the end of the Plan document.

Growth Patterns/Impacts and Sprawl

In the growth patterns/impacts and sprawl category, questions were structured around the topic of community and regional sprawl and their associated impacts. Responses indicated that sprawl, which was defined as “dispersed, auto-dependent development outside of compact urban and village centers,” was considered a serious concern locally and regionally. The majority of the respondents felt it was very important or somewhat important to control sprawl. Responses were split on the question of whether residential growth was burdening existing town services, yet 83% of the respondents felt that commercial/industrial growth did not burden town services at all. A strong majority, 73%, also felt that it was important for a community to have its commercial development reflect traditional New England character.

Natural Resource Protection

The second category involved natural resource protection. Adopting additional regulatory controls to protect “special natural resources” had both regional and local support. With regard to these “special natural resources,” it appeared that the protection of undeveloped woodlands and farmland by regulation was less important than the protection of other special natural resources, such as water



Village of North Stonington



*Fall Foliage, Southeastern Connecticut
Photo courtesy of the Eastern CT Tourism District*

resources and wetlands. Fifty-one percent of the respondents favored the use of tax dollars to protect woodlands, and 53% thought tax dollars should be used to protect farmland. Additionally, a strong majority, 85%, supported the acquisition of undeveloped parcels for future open space use.

Affordable Housing

Opinions involving affordable housing were varied. Overall, a majority of respondents, 59%, felt there were not enough affordable, owner-occupied housing units in the region. While responses to this question were consistent throughout the rural, suburban and urban towns, this issue was of more concern in the region's urban municipalities. With regard to the availability of affordable rental units, the responses from the region's rural and suburban towns indicated that not enough units were available, while a majority of the respondents from the region's urban communities felt they currently had an adequate number of affordable rental units. Approximately 57% of the respondents appeared to recognize the need for more affordable owner occupied and/or rental housing units in the region, 71% of all respondents strongly or somewhat supported a requirement for new housing developments to include a percentage of affordable units. In one question, respondents were asked if the cost of education were isolated from residential development, would their community be more likely to support affordable housing. The responses received to this particular question, indicated that only a slight majority, 52%, of the respondents stated that they would be more active in supporting affordable housing within their communities with the cost of education isolated.

Transportation

On the subject matter of transportation, three questions specifically addressed public transit. While



Southeast Area Transit (SEAT) Buses

59% of the respondents stated that there was inadequate public transit in their towns, 65% felt that public transit was not practical within the region. Additionally, 30% of the regional response indicated strong support, with 49% indicating some support, and only 21% indicating no support, for the use of taxpayer money to improve mass transit versus building new roads.

Overall, the respondents rated the road systems across the region as *good to fair* within the

suburban and urban communities, and *good to very good* for rural communities' road systems. With the exception of some concern expressed in rural communities about congestion on some state secondary roads, traffic congestion was generally only considered a problem on the region's interstate highways, and not on other state or local roads.

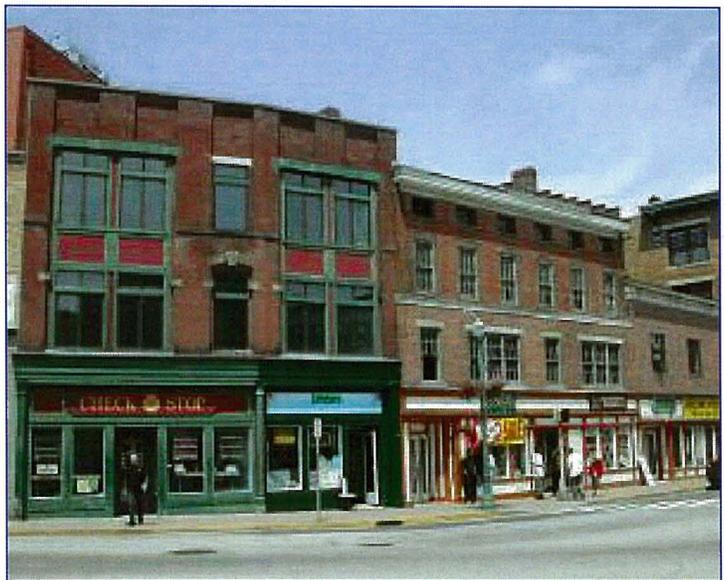
Intergovernmental Issues

The questionnaire also posed two questions involving intergovernmental policies with regard to regulatory control over large projects. Among the urban and rural communities there was support for inter-municipal oversight of large-scale developments. Only 35% of the respondents from suburban communities were in favor of this type of regulatory arrangement. Overall 37% of the regional response indicated some support for a regional agency to participate in the regulatory control of large-scale developments, with an additional 35% responding that they were *unsure*.

Development Priorities

The final category on the questionnaire asked how important it was for the *Regional Plan of Conservation and Development* to address specific development priorities. Under these questions, the respondents rated the following items as *extremely important* or important:

- Preserving the physical character of a community (100%);
- Protection of undeveloped areas (98%);
- Attracting new business (96%);
- Reducing traffic congestion (96%); and
- Encouraging non-residential development (95%);
- Encouraging residential development (66%).



Downtown Norwich

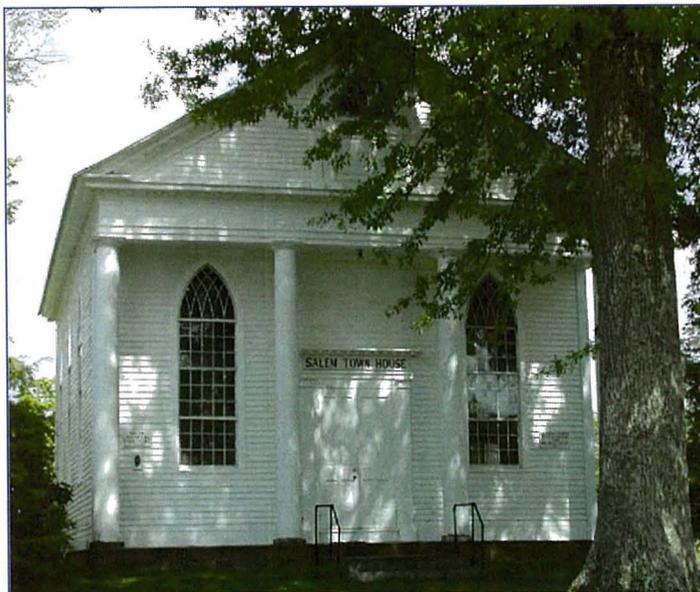
Summary of Questionnaire Responses

As the questionnaire was available to the general public on the SCCOG website as well as at two public meetings, there is no way to calculate an overall response rate. While the total number of respondents for the questionnaire was small, all public input is vital in preparing a plan of conservation and development. With this in mind, the results of the questionnaire generally appear to

indicate strong regional support for the following objectives:

- Promoting growth in compact urban and village centers (as a means to control sprawl);
- Adopting programs to acquire undeveloped parcels for open space or future municipal use;
- Preserving the physical character of communities;
- Attracting new business;
- Reducing traffic congestion and expanding mass transit options;
- Encouraging non-residential development; and
- Protecting special natural resources

There were also a number of items that only received moderate support that are worth noting here. Some respondents concluded that promoting a framework for joint community land-use regulatory control on large-scale projects at the municipal level might be relevant. Some respondents stated that



Salem Town House

encouraging affordable rental and/or owner-occupied residential units are *somewhat important*. Although some respondents appear to recognize the need for more affordable housing, they remain unclear as to who is responsible for supplying these units. Likewise, the need to improve public transit is inferred from the regional response to the inadequacy of the current system (59%), and as expressed by 79% of respondents being strongly supportive or somewhat supportive to spending taxpayer money on public transit versus roads, with only 21% not at all supportive.

12.4 PUBLIC HEARING

As required by State Statute, a public hearing was held on the draft Plan on October 15, 2007 at the SCCOG office in Norwich.

13.0 RECOMMENDED PLAN

13.1 REGIONAL CONSERVATION AND DEVELOPMENT PLAN MAP

The discussions and mapped data in each of the preceding chapters represent the basis upon which issues of regional concern have been identified. These issues, and the potential measures to address them, represent the SCCOG's blueprint for the future of the region. This blueprint is graphically depicted in the Regional Conservation and Development Plan map (see Figure 23 at end of Plan document). The Plan map was influenced by land development patterns, local zoning, transportation systems, sewer and water systems as well as the development limitations imposed by the region's natural environment, especially those associated with existing and potential high yield ground water aquifers. Additional basis for the development of the Regional Conservation and Development Plan map included review of the *Conservation and Development Policies Plan for Connecticut, 2004-2009*, and SCCOG member municipalities' Plans of Conservation and Development.



Commercial Buildings, Colchester

The region's 2005 estimated population of 249,697 is expected to grow at a rate of 6.5% over the first decade of the 21st Century, a rate the region has not experienced since the 1980's. This population will require housing as well as other public and private services, which in turn will stimulate additional forms of land development. In addition, municipalities will continue to attempt to grow their tax base by allowing land uses that generate additional property taxes.

This Plan has concluded that it will be necessary to protect the area's natural environment in order to achieve this anticipated growth in land development. Many view the protection of current and future water supply resources as one of the most critical elements in the physical and economic well being of the region. As discussed previously in the Plan, the essence of the 2003 SCWA *Regional Water*

Supply Plan and by extension, the *Regional Plan of Conservation and Development*, is that new sources of water will be required to satisfy demand from all forms of development. In fact, the *Regional Water Supply Plan* stipulates that a projected deficit in water supply will begin to occur between 2010 and 2020 if new sources of supply are not developed.

The region's existing and proposed highway and mass transit systems are also viewed as very important future development factors, both in terms of mobility and access. While there are several significant highway projects that require completion, such as Routes 11 and 2/2A/32, there are improvements needed in mass transit, including bus, rail and waterborne that are equally important to the region's future transportation system.



Buttonwoods Farm, Griswold

In summary, this Plan is a vision for the region's future. This vision will require a departure from traditional ways of viewing certain resources as belonging to one town for the exclusive benefit of that town, to a vision that sees the necessity for a regional shared approach to resource management. While it is understood that each municipality must have an adequate tax base to be able to provide the necessary services required by its residents, the development required to achieve that tax base must be sited in

such a way to protect the region's natural resources, to maintain the region's quality of life, and to ensure the viability of sound growth for many years to come.

13.2 DESCRIPTION OF MAP CATEGORIES

Conservation and Development Categories

The following describes the various land use categories depicted on the Regional Conservation and Development Plan Map (See Figure 23, located at the end of the document).

- **Existing and Proposed Urban Uses:** These are areas used, or recommended for the most intensive residential and/or industrial and commercial development. These areas include the region's urban centers as well as concentrations of intensive development in village and town centers. The

Urban Use designation denotes the utilization of both public water and sewer systems, existing or planned, that supports this development density. These areas can accommodate residential densities of greater than 3 units per acre and similar non-residential activity density. Where feasible, these areas should be looked to for the location of compact, transit accessible, and pedestrian-orientated mixed use.

- Existing and Proposed Suburban Uses - Medium: These areas are used, or recommended for residential and/or industrial and commercial development. These areas contain either public water or sewer system service or are recommended for such systems. The high density suburban use areas can accommodate residential densities ranging from 2 to 3 units per acre and similar non-residential activity densities.

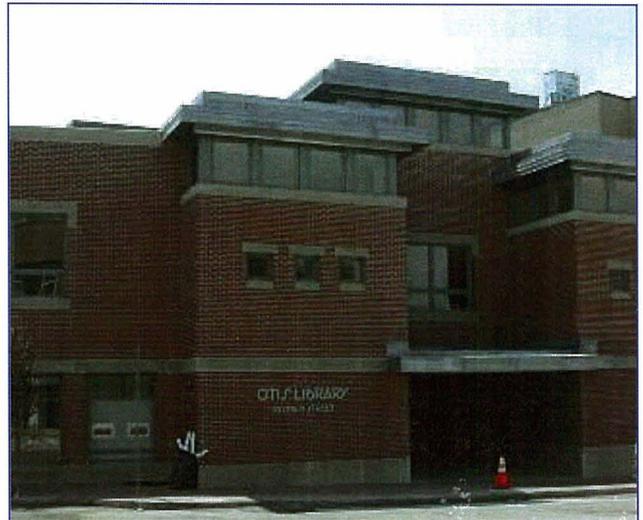


Colchester Village

- Existing and Proposed Suburban Uses - Low: These areas are used, or recommended primarily for residential use at a density of 1 to 2 units per acre. These lower densities, suburban areas are also suitable for limited non-residential activity such as small professional offices and for governmental or low intensity institutional uses.

- Existing and Proposed Rural Uses: These areas are used, or recommended for residential uses at a density of less than 1 unit per acre. These areas are also suitable for agricultural, recreational, limited governmental or institutional uses.

- Existing Institutional Uses: These areas include public and private institutional uses such as governmental, military, correctional, educational and medical facilities.



Otis Library, Norwich

- Existing Recreation and Open Space Uses: These areas include state forests, local and private preserves, water company lands, and cemeteries that are two acres or larger. They also include recreational lands designated for intensive uses such as state and local parks, camps and campgrounds, golf courses and sporting clubs, as well as property under the State of Connecticut Agricultural Rights Program.

- Proposed Conservation Areas: These are large areas with significant limitations to development and/or areas that contain a significant special natural resource that makes them suitable for conservation. These areas are generally larger than 5 acres. Included in this category

are regulated lands such as inland wetlands, tidal wetlands, stream belts and potential mitigation land. Conservation areas may include land having potential passive and active recreation opportunities. Where appropriate, due to existing and anticipated land use, existing water supply well recharge areas and areas with potential ground water supplies are included in this category.



Lantern Hill, Ledyard

- Federally Recognized Native American Tribal Reservations (NATR): These areas represent the trust lands of the region's two federally recognized Native American Tribes. Land uses within this category include casinos, tribal government offices and services, hotels, retail, residential, and open space.

Overlay Designations

- Existing Reservoir Areas: This overlay depicts existing watershed areas having surface water impoundments used for public water supply.
- Level B Aquifers: This overlay area depicts the recharge area for existing public water supply wells currently used for public water supply. Water utilities are preparing more detailed mapping which, after Connecticut Department of Environmental Protection approval, will be designated as Level A and regulated by the local municipality under the Connecticut General Statutes Section 22a-354 inclusive. Where appropriate, due to existing land use, these areas have been designated as Proposed Conservation Areas. These are areas that require special attention with regard to the type of land use permitted.
- Potential High Yield Aquifers: These are areas designated by the 2003 *Regional Water Supply Plan* as having significant potential to yield large amounts of potable ground water. These are areas that require special attention with regard to permitted land uses. Where compatible with existing land uses, these areas are designated as Proposed Conservation Areas.

13.3 REGIONAL ISSUES, GOALS, OBJECTIVES, AND RECOMMENDED ACTIONS

During the formulation of this Plan, a number of issues important to the future of southeastern Connecticut have been identified as requiring resolution. These issues can be categorized under five general areas including: governmental fragmentation; diversification and growth of the regional economy; effects of future growth on the environment; transportation demands; and public utility infrastructure needs. The Plan's goals, objectives, and recommended actions are presented below for each of these issue areas.

A central theme becomes apparent when examining these issues. The essence of regionalism is that a given population, regardless of town of residence, shares natural and manmade resources. It is vital that this concept of regionalism is understood and endorsed to sustain the notion that the region's quality of life supersedes home rule practices and municipal boundaries. It is hoped that this *Regional Plan of Conservation and Development* will be a useful tool in achieving the necessary cooperation and collaboration between the region's municipalities in order to assure the long-term well being of southeastern Connecticut.

ISSUE # 1: GOVERNMENTAL FRAGMENTATION

In Connecticut, governmental fragmentation continues to restrict a region's ability to effectively deal with many problems of a regional nature. Achievement of a true regional approach to future development will require much higher levels of governmental integration. Connecticut's strong tradition of home rule and its lack of regional government results in a highly fragmented governmental structure that is often inadequate to deal effectively and efficiently with a variety of problems that are regional in scope. The responsibilities and powers of regional Councils of Government (COGs), authorized under the general statutes, are extremely limited. COGs may discuss, recommend and coordinate responses on a variety of different issues. However, without regulatory or taxing powers, COGs must look to other levels of government to implement actions.

Within southeastern Connecticut, there are 20 towns, cities or boroughs, two federally recognized, sovereign Native American Tribal Nations, and a number of independent public service authorities or districts. Developing consensus among these separate governmental entities is enormously cumbersome and frequently impossible. Initiating action is even more difficult.

With respect to the 2007 *Regional Plan of Conservation and Development*, the issue of governmental fragmentation becomes immediately evident as it relates to local government's control of land use. The tradition of local land use regulation exists side by side with Connecticut's local governments' high dependence on the taxation of real property. It is necessary to directly link these functions to derive the financial base to underwrite the costs of operating local government.

Under this system of public finance, municipalities are put into the position of having to continuously search for new tax-yielding development in order to expand their tax base to meet growing local

expenses. To support this effort, towns zone the most suitable sites within their boundaries that they determine will likely support such new development. Therefore, towns are by default, in competition with their neighboring communities for tax-producing development. Consequently, until the dependence on the property tax is substantially altered, local governments cannot be expected to willingly relinquish any significant degree of land use control to a regional entity.

Since reform in local governmental financing is unlikely in the foreseeable future, the function of regional land use policy-making will continue to strive to be coordinative rather than regulatory in nature. In the past decade the issue of property tax reform has received growing attention and may someday be implemented, but the effect of that reform on local land use decision making at some point in the future remains unknown. In the interim, overcoming the inherent handicaps of this fragmented governmental structure into the 21st Century will require close working relationships among all the region's municipalities, state agencies, tribal nations, and service authorities.

Regional Service Delivery

Since the late 1950's Connecticut has lacked a unit of general government at the regional level, between the municipal and state governments. The absence of county government in Connecticut creates a no-man's land with respect to the development of governmental policy and the provision of public services on a multi-municipal basis. The practical response has been a proliferation of single-purpose regional agencies in an attempt to grapple with the policy and service delivery vacuum at the regional level. This situation has served as a fundamental barrier to creating an integrated regional service delivery system.



Regional Multicultural Magnet School, New London

The *1997 Regional Conservation Development Policy Guide* recommended addressing the issue

of fragmentation and lack of integration between the region's multi-town service providers through the provision of SCCOG oversight of these agencies in the future. This recommendation was

repeated in the 1999 SCCOG study *Regional Governance for Water Supply in Southeastern Connecticut* and in the 2007 *Report of the SCCOG Regional Water Committee*. Although no steps have been taken to create a direct link between SCCOG and the before mentioned regional agencies, discussions concerning the need for such a relationship are beginning to occur, one example of which is the recent conversations between the SCCOG and the regional Water Authority (SCWA). Another example is the Memorandum of Agreement (MOA) that SCCOG entered into with the Southeastern Connecticut Housing Alliance (SECHA) in 2007, which among other things, makes the SECHA Housing Director a SCCOG employee. This Plan reiterates the 1997 Plan recommendation calling for more SCCOG oversight of southeastern Connecticut's regional service providers.

Goal: Reduce intergovernmental fragmentation to enable SCCOG to deal more effectively with issues of a regional nature.

Objectives:

1. SCCOG oversight of regional public service organizations. At a minimum these would include Southeast Area Transit (SEAT), and the Southeastern Connecticut Water Authority (SCWA).
2. Continued coordination between SCCOG and the Southeastern Connecticut Regional Resources Recovery Authority (SCRRA), Eastern Connecticut Tourism District, Thames Valley Council for Community Action (TVCCA), Eastern Connecticut Workforce Investment Board (EWIB), Southeastern Connecticut Enterprise Region (seCTer), and the Southeastern Connecticut Housing Alliance (SECHA).
3. Regional cooperation and coordination in the review and approval of large-scale land uses that impact more than the host municipality.

Recommended Actions:

1. Pursue the formation of a multi-service regional authority that, under the oversight of the SCCOG, would perform regional planning, water supply, solid waste management, and transit functions, all of which are currently provided by separate agencies.
2. In the interim, increase coordination through the use of Memorandums of Agreement that set forth how SCCOG, and other regional agencies, can coordinate the provision of service to the region's residents.
3. Continue close staff-level cooperation with other major regional organizations.
4. Continue the policy of inviting other regional agencies to SCCOG meetings for the purpose of maintaining an inter-relationship on issues of high priority for the region.
5. Sponsor workshops, forums and meetings with other regional agencies to explore improved mechanisms for the coordinated delivery of public services regionally.
6. Continue to work to change the system of municipal finance to reduce local dependence on the property tax as a means to facilitate more effective and coordinative regional land use

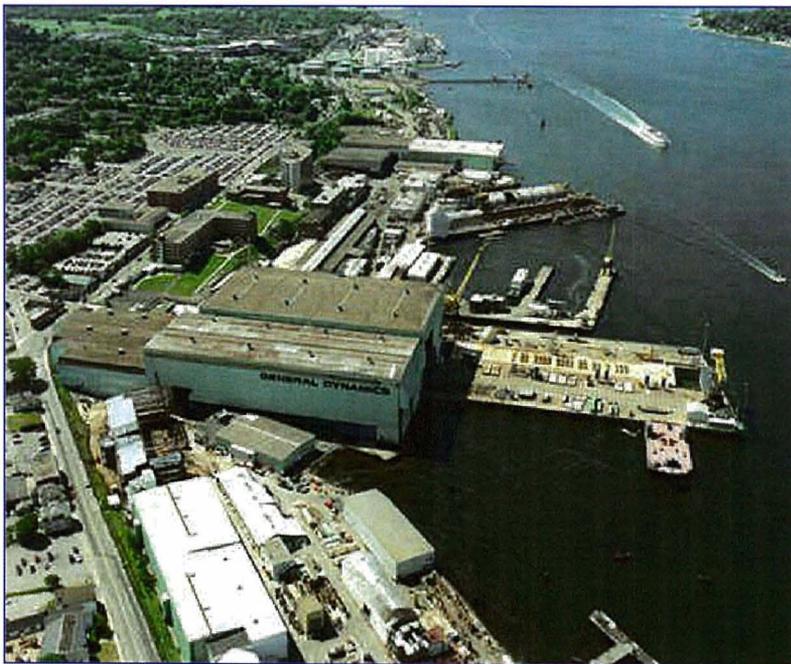
policy.

7. Continue to provide advisory reviews of statutorily required referrals of development applications to SCCOG; and investigate and support legislation that would provide a stronger role than currently exists in statute, for regional planning organizations in the review and approval of large-scale developments having region-wide impacts.

ISSUE #2: DIVERSIFICATION AND GROWTH OF REGIONAL ECONOMY

Events beyond the region's control largely influence the economy of southeastern Connecticut. Enhancing the characteristics of the emerging economy with the least adverse effects will require time, resources and new levels of cooperation among many interests.

The decline of defense spending at the end of the Cold War destabilized southeastern Connecticut's



General Dynamics Electric Boat, Groton

economy. With the opening of the Foxwoods Resort Casino in 1992, southeastern Connecticut's economy suddenly shifted direction. In the past 15 years, Southeastern Connecticut lost almost 11,000 manufacturing jobs at an annual average wage of \$67,000, while the service sector increased employment by more than 27,000 jobs at an annual average wage of \$33,000. While the regional economy is more diversified than it was in the past when the defense sector dominated, there is a growing gap in the average

earning power of the employees of the various economic sectors.

In the global economy of the 21st Century, the region must focus its resources on creating a supportive environment for manufacturing, both to retain current manufacturers and to attract new firms. Marshaling these resources effectively will require new levels of cooperation among many interests, some of whom have been traditional competitors. Municipalities accustomed to competing

for tax base will need to begin to view the entire region as a shared resource that provides the human and physical capital for economic growth. Likewise, municipalities must seek new ways of sharing both the benefits and impacts of economic development if the region is to prosper.

Goal: Actively seek to create opportunities for the development of a balanced, diversified, and sustainable economic base to minimize risks of high unemployment and overdependence on any single economic sector.

Objectives:

1. Implementation of SCCOG and seCTer's 2004 Comprehensive Economic Development Strategy (CEDS) for the region.
2. Coordination of SCCOG activities with those of other entities having primary economic development responsibility.
3. Promotion of economic development through multi-municipal, regional organizations.
4. Concentration of compact, mixed-use development in areas that are transit accessible and pedestrian-orientated.

Recommended Actions:

1. Work collaboratively with seCTer, the Eastern Connecticut Workforce Investment Board, the Eastern Connecticut Tourism District, chambers of commerce, and others, to implement the region's economic development plan.
2. Encourage the improvement of the aging and strained infrastructure of the region's urban centers.
3. Advocate for the revitalization and re-use of existing structures in the region's urban and village centers, including compact, energy-efficient, transit accessible, pedestrian-orientated mixed use development.
4. Support infrastructure expansion to various development sites such as Route 117 in Groton, Route 12 in Ledyard and, the expansion of the Norwich Business Park in Norwich and Franklin.
5. Promote the social infrastructure necessary to address the growing demographic diversity in the region.
6. Support the Southeastern Connecticut Housing Alliance (SECHA) in its effort to encourage increased housing availability, design choice, and affordability.

ISSUE #3: EFFECTS OF FUTURE DEVELOPMENT ON THE ENVIRONMENT

Continued development without regard to the carrying capacity of the land poses the single largest threat to the region's natural resource base. Absent the ability to establish regional growth boundaries, the region's shared natural resources will be placed under growing pressure through



New Construction along Route 161, East Lyme

random municipal and market-driven development actions. The identification and purchase of land adjacent to areas with special natural resources such as farmlands, tidal marshes, inland wetlands and potential water supply areas, will become increasingly important to maintain the environmental and economic well-being in the region as well as the overall quality of life enjoyed in southeastern Connecticut.

For the past 40 years, despite minimal population growth, the focus of development in the southeastern Connecticut region has shifted from the urban centers to the region's rural and suburban municipalities. This new development pattern is supported both by local zoning and an active private



Jordan Cove Subdivision, Waterford

sector marketplace. The need for each municipality to encourage new commercial and industrial development to build tax base has been previously identified. But the continuing effects of this municipally-based development process on the region's natural resource base, especially as related to air and water quality, presents the biggest governmental challenge for the region, now and in the future.

As the region continues to develop, the region's twenty independent municipalities that have historically promoted development for their own fiscal benefit will have to recognize that the success

of their future growth and development could be dependent upon the availability of natural resources, such as water supplies, that exist in another municipality. Conversely, municipalities with plentiful natural resources will realize that, at some point in the future, they have a commodity that will be in high demand. In short, the stakes are extraordinarily high for both resource-abundant and resource-deficient towns as to how and when this scenario manifests itself and whether it occurs in a market-driven, regulatory, or some other environment.

Early recognition of this new paradigm is essential because of the following three facts:

- The distribution of essential natural resources is imbalanced throughout the region;
- The region's resources are fragile and need protection to ensure future viability; and
- Certain types of fiscally attractive, intensive development pose the greatest threat to the future viability of the region's natural resources.

Balancing the continuing fiscal needs of all towns through the process of resource protection and redistribution is essential to the region's future.

Goal: Strive to preserve the region's natural resource base by concentrating development where the fewest natural resource limitations exist and establish a process whereby resource-abundant towns begin dialogue with resource-deficient towns concerning future demand for the use of the resource.

Objectives:

1. Compatibility of local plans with regional and state land use policies.
2. Adoption of state legislation leading to real and comprehensive tax reform, one result being to lessen the influence of property taxes on local land use decision-making.
3. Further identification and protection of future regional water supplies.
4. Identification and protection of wildlife corridors and open space lands that can interconnect adjoining towns.
5. Reduction of hypoxia, pathogens, toxic contaminants and floating debris in Long Island Sound.

Recommended Actions:

1. Meet with local officials to discuss differences in regional and local land use policies.
2. Conduct studies to identify properties with significant natural resources, especially those located near areas identified as potential high yield aquifer sites.
3. Provide technical assistance and education to member municipalities in the development and administration of natural resource protection regulations and policies, and policies resulting in the preservation of region's farmland.

4. Give priority to the programming of infrastructure improvements in the region's urban core.
5. Support legislation that would provide comprehensive tax reform and lessen the local property tax burden, thereby decreasing the need for towns to permit environmentally detrimental development.
6. Assist member municipalities in implementing their local Coastal Area Management Programs through education and workshops.
7. Encourage municipalities to periodically review their designated open space within their jurisdiction, as delineated in their open space master plan, and to actively acquire open space through the subdivision approval process, using funding from state and federal grant programs, municipal appropriations, and providing the option of requiring developers to provide fees in lieu of open space, for this purpose.
8. Protect sensitive resources by encouraging protective buffers between development and wetlands and identified existing and potential future water supply areas.
9. Noting the success of projects like Jordan Cove subdivision in Waterford, encourage towns to protect valuable natural resources through innovative site design, best management practices with respect to storm water treatment, and open space planning.
10. Assist member municipalities in educating the public concerning the impact of stormwater pollutants and methods for reducing such impacts.
11. Encourage and assist the region's municipalities with the implementation of the *Regional Hazard Mitigation Plan*.

ISSUE #4: TRANSPORTATION DEMANDS

Changes in the national and local economies are resulting in new demands and challenges on all major transportation facilities in the region. Airports, highways, railroads and ports are all under pressure to perform in new ways. In meeting these challenges, local, regional, statewide and national interests frequently find themselves in conflict over the development or expansion of transportation infrastructure systems in, and through, the region. Achieving a consensus on what best serves the region's interests for all these systems is at times extremely difficult. As a result of both external and internal changes, the region is beset with challenges and opportunities for which transportation is a key underlying requirement.

Transit

Modern public transit bus service in the region was initiated in the mid-1970's as a result of an oil embargo. In 2007, rising energy costs are making bus transit again attractive. In the interim, the nation experienced a binge of suburban development accompanied by a new type of gas consuming

vehicle (SUV) to serve the demand of the growing suburban population. The role of transit in the future must be calibrated in terms of serving low-density development patterns and the need to serve the tourism based economy.

Rail

Amtrak has completed the electrification of the rail line in the Northeast Corridor. Rail service was expected to increase significantly, from 14 to as many as 52 trains per day passing through the region. This has not happened. Furthermore, it is becoming increasingly clear that Amtrak is not serving the commuter needs of the region. Extension of Shoreline East into New London with regular daily and weekend service has emerged as a high priority need. Additionally, protection and enhancement of New London’s Union Station as a rail depot and multi-modal transportation center is also a top priority.



Acela Train at Union Station, New London

Highway

An uncertain energy future, an expansion of the gaming industry, and other traffic generating development will continue to exacerbate highway congestion in portions of the region. In addition, through traffic on the Interstates will continue to increase. Even though differing views among citizens groups, municipalities and tribal nations have sometimes created barriers to consensus; the need for several significant highway improvements is well documented.



Air Quality

With the passage of the *Clean Air Act Amendments* of 1990, transportation activities became fully integrated with air quality mitigation. From this, the development of clean fuels has become a national priority. Future investment in clean, fuel-efficient forms of transportation and the land use patterns to support them, will help lessen the potentially negative impacts to air quality and thereby also help address the problem of global warming. However, while SCCOG is vested with oversight

responsibility for clean air through its transportation planning activities, control of the resources necessary for the development and implementation of a clean air program, is beyond the authority of a regional council of governments.

Air Service

For decades, Groton-New London Airport functioned as the region's main air carrier facility. Deregulation of air service in the 1980's has resulted in a consolidation of air services in the best markets having the best facilities. The constrained physical layout of Groton-New London Airport and the relatively limited market has resulted in a complete loss of air carrier service. The long-term future of Groton-New London Airport as an air carrier facility remains in doubt given the existence of other nearby, larger airports.

State Pier

The State Pier continues to be underutilized. It has the potential to become a key freight handling resource. The Pier's future, however, has undergone a series of intensive technical and political re-examinations. Possible use of the Pier as a passenger depot, and the option to convert the surrounding property for tax-generating purposes need to be studied. Most recently, State Pier has been used to



Admiral Shear State Pier, New London

dock cruise ships visiting the Port of New London and surrounding attractions. These visits have proven to be advantageous to the local economy. SCCOG's proposed Tourist Transit System, if implemented, could serve the passengers from these cruise ships who wish to travel around the region.

Freight

Movement of goods into and through the region is accomplished by three principal means: rail, truck and barge. Over the past 50 years, the interstate highway system and network of state and local roads, coupled with scattered suburban development in the region, has weighed heavily in favor of trucking as the most efficient means of freight movement. According to a recent CONNDOT study that included interstate highway utilization, trucks represent 17% of all vehicles on the road. Despite rising fuel costs, completely reversing this trend in favor of rail freight is unlikely. Efforts are presently underway however, to explore barge off-loading opportunities for certain kinds of freight. This might have a small but measurable effect

on truck usage.

Transportation has historically been, and continues to be, one of the region's most important priority issues. Rapid increases in demand, especially for highways and transit, will continue. Providing adequate funds to meet new highway and transit infrastructure needs will be the major challenge in the coming decades.

Goal: Create a balanced regional transportation system that strives to meet the needs of all segments of the population, including tourists, regardless of age, income or disability, and which promotes responsible development within the region's core.

Objectives:

1. Coordination of policies among key transportation stakeholders.
2. Conservation and restoration of natural and cultural resources in the development of new transportation infrastructure.
3. Regional transportation systems, which are planned and budgeted for within the context of fiscal constraint.
4. Expansion of opportunities for intermodal linkages among various elements of the transportation system including freight.
5. Development of alternative modes to single-occupant highway transportation that would include mini-buses, ferries, bicycle and pedestrian ways, and increased rail service.
6. Expansion of public transit systems in conjunction with other Plan objectives such as promoting Transit Orientated Design (TOD), increasing social infrastructure, and protecting natural resources.
7. Location and support for new funding mechanisms for transportation and transit improvements.

Recommended Actions:

1. Regularly update pertinent transportation policy documents, including the *Regional Transportation Plan*.
2. Continue to support SCCOG's highest priority highway projects, including the completion of Route 11 from Salem to I-95 in Waterford; capacity improvements to I-95 from Branford to the Rhode Island state line; and improvements to Routes 2, 2A, and 32, including capacity improvements to the Mohegan Pequot Bridge.
3. Work with CONNDOT to provide a higher level of regular commuter rail service from New London to New York via Shoreline East or an extension of Metro North into southeastern Connecticut.
4. Work to ensure the continuation of the regional multi-modal transportation center at New London's Union Station.

5. Conduct studies and collect data on changing transportation system trends.
6. Continue to pursue the creation of a new tourist transit system that would connect the region's tourist attractions.
7. Identify and promote areas where compact, energy efficient, transit accessible, pedestrian orientated, mixed-use development are feasible.
8. Support the development of a regional demand-response system of transportation to complement fixed-route service.
9. Support efforts to improve shipping and freight handling capability and related economic growth in the Port of New London and throughout the region through the region's rail network.
10. Support actions to improve service levels and the use of Groton-New London Airport.
11. Plan and advocate for the connection of the region's towns with a pedestrian trail system.
12. Develop a tourist bus transit system as recommended in SCCOG's 2005 study, *Intermodal Connections Southeast*.

ISSUE #5: PUBLIC UTILITY INFRASTRUCTURE NEEDS



Department of Public Utilities, Jewett City

Management and maintenance of major public utilities infrastructure are critical to support future growth in the region's economy. Development pressures, high costs of utility infrastructure and fragmented governmental responsibilities will require the development of new approaches in order to meet infrastructure needs.

Perhaps more than any other single factor, utility infrastructure helps determine a region's development future. The availability of public water, sewer and solid waste facilities enable more intense, higher density development to occur. This is also becoming increasingly true for electric, gas and telecommunication services.

At present, the region is served by over 100 separate community water systems that supply potable water to more than 70% of the region's population. Coordinating the fragmented system of water supply is fundamental to the orderly growth of the region in the future. This coordination is

especially critical with respect to future water supplies and service areas.

As a matter of cost, the policy of sewer avoidance remains strong. However, the desire for more intensive development as a vehicle to generate tax base or to serve other purposes conflicts with this policy. This in turn may pose environmental problems where intensive development exceeds the carrying capacity of the site on which it is located.

While the region's solid waste disposal needs have been significantly addressed through the construction of two resource recovery facilities, the disposal of bulky waste, sewage sludge, household hazardous waste material, electronics waste, and low level radioactive waste remains a challenge. These are matters that will require cooperation among many public and private interests.

Goal: Provide a system of public utilities that will protect the health of the region's population and environment while allowing development to occur that meets the needs of the region's people, businesses and industries.

Objectives:

1. The maintenance and upgrade of public water, sewerage, and waste facilities and other essential utilities throughout the region.
2. Coordinated and cooperative action among the various utilities serving the region to ensure that the needs of a growing population and economy are met.
3. Location of higher density development in areas suitably served by public utilities.
4. Maximization of solid waste reduction and recycling within the region.

Recommended Actions:

1. Assist the Southeastern Connecticut Water Authority in the implementation of the *Regional Water Supply Plan*, specifically in the development of new water supply and in the planned extension of the regional water network.
2. Support and encourage the seven-municipality watershed source protection effort initiated by the City of Groton.
3. Continue cooperating with the Southeastern Connecticut Regional Resource Recovery Authority to ensure that the region's solid waste management needs are addressed including waste reduction, increased recycling, regional e-waste disposal, and household hazardous waste collection.
4. Support land use policies that would concentrate new intensive development in areas served by public utilities.
5. Encourage the utilization of best management practices and innovative technology for any new intensive development that significantly impacts the region.
6. Pursue regional solutions to wastewater treatment and sludge disposal.

13.4 RELATED PLANNING ACTIVITIES

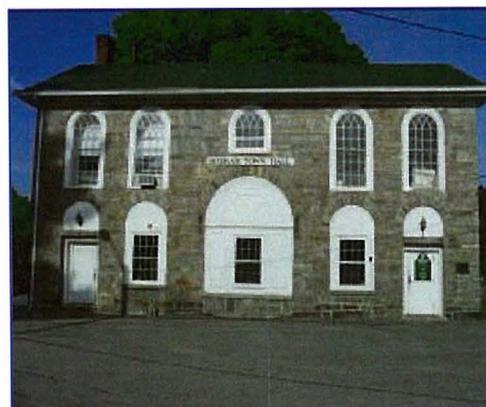
It is important to note that the 2007 *Southeastern Connecticut Regional Plan of Conservation and Development* relates to other local regional and state planning activities. The following list, while by no means exhaustive, illustrates the wide range of planning efforts and documents which have been consulted and which provide background for this Plan.

State:

- *Connecticut Conservation and Development Policies Plan 2005-2010*
- *State of Connecticut Master Transportation Plan 2007*
- *State of Connecticut Rail Plan Update*
- *State of Connecticut Solid Waste Management Plan 2006*

Regional:

- *SCCOG – Regional Development Plan, 1967*
- *SCCOG - Regional Development Plan, 1976*
- *SCCOG - Regional Development Plan, 1987*
- *SCCOG - Recommended Regional Development Policy Guide for Southeastern Connecticut, 1997*
- *CEDS - Comprehensive Economic Development Strategic Plan for Southeastern Connecticut, SCCOG and seCTer, 2004*
- *SCWA - Regional Water Supply Plan, 2003*
- *Regional Transportation Plan FY 2007-2035 for Southeastern Connecticut*
- *Intermodal Connections Study Southeast, 2005*
- *Housing A Region In Transition, An Analysis of Housing Needs In Southeastern Connecticut 2000-2005, 2002*
- *Southeastern Connecticut Regional Hazard Mitigation Plan, 2005*
- *Regional Emergency Management Plan For The Southeastern Connecticut Region, 2004*
- *Route 11 Greenway Development Plan, Route 11 Greenway Authority Commission, 2005*
- *I-395 Corridor Transportation Investment Area Plan*
- *Southeast Corridor Transportation Investment Area Plan*



Bozrah Town Hall

Local:

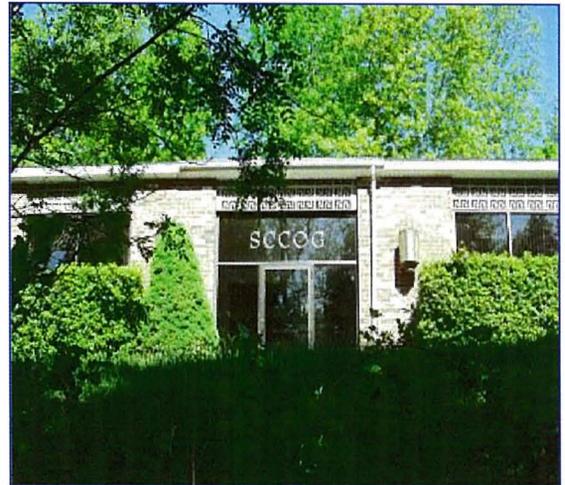
- Municipal Plans of Conservation and Development, Southeastern Region
 - Bozrah, 2002
 - Colchester, 2001
 - East Lyme, 1999
 - Franklin, 2000
 - Griswold, 2007
 - Groton City, 1996
 - Groton Town, 2002
 - Ledyard, 2003
 - Lisbon, 2004
 - Montville, 1996
 - New London, 1997
 - North Stonington, 2003
 - Norwich, 2002
 - Preston, 2003
 - Salem, 2002
 - Sprague, 2007
 - Stonington Borough, 1999
 - Stonington, 2004
 - Voluntown, 2000
 - Waterford, 1998

13.5 PLAN IMPLEMENTATION

Although SCCOG is required by statute to create a plan for the region's growth and development, it has no legal power to ensure the plan is implemented. Instead, such a plan is implemented because municipal, state, and federal agencies, along with private entities, are convinced that the plan's recommendations are best for the region's future. Because of this, this Plan is not an end by itself, but instead is the beginning of a continuing and complex process of implementation.

Regional Implementation

The SCCOG can induce Plan implementation three different ways: by providing assistance to member municipalities and other organizations and agencies in carrying out actions needed to further the goals of the Plan; by recommending policy and action to agencies that have implementation authority; and by coordinating implementing action between municipalities and regional service providers.



SCCOG Office, Norwich

Most implementation efforts will require consensus building among the region's municipalities, state governmental agencies, other regional agencies, and at times the private sector. SCCOG should use the Plan as

a guide in establishing policy, setting work program priorities, reviewing proposed development proposals, pursuing grant funds, and assisting its member municipalities.

With regard to potential funding for certain actions recommended in the Plan, Section 8(b) of Public Act 07-239, *The Act Concerning Responsible Growth*, establishes a regional performance incentive program to be administered by the Secretary of the Office of Policy and Management whereby the SCCOG can submit proposals and potentially receive grant money for the joint provision of a municipal service or services not currently provided on a regional basis.

The Regional Plan should be consulted when reviewing applications for federal or state funding; agreements between municipalities; zoning and subdivision referrals that potentially have inter-municipal impact; funding for economic development projects; municipal Plans of Conservation and Development; proposals and work initiatives proposed by SCCOG member towns. The Regional Plan should also be used as a source of information about the southeastern Connecticut region, and as a

statement of SCCOG’s philosophy concerning the region’s future growth.

Municipal Implementation

There are a number of mechanisms available to SCCOG member municipalities that can be used to assist in the implementation of the Regional Plan. Local Plans of Conservation and Development



Franklin Welcome Sign, Route 32

must now be referred to SCCOG to determine their consistency with the Regional Plan. These local Plans should be the basis for land use decisions made by municipal Planning and Zoning Commissions. Provided that municipal Plans are reflective of the Regional Plan, the Regional Plan’s policies and goals can be accomplished through planning process conducted by the region’s land use commissions.

Municipal zoning and subdivision regulations are two of the tools that towns use to implement their own planning vision. If the regulations are consistent with the local Plan, and then the Regional Plan, the actions of the local planning and zoning boards in applying their regulations results in the implementation of the Regional Plan.

Municipalities prepare Capital Improvement Programs for programming capital expenditures over a long-term period. These Capital Improvement Programs can be used to implement actions recommended in this Plan where a specific town expenditure is required.

Under Section 8-24 of the Connecticut General Statutes, municipalities must refer certain actions and improvements to municipal infrastructure to their local planning board before taking any action. The planning commission must then make a determination if the proposed action is consistent with the local Plan of Conservation and Development. Any proposed action disapproved by the planning commission requires a two-thirds vote of the legislative body before the action can be implemented. If this planning tool is to contribute to the implementation of the Regional Plan, the local Plan being consulted must be consistent with it.

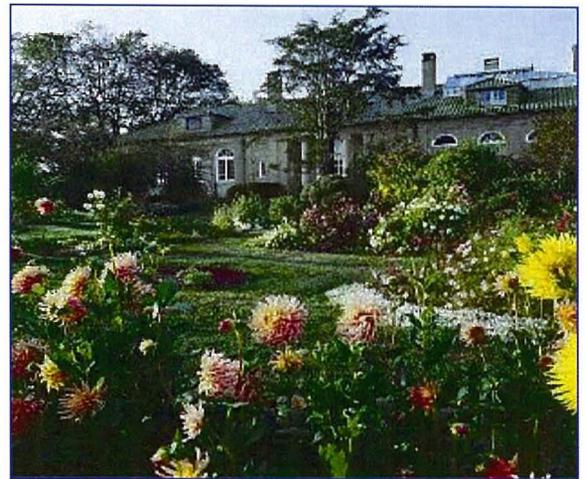
State Implementation

The *Conservation and Development Policies Plan for Connecticut* is prepared every five years by the Office of Policy and Management (OPM). The most recent State Plan was adopted by the General Assembly in 2005. State agencies consult the State Plan when preparing agency plans; acquiring real

property; considering development projects, reviewing grant applications, and when considering state infrastructure improvements. Before the State Bond Commission allocates bond funds for certain actions, the Secretary of OPM submits an advisory statement to the Bond Commission concerning the actions' conformity with the State Plan.

The 2005-2010 *Conservation and Development Policies Plan for Connecticut* cites the importance of regional coordination in implementing the growth management principles and policies set forth in the State Plan. It recognizes the vital role that regional planning organizations like SCCOG perform in facilitating inter-municipal cooperation. It is imperative then, that the Regional Plan and the State Plan are consistent with and complement each other.

In accordance with recent legislation entitled *An Act Concerning Responsible Growth*, as of July 1, 2009, and every five years thereafter, the state Commissioner of Economic and Community Development will prepare an economic strategic plan that is consistent with the *Conservation and Development Policies Plan for Connecticut*, the long-range state housing plan, and the transportation strategy adopted by the state. The SCCOG is among the various organizations and agencies to be consulted with for the purposes of developing the state economic strategic plan.



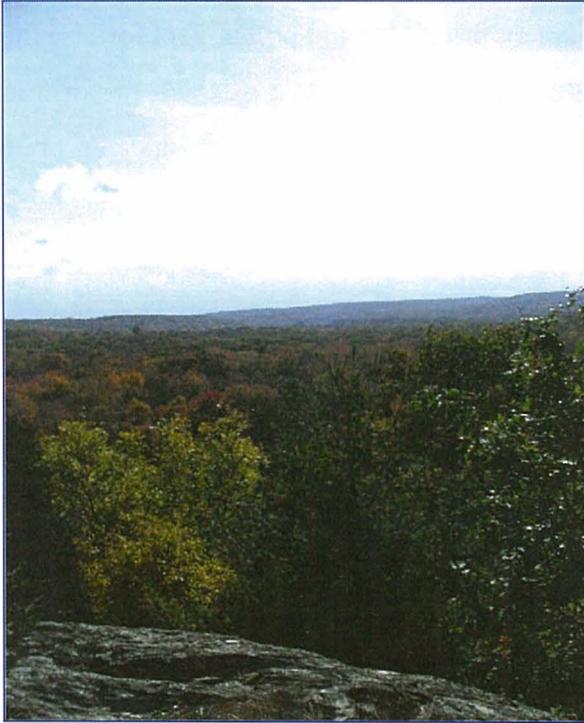
Harkness Memorial State Park, Waterford
Photo courtesy of the Eastern CT Tourism District

Federal Implementation

Federal agencies should refer to the *Regional Plan of Conservation and Development* when considering funding programs and major projects in the region. Probably the most significant influence that the Regional Plan has is on transportation projects and funding in the region. As the Metropolitan Planning Organization (MPO) for the region, SCCOG is responsible for the planning and programming of transportation projects requiring federal funding. The *Regional Transportation Plan*, which is viewed by SCCOG as an extension of this *Regional Plan of Conservation and Development*, is the basis for all projects programmed in the Region's *Transportation Improvement Program*. The Federal Highway Administration, the Federal Transit Administration, and other federal agencies refer to all of these documents as the basis of SCCOG requested federal funding and action.

14.0 PLAN CONSISTENCY

Section 8-35a of the Connecticut General Statutes requires that each regional plan note any inconsistencies with the following growth management principles:



Ayers Mountain, Franklin

- Redevelopment and revitalization of regional centers and areas of mixed land uses with existing or planned infrastructure.
- Expansion of housing opportunities and design choices to accommodate a variety of household types and needs.
- Concentration of development around transportation nodes and along major transportation corridors to support the viability of transportation options and land reuse.
- Conservation and restoration of the natural environment, cultural and historical resources, and traditional rural lands.
- Protection of environmental assets critical to public health and safety.
- Integration of planning across all levels of government to address issues on a local, regional, and state-wide basis.

In addition to the above growth management principles, whereas portions of the southeastern Connecticut region are contiguous to Long Island Sound, the 2007 *Plan of Conservation and Development* is designed to reduce hypoxia, pathogens, toxic contaminants and floatable debris in Long Island Sound.

Pursuant to the above-referenced statute, this Plan has been referred to the Secretary of the Office of Policy and Management for a determination that the Plan is not inconsistent with the *State Plan of Conservation and Development*.

Whereas the 2007 *Regional Plan of Conservation and Development* was prepared with both the before-mentioned growth management principles and *State Plan of Conservation and Development* in mind, it is the finding of the Southeastern Connecticut Council of Governments that this 2007 Plan is consistent with all state planning policy and plans.

APPENDIX A

QUESTIONNAIRE AND RESPONSE SUMMARY

REGIONAL RESPONSE SUMMARY
Southeastern Connecticut Council of Governments
REGIONAL PLAN OF CONSERVATION AND DEVELOPMENT QUESTIONNAIRE
APRIL 21, 2006

#	QUESTION	RESPONSE	PERCENT	RESPONSE	PERCENT	RESPONSE	PERCENT
1	If Sprawl is defined as dispersed, auto-dependent development, outside of compact urban and village centers, then: Is sprawl a concern in your town?	Yes	68%	No	23%	Not Sure	9%
2	How important is it for your community to control sprawl?	Very Important	56%	Somewhat Important	35%	Not Important	9%
3	Do you feel sprawl is a problem in the S.E. region?	Yes	82%	No	13%	Not Sure	5%
4	How important is it for the region to address sprawl?	Very Important	65%	Somewhat Important	28%	Not Important	7%
5	Is the rate of residential growth burdening your towns' services?	Yes	49%	No	31%	Not Sure	20%
6	Is the rate of commercial/industrial growth burdening your towns' services?	Yes	11%	No	83%	Not Sure	6%
7	Is it important in your community that commercial development reflect traditional New England character?	Yes	73%	No	16%	Not Sure	11%
8	Should your community adopt additional regulatory controls to protect:						
	Undeveloped woodlands?	Yes	51%	No	27%	Not Sure	22%
	Farm Land?	Yes	53%	No	27%	Not Sure	20%
	Other special natural resources?	Yes	67%	No	14%	Not Sure	19%
9	Would you support the use of local tax dollars to protect:						
	Undeveloped woodlands?	Yes	55%	No	26%	Not Sure	19%
	Farm Land?	Yes	45%	No	28%	Not Sure	27%
	Other special natural resources?	Yes	63%	No	14%	Not Sure	23%
10	Would you support the use of a regulatory fee on all new development to protect:						
	Undeveloped woodlands?	Yes	54%	No	17%	Not Sure	29%
	Farm Land?	Yes	54%	No	22%	Not Sure	24%
	Other special natural resources?	Yes	56%	No	16%	Not Sure	28%
11	Should towns adopt a program to acquire undeveloped parcels for future development such as:						
	Open Space?	Yes	85%	No	5%	Not Sure	10%
	Economic Development?	Yes	64%	No	22%	Not Sure	14%
	Municipal Use?	Yes	78%	No	7%	Not Sure	15%
12	Would your community support the expansion of public utilities (water, sewer) in areas not designated for such expansion in anyone of the following documents?						
	The Municipal Plan of C&D	Yes	22%	No	39%	Not Sure	39%
	The Regional Plan of C&D	Yes	25%	No	31%	Not Sure	44%
	The State Plan of C&D	Yes	25%	No	31%	Not Sure	44%
	Only when described in all of the above?	Yes	13%	No	31%	Not Sure	56%
13	In your opinion are there enough affordable owner- occupied housing units in your community?	Yes	26%	Not Sure	59%	No	15%

REGIONAL RESPONSE SUMMARY CONTINUED

#	QUESTION	RESPONSE	PERCENT	RESPONSE	PERCENT	RESPONSE	PERCENT
14	In your opinion are there enough affordable residential rental units in your community?	Yes	32%	Not Sure	54%	No	14%
15	Would you support requiring all new housing developments to include a percentage of homes for moderate and low-income families?	Strongly Support	21%	Do Not Support	50%	Somewhat	29%
16	If the cost of educating children could be isolated from residential development, would your community be more active in supporting affordable housing?	Yes	52%	Not Sure	14%	No	34%
17	Do you think public transit in southeastern Connecticut, even at higher levels of service, is practical for most people except those without cars?	Yes	16%	Not Sure	65%	No	19%
18	Would you support spending more taxpayer money on improving public mass transportation rather than building new roads?	Strongly Support	30%	Do Not Support	49%	Somewhat	21%
19	Do you feel your community has adequate public transit?	Yes	22%	Not Sure	59%	No	19%
20	How do you rate the road system in your community?	Very Good	19%	Fair	49%	Good	32%
21	Is traffic congestion a problem in your town on:						
	Local Roads?	Yes	25%	Not Sure	71%	No	3%
	State Roads?	Yes	47%	Not Sure	47%	No	6%
	State Highways?	Yes	55%	Not Sure	38%	No	7%
22	In your opinion, should large-scale development proposals require some form of inter-municipal approval?	Yes	45%	Not Sure	29%	No	26%
23	In your opinion, should a regional agency, such as the COG/RPC, share in the regulatory control for large-scale development proposals in order to promote a regionally coordinated development pattern in southeastern CT?	Yes	37%	Not Sure	28%	No	35%

Please Rank the following topics on a scale of 1 to 10, with 1 meaning not important for your municipality and 10 meaning extremely important for your municipality, please tell us how important it is for the Regional Plan of C&D to address the following:

		Extremely Important ————— Important ————— Not Important									
		10	9	8	7	6	5	4	3	2	1
24	Attracting new businesses?	56%	16%	12%	7%	2%	2%	1%	2%	2%	X
25	Preserving the physical character of your community?	59%	7%	10%	10%	7%	5%	2%	X	X	X
26	Reducing traffic congestion?	26%	7%	3%	17%	17%	19%	7%	X	2%	2%
27	Protecting undeveloped areas?	42%	9%	11%	13%	7%	11%	5%	2%	X	X
28	Encouraging non-residential development?	34%	21%	14%	16%	3%	4%	3%	X	2%	3%
29	Encouraging residential development?	2%	3%	3%	10%	9%	21%	18%	12%	3%	19%



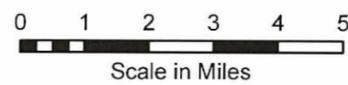
GENERALIZED LAND USE, 2005

Southeastern Connecticut Region

Legend

- Active Recreation
- Agriculture
- Agriculture Reserve
- Commercial
- Industrial
- Industrial - Extraction
- Institutional
- Institutional - Extensive
- Mixed Urban Use
- Residential - Low Density
- Residential - Medium Density
- Residential - High Density
- Native American Tribal Reservation
- Open Space
- Transportation, Communication and Utilities
- Undeveloped Land
- Waterbodies
- Primary Road
- Secondary Road
- Railroad
- Town Boundary

Source:
SCCOG and SCCOG Towns



Prepared by:

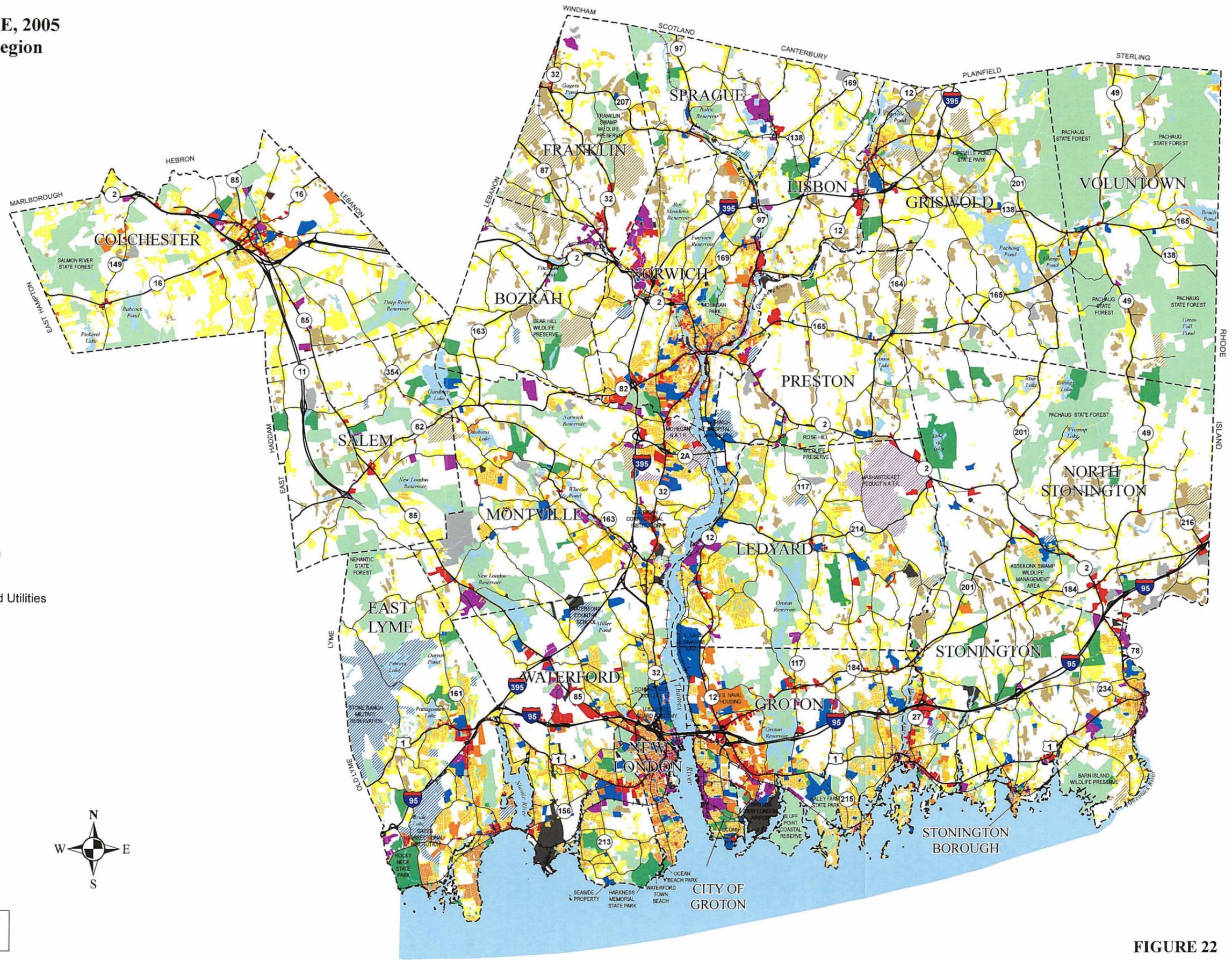


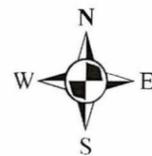
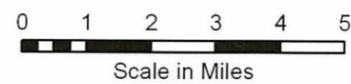
FIGURE 22

REGIONAL CONSERVATION AND DEVELOPMENT PLAN
2007
Southeastern Connecticut Region

Legend

- Existing and Proposed Urban Uses
- Existing and Proposed Suburban Uses - Medium
- Existing and Proposed Suburban Uses - Low
- Existing and Proposed Rural Uses
- Existing Institutional Uses
- Existing Recreation and Open Space Uses
- Proposed Conservation Areas
- Federally Recognized Native American Tribal Reservation
- Waterbodies and Watercourses
- Existing Reservoir Areas
- Level B Aquifers
- Potential High Yield Aquifers
- Primary Road
- Secondary Road
- Proposed Arterial Road
- Railroad
- Town Boundary

Source:
 SCCOG and SCCOG Towns



Prepared by:

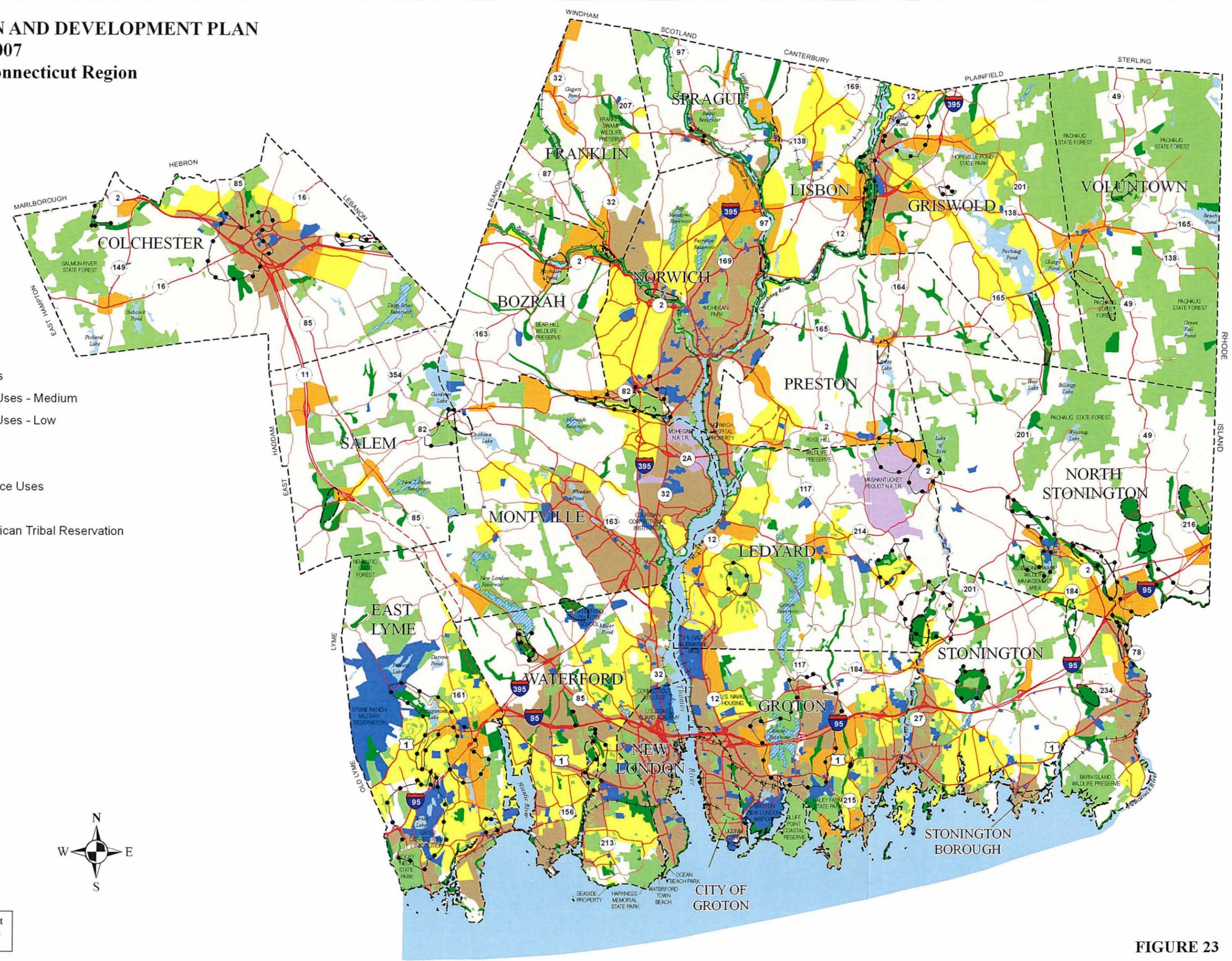


FIGURE 23