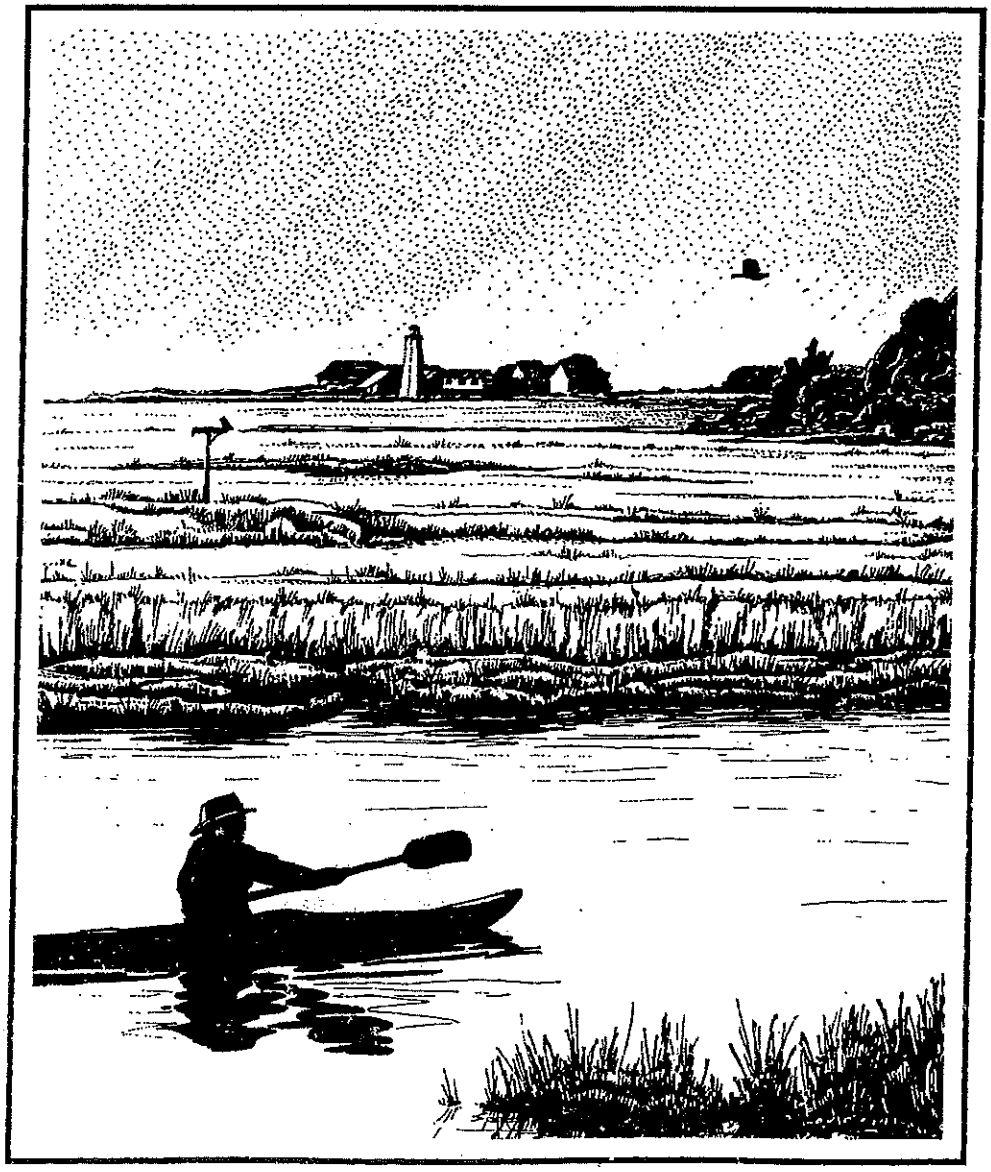
Town of Old Lyme
Open Space Plan



November, 1997

This plan has been prepared and produced by the:

TOWN OF OLD LYME OPEN SPACE COMMITTEE

(a subcommittee of the Planning Commission)

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I. GENERAL DISCUSSION OF OPEN SPACE

Open space planning is not new to Old Lyme. Since the mid-1960's, several attempts have been made to obtain funding for the purchase of sensitive lands that would lend themselves as open space. The 1965 Plan of Development stated that "an annual appropriation of one mill or $25,000 be set aside for this purpose". Likewise, both the 1975 and 1990 Plans of Development called for a reserve fund to be established so that land could be set aside as permanent open space to preserve important natural resources and maintain the visual and aesthetic character of the town. State statute permits the setting aside of up to two mills for the creation of an open space fund. These monies can be accrued for a long period of time (not having to be returned to the general fund annually) and used to purchase open space as key parcels become available.

A public opinion questionnaire was distributed throughout the town in 1997 to obtain a consensus on the preservation of open space. 98 percent of the respondents felt that conserving open space was a high priority for the town.

Since the 1960's, the Town of Old Lyme has relied heavily on the Old Lyme Conservation Trust to acquire parcels or accept land from subdivision dedications as open space. To date, approximately 350 acres have been secured by the Old Lyme Conservation Trust, while the Nature Conservancy has added an additional 62 acres of dedicated open space. The State of Connecticut owns several large parcels within the town, and the Gateway Commission owns two properties totaling almost 36 acres.

Approximately 4,000 acres of privately owned farmland and forest are protected by the tax shelter of Public Act (PA) 490. However, it is important to realize that land placed under this tax shelter has not been taken off the real estate market and as such does not qualify as "dedicated" open space (land which has forever been taken off the speculative real estate market). An undetermined amount of other land has development restrictions that have been established by conservation easements. No complete listing of conservation easements has been maintained in town records to date.

Although a fair amount of land has been protected by a variety of conservation-minded organizations including the Old Lyme Conservation Trust, The Nature Conservancy and the Department of Environmental Protection (refer to page 12), the Town of Old Lyme has taken only two actions to protect open space. Inland wetland regulations have required the establishment of a 100-foot wide regulated zone along inland wetlands and watercourses, while the town's subdivision regulations require a 15 percent open space set aside.

Both of these regulatory devices have weaknesses. Development is not precluded within the regulated zone, and most often the 15 percent set aside from subdivisions has been wetlands, in which development is otherwise precluded. Developers have generally chosen to dedicate wetlands that have limited development potential, minimizing the actual addition to the town's overall open space acreage.

More recently, Public Act (PA) 95-335 requires Planning Commissions to prepare, adopt and amend a plan of conservation and development. The Old Lyme Plan of Development

recommended that an open space plan be prepared to further define and recommend open space protection strategies. According to PA 95-335, such a plan may include plans for open space acquisition and greenway protection and development. Establishing such a greenway within the Town of Old Lyme is one of the goals of this plan.

"And to you I say
to take the chance when offered
even though it be unpopular
you will be called wise and revered
as farsighted by those
who profit from your deeds.
And further I say to you
if you do nothing
those few who remember you,
and know the opportunity you had
will hold you in disregard."
(Anon).

II. BACKGROUND INFORMATION

As with many small, rural towns across New England, Old Lyme has experienced significant changes throughout its history. The town was once home to vibrant ship building and farming industries. Later, with the introduction of the railroad (which made Old Lyme more accessible to visitors), summer dwellings were constructed along the shoreline. Although development followed the railroad, the year-round population of Old Lyme remained relatively stable (see **TABLE 1**) between 1860 and 1930.

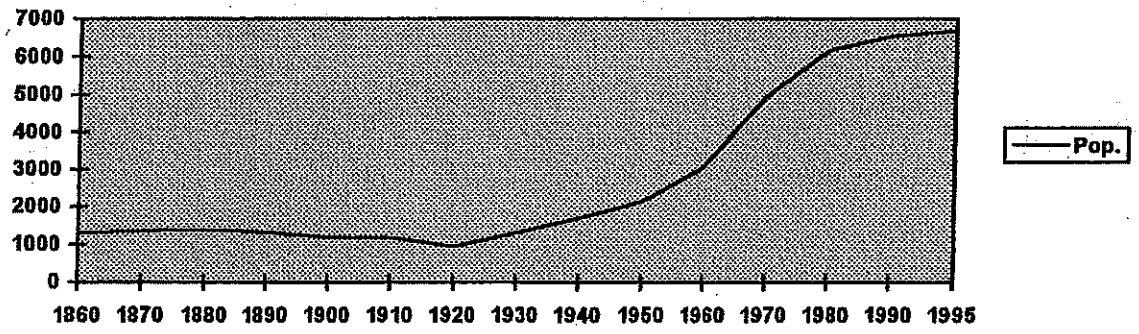
Significant alterations to the natural landscape and to the historic character of the town have occurred since the early 1960's. The completion of I-95 and Route 9 and the ensuing automobile-dependent/suburban society have combined to encourage many people to actively seek the relative tranquillity of small towns like Old Lyme. Since 1960, the town's population has increased 118 percent (refer to **FIGURE 1**). The small town character so evident in Old Lyme in the late 1950's and early 1960's, while still evident in 1996, is facing the consequences of suburbanization and the ensuing challenges of a small town in transition.

The completion of I-95 and Route 9 and the ensuing automobile-dependent/suburban society have combined to encourage many people to actively seek the relative tranquillity of small towns like Old Lyme.

TABLE 1
Historic Population of Old Lyme, 1860-1995

Year	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	1995
Pop.	1304	1362	1387	1319	1180	1181	946	1313	1702	2141	3068	4964	6157	6535	6679

Figure 1
Historic Population of Old Lyme, 1860-1995



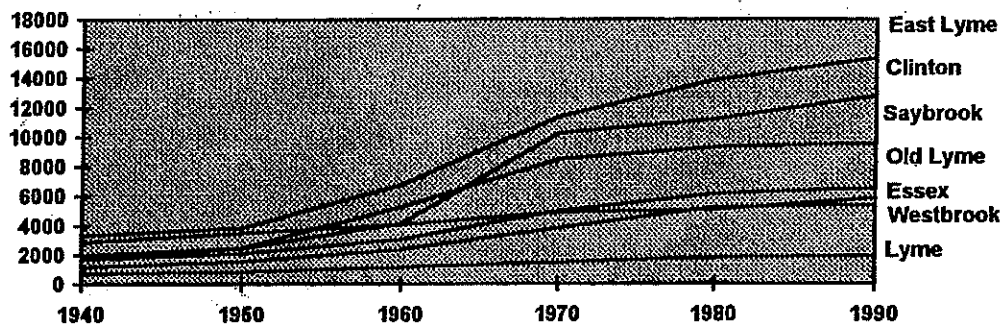
Old Lyme was incorporated in 1855. Prior to that date, Old Lyme was a part of Lyme and the demographics available prior to 1860 show the population of Lyme proper, without differentiating between the two towns as they are now known.
Source: US Census Data.

This form of rapid residential development is not peculiar to Old Lyme, but rather reflects continuing growth in this coastal region. As shown in **TABLE 2**, most of Old Lyme's neighboring shoreline towns have experienced significant population increases since 1960 (except for Lyme). In fact, East Lyme, Clinton, and Old Saybrook have experienced larger population increases than Old Lyme in this period. If these trends continue there will be increased pressure on potential open space throughout the region.

TABLE 2
Populations of Coastal Towns, 1940-1990

	1940	1950	1960	1970	1980	1990
Old Lyme	1,702	2,141	3,068	4,964	6,157	6,535
East Lyme	3,338	3,870	6,782	11,399	13,870	15,340
Clinton	1,791	2,466	4,166	10,267	11,195	12,767
Saybrook	1,985	2,499	5,274	8,468	9,287	9,552
Westbrook	1,159	1,549	2,399	3,820	5,216	5,414
Essex	2,859	3,491	4,057	4,911	5,078	5,904
Lyme	717	857	1,183	1,484	1,822	1,949

Figure 2
Shoreline Town Populations, 1940-1990



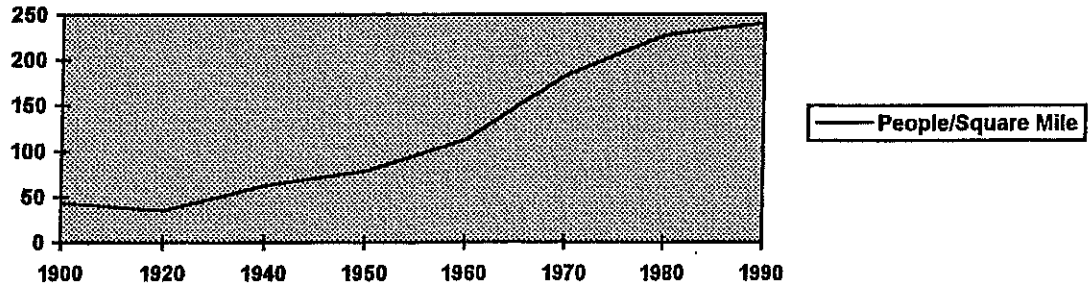
Source: CRERPA Census Data.

As previously stated, the population of Old Lyme grew significantly after 1960, due in large part to increased accessibility resulting from the completion of I-95. As shown in FIGURE 3, the number of people per square mile increased correspondingly after that time. Over the following thirty years, the density of residential development altered the landscape of Old Lyme as the people per square mile more than doubled from 113 to 241.

TABLE 3
People Per Square Mile in Old Lyme, 1900-1990

Year	1900	1920	1940	1950	1960	1970	1980	1990
People/Square Mile	44	35	63	79	113	183	227	241

Figure 3
People Per Square Mile, 1900-1990

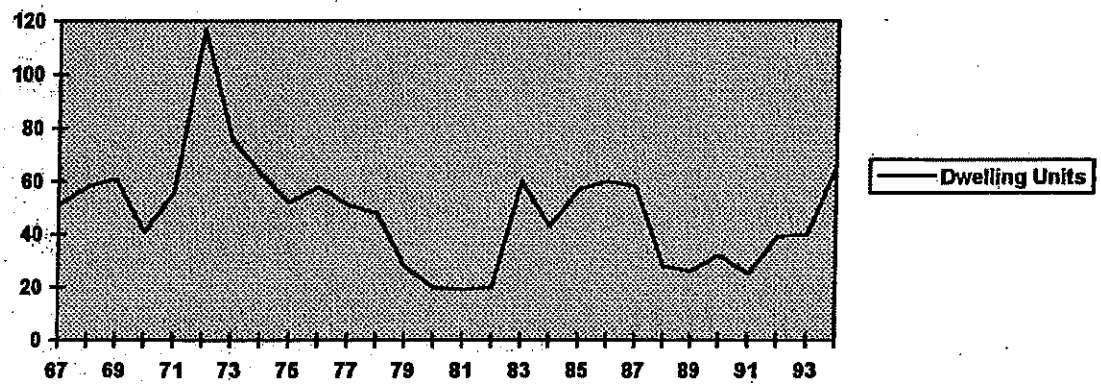


Source: CRERPA Census and Land Use Data.

TABLE 4
Dwelling Units Built Per Year in Old Lyme, 1967-1994*

Year	Units	Year	Units	Year	Units	Year	Units
1967	51	*1974*	63	*1981*	19	*1988*	28
1968	58	*1975*	52	*1982*	20	*1989*	26
1969	61	*1976*	58	*1983*	60	*1990*	32
1970	41	*1977*	58	*1984*	43	*1991*	25
1971	56	*1978*	51	*1985*	57	*1992*	39
1972	117	*1979*	48	*1986*	60	*1993*	40
1973	76	*1980*	20	*1987*	58	*1994*	65

Figure 4
Dwellling Units Built Per Year, 1967-1994



Source: CRERPA Census and Land Use Data.
* From 1967 to 1994, 1,492 homes were constructed in Old Lyme (an average of 53.28 units constructed annually).

Between 1967 and 1994, the number of dwelling units in Old Lyme increased by approximately 1,500 units.

The population of Old Lyme continues to increase as additional housing is constructed. As shown in **FIGURE 4**, the number of dwelling units has increased by almost 1,500 units between 1967 and 1994. This is an average of 53 housing units being constructed annually. To put these numbers into perspective, the 65 dwelling units built in 1994 are equivalent to the total number of all the dwelling units, town buildings and places of business along Lyme Street and McCurdy Road from I-95 to Route 156. Increased development and the accompanying population growth place demands on developable vacant land. This land, which may now be thought of as "open space," will not remain that way under present market forces and efforts must be made to preserve those sensitive areas which may be threatened by future development.

III. LAND USE DEVELOPMENT

Over the long term, population growth and development of land is inevitable for most towns or cities. Old Lyme, due to its geographic position at the shallow mouth of the Connecticut River where the lack of a deep water port has largely excluded industrial and commercial development, has experienced predominantly residential development. While some commercial and light industrial development is found in town, Old Lyme has been spared this widespread development found in other towns and cities located at the mouth of a major waterway.

The absence of public sewers that would allow higher density development and the adoption of strong subdivision and zoning regulations has spared Old Lyme from rampant development. In addition, land ownership patterns include several large undeveloped tracts that have not been made available for development purposes, leaving a few large parcels of land in a near pristine state. Thus, much of the healthy environment, natural beauty, and rural character long time Old Lyme residents have come to know and enjoy is still shared by those who choose to visit and live in town.

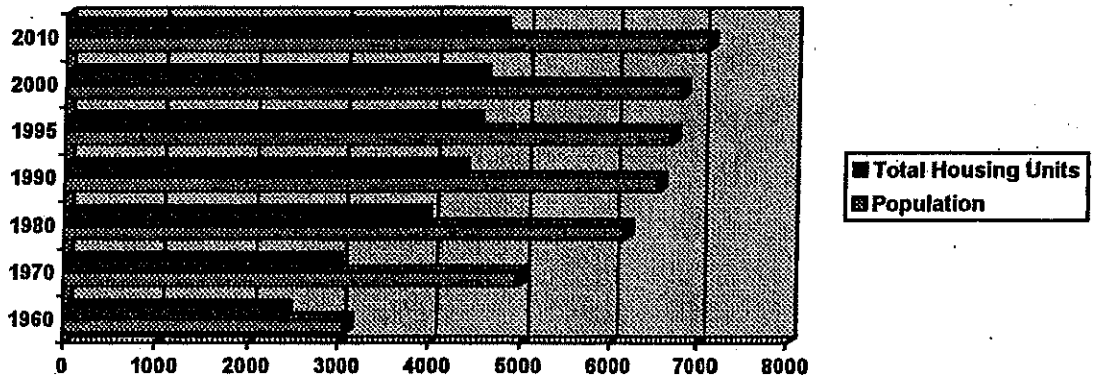
As with many other New England towns, Old Lyme has undergone significant basic changes over the last thirty years. Since 1960, the population of Old Lyme has increased by more than 118 percent (refer to **TABLE 5**). Coinciding with this increase in population has been an increase in the town's overall number of housing units. As shown in **FIGURE 5**, the total number of year-round housing units in Old Lyme has increased by 87 percent since 1960. Collectively, these figures show that Old Lyme is no longer the small town it was only thirty years ago (refer to **1970 AND 1995 DEVELOPMENT MAPS, PAGES 7 AND 8).**

Since 1960, the population of Old Lyme has increased by more than 118 percent and the number of year-round housing units has increased by 87 percent.

TABLE 5
Population and Housing Units for the Town of Old Lyme, 1960-2010

Year	1960	1970	1980	1990	1995	2000	2010
Population	3,068	4,964	6,159	6,535	6,679	6,791*	7,083*
Total Housing Units	2,384	2,946	3,919	4,336	4,441	4,550**	4,746**

Figure 5
Old Lyme Population and Housing Units, 1960-2100



Source: US Census information and Connecticut Department of Transportation population projections.
* Both 2000 and 2010 are population projections provided by the Office of Policy and Management (OPM).
** Total housing stock figures for 2000 and 2010 are extrapolated using a trend line analysis of historic percentages of housing to population.

Old Lyme today is faced with many of the same challenges with which larger towns and cities across New England must contend. Larger school budgets, expanding public works department responsibilities and a more sophisticated local government infrastructure are the by-products of increased residential development. Consequently, the natural and historic resources in Old Lyme require particular attention if the unique character of the town is to remain into the next century.

Only 7 percent of the total land area in Old Lyme is dedicated open space.

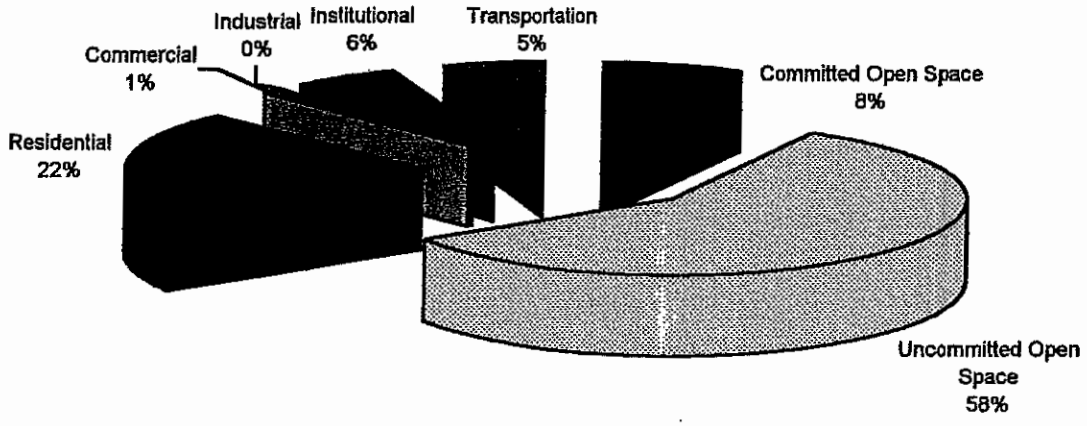
A look at Old Lyme's land use patterns (refer to **TABLE 6**) shows that the majority of land committed to some form of human activity is occupied by single-family residential development. In 1995, approximately 3,368 acres of Old Lyme's 15,585 total land acreage was residential (or 20 percent of the total land area). By comparison, 1,118 acres of land were designated as dedicated open space (land taken off the speculative real estate market for long term protection). This represents only 7 percent of the total land area in Old Lyme (refer to **COMMITTED OPEN SPACE MAP, PAGE 10).** This map shows that the dedicated open space in town is fragmented and there is little interconnectedness between the parcels.

TABLE 6
Land Uses for the Town of Old Lyme, 1995 (in acres)

Land Uses	1995	
Total Land Area (acres)	15,585	
Water	1,759	
Dedicated Open Space	1,118	
Uncommitted Open Space	9,180	(PA 490, town property and other undeveloped privately owned land)
Residential*	3,368	
Commercial	94	
Industrial	39	
nstitutional	895	
Transportation	855	
Developed Land**	5,251	

* inclusive of single, multi-family, and condominiums

** developed land is the total of residential, commercial, industrial, institutional and transportation acreage as listed.



Source: 1990 CRERPA Existing Land Use Study and Town of Old Lyme land use information.

Due to natural constraints, which include wetlands, steep slopes, ledge outcroppings, and poor soils (unsuitable for septic systems), a large portion of the 9,180 acres of uncommitted open space remaining in Old Lyme is not ideal for development.

As shown in **FIGURE 7**, approximately 60 percent of the remaining uncommitted open space in Old Lyme is not ideal for development. Thus, there remains approximately 3,603 acres of land in town that are suitable for development and efforts should made by the town to protect a portion of this forest and farmland to ensure that the rural character of the town is maintained. However, of the 9,180 acres of uncommitted open space, 4000 acres are receiving tax shelter under Public Act 490. This was enacted in 1972 by

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the state legislature and provides a tax break to owners of forestland who agree not to develop their land for ten consecutive years from the date of obtaining the tax shelter. While PA 490 does protect significant acreage in Old Lyme, it is important to realize that this land is not dedicated open space, for it may be developed at any time with only minor tax penalty to the owner.

TABLE 7
Uncommitted Open Space in Old Lyme, 1995

Town of Old Lyme	Acres
Uncommitted Open Space	9,180
Land That is **Not Ideal** For Development*	5,500 (60 percent)
Land That is Ideal For Development	3,603 (40 percent)

Figure 7
Land With and Without Natural Constraints on Development, 1995

Source: Town of Old Lyme, 1996.
* Natural constraints- wetlands, steep slope, ledge and poor soils can make land **not ideal** for development.

Just how much open space (both active and passive) should a municipality have? Studies completed at the state and federal levels to determine standards for the number of active recreational facilities a town should have recommend that at least 15 acres of recreational open space be provided for every one thousand people[1]. The 1995 population of 6,679 persons would mean that Old Lyme would require 100.19 acres of recreational land to meet this recommended standard. As shown below, Old Lyme has more than the recommended standard for recreational open space. However, this study does not take into consideration factors such as climate, income of local residents or the distance from one facility to another. More importantly, little information is available on the amount of passive recreational space (land dedicated as open space which is not necessarily used by the public for recreation) a town or city should have. The dedicated open space found in Old Lyme is held by a variety of state, local and private parties. This open space is comprised of a number of active and passive recreational parcels and are listed below:

PASSIVE RECREATIONAL LAND	**ACREAGE**
DEP Landholdings	600.0
McCurdy-Salisbury Trust	105.0
Old Lyme Conservation Trust*	350.0
Nature Conservancy	63.4
TOTAL ACREAGE:	**1,118.4**

*not accessible to the general public
Source: Town of Old Lyme, 1996.

[1] "Standards for Municipal Recreation Areas." National Recreation Association, New York, 1962.

The town also has significant amounts of recreational land open to the public. These parcels include the following:

ACTIVE RECREATIONAL LAND	ACREAGE
Rogers Lake	300
Town Woods Road	48
Cross Lane	40
Four Mile River Road	29
School Playgrounds and fields	20
Hains Park	3
Town Landings along the Connecticut River and Long Island Sound	.75
White Sands Beach	1.37
TOTAL ACREAGE:	**442.12**

Source: Town of Old Lyme, 1996

SUMMARY

As has been shown, Old Lyme has grown considerably since the early 1960's. Increased housing, combined with a steady increase in the local population, has slowly transformed Old Lyme from a rural shoreline town to a busy community coping to meet the demands of steady residential growth.

Not in our lifetimes, but possibly in the lives of our children, the increasing population along the eastern seaboard will develop into a megalopolis. Unless preserved, the rural character of Old Lyme will disappear. With increasing development it will be much more difficult and costly to provide open space. Once the few remaining large tracts of open space are developed the opportunity for preserving significant amounts of contiguous open space will be gone.

IV. BENEFITS OF OPEN SPACE

A drive through small towns all across New England will reveal tracts of open space in the form of farmlands or forests. This remaining open land is of long term economic value to a town. As communities continue to grow and open space is replaced by subdivisions, roads and the ensuing traffic that suburban development brings, the value of such open space becomes more apparent.

Open space provides important social, environmental and economic benefits to a community.

SOCIAL BENEFITS

When asked, most people respond that they would prefer to live in a location where there are abundant open spaces, trees and unrestricted pedestrian accesses. Confirming this, respondents to the 1997 Open Space Questionnaire indicated the most preferred types of open space were, in order of preference: forests, wetlands, waterfront access, open land, recreational land, farmland. Respondents were concerned about the loss of natural areas and felt that the natural beauty of the town was one of its most important characteristics.

The social benefits of open space planning cannot be ignored, for there seems to be a direct correlation between open space and the perception of a high quality of life[2]. However, open space provides other benefits that are just as important to a community's overall welfare.

ENVIRONMENTAL BENEFITS

Open space provides a number of environmental benefits to the natural landscape. Among these benefits are:

1. the protection of surface water quality;
2. the protection of ground water recharge areas;
3. the protection of wildlife species;
4. limiting the effects of non-point source pollution;
5. the provision of noise abatement through the use of natural buffers of vegetative strip, and;
6. recreational opportunities for a variety of interests, including hunting, fishing, bird watching, and hiking.

When land is developed, the amount of surface impervious to rain is increased as roads and driveways are paved and roofs are constructed on homes and other buildings. Some alteration to the natural landscape, an unavoidable by-product of development, reduces the natural infiltration rate of water returning into the ground. While good site planning can reduce the total amount of impervious surface, a consequence of development is that the runoff travels across the impervious surfaces at a faster rate and carries with it sediment and pollutants including motor oil and pesticides.

The contaminated runoff, commonly known as "non-point source pollution", may flow off-site into rivers and streams and contribute to the poor quality of local water supplies. Thus, maintaining forests and other parcels of land in their natural state will mitigate the effects of non-point source pollution, regarded by federal and state environmental protection agencies as the most serious cause of water pollution today.

With the exception of several small areas served by a number of local water companies, Old Lyme depends upon stratified drift or shallow bedrock well water for potable water supplies. Each new subdivision increases the chance of ground water contamination due to septic system failure and the increase in non-point source pollution. Such problems, if exacerbated, can be relieved only through the construction of sewers, which are not only cost prohibitive, but open up the town to further high density development due to the absence of soil constraints for septic system construction.

Each new residential subdivision increases the chance of ground water contamination due to septic system failure and the increase in non-point source pollution.

[2]Arendt, Randall. Rural By Design. American Planning Association, Chicago, Illinois, 1994.

Large lot zoning creates land use patterns that often result in sprawl[3]. Sprawl is caused by the proliferation of single family residential housing constructed on large lots (typically two acres or more). One of the by-products of sprawl is an increase in air pollution[4]. When large tracts of vegetation are removed for large-lot subdivisions, the ability of the natural landscape to remove these harmful particulates is decreased. Likewise, suburbanization in general and large-lot zoning in particular (as opposed to higher density clustered developments which by design may provide for additional open spaces) increases the dependency on the automobile as people live farther away from work, school and other essential services. As has been demonstrated[5], the increase in vehicle miles traveled (VMT's) per person has increased substantially over the last decade as record numbers of automobile passengers travel farther from one location to another. Typically, such trips are from the residence to school, work and shopping. Removing large tracts of vegetation to construct single family residences contributes not only to additional VMT's but also reduces the natural landscape's ability to cleanse the atmosphere[6].

To realize the benefits of cluster development to mitigate atmospheric pollution, the national aggregate decrease in VMT's driven must be examined. It has been estimated that of the 886 billion miles driven annually by American drivers, approximately 3 million fewer miles have been driven due to cluster developments that promote higher densities and reduce the amount of paved roads between dwelling units[7]. While this may seem like an insignificant figure, this reduction in VMT's has resulted in significantly less air and noise pollution.

Cluster development is a relatively new concept in subdivision design. Unlike typical subdivision design, this form of development promotes higher densities of development, allowing housing units to be "clustered" on a tract of land and leaving greater amounts of land in its natural, undisturbed state. Cluster development provides many benefits; however if the development is not properly designed, water contamination can occur due to the close proximity of septic tanks to underground wells.

Additionally, open space can serve to protect wetlands when buffer zones surrounding wetlands are established. Wetlands not only act as a natural mechanism for reducing man-made pollution but are also a very biologically diverse and productive natural environment, serving as the habitat for a wide array of birds, mammals, fish, reptiles and amphibians. Finally, wetlands also act to naturally minimize the impacts of flooding. Because wetlands play a vital role in the natural environment, protecting this resource with buffer zones is vital.

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[3] Lowe, Marcia D. Land Use and Transportation: The Missing Link. Worldwatch Institute: Bulletin, Volume II, Number 8, October 1992.

[4] Pisarski, Alan E. Travel Behavior Issues in the 90's. Office of Highway Information Management, Federal Highway Administration, July 1992.

[5] Connecticut Department of Transportation, Vehicle Occupancy Rates Study, 1993.

[6] Arendt, Randall. Rural By Design. American Planning Association: Chicago, Illinois, 1994.

[7] US Department of Transportation, Nationwide Personal Transportation Survey. 1990 NTPS Databook, Volume 1.

Open space can also provide noise abatement benefits to the Town of Old Lyme. Establishing greenways or acquiring individual tracts of land as dedicated open space serve to shield adjacent properties from the noise associated with residential development. Particularly, forested tracts of open space located between residential subdivisions and road decrease the amount of noise and serves to quiet those neighborhoods where these "vegetative buffers" exist.

ECONOMIC BENEFITS

Traditionally, the principal perceivable benefits of open space have been the protection of important natural resources and the provision of public recreational areas. While these are both worthwhile benefits, the economic considerations of acquisition of additional parcels of open space have often been overlooked or considered secondary. More important and less publicized are the economic benefits of sound open space planning to a municipality. A balance of open space and residential development reduces the long term costs for providing local government services. This simple premise has long range implications for any small town.

The challenge of open space planning is to protect open space, assuring that a full range of housing opportunities remain available, while not using open space acquisition as a growth management tool to halt the construction of additional housing. The challenge is to make development and open space acquisition complement each other. It is the overall goal of this open space plan to establish priorities for open space protection that, in the long term, will balance the needs of development and conservation. Also, this plan will assist the town in maintaining and enhancing the high quality of rural life residents and visitors have a right to expect and enjoy.

A balance of open space and residential development reduces the long term costs of government services to the town.

V. OBJECTIVES OF THE OPEN SPACE PLAN

This open space plan has been drafted to protect a variety of natural resources in Old Lyme. The following objectives outline the protective measures that this open space plan will address.

PROTECT AND PRESERVE WETLANDS

Approximately 19 percent of Old Lyme's 15,558 acres is freshwater wetlands, tidal marshes, streams, rivers, and ponds. Inland wetlands account for approximately 2,000 acres, 445 acres are in estuary marsh and 50 acres are in shallow marsh (refer to **WETLANDS AND WATERCOURSES MAP, PAGE 16**). The mouth of the Connecticut River has extensive flood plain and marsh, with the 400-acre state-owned Great Island the largest single marsh area.

The unique natural habitats found in the wetland areas in Old Lyme adjacent to both the Connecticut River and Long Island Sound have gained local, statewide, national and

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international attention. Efforts of the Gateway Commission, Department of Environmental Protection and the 1994 Ramsar Convention designation[8] (an international treaty signed in 1971), specifically target the preservation of these wetlands and adjacent uplands due to their outstanding biodiversity and natural beauty.

These local waterways were once bountiful with stocks of shad, sea trout, shellfish, striped bass, alewife, perch, and other native fishes. The quality of the water should be maintained so these native fishes can re-establish themselves. These waterways provide excellent areas for fishing, hunting, boating and swimming. Also, the Lieutenant and Black Hall Rivers are areas of abundant natural resources, the protection of which should remain a high priority.

Old Lyme also has significant inland wetland areas. Rogers Lake occupies approximately 300 acres and others include Black Hall Pond, Upper and Lower Millponds, Tinker Pond, Little and Big Pond, and numerous smaller year-round and seasonal ponds scattered throughout the town.

As previously stated, wetlands play a significant role in maintaining the natural ecosystem in town. Wetlands play a key role in the minimization of flooding impacts, provide habitats for a wide variety of plant and animal species and provide ample opportunities for recreation. Due to their environmental and recreational importance, wetlands should be provided every protective measure available.

Wetlands play a key role in the minimization of flooding impacts, provide habitats for a wide variety of plant and animal species and provide ample opportunities for recreation.

The basins of the Lieutenant and Black Hall Rivers are the town's two largest water recharge areas. Other streams include Mile Creek, Three Mile River, Four Mile River, Mill Brook, Armstrong Brook, Swan Brook, and Duck River These recharge areas play a vital role in maintaining the viability of the town's underground aquifers and areas of stratified drift. It is from these aquifers that local residents with private shallow wells and the private water companies obtain supplies of potable drinking water. The water table is particularly high in several areas of town, principally on the west side of Rogers Lake. While private water companies exist to provide condominium complexes and beach communities with water, most residents of Old Lyme obtain their potable water from shallow wells[9]. In the main, these are shallow dug wells (unlike deep wells which are found in layers of bedrock or deep stratified drift) which provide potable drinking water to residences. Thus, any open space program should protect the wetlands, watercourses and ground water supplies which are essential to this community.

[8] This treaty selects the Connecticut River as one of 15 wetlands of international significance due to the number of native and migratory animal species of international importance. The marshlands of the Lieutenant, Duck and Black Hall Rivers contribute to the biodiversity of the lower Connecticut River.
[9] Connecticut Water Company, 1994.

ESTABLISH GREENWAYS

Greenways are interconnected parcels of open space designed to create an interconnected, unbroken chain of forest, pasture and watercourse. They can be used by the public as hiking and biking trails or, in the form of a continuous streambelt that serves to protect watercourses and natural vegetation, they may be protected from public access.

Greenways are important for several reasons. As land is developed, the individual landowner typically prohibits others from trespassing on his land. Such prohibitions block access to what were ancient highways, Indian trails, wood roads, and assorted shortcuts through woods, fields, and pastures. In Old Lyme these trails tend to run north and south along ridgelines or stream beds (refer to **OLD LYME TRAILS MAP, PAGE 19**). To date, most of these trails have been blocked or abandoned. Unless an active program of preservation is established, the opportunity to establish a network of trails through interconnected parcels of land will continue to disappear as further land is developed into residential subdivisions.

Properly designed greenways could provide unobstructed passage for wildlife from one area of town to another.

Greenways can serve as an important natural habitat function for a wide variety of wildlife found throughout New England. The deer population in Old Lyme has increased substantially and presents a hazard to motorists. Greenways could be designed to provide wildlife unobstructed passage from one area to another. Such habitat improvement is designed to encourage wildlife to remain within the greenway where food and cover are abundant.

ESTABLISH TRAIL SYSTEMS

A trail system is essential to maintaining a rural atmosphere in Old Lyme. In recent years, there has been a national increase in the number of people hiking, biking, and jogging. Relatively few people hike or bicycle in town because the infrastructure is not amenable to safe pursuit of those activities. Currently, many local residents visit Lyme's Hartman Park, Nehantic State Forest, or East Lyme's Rocky Neck State Park for such purposes. Boston Post Road and Route 156 are the main routes used for bicycling, yet these roads are dangerous because they have not been specifically designed for this purpose.

As with the concept of greenways, a north-south trail system could be developed in central Old Lyme due to the limited development which has occurred to date in this part of town. A loop system could be established within the town boundaries that would link dedicated open space parcels with one another and provide additional recreational opportunities for hikers, bikers and joggers. Also, linkages should be established between the many recreational facilities found in Old Lyme. These include Rogers Lake, Cross Lane and a variety of public recreational facilities (refer to **RECREATIONAL FACILITIES MAP, PAGE 20**).

SECURE FRONTAGE ON LONG ISLAND SOUND

With nearly 14 miles of shorefront, Old Lyme presents local residents with some of the most scenic shoreline and beautiful beaches in the State. Almost all of the beachfront is privately owned with access restricted to local beach associations, beach clubs, and individual owners.

At White Sands Beach the town offers residents with beach stickers access to approximately one acre of beach with a shorefront of less than 200 feet. White Sands Beach has become so heavily utilized that residents with stickers have not been able to find parking and thus have not been able to use the beach.

At Sound View Beach residents and the general public have access to a 250 foot stretch of beach which was willed to the town for the benefit of the unorganized public. Clearly, any open space program should seek to provide more extensive access to the beach for more of its residents. Acquisition of additional beach space has been an objective of the Town Plan of Development for many years. Although a specific proposal was recently rejected by town referendum, it remains a high priority for the town.

PROMOTE NON-POINT SOURCE POLLUTION ABATEMENT EFFORTS

The federal and state governments have embarked on an aggressive program designed to reduce non-point source pollution at its source as a vital part of the overall pollution abatement program. Most non-point source pollution is derived from agricultural and lawn fertilizers, urban runoff and sewage. Through the sale of Long Island Sound (LIS) license plates, the Preserve the Sound Program has raised substantial funds to promote education and preservation and to fund non-point pollution abatement programs around the state. In addition, efforts are being directed at providing streambelt forestation programs to reduce runoff and erosion. Such efforts will reduce or limit the amount of non-point-source pollution that is generated through human activity. This action will benefit the water quality of innumerable streams and other water bodies that serve as the repositories of this form of water pollution.

WORK WITH LAND PRESERVATION ORGANIZATIONS SUCH AS THE CONNECTICUT RIVER GATEWAY COMMISSION, THE NATURE CONSERVANCY, THE OLD LYME CONSERVATION TRUST AND VARIOUS PRIVATE DONORS OF OPEN SPACE

Old Lyme has relied almost exclusively on conservation-minded residents and organizations to provide open space through gifts or purchases. Both the Nature Conservancy and the town have small land holdings, of which 48 acres on Town Woods Road, 29 acres west of Four Mile River Road and 40 acres west of Cross Lane are town owned. Past plans of development have repeatedly recommended the acquisition of open space using a portion of the mill rate. The 1990 Town Plan of Development called for the Planning Commission to establish a joint task force to prepare an Open Space Plan. The Town of Old Lyme Open Space Committee was formed and this report is the result of their efforts. At the same time, the Planning Commission submitted a budget request for an amount of $75,000 to be established annually for the specific purpose of open space acquisition. This was set up for one year

Old Lyme has relied almost exclusively on conservation-minded residents and organizations to provide open space through gifts or purchases.

only, then returned to the general fund and no action has been taken since. At present an attempt is being made to pass an ordinance mandating the establishment of such a fund on an annual basis. Using this Open Space Plan as a guide, the town should proceed with a well-planned program of open space acquisition and preservation in cooperation with non-profit land preservation organizations and private donors.

In order to ensure cooperation with those private agencies associated with open space conservation and protection, it is suggested that:

1. the town keep an up-to-date inventory and maps of all dedicated open space; and
2. decisions to acquire specific open space parcels be discussed with the private agencies and that these agencies be asked for comments. Such agencies include the Trust for Public Land (TPL), The Nature Conservancy (TNC), the Gateway Commission and the Old Lyme Conservation Trust.

VI. DESCRIPTION OF NATURAL, AESTHETIC, HISTORIC, AND CULTURAL RESOURCES TO BE PROTECTED.

The following resources have been identified by the Open Space Committee and play a key role in the identification of tracts of undeveloped land in Old Lyme which are good candidates to become dedicated open space:
***surface water** (wetlands, ponds, streams and lakes)
***ground water** (aquifers, stratified drift)
***farmland**
***forest land**
***steep slopes** (greater than 15 percent grade)
***aesthetic, historic, and cultural**

These resources have been identified on a map of Old Lyme and transformed to a digital database. This technology, referred to as geographic information system (GIS), allows a variety of natural resources to be examined in a series of computer generated overlay maps. These overlay maps graphically depict where various natural resources are in relation to one another.

For the purposes of open space planning, GIS overlay maps inform land use decisions by allowing various natural resources to be viewed simultaneously. This makes it possible to determine where there are multiple natural resources worthy of conserving as open space. For example, where a ground water reservoir, a steep slope and a historic feature are located atop one another, this site might be considered more worthy of conserving than if it were a parcel of land atop only a steep slope.

SURFACE WATER AND GROUND WATER

Water resources are a vital component to the health of any municipality that relies upon this resource for drinking water. In recognition of the value of its water resources, the town has recently created the Water Pollution Control Authority (WPCA) to ensure an unpolluted water supply. As previously stated, various natural resources have been mapped and are shown graphically (refer to **SAND AND GRAVEL DEPOSITS MAP, PAGE 23**).

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In Old Lyme certain water companies supply potable water largely to the beach areas, but most residents rely upon privately owned wells for potable drinking water supplies. For these reasons, the long term protection of ground water is a priority. Because surface and ground water are interdependent resources, the quality of surface water has a direct impact on the quality of local ground water supplies. Without a clean water supply, the high quality of life that citizens of Old Lyme now enjoy would be seriously jeopardized.

Because most residential drinking water is obtained from natural underground aquifers (stratified drift), it remains very important both to protect that resource from potentially harmful development, and to ensure that water entering the ground in the form of recharge is not contaminated by either point or non-point source pollution. This can be done by ensuring that tracts of land over or surrounding important water sources are protected from residential or commercial development.

The quality of surface water has a direct impact on the quality of local ground water supplies. Proper management of these resources includes the following:
-protection of riparian zones (land uses which occur adjacent to bodies of water);
-protective measures over high yield aquifer areas which disallow potentially polluting land uses;
-avoidance of inappropriate land uses in areas prone to flooding as designated on FEMA maps;
-open space designation/creation in water recharge areas threatened by further development.

FARMLAND

As with many New England towns, Old Lyme was once home to many family farming operations. However, following the second World War, the high cost of farm labor combined with the increased efficiency of large corporate farms, the lower cost of transporting farm products raised elsewhere, and increased tax burdens on local farm owners forced local farms to be sold for development as residential subdivisions. To date, the town has several active and inactive farming operations. A drive through Old Lyme will show that these tracts add to the inherent beauty of the natural landscape. These tracts offer a diverse habitat for a variety of wildlife, and would provide excellent opportunities for hunting, hiking and bird watching for town residents if property easements for public access were obtained.

The remaining farmland in Old Lyme is continually threatened by loss to development.

In addition to the many aesthetic and natural values placed on farmland and forests, they also play an active role in preserving the town's fiscal stability due to the limited expenditures required by the town when they are kept in their natural state versus being developed as residential housing.

Like other Connecticut towns, the remaining farmland in Old Lyme is continually threatened by loss to development. Farmland is not restricted by state laws or regulation as are wetland areas, and much of the remaining farmland is located in areas well suited

to residential development. Also, many farmland parcels are located near rapidly developing sections of the town. More important, the costs of doing business on an active farm continue to rise, while the value for produce grown either remains static or declines[10]. This fact, when considered in light of the increased value of the land, makes farmland a financial asset that many owners often consider for development.

The State of Connecticut also views the protection of farmland as a conservation priority. Official recognition of the value of preserving farmland is represented by the state's purchase of development rights that preserve significant farmlands throughout the state. A farmland preservation plan should be an important part of this open space plan.

FOREST AND WILDLIFE

Mixed hardwood forests are the predominant type of vegetative cover found across Connecticut. Forests play a vital role in the environment and economy. They improve air quality by cleaning it of dangerous ozone and carbon dioxide[11], help diminish erosion, flooding and droughts, while also providing trees to be harvested for lumber or firewood. Finally, forests play an integral role in the aesthetic quality of life enjoyed by Old Lyme residents and visitors, for as mentioned, they provide a habitat for wildlife and a place for outdoor recreation such as hunting, hiking, birdwatching, etc.

Developmental pressures and parcel fragmentation continue to be the primary threat to the ability of forests to provide the aforementioned benefits. While many landowners have placed excess acreage under the protection of Public Act 490, it is important to recognize that this land can be developed at any time with modest penalty for the landowner. Nearly 4,000 acres, or 26 percent of the town's undeveloped land is presently in this category (refer to **PUBLIC ACT 490 LANDS MAP, PAGE 26**).

While many landowners have placed excess acreage under the protection of Public Act 490, it is important to recognize that this land can be developed at any time. Nearly 4,000 acres of land is presently in this category.

Most of Old Lyme's forest land is in private ownership. As time passes and development pressures increase, the fragmentation of these parcels will continue with the construction of residential subdivisions. Frequently, tracts of forest become fragmented to the point where they become small, isolated parcels of woodland surrounded by residential and commercial activity (refer to **1995 DEVELOPMENT MAP, PAGE 8**).

Unfortunately, some form of fragmentation is unavoidable in developing communities. Old Lyme's land use commissions must consider measures that allow for necessary economic growth and development to occur while mitigating such negative impacts. It has been shown that one large tract of contiguous forest which is biologically diverse provides far greater habitat, recreation and other resource benefits than multiple small tracts adding up to the same acreage[12]. By connecting these larger tracts with one

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[10] Endicott, Eve. Land Conservation Through Public/Private Partnerships. Lincoln Institute of Land Policy, Washington, DC, 1993.

[11] Arendt, Randall. Rural By Design. American Planning Association, Chicago, Illinois, 1994.

[12] Ganem, Barbara. Greenways: How Wide? Fitchburg, MA: Nashua River Watershed Association, 1989.

another to form vegetative greenways or corridors, wildlife populations can thrive and intermingle.

The loss of native habitats for animals has long term negative ramifications, for many species of animals require large, contiguous tracts of forest to survive. More important, genetic diversity is compromised by a reduction in forest cover. This loss in genetic diversity can doom a species that is faced with sterility and other results of inbreeding. Also, Old Lyme is home to several rare and endangered species (refer to **RARE AND ENDANGERED SPECIES MAP, PAGE 28**). The exact location of these species is not public knowledge, but the town is home to a distinct ecosystem that allows them to survive. As such, care should be taken to preserve these areas so that these species can continue to exist.

Different species of animals require a variety of greenway corridor widths. For woodland birds along riverbanks in Maine, buffers of 250 feet between habitat and development have been recommended[13]. Other water-dependent species require a minimum buffer of 300 feet for breeding purposes[14]. A comprehensive study of habitat needs for six different types of wildlife in Florida set 322 foot minimum widths for species associated with marshland ecosystems, and 550 to 732 feet for species associated with forested wetlands[15]. The town should establish minimum greenway standards ranging from 100 to 400 feet, depending upon the habitat to be preserved.

Residential development reduces the ability of a forest to perform its many beneficial tasks. A parcel of forest that includes houses and lawns can no longer absorb and clean surface water as it had prior to development. The ability of the forest to clean and cool the air is also greatly diminished, and recreational opportunities are reduced.

STEEP SLOPES

There are approximately 1,700 acres of steep slopes (greater than 15 percent) in town. These areas (refer to **STEEP SLOPES MAP, PAGE 29**) represent obstacles to developers and opportunities for planners of open space preservation. In particular, the construction of residential housing and commercial activity is made difficult in areas where the slope is greater than 15 percent. Thus, those areas of town where ranges of slope greater than 15 percent can be found present excellent opportunities for open space planning.

The topographic map of Old Lyme reveals that the majority of slopes run on a north-south glacial axis. The greatest concentration of steep slope is found in the Johnnycake Hill to Jericho area, and farther east along Four Mile River Road (just north of Amon Hill). While it may seem redundant to conserve land that has limited development potential, such land would be ideal as a component of a local greenway. Sloped areas are ideal for recreational hiking and hunting and are often habitats for a variety of animal species.

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[13] IBID.

[14] Leedy, D.L. Planning For Wildlife in City and Suburbs. Elliott City, MD: Urban Wildlife Research Center, 1978.

[15] Brown, M.T. Buffer Zones for Water, Wetlands and Wildlife in East Central Florida. Gainesville, FL: Center for Wetlands, University of Florida, CWF Publication 89-07.

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AESTHETIC, HISTORIC, AND CULTURAL

Old Lyme is blessed with a variety of aesthetic, historic and cultural resources, many well worthy of regulatory measures to ensure that new development has a minimal impact on the town's quality of life. As previously mentioned, Old Lyme has a rich history of 17th and 18th century ship construction. The town is also known for its weaving and furniture mills, fortifications along the Connecticut River and many colonial buildings. These resources should be protected from development to preserve the character of the town, and they have been plotted on a map and cataloged in Appendix I, refer to **CULTURAL RESOURCES MAP, PAGE 31**. This map will be an important reference for the Planning and Zoning Commissions to consult when site plans or subdivisions are proposed to ensure that the resource is protected from any proposed development.

A town-wide greenway system, including historic as well as natural resources, could later be established which would allow both residents and visitors access to the many historic, cultural and scenic sites found throughout the town. By identifying those particular areas that should be preserved as open space as part of a subdivision set-aside, a map of this greenways system would also assist the Planning Commission in planning for future greenway connectors between current dedicated open spaces in town.

VII. ECONOMIC BENEFITS OF OPEN SPACE PLANNING FOR OLD LYME

Property taxes paid on residential housing do not offset the municipality's costs for required public services.

As has been demonstrated recently in many land use planning studies across America, open space planning and preservation have economic as well as recreational and aesthetic values, which can have a positive impact on a municipality's financial picture[16]. This argument is grounded in the fact that property taxes paid on residential housing (or to a lesser degree commercial or industrial uses) do not offset the municipality's costs for services (road construction and maintenance, police and fire protection, education and other essential public services).

In small communities education is the biggest local public expenditure, typically overshadowing the portion of the budget dedicated to general government expenses such as public works, fire, police and sanitation. A larger city has greater general government demands placed on it which account for a larger share of the budget. Unlike a large city with a varied tax base, small towns tend to be more reliant upon residential property taxes for revenues. As shown in **TABLE 8**, the costs for local government service in Old Lyme have increased since 1992 by approximately four percent (figures were adjusted for inflation). These increased costs are borne principally by local homeowners due to the limited amount of commercial and industrial development in Old Lyme. Possible capital costs due to increased development could be public sewers, public water and full time paid staff to meet the needs of a growing municipality.

[16] Thomas, Holly L. The Economics of Land Conservation. Dutchess County Planning Department: Southern New England Forest Consortium, 1991.

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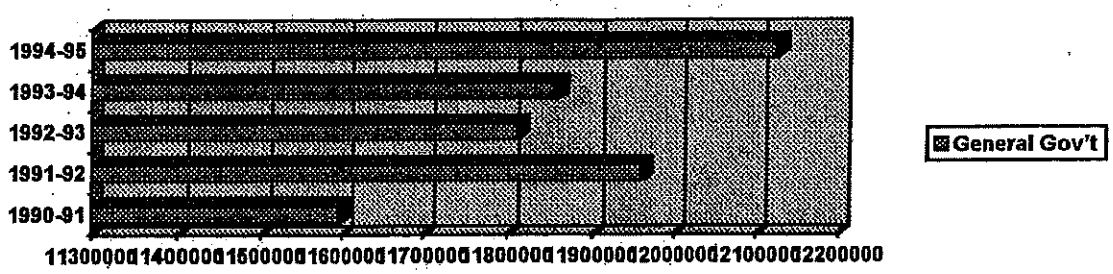
TABLE 8
Old Lyme's Expenditures, 1990-1995

Year	1990-91	1991-92	1992-93	1993-94	1994-95
General Government*	$10,500,071	$11,615,479	$11,158,877	$11,300,487	$12,125,364
CPI adjusted to 1995 $'s	$11,597,144	$11,959,651	$11,811,256	$11,857,279	$12,125,364

Figure 8
Town of Old Lyme's Expenditures, 1990-1995



Source: Town of Old Lyme Annual Reports, 1990-1995.
* General government figure is comprised of the following categories as obtained from the Old Lyme Annual Reports: general government, boards and commissions, public works department, fire, police, sanitation, regional school district and total capital outlays per year.

A discussion focused on the costs of local government should not be interpreted to mean that additional housing opportunities should be discouraged in Old Lyme. In fact, a reduction in the supply of housing units constructed will most likely serve to drive up the market demand and increase the costs for housing in town. Any increased costs for housing in Old Lyme will thwart the ability of many to purchase homes in town. Appropriate measures must be taken to encourage a full range of housing choices, including housing for many kinds of households, age groups and income levels.

It is not the aim of this open space plan to recommend actions which will make Old Lyme a town in which only affluent persons can afford to live. Quite the contrary, the acquisition of open space can reduce the rate of tax increases so that Old Lyme doesn't become a town where only the affluent can afford to reside.

The issue of affordability was addressed in the 1990 Old Lyme Plan of Development. Various recommendations were made to address this issue, including:

1. encouraging accessory apartments in existing single family residences;
2. allowing not-for profit housing organizations to construct scattered site housing units;
3. encouraging small-scale cluster developments;
4. establishing procedures to ensure that expanding the use of seasonal dwellings is not detrimental to public health and safety; and;
5. the adoption of inclusionary zoning regulations which encourage a developer to set aside a percentage of the total number of dwelling units for people with modest incomes.

VIII. TECHNICAL STUDIES: FISCAL BENEFITS OF OPEN SPACE PRESERVATION

In September 1995, a study was commissioned by the Southern New England Forest Consortium, Inc. (SNEFCI) which evaluated the fiscal contributions of developed land versus forests, farm and open space land[17]. This comprehensive study demonstrated that the protection of open space land plays an important role in the long term fiscal well being of a community. As proven in this study, residential, commercial and industrial development is important to a municipality's tax base; however, it is vital not to overlook the value open space provides by balancing the tax base through positive net tax revenues.

Additional studies conducted across the country have shown that the costs for residential development are much higher for the average taxpayer than open space. In 1989, a study by Cornell Cooperative Extension of Dutchess County and the American Farmland Trust found that in areas of New York, residential lands required $1.12 to $1.36 for every dollar they contributed in taxes, while agricultural land required only $0.21 for every dollar it contributed in tax payments[18].

For example, in Minnesota, the average shortfall between taxes paid and the costs for services required was $409 for developed house lots larger than one acre and $114 for quarter acre lots. The extent to which undeveloped land subsidizes development (particularly large lot suburban development which consumes more land than may be necessary) is starting to be understood by the general public[19].

Studies have demonstrated that the costs for residential development are much higher for average taxpayers than the costs for open space.

In Connecticut, a study prepared for the Trust For Public Land (TPL) in May 1995 tested the assumption that residential, commercial, and industrial development will result in lower tax bills, while permanently protecting land as dedicated open space will reduce the tax base and increase taxes. The study concluded that tax bills are higher in towns with more residential development and larger populations, and lower in towns which are more rural[20].

Also, financial savings can be realized for a town with a well conceived land conservation and open space program. Bond ratings are measures of a governing body's ability to meet its obligations and manage debt. Favorable ratings save governments money by enabling them to raise funds for capital improvements at relatively low interest rates. Well thought out open space plans have generally been instrumental in giving towns preferential bond ratings resulting in lower interest rates paid by the town to investors. For example, in Howard County, Maryland, the county's conservation and open space plan worked to save the municipality significant sums of money. In May 1990, Fitch Investors gave the

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[17] Southern New England Forest Consortium, Inc. Cost of Community Services in Southern New England. Chepachet, Rhode Island. September 1995.

[18] Cornell Cooperative Extension of Dutchess County and American Farmland Trust. Cost of Community Services Study: Towns of Beekman and Northeast Dutchess County, New York. Millbrook, NY:1989

[19] American Farmland Trust. Density-Related Public Costs. Washington, DC: 1986.

[20] Ad Hoc Associates. The Effects of Development and Land Conservation on Property Taxes in Connecticut Towns. Salisbury, VT. May 1995.

county a bond rating of AAA because of its record and its specific plans for limiting and managing growth. According to Fitch Investors, the favorable rating reflected the county's efforts at limiting the amount of land which could be developed. Fitch also acknowledged that rationally limiting growth through such an action plan would be significantly less expensive than allowing the county to continue to grow unconstrained[21].

SUMMARY

The real value of a tract of farmland or forest transcends the dollars and cents that land may be worth on the speculative real estate market. However, it is vital that residents understand the real economic value and benefit of open space. Such benefits can range from channeling flood waters and cleansing non-point source pollution, avoiding the increased costs of serving homes arranged in sprawling subdivisions, to positively influencing the bond ratings that govern the cost of a municipality's long term debt.

Well conceived open space plans have assisted in the upgrading of bond ratings for several northeast towns.

IX. FINANCING OPTIONS FOR ACQUISITION OF OPEN SPACE

There are numerous funding mechanisms available which would allow a municipality to obtain open space. Below are several of the better known and widely utilized options.

Fee Simple- the outright purchase of the full title to a parcel of land. This provides long term protection and full public access to the property. This process can be costly and the property is removed from the tax rolls. Also, town ownership involves long term maintenance and liability.

Conservation Easements- landowner retains legal title to the property, yet the property may not be developed subject to the restrictions of the easement. The advantages of a conservation easement are that the landowner maintains ownership and control of those uses still permitted on site. More important, conservation easements provide economic benefits to the property owner. Financial gain may be had from the sale of development rights. Also, potential tax benefits can be realized from the donation of an easement to a town or local land trust. Perhaps the greatest advantage of a conservation easement is that it is less expensive to acquire than outright purchase of property. Such parcels acquired as part of an easement remain on the tax rolls and continue to generate tax dollars, yet due to the limited development potential, the costs to the town to provide services remain low.

Non-profit purchase and ownership- a number of private non-profit organizations (Trust for Public Land and The American Farmland Trust) work with municipalities to purchase and hold land for eventual transferal to a town when funds have been apportioned. The advantages here are that a private agency can enter the real estate market and acquire crucial parcels much quicker than can a town.

[21] Fitch Investor Services, Inc. "Public Finance-Tax Supported New Issue, Howard County, Maryland." New York, NY: May 22, 1990.

Transfer of Title Sale- property is sold at less than fair market value. The advantage to the owner is a considerable tax benefit between the fair market value and the sale price. This difference qualifies as a charitable contribution.

Outright Donation- donation of a part or the whole of a parcel. This option is particularly attractive because there are no public costs associated with acquisitions, and the property is permanently protected. Likewise, the donor receives a tax benefit because of the donation. As with a conservation easement, the receiving agency must be able to maintain and care for the land it receives.

Donation Upon Death- otherwise known as "By Devise". There are no particular tax benefits to this form of land donation.

Tax Foreclosure- local government acquires land by tax payment default. Properties obtained by a town in this manner may not be particularly suitable as public open space but may provide future funds for open space purchase upon resale of the property. An open space fund may be established with the proceeds obtained from the resale of foreclosed properties.

X. CONCLUSION AND RECOMMENDATIONS

A. In conclusion, the Planning Commission feels that there is a considerable amount of developable land remaining in town and that much of it is found in areas which would provide excellent recreational opportunities for residents. Efforts should be made to conserve as dedicated open space those parcels which have been identified within this open space plan (refer to **PROPOSED OPEN SPACE MAP, PAGE 36**).

B. Efforts should be made to develop hiking trails linking various commercial centers, neighborhood centers, and cultural and natural resources.

C. Integrate Water Pollution Control Authority (WPCA) data and decisions with plans for the protection of aquifers.

D. The town should institute a regulated zone along tidal wetlands, rivers, and streams. The width of the zone should be at least equivalent to the 100-foot wide zone along inland wetlands, not only to minimize non-point source pollution but to preserve natural wildlife habitat. More sensitive areas might require wider buffer zones.

E. Public access to the Connecticut River and Long Island Sound should be increased and protected. Town landings that have received little or no attention from the town should be re-established and indicated by signs. Public streets that end at the water's edge should provide access to the public. The town should continue efforts to provide additional beach along Long Island Sound.

F. A town land map should be created and made available to the public. This land map should display all cultural and historic structures, as well as list the recreational facilities found in Old Lyme.

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G. Planning Commission request for open space in subdivisions should be linked with existing open space or a plan for future connected open space parcels. Emphasis should be placed on insistence that the developer set aside viable land, not wetlands which are not developable and would, therefore, remain in their natural state.

H. Future open space preservation efforts should be integrated with established conservation agencies.

I. Money should be set aside each year in a dedicated open space acquistion fund in accordance with State of Connecticut Statute 7-131r.

J. As the town rehabilitates its roads, or as new roads are constructed, the design should consider recreation (specifically bicycling) as a growing use of roads. Future designs should accommodate bicycles on a dedicated six foot shoulder contiguous to the local road shoulder. The Connecticut Department of Transportation should consider a change in policy when re-constructing a state road which may be used by bicyclists.

K. Efforts should continue to have military properties donated to the town when such facilities are no longer viable to the military's mission.

L. The town should keep up to date inventories and maps of all dedicated open spaces.

M. The town should establish minimum greenway standards.

N. The town would benefit from a full time on-staff professional planner. A planner could guide efforts to implement recommendations of the Plan of Development and other plans such as this Open Space Plan, could research and propose regulations to utilize new land management techniques, and could oversee the development process to assure that new development is appropriate to the character of the town. The level of activity is sufficient to provide a full time workload for a staff planner.

O. Where feasible, future subdivisions should be based on the concept of cluster developments which would incorporate good site plan designs, encouraging the preservation of more open spaces through the use of smaller lots and higher densities. In *Rural By Design*, Randall Arendt describes how cluster development design can assist a town in setting aside more open space as part of a subdivision while preserving the rural character of a town. The primary design elements of Mr. Arendt's cluster developments are:

1. Identifying Conservation Areas- Primary Conservation Areas (wetlands, floodplains and steep slopes) and Secondary Conservation Areas (cultural and natural elements which should be protected from development) should be identified as open spaces worthy of conservation. The act of designating conservation areas defines the "development areas" of the site.

2. Locating House Sites- the approximate location of individual houses adjacent to conservation areas (facing woodlands, creeks, central common grounds or fields).

3. Aligning Streets and Trails- streets and trails are laid out in a fashion so that residents can easily walk through the designated open spaces and intermingle with those who live in other areas of the subdivision.

P. The Planning Commission should work to preserve as open space the areas identified as part of the natural constraints analysis. These areas are shown on the **PROPOSED OPEN SPACE MAP, PAGE 36**). These areas will ultimately provide (wherever possible) linkages to existing open spaces in Old Lyme and provide trails for outdoor recreation and natural corridors for wildlife (refer to **OLD LYME TRAILS, PAGE 19).**

Q. A permanent committee should be established by the Board of Selectmen for the identification of areas of land in Old Lyme which should be preserved as open space. This committee would function under the statutory authority of the Conservation Commission and pursue the identification of parcels of land for preservation.

Category Listing

Commercial Enterprises

13. Mr. Hill, boarding house for shipyard hands. Built before 1800; later a town poorhouse
14. Nail factory, South Lyme Nail Manufacturing Company, incorporated 1855
15. Edward Dorr, fulling mill and clothes shop (1772-1776(?))
16. Wade grist mill, wool scouring and other businesses (1672-1872)
17. Bradbury's mill (1870-mid-1900's) Wool scouring to 1920's; Art Lace and Braid Co. to 1928; Davis Furniture Mfg. To 1940's; Cooksley wood products and boats to 1951; Notac Mfg. lamps and shades to 1965- Kneeland Mfg. burglar alarms to 1976.
19. Paper mill circa 1798-1845
20. DeWolf grist mill 1701 and associated saw mills in 17th and 18th centuries. Ironworks with trip hammer working local bog iron ore. Associated blacksmith made tools, utensils, ships hardware. Hall acquired iron works in 1741, produced ship's forgings, canon, canon balls, gun barrels, bayonets for Revolutionary War. Ironworks burned 1797.
31. Water-powered sawmill
35. Quarry Hill granite quarry of Hancock et al. Mid to late 1800's. Water export to New York
47. John Peck Tavern. Built 1670. Tavern and store through Revolutionary War. Now a bed and breakfast
68. Soap Factory, then Sound Breeze newspaper printing shop, last, Spiers Plumbing Co.
80. Parson's Tavern, mid-1700's gathering place for political radicals. Moved from original location on Ferry Road beside Congregational Church.
86. Water powered sawmill on Saw Mill Brook, 1700's.
88. Champion grist mill and saw mill by Four Mile River. Mid 1700's to 1800's.
105. Evaporate salt works destroyed by British in 1814.
120. Wind-powered grist mill.
123. Store- circa 1880's.
125. Matthew Bacon house, built 1835, became Ferry Tavern at end of the stage route. Burned 1971.

Maritime Enterprises

6. Sterling-Sill shipyard at Reed's Landing. Small coastal vessels built 1706- 1777(?)
7. Landings for hay and saw mill logs, and export of sawed lumber.
33. Rock piers to secure ends of fish nets for shad, bass and salmon.
38. Originally Higgen's Wharf, then Hill's Wharf for off-loading coal until late 1920's. Now Old Lyme Marina.
43. Deming's Landing circa 1683, center of Old Lyme maritime commerce, with wharves, warehouses and ship building until 1780.
53. Steamboat landing. Rubin Champion built boats near the landing from 1800-1835.
54. Site of wharves and warehouses at Ferry point in 1800's.
57. Landing for Old Lyme- Saybrook Ferry. Toll operated from 1662 until Connecticut River bridge in 1911.
62. Ship building underway by 1739; also wharf and warehouses. More wharves and warehouses authorized in 1751. By 1790 Samuel E. Hill building coastal vessels up to 93 feet long (75 ton Peggy, 1784; schooner privateer Meteor, 1813; 181-ton blockade runner Pocohantus, 1811). Ships built well into 1800's.
63. Marvin's Point. First town landing, established 1666.
67. Town Dock and associated port complex, 1600's to 1700's.
111, 113. North and Second piers respectively for off-loading deep draft ships in 1800's.
114. Submarine Turtle designed by David Bushnell of Saybrook. Launched in vicinity of Poverty Island, 1775. Launching witnessed by Benjamin Franklin.

Historic Public Building and Sites

3. School No. 2, Neck District
11. School No. 3, Still District
27. School No. 4, Laysville District
72. School No. 1, District 1
74. Site of Old Lyme Academy, the first high school. Burned 1885.
75. Post office in late 1800's.
96. School No. 5, Between Rivers District
100. School No. 6, Mill Creek District
102. School No. 7, Four Mile River District
137. School No. 8, Black Hall District

Roads and Transportation

18. Post Road (also called Lower Post Road). Local portions used by mid to late 1600's. First New York to Boston post rider in 1673. 1753 distances measured on Post Road by Deputy Postmaster Ben Franklin with odometer on chaise, and milestones erected as basis for postal charges. Later (1807) called Lyme-New Long Turnpike, became major New York to Boston road. Route followed Ferry Rd. and Lyme St. until Connecticut River Bridge in 1911. Route 1 not fully paved in 1911.

32. Old Stage Coach Road; early colonial road.
34. First auto and electric rail line drawbridge, 1911. Replaced by Baldwin Bridge in 1948 as part of Blue Star Memorial Highway. Toll charged 1911-23.
37. Neck Road authorized 1681.
42. Site of Bow Bridge (subject of many local paintings) and earlier bridges built since 1700's. Replaced by steel bridge 1928.
52. Ferry Rd. from Great Bridge on Lt. River to Saybrook ferry landing formally laid out by a jury of 12 men in 1755.
55. Shore Line RR built drawbridge in 1870 and become New York-New Haven RR. When built, was world's largest double track steel drawbridge.
58. Lyme railway station and engine house.
65. The Great Bridge built 1732. Toll collected for 20 years. Later rebuilt as drawbridge with tolls for river traffic.
71. Shoreline Electric Railway Co. urban trolleys (leased from New London and East Lyme Street Railway Co.) joining New Haven, New London and points north (1913-1919). Passengers walked across Lt. River bridge until lightweight trolley cars available. At zenith has access to 250 miles of track. Could go from New York to Boston by trolley. Line reopened 1923-1929. Track crossed Ct. River on 1911 bridge, followed Ferry Rd. across Lt. River to Lyme St., then north along Boston Post Rd.
82. 1676, Matthew Griswold authorized to build horse bridge over Duck River.
92. Meeting house to Duck River highway authorized in 1686.
124. Black Hall Railway Flag Station.
139. New Haven and New London Railway charter to build railroad from New Haven to Waterford to Stonington completing New Haven to Boston line with ferries over Connecticut and Thames Rivers. 1864 became Shore Line Railroad.
140. 1713, road built by John and Thomas Lee from Mile Creek to Niantic.
146. South Lyme railway station.
154. Sound View summer railway station.

Museums and Art Galleries

44. Lyme Academy of Fine Arts. Was John Sill house, built 1817.
45. Lyme Art Association Gallery. Built 1921 by exhibitors and members.
46. Florence Griswold Museum and Lyme Historical Society. Was William Noyes house, built 1817, museum since 1947.
66. Nut Museum.

Public Access to Water

2. Tauntamahaug Town Landing
26. Haynes Park on Rogers Lake
30. DEP Rogers Lake launch ramp
35. Pilgrims Landing, town landing authorized 1686.
42. Halls Road old bridge abutment on Lieutenant River
56. DEP Ferry Road park and boardwalk
61. Launch area at Route 156 and Lieutenant River
67. Location of old Town Dock, end of Academy Lane; 1600's-1700's.
91. Watch Rock Park, owned by Old Lyme Conservation Trust.
104. DEP Four Mile River launch ramp
107. Duck River at end of Katherine Road
115. Smith Neck Town Landing
127. DEP Great Island launch ramp (a.k.a. Smith Neck Landing)
134. DEP Black Hall River. Unimproved, access from Buttonball Road.

Published Native American Sites (many additional sites documented in Old Lyme)

1. Whaleback site, habitation 1000 AD to contact with settlers (1550).
40. Bennet Rock Shelter (National Register of Historic Places)
48. Kieser One, habitation site, 1690.
49. Major rock shelter. 4,255 years before present and older.
106. Bliss-Griffin-Brouder burial and habitation sites. 5000 to 2500 year before present.
110. Great Island Habitation site. From 3000 years before present to contact (1550).
130. Old Lyme Shell Midden. Excavated by Styles, Peabody and Moorehead.
132. Hillhouse Site. Late 13th to 15th century palisaded Indian village.

Miscellaneous Places of Interest

22. Bump House (1683) on old potato farm, Whipporwill Road
39. Site of proposed "Scenic Overlook"
51. Breastworks fortifications built for the War of 1812.
70. Old Lyme Historic District. Lyme Street from Sill Lane to McCurdy Road. See "A walking tourguide of the Historic District of Old Lyme Ct, Jennifer Perry, 1995, Lyme Historical Society, Florence Griswold Museum."

76. Boxwood Inn, used as a school for girls, 1890-1904.
78. Town Green. Patriots drilled here before answering to Lexington alarm. Also said that Sons of Liberty had local tea party, burning 100 lbs. tea on the street beside the green.
79. John McCurdy house (built by Amos Tinker 1700) visited by George Washington, 1776 and Lafayette, 1777.
83. Commemorative marker at site of Rev. Stephen Johnson house, Congregational minister 1746-1786.
87. Peck house, 1666, on Flat Rock Hill Road.
133. This area continuously inhabited by members of the Griswold family since the early 1640's.
141. Captain Chadwick house, 1692, on Mile Creek Road.

Cemeteries (single monument cemeteries not shown)

29. Laysville cemetery, 1751-1934.
81. Duck River cemetery, 1676.
94. Old Meeting House cemetery, 1712-1831
99. Undocumented cemetery in tilled field. Possibley Rowland.
103. Waite, Chadwick, Latham cemetery, 1795-1924.
128. Champion 1 and 2 cemeteries, 1801-1934.
135. Griswold cemetery 1805-1930.
136. Black Hall Schoolhouse cemetery, 1837-1915.
141. Wait cemetery 1805-1892.

Geographic Names

4. Billy Coult Hills
5. Canoe Swamp
8. Moses Rock (after Rev. Noyes 1678-1743)
9. Flying Point
10. Ayres Point
12. Mill Brook
23. Rogers Lake dam built about 1670
24. Prior to dam, separate Rogers Pond
25. Prior to dam, separate Marvin's Pond
28. Buckey Brook, names for large runs of alewives locally called buckeyes
41. Great Crick
50. Robins Brook
64. The Dugway (also Dug-Away) dug 1906 by railway when railroad embankment cut Ben Marvin's Crick
65. The Mountain and Indian Caves
85. Saw Mill Brook
89. Ben Marvin's Crick
90. Upper Island
108. Sedgebog Creek
109. Duck River (Indian name Sunkagaug)
112. Back River
117. Madagascar
118. Judges Creek
119. Watermelon Creek
125. Joe's Creek
126. Smith Island
128. Black Hall Island
131. Sheep pound

Numerical Listing

1. Whaleback site, habitation 1000 AD to contact (1550).
2. Tauntamahaug Town Landing
3. School No. 2, Neck District
4. Billy Coult Hills
5. Canoe Swamp
6. Sterling-Sill shipyard at Reeds Landing. Small coastal vessels built 1706-1777 (?)
7. Landings for hay and sawmill logs, and export of sawed lumber
8. Moses Rock (Rev. Moses Noyes 1678-1743)
9. Flying Point
10. Ayres Point
11. School No. 3, Sill District
12. Mill Brook
13. Mr. Hill, boarding house for shipyard hands. Built before 1800; later a town poorhouse.
14. Nail factory, South Lyme Nail Mfg. Co., incoporated 1855.
15. Edward Dorr, fulling mill and clothes shop (1772-1776)
16. Wade grist mill, wool scouring and other businesses (1672-1872)
17. Bradbury's mill (1870-mid-1990's) Wool scouring to 1920's; Art Lace and Braid Co. to 1928; Davis Furniture Mfg. to 1940's; Cooksley wood products and boats to 1951; Notac Mfg. lamps and shades to 1965; Kneeland Mfg. burglar alarms to 1976.
18. Post Road (also called Lower Post Road). Local portions used by mid to late 1600's; first New York to Boston post rider in 1673; 1753 distances measured on Boston Post Road by Deputy Postmaster Ben Franklin with odometer on chaise, and milestones erected as basis for postal charges. Later (1807) called Lyme-New London Turnpike, became major New York to Boston road. Route followed Ferry Road and Lyme Street until Ct. River Bridge in 1911. Route 1 not fully paved until 1911.
19. Paper mill circa 1798-1845.
20. DeWolf grist mill 1701 and associated saw mills in 17th and 18th centuries. Ironworks with trip hammer working local bog iron ore. Associated blacksmith made tools, utensils, ship's hardware. Halls acquired iron works in 1741, produced ship's forgings, cannon, cannon balls, bayonets for Revolutionary War. Ironworks burned 1797.
21. Grist mill and saw mill of Edward DeWolf near site of Oliver Lay Stone Mill. Mill Pond dam possibly built 1702; Oliver Lay Stone mill (now a residence) built prior to 1801 for textile business. Leased by John Bradbury in 1850's for textile manufacturing. In 1881, became Lyme silver plating company making plated ware. Last business in mill was Old Lyme Hand Weaver's in 1940's.
22. Bump House (1683) on old potato farm, Whippoorwill Road.
23. Rogers Lake dam built about 1670
24. Prior to dam, separate Rogers Pond
25. Prior to dam, separate Marvin's Pond
26. Haynes Park on Rogers Lake
27. School No. 4, Laysville District
28. Buckey Brook, names for large runs of alewives locally called buckeyes
29. Laysville cemetery, 1751-1934
30. DEP Rogers Lake launch ramp
31. Water-powered sawmill
32. Old Stage Coach Road; early colonial road
33. Rock piers to secure ends of fish nets for shad, bass and salmon
34. First auto and electric rail line drawbridge, 1911; replaced by fixed high Baldwin Bridge 1948 as part of Blue Star Memorial Highway. Toll charged 1911-1923.
35. Quarry Hill granite quarry of Hancock et al. Mid to late 1800's. Water export to New York.
36. Pilgrim's Landing, town landing authorized 1686
37. Neck Road authorized 1681.
38. Originally Higgen's Wharf, then Hill's Wharf for off-loading coal until late 1920's. Now Old Lyme Marina.
39. Site of proposed "Scenic Overview"
40. Bennet Rock Shelter (National Register of Historic Places).
41. Great Crick.
42. Site of Bow Bridge (subject of many paintings) and earlier bridges built since 1700's. Replaced by steel bridge in 1928.
43. Deming's Landing circa 1683, center of Old Lyme maritime commerce, with wharves, warehouses, and shipbuilding until 1780.
44. Lyme Academy of Fine Arts. Was John Sill house, built 1817.
45. Lyme Art Association Gallery. Built 1921 by exhibitors and members.
46. Florence Griswold Museum and Lyme Historical Society. Was William Noyes house, built 1817, museum since 1947.
47. John Peck Tavern. Built 1670. Tavern and store through Revolutionary War. Now a bed and breakfast.
48. Kieser One, habitation site, 1690.
49. Major rock shelter. 4,255 years before present and older
50. Robins Brook
51. Breastworks fortifications built for the War of 1812
52. Ferry Rd. from Great Bridge on Lt. River to Saybrook ferry landing formally laid out by a jury of 12 men in 1755.
53. Steamboat landing. Rubin Champion built boats near the landing, 1800-1835.
54. Site of wharves and warehouses at Ferry Point in 1800's.
55. Shoreline RR built drawbridge in 1870 and became NY-NH RR. When built, was world's largest double track steel drawbridge.
56. DEP Ferry Rd. park and boardwalk
57. Landing of Old Lyme- Saybrook ferry. Toll operated from 1662 until Ct. River bridge in 1911
58. Lyme railway station and engine house.
59. Ferry Tavern and Matt Bacon House, 1835 at end of Stagecoach Road. Hotel and tavern in 1800's. Destroyed by fire in 1971.

60. Nut Museum
61. Launch area at Rt. 156 and Lt. River
62. Ship building underway by 1739; also wharf and warehouses authorized in 1751. By 1790, Samuel E. Hill building coastal vessels up to 93 feet long (75 ton Peggy, 1784; schooner privateer Meteor, 1813; 181 ton blockade runner Pocohantus, 1811). Ships built well into 1800's.
63. Marvin's Point. First town landing, established 1666.
64. The Dugway (also Dug-Away) dug 1906 by railway when railroad embankment cut Ben Marvin's Crick (see 89)
65. The Great Bridge built 1732. Toll collected for 20 years. Later rebuilt as drawbridge with tolls for river traffic.
66. The Mountain and Indian Caves
67. Town dock and associated port complex, 1600's to 1700's
68. Soap factory, then Sound Breeze newspaper printing shop, lastly Spiers Plumbing Co.
69. Ferry Road first road built in Old Lyme, 1666.
70. Old Lyme Historic District. Lyme St. from Sill Lane to McCurdy Road. See "A walking tourguide of the Historic District of Old Lyme CT, Jennifer Perry, 1995, Lyme Historical Society, Florence Griswold Museum.
71. Shoreline Electric Railway Co. urban trolleys (leased from New London and East Lyme St. Railway Co.) joining New Haven, New London and points north (1913-1919). Passengers walked across Lt. River bridge until lightweight trolley cars available. At zenith had access to 250 miles of track. Could go to NY from Boston by trolley. Line reopened 1923-1929. Tracks crossed CT. River on 1911 bridge, followed Ferry Rd. across Lt. River to Lyme Street, thence north along Boston Post Road.
72. School No. 1, District 1.
73. Old Baptist Church dedicated 1843. Purchased by Episcopalians in 1923 and in 1934 given for one dollar to Catholics for their first parish in Old Lyme as the Christ the King Church.
74. Site of Old Lyme Academy, the first high school. Burned 1885
75. Post Office in late 1800's
76. Boxwood Inn, used as a school for girls, 1890-1904
77. Fourth meeting house built in 1817 to design of Samuel Belcher, Hartford, after Christopher Wren design. Burned in 1907. Fifth meeting house (present Congregational Church) built 1910 to design of Ernest Greene, NY, based on previous design.
78. Town Green. Patriots drilled here before answering to Lexington alarm. Also said that Sons of Liberty has local tea party, burning 100 lbs of teas on the street beside the green.
79. John McCurdy house (built by Amos Tinker (1700) visited by George Washington, 1776 and Lafayette, 1777.
80. Parson's Tavern, mid-1700's gathering place for political radicals. Moved from original location on Ferry Road beside Congregational Church.
81. Duck River Cemetery, 1676.
82. 1676, Matthew Griswold authorized to build horse bridge over Duck River.
83. Commemorative marker at site of Rev. Stephen Johnson house, Congregational minister 1746-1786.
84. Blue Star Memorial highway opened 1948 honoring WW II veterans.
85. Saw Mill Brook.
86. Water-powered sawmill on Saw Mill Brook, 1700's.
87. Peck House, 1666, on Flat Rock Hill Road
88. Champion grist mill and sawmill by Four Mile River. Mid 1700's to 1800's
89. Ben Marvin's Crick.
90. Upper Island.
91. Watch Rock Park, owned by Old Lyme Conservation Trust.
92. Meeting House to Duck River highway authorized in 1686.
93. First meeting house 1665-1688. Replaced by second meeting house at same site 1689-1738 (burned). Commemorative monument at site.
94. Old Meeting House cemetery, 1712-1831.
95. Road over Johnnycake Hill Road to meeting house from Duck River Bridge still a "path" in 1690.
96. School No.5, Between Rivers District
97. Greenfield Parsonage, 1873.
98. Methodist Episcopal Church built 1843. Active church until 1930's.
99. Undocumented cemetery in tilled field. Possibly Rowland
100. School No.6, Mill Creek District
101. South Lyme Union Chapel (Congregational)
102. School No.7, Four Mile River District
103. Waite, Chadwick, Latham Cemetery, 1801-1934
104. DEP Four Mile River launch ramp
105. Evaporative salt works destroyed by British in 1814.
106. Bill-Griffin-Brouder burial and habitation sites. 5000 to 2500 years before present
107. Duck River at end of Katherine Road
108. Sedgebog Creek
109. Duck River (Indian name Sunkapaug)
110. Great Island Habitation Site. From 3000 years before present to contact (1550)
111. North pier for off-loading deep draft ships in 1800's
112. Back River
113. South pier for off-loading deep draft ships in 1800's
114. Submarine Turtle designed by David Bushnell of Saybrook launched in vicinity of Poverty Island, 1775. Launching witnessed by Ben Franklin.
115. Smith Neck Town Landing
116. Cape Cod Comet
117. Madagascar
118. Judges Creek
119. Watermelon Creek
120. Water-powered grist mill
121. "Mission House" or "Guild House" Episcopal Church erected in 1892 at Mile Creek and

Bailey roads. Moved to site and remained a church until 1956. Now a "Nearly New" shop.
122. Saint Ann's Episcopal Church, built 1956.
123. Store- circa 1880's
124. Black Hall Railway Flag Station
125. Joe's Creek
126. Smith Island
127. DEP Great Island launch ramp (aka Smith Neck Landing)
128. Black Hall Point
129. Ruders Island
130. Old Lyme Shell Midden. Excavated by Styles, Peabody and Moorehead
131. Sheep Pound.
132. Hillhouse Site. Late 13th to 15th century palisaded Indian village.
133. This area continuously inhabited by a member of the Griswold family since early 1640's
134. DEP Black Hall River. Unimproved, access from Buttonball Road.
135. Griswold cemetery, 1805-1930
136. Black Hall Schoolhouse cemetery, 1837-1915
137. School No.8, Black Hall District
138. Old Lyme White Sand Town Beach
139. NH and NL RR charter to build railway from NH to Waterford to Stonington completing New Haven to Boston line with ferries over CT and Thames Rivers. 1864 became Shore Line Railroad.
140. 1713, road built by John and Thomas Lee from Mile Creek to Niantic
141. Wait cemetery, 1805-1892
142. Captain Chadwick house, 1692, on Mile Creek Road
143. Our Lady of Good Counsel Chapel (1906)
144. End of Hartford Avenue.
145. Sound View summer railway station.
146. South Lyme railway station
147. Champion Cemeteries 1 and 2, 1801-1934.

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