Town of Willsboro

Planning Program

COMMUNITY RESOURCES
NATURAL RESOURCES
TOWN LAND USE PLAN

The preparation of this report was financially aided through a federal grant from the Department of Housing and Urban Development under the Comprehensive Planning Assistance Program authorized by Section 701 of the Federal Housing Act of 1954, as amended. This report was prepared under the Comprehensive Planning Assistance Program for the New York State Department of State, and is financed in part by the State of New York.

CPA-NY-02-00-1101
Adirondack Park Agency

TOWN OF WILLSBORO

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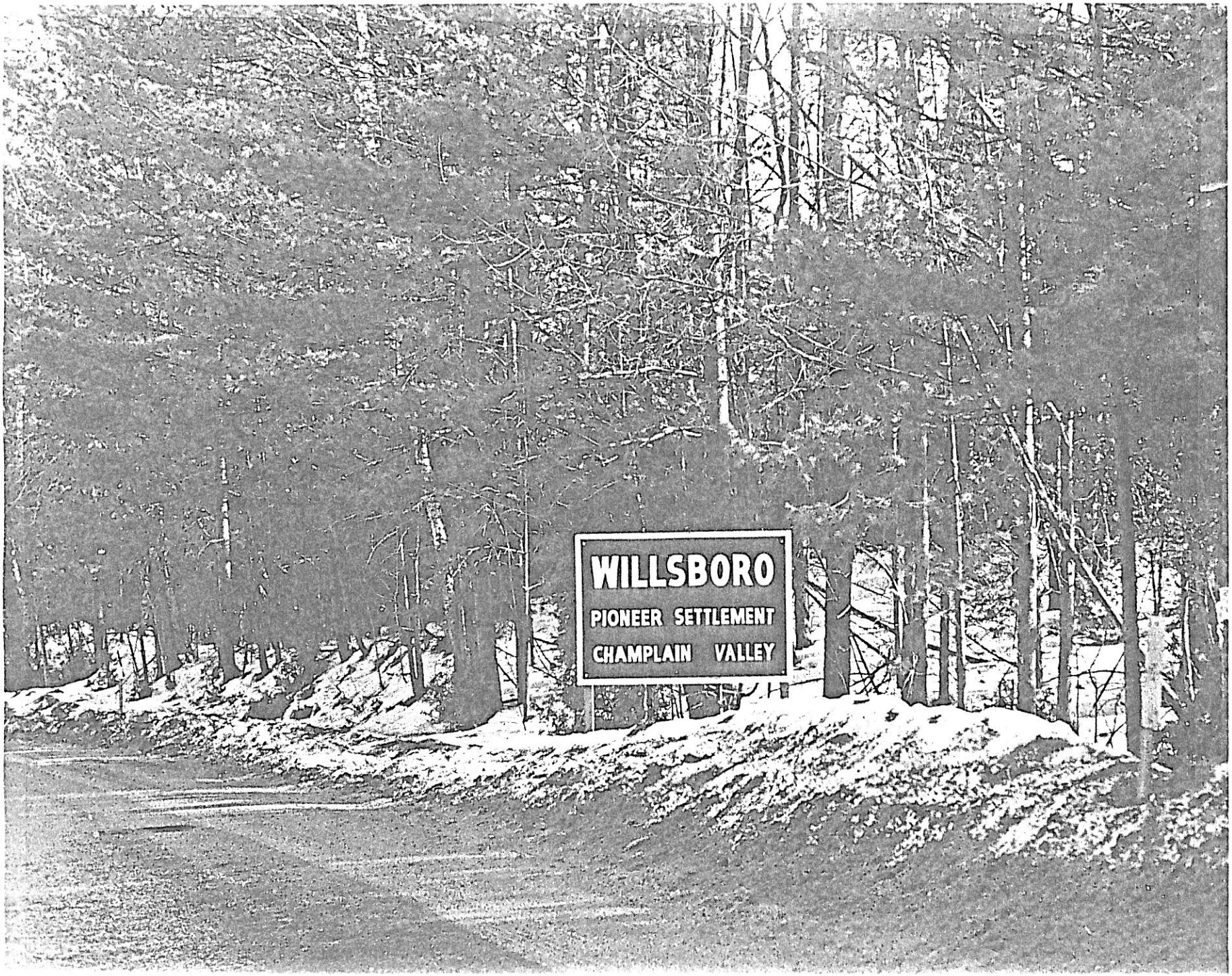
TOWN OF WILLSBORO

TOWN PLANNING PROGRAM

	Page
Introduction	1
The Willsboro Planning Process	2
Community Opinion Survey	3
Citizens' Goals	4
Planning Issues	5
Planning Recommendations	8
Community Resources Update	
(a) introduction	9
(b) community facilities	10
(c) transportation	13
(d) existing land use	15
(e) population	19
(f) housing	24
(g) economics	28
Natural Resources	
(a) introduction	31
(b) base maps	31a
(c) topography	33
(d) soil	37
(e) water	48
(f) visual	54
(g) unique natural and cultural features	61
(h) critical environmental areas	74
Natural Resource Composite Map	77
Town Land Use Plan	80


WILLSBORO
PIONEER SETTLEMENT
CHAMPLAIN VALLEY

INTRODUCTION

The Town planning process involves an inventory and analysis of both the natural and public resources of the Town of Willsboro, encompassing municipal services, economic prospects, housing needs, and population. Local and regional goals are identified to serve as a guide for managing the land and public resources. The resource analyses, along with the local and regional goals, are then synthesized to develop the Town Land Use Plan. The Willsboro Town Plan will serve as the basis for revising the existing zoning ordinance and official zoning map and for preparing subdivision and other land use regulations.

Established in 1965, the Willsboro Town Planning Board adopted the Town's Zoning Ordinance in 1974. The Zoning Ordinance was based on an inventory of natural and public resources and the Town Plan prepared by the planning firm of Metcalf and Eddy. In 1977, planners from the Adirondack Park Agency, in consultation with the Town Planning Board and Town officials, updated the resource information.

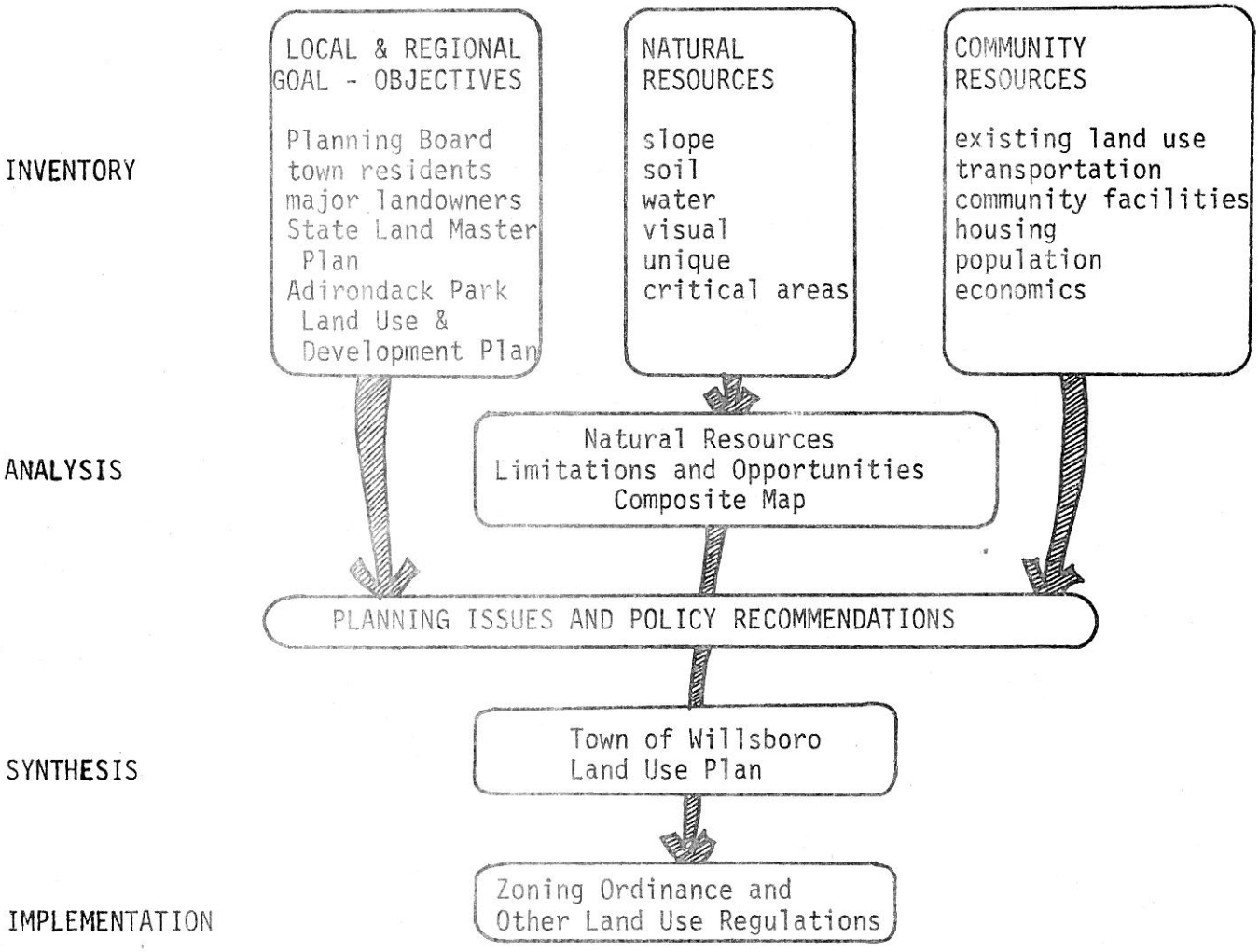
This report summarizes the detailed natural resource and community resource planning reports which were presented and discussed with the Planning Board during the course of the revised inventory. Examined individually are the physical features and public services of the community and their significance to the orderly growth of Willsboro.

The mapping and material contained in this report are at a Town-wide planning scale and are not of sufficient detail to provide guidance in the development of specific units of land. Reductions of maps prepared for this study appear in this report to illustrate the planning process. Full-sized copies of all maps are available for review with the Planning Board.

THE WILLSBORO PLANNING PROCESS

The planning process is a simple rational step-by-step process which generates the facts needed to prepare a Town land use plan that will adequately protect and enhance the community's human, public, and natural resources; establish community goals and objectives; insure citizen input; and lead to the updating of the existing zoning ordinance and the adoption of new land use regulations.

The process is summarized in the following diagram:



COMMUNITY INFORMATION & OPINION STUDY

In order to determine citizen attitudes concerning local services, the environment, and Town growth and development, the Planning Board prepared and implemented a community opinion survey in the summer of 1976.

A total of about seven hundred and fifty copies of the survey was mailed to each household in the Town, both permanent and seasonal. 134 of these (15%) were completed and returned to the Town Hall.

The main points derived from tabulating the results were:

- Respondents indicated a strong preference for the inventory and preservation of historic, architecturally-significant buildings and unique open space areas.

- The most outstanding services provided by the community were fire protection, emergency service, and the Town library.

- Police protection and activities for senior citizens were the main aspects of the Town requiring improvement.

- The type of growth and development desired by the Town was the attraction of more industry to the Town as well as a slight increase in the population.

- The primary environmental concern of the respondents was the level of pollution in Lake Champlain and the Bouquet River.

- A majority supported the establishment of a public beach in Town.

- A majority felt that the agricultural areas of the Town, the undeveloped farmland, was an asset which should be preserved and left undeveloped.

- Most persons indicated that the control on land use and development should be the jurisdiction of a "local" agency, group, or community.

- The condition of the buildings in the Town, particularly the business district, was a concern of a majority of the respondents and they felt these should be considered for a "facelift".

- Most residents live in single family homes and own their own homes.

- Over three-quarters of the respondents lived in Willsboro for 10 years or more.

CITIZENS' GOALS

1. Preserve Willsboro's idle agricultural lands for future use.

2. Preserve and improve the visual attractiveness and appearance of the Town amidst an awareness of its historical character.

3. Growth and Development in Willsboro should include attracting more industry to the Town and encouraging reasonable population growth.

4. Establish additional recreational activities for residents and visitors alike.

5. Establish a public beach.

6. Maintain and improve police protection programs in the community.

7. Return land use control to local jurisdiction through development of effective partnership between local and regional land use agencies.

8. Undertake restoration of the buildings in the community; in particular improve the appearance of the business district.

9. Organize, improve, and maintain recreational facilities and activities for senior citizens.

PLANNING ISSUES

A comprehensive land use planning process consists in part of inventories and analyses of the natural and community resources of a community. These features present both problems and opportunities to a community in terms of its future growth and developments.

The key problems and opportunities are planning issues which need to be discussed by the citizens, planning board and town board and specific courses of action formulated so that the land use plan reflects these issues and recommended course of action.

The following is a summary of the planning issues which have been developed during the course of the planning program in Willsboro:

COMMUNITY RESOURCES:

COMMUNITY FACILITIES

- The public water system is adequate to accommodate present demands and any prospected increase in demand within the near future.

- There is no public sewerage system in Willsboro. On site septic systems are presently used for sewage treatment and disposal.

- Facilities which are adequate to meet current and expected demands are the school, the fire department and emergency service, the health care center and the library.

- Facilities which need improvement are parking facilities, a community center and Town Hall facilities, recreational facilities for senior citizens, and police protection.

TRANSPORTATION

- The road maintenance and construction program in the town is considered to be good.

- The network of roads within the town with the exception of the central business district and summer use roads are adequate for the town's immediate needs and anticipated short-term growth.

- The principal mode of transportation in Willsboro is the automobile.

- Public transportation serving the town is limited in type and frequency of service.

- The only significant recreational trails in the town are snowmobile trails. These should be maintained and expanded to a town-wide network.

- The fish resources of Willsboro are important to the town, as fishing is a popular sport for residents, and the Willsboro Fish and Game Club depends primarily on this resource for its activities.

- The Bouquet River has been designated a Recreational River in the New York State Wild, Scenic and Recreational Rivers System.

- The agricultural District reflects the importance of agriculture to the town and encourages commercial farming and discourages incompatible development within the district boundaries.

Willsboro has a rich historical heritage. There are a number of historic homes and sites in the town that should be preserved for future generations.

WATER RESOURCES

There are a large number of water bodies in the town: Long Pond, the Bouquet River, Willsboro Bay and Lake Champlain, which provide a wide variety of recreational, social and economic opportunities.

VISUAL

Willsboro possesses a unique visual quality and character consisting of distinctive landscape areas (open farm land, shoreline, mountains, the Bouquet River Valley and Willsboro and Reber hamlets).

ECONOMIC ANALYSIS

- Willsboro exhibits a diverse economic base (farmlands, two industrial employers and a significant seasonal-tourist population).

- Employment in the community is largely dependent upon the private sector.

- Since 1969, the Essex-Lewis-Willsboro agricultural area has increased the number of acres under cultivation and increased the number of cows and total milk products.

- In 1970, the median income of families and unrelated industries in Willsboro was $8,040, slightly lower than the Essex County median of $8,145.

PLANNING RECOMMENDATIONS

1. Undertake restoration of the buildings in the community and, in particular, improve the appearance of the business district.

2. Concentrate future development in areas containing community services or in areas projected for future expansion of existing community services.

3. Growth and development in Willsboro should include attracting more industry to be located in the industrial districts and encouraging reasonable population growth.

4. Allow for the continuance of the agricultural industry in the town by discouraging incompatible uses within the established agricultural district and on other land actively engaged in agricultural pursuit.

5. The land use regulations as a tool to maintain the visual quality of the shorelines and the open space areas of the town.

6. Plan for a slow rate of permanent and seasonal residential growth.

7. Discourage to the extent possible new development in areas containing sewage limitations to development such as flood plains, wetlands, steep slopes and soil unsuitable for septic tanks and drainage fields.

8. Provide the means and manpower for the proper implementation of the existing and any new land use regulations.

9. The expansion of the Willsboro hamlet should occur south of the village in the abandoned agricultural areas containing gentle slopes and deep, well-drained soils.

10. New development along the shoreline of Lake Champlain and Willsboro Bay should be carefully planned to preserve the quality of the water and the visual attractiveness of the shoreline.

11. Maintain the basic land use patterns of the existing zoning map.

12. Protect the many unique natural and cultural features located in the town.

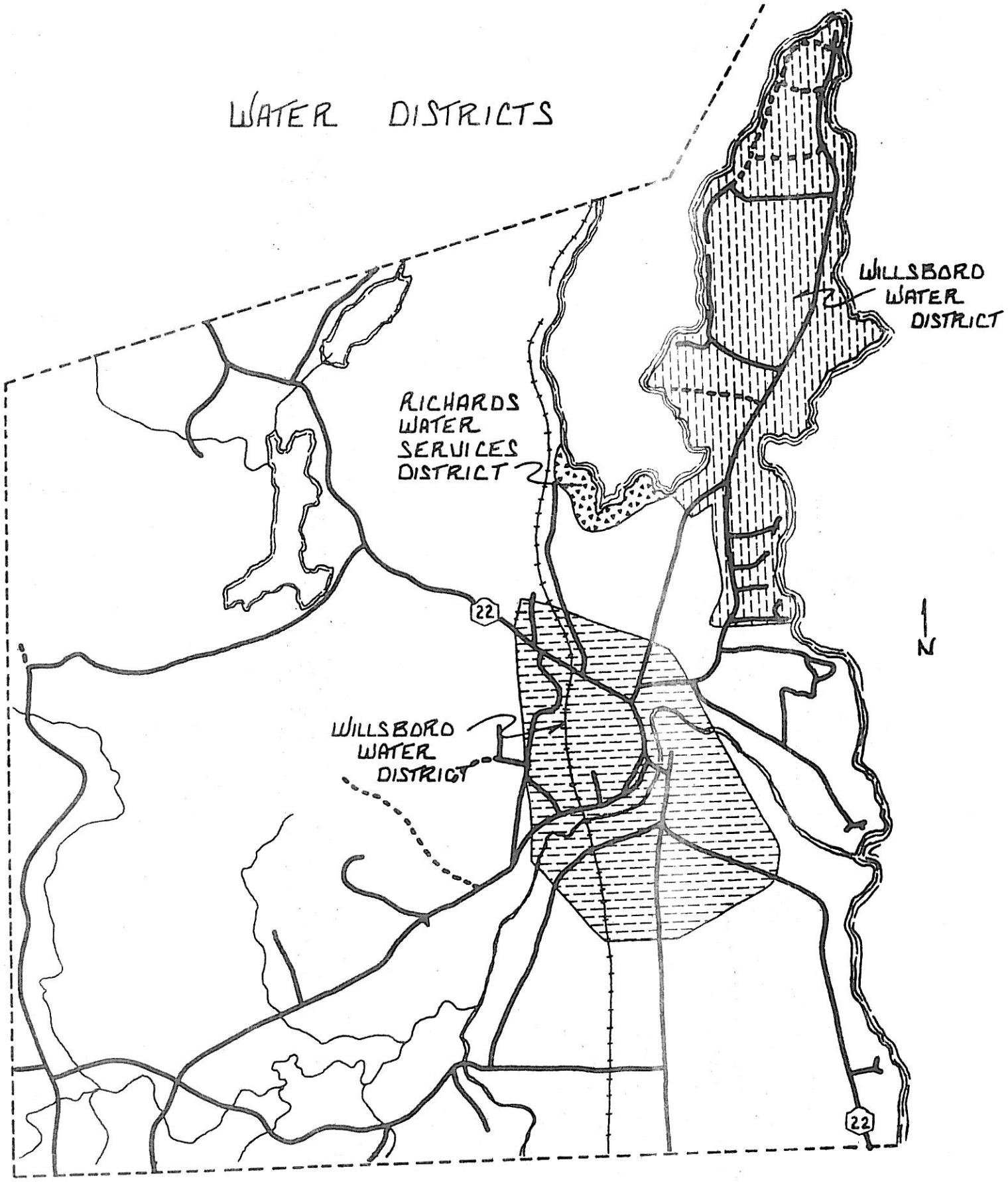
COMMUNITY RESOURCES

INTRODUCTION

The unique character of Willsboro is derived, in large part, from its residents: where they live, what they do, and what they value. The natural resources of a community and the environment which they provide fostered the context within which residents live, work, and play today. In December, 1970, the firm of Metcalf and Eddy evaluated the community resources of Willsboro, its economic resources, human resources, housing stock, existing patterns of land use, community facilities and its transportation system. Each study described the current use and potential resources which the Town possessed, and included guidelines for future growth.

The following community resource summaries seek to supplement and update the existing information. Therefore each summary is limited to a presentation of data available on each resource, since 1970. This way, the Town Planning Board may consider any changes in the community which have occurred since the original studies. Unless otherwise noted, the base information concerning the human resources of Willsboro is based upon the Metcalf and Eddy report.

WATER DISTRICTS



NOT DRAWN TO SCALE

HOUSING ANALYSIS

INTRODUCTION

A community housing analysis is primarily concerned with the quantity and quality of housing available for local residents, both permanent and seasonal. Factors affecting cost, supply and quality of housing include: (1) market supply and demand, (2) local citizen and public official housing development attitudes as reflected in regulatory policies or ordinances, (3) availability of financing such as mortgage money and interest rates, (4) availability of financing such as housing subsidy and terms, (5) availability cost and suitability of vacant land, (6) availability of public utilities (water, sewer, electricity, etc.), (7) land improvement requirements and costs, (8) construction requirements and costs, (9) quality of developers project administration, planning and engineering and (10) time involved for regulatory agencies to process permits.

This report focuses on several identifiable major factors affecting housing availability. The purpose here is to first examine the current overall supply of housing in terms of quality and quantity; then to analyze market demand and finally propose recommendations.

HOUSING SUPPLY

According to the 1970 U.S. Census of Housing, there are 971 housing units in the Town of Willsboro, including 609 year-round residences and 362 seasonal residences. By type of structure, 82 percent are single family dwellings, 7.5 percent are two or more units and 8.2 percent are occupied mobile homes. These statistics are presented in Table H1. 8.7 percent of all housing units in 1970 were mobile homes compared to 1.2 percent for all of New York State. This was a higher average percentile of mobile homes than in Essex County, 6.2 percent.

In the spring of 1977, an Existing Land Use survey was conducted in Willsboro. The results of this survey are presented and summarized in Tables H2 and H3. The number of year-round residences had increased since 1970 from 609 permanent year round dwellings to 634. The number of mobile homes had also increased; the number of mobile homes in Willsboro had almost doubled in seven years from 43 to 84 structures.

In 1970 the Census recorded 362 seasonal residences in Willsboro. The Existing Land Use Survey recorded 391 as seasonal. This represents an increase of 8 percent. The discrepancy between the two figures may be due to differences in the methodology of collecting and characterizing housing information. However, this may demonstrate an actual increase in the number of new seasonal residences.

Specific planning policies may be undertaken to meet changing configuration of the population and their housing units in the community.

TABLE H1

TOWN OF WILLSBORO HOUSING STOCK
1970 Census

Number of Units		Number of Units by Structure	
Total Housing Units	971	1-Unit Structures	507
Total Year-Round Units	609	2 or more Unit Structures	59
Vacant Seasonal and Vacant Migratory	362	Mobile Homes or Trailers	43

Count of Housing Units Occupancy/Vacancy Status	
Owner Occupied:	417
Renter Occupied:	103
Unoccupied:	
For Rent	6
For Sale	11
Other Vacant	72

Year Structure Built

Total Occupied and Vacant Year-Round

1965 - March 1970	42
1960 - 1964	29
1950 - 1959	68
1940 - 1949	44
1939 - or Earlier	389

Source: Census of Housing, New York, 1970; Bureau of the Census, U.S. Department of Commerce, Washington, D.C.

In 1970 the median income of families and unrelated individuals in Willsboro was $8,040, slightly lower than the Essex County median of $8,145. The 1970 per capita income for Willsboro was $3,341 as compared with $2,625 for the county and $3,634 for the state. In 1970, 10 percent of the Town's population earned under $5,000. The largest number in a single income bracket was 8 percent earning between $5,000 and $6,999 in 1970.

The trend of growth for industries within the community, as well as the changing configuration of the labor force and their livelihoods, indicates that Willsboro has undergone intense economic change in the last ten years. Two stable industrial employers and a growing agricultural production sector are positive assets which the economic base currently possesses. The changing status of the labor force may stabilize; certainly the decrease in manufacturing and agricultural industries are characteristics of the 1960's. The level of growth of the community's economic base seems to be approaching stability. This trend of growth would enhance the stability of the overall economy. Seasonal unemployment and high real property taxes may continue to present problems for the Town. The future economic picture for Willsboro remains, however, a dynamic one.

NATURAL RESOURCES

INTRODUCTION

As part of the Adirondack Park, the Town of Willsboro is endowed with natural resources. Rugged mountains, forested hills, lakeshore, a deep river basin, open agricultural land, and lakes present a widespread opportunity for recreation and enjoyment of the region's natural assets.

This section illustrates the interaction of the natural and physical features in Willsboro (water, soil, slope) and identifies the occurrence of unique natural areas, the visual quality, and considerations critical to the survival of plants and animals. This section sets forth a basis for ensuring, through conscious choice by the people of Willsboro, that their future use of land protects the community's natural appeal.

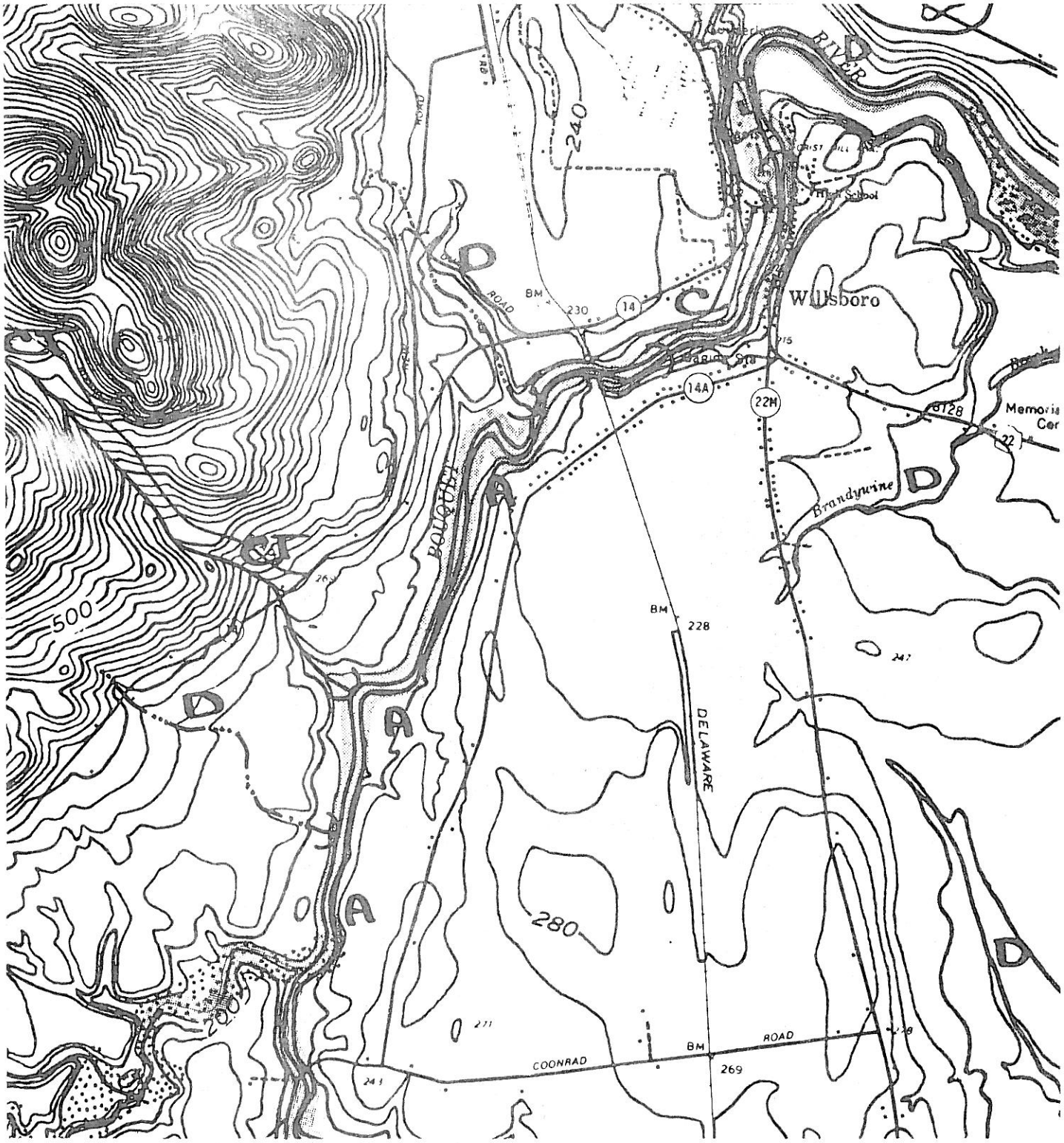
The land has several functions, all of which are vital to man's survival and, so, must be protected against misuse. The land supports vegetation, which is not only nourishing, but also converts carbon dioxide to oxygen, provides shelter from wind, sun, and noise, and stabilizes and aerates the soil. With careful planning and a thorough knowledge of their Town's assets, the residents of Willsboro can protect, enhance, and use their resources to direct Willsboro's economic growth.

To avoid social and environmental problems, land use must regard natural processes. Air and water pollution, soil erosion, flood hazards, loss of natural forests, and similar environmental problems stem from past inattention to natural processes. Sewage purification through soil is retarded when the natural flow of water through the soil is at or near the surface; and flooding, a natural occurrence, is bound to damage any dwellings erected in the floodway. Collectively, the land must be examined to reveal the opportunities it offers and the disadvantages it presents to human habitation . Wise use of the land lies in setting compatible guidelines with those natural processes.

FICAL WATER RESOURCES

R WATERSHED
WATERSHED
TION OF FLOW

3 WILLSBORO LANDFILL
PROPOSED WATER
DISTRICT EXPANSION AREA



SENSITIVE HYDROLOGIC AREAS

N.Y.S. D.E.C. WATER QUALITY CLASSIFICATION

A WATER SUPPLY) CLASSIFICATION CHANGE

C FISHING

D SECONDARY CONTACT RECREATION

T TROUT INHABITED

ALLUVIAL SOIL

N.U.D. FLOOD

TOPOGRAPHIC BASE

SCALE 1" = 2000'

20' CONTOUR INTERVAL

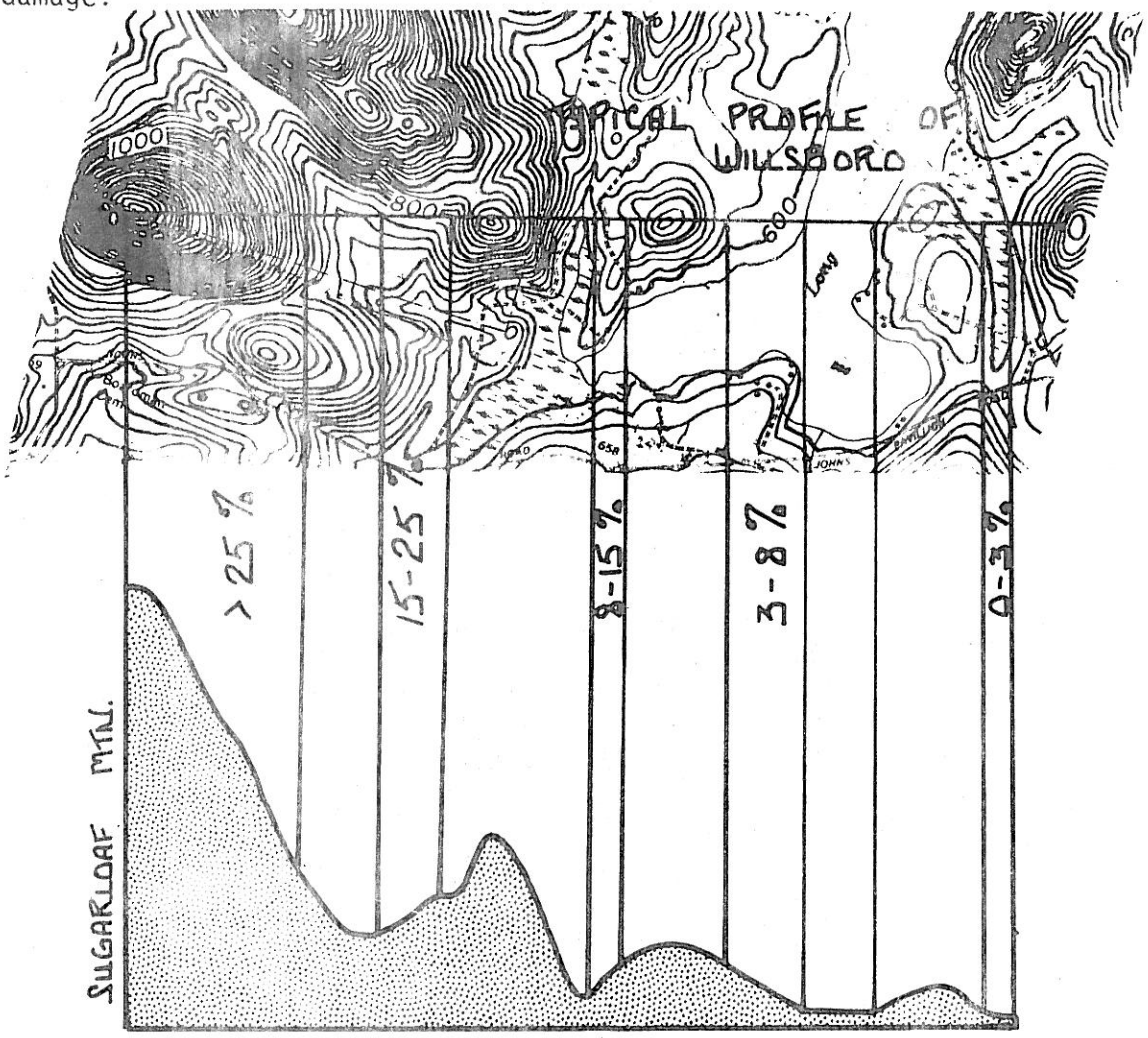
N

TOPOGRAPHY

The topography in Willsboro varies from a rocky coastline along the northeastern shore of Willsboro Bay, rising to the mountains in the central portion of the Town, to the agricultural plains of the south.

Topographic information gives a fast overview of Willsboro's character--where the gradient is steep or gradual and where there are likely to be wet spots or good views. The lay of the land therefore influences both the physical and economic suitability of an area for various land uses. A quick look at the lay of the land may suggest the best sites for building access roads, septic systems, and areas for industrial and recreational facilities.

Most existing development in Willsboro has given proper consideration to slope to avoid costly construction and environmental damage.



A VERTICAL SCALE OF 1" = 300' CREATES AN EXAGGERATED SLOPE

SLOPE INTERPRETATIONS

0-3 %
3-8 %
8-15 %
15-25 %
25+ %

SOIL TYPES

1. LACUSTRINE soils occur in old glacial lake beds where silts and other sediments settled. These soils are poorly drained, coarse textured sands mixed with silts.

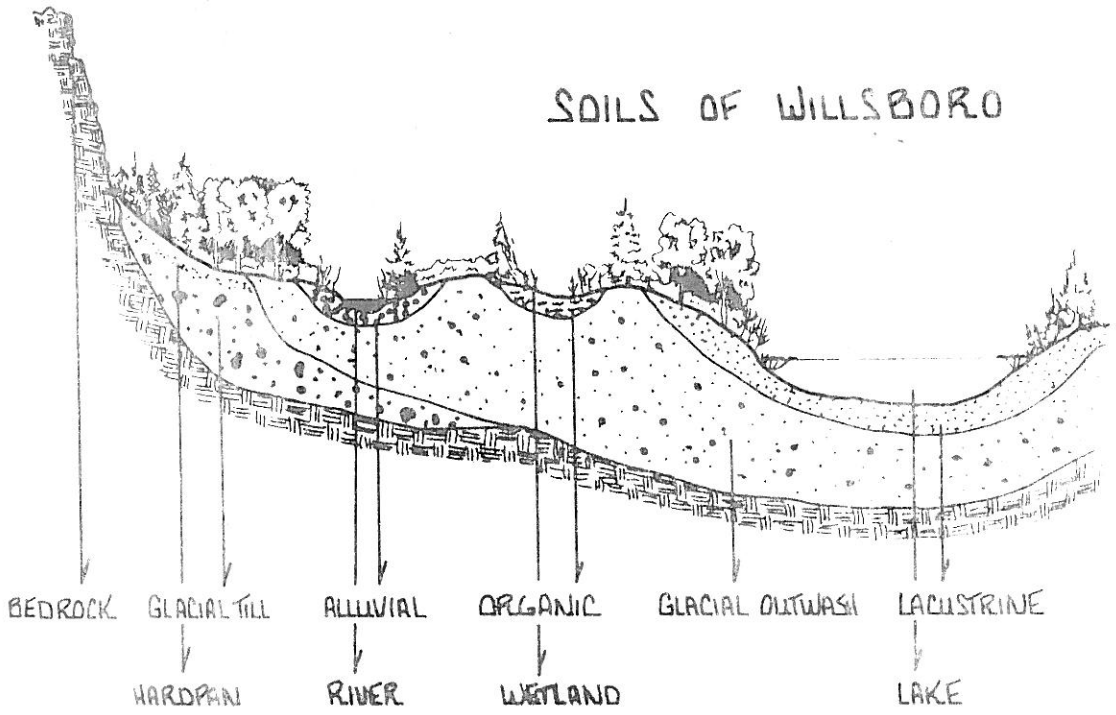
2. ALLUVIAL soils are found beside streams and rivers where there is flooding. They consist of a variety of sediments including silt, clay, sand, gravel, and decayed plants washed down from the uplands. ORGANIC soils are found in wetlands. Commonly called peat or muck, they are formed by the slow accumulation of decayed plants.

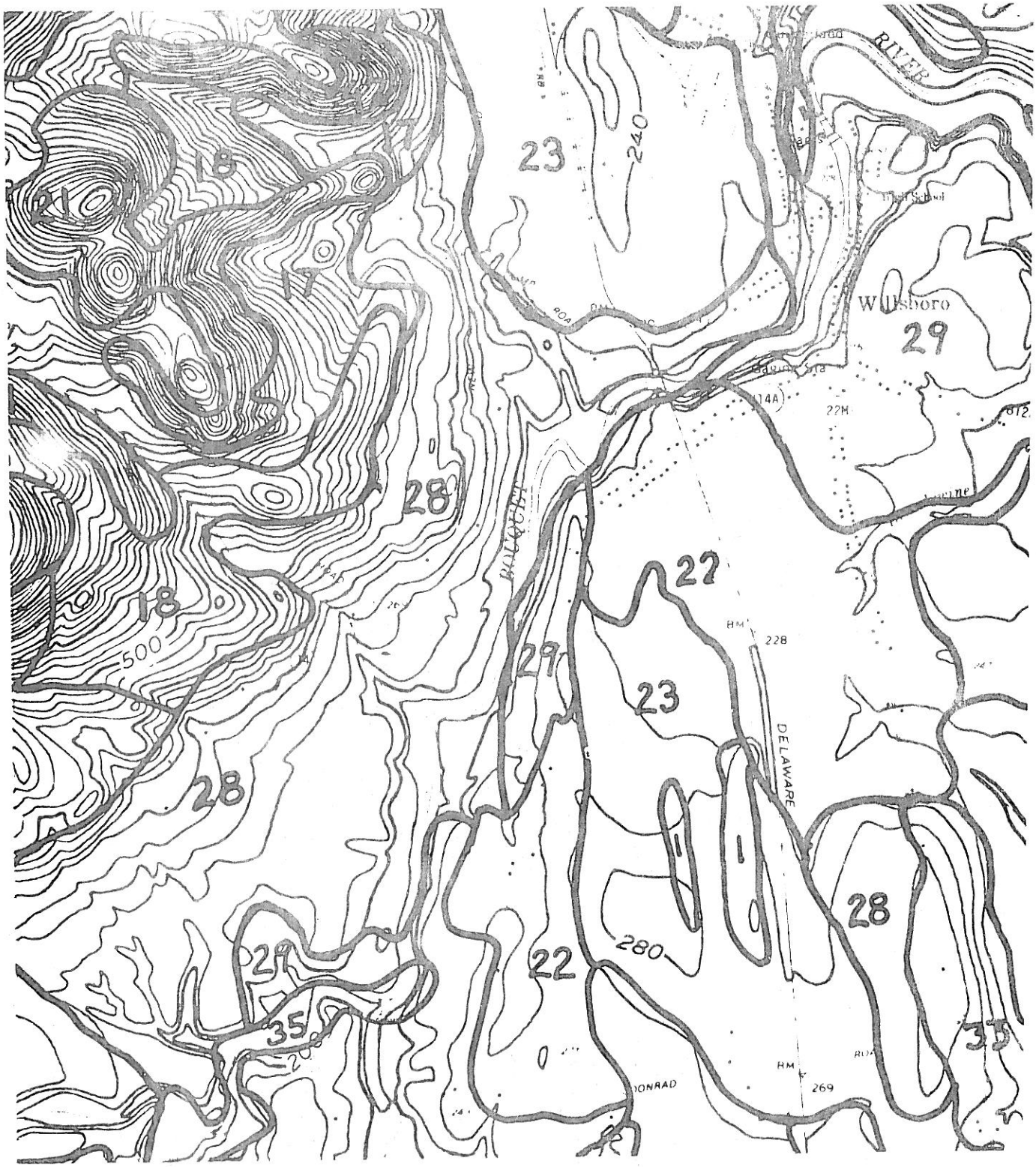
3. GLACIAL OUTWASH consists of coarse sand and gravel with little or no silt or clay. These are often very deep.

4. GLACIAL TILL is composed of a haphazard assortment of silt, clay sand, gravel, and boulders. It sometimes contains a hardpan--a dense layer which prevents vertical drainage. Those soils with the hardpan often may be found on gently sloping hillsides.

5. Upland GLACIAL TILL with no hardpan may be found in a widely varying but generally steeper-sloping landscape.

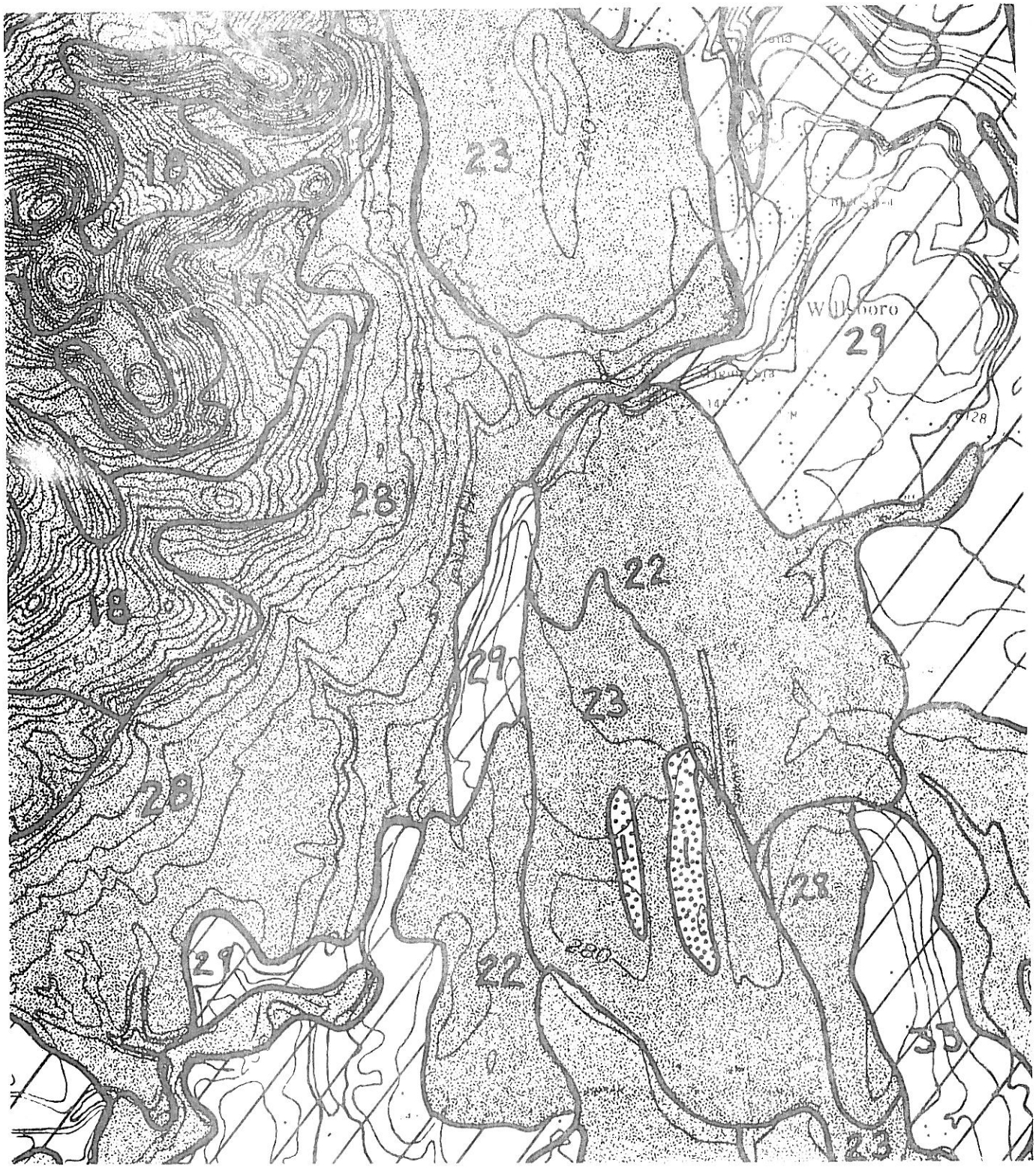
6. BEDROCK OUTCROP is a non-soil area where the original parent material (bedrock) is at the surface. These areas are usually found in the upper elevations.





SOIL INDENTORY

17-18 PARISHVILLE
21 CANAAN ROCK OUTCROP
22 ELMWOOD - SWANTON
23 KINGSBURY - COVINGTON
28 VERGENNES - KINGSBURY
29 WINDSOR
33 COLTON
35 ALLUVIAL LAND
42 ROCKOUTCROP - CANAAN - ELMWOOD - SWANTON



SOIL INTERPRETATIONS FOR SEPTIC SYSTEMS

- SEVERE TO SLIGHT
- MODERATE TO SEVERE
- MODERATE
- SEVERE

SOIL INTERPRETATIONS FOR COMMUNITY DEVELOPMENT

SLIGHT

MODERATE

SLIGHT TO SEVERE

SEVERE

VIEW 19

This vista affords views of the residential settlement along Willsboro Point as well as a view towards the Vermont shore.

VIEW 20

This regional vista provides extensive view of Lake Champlain and the Vermont landscape. The vista extends in two directions, both east and west, also affording a view of the majestic Rattlesnake Mountain.

VIEW 21-22

Willsboro possesses attractive visual qualities and character stemming in large part from a landscape consisting of many diverse units; open farmland, lake shoreline, river valley, mountains and a developed village area. This visual attractiveness is a major factor in attracting future seasonal and permanent residents and industry to the community. The implementation of reasonable sign regulations, shoreline lot dimension restrictions, vegetative screening can help maintain the visual character of Willsboro and assist in the proper long-term development of the community.

VISUAL ANALYSIS

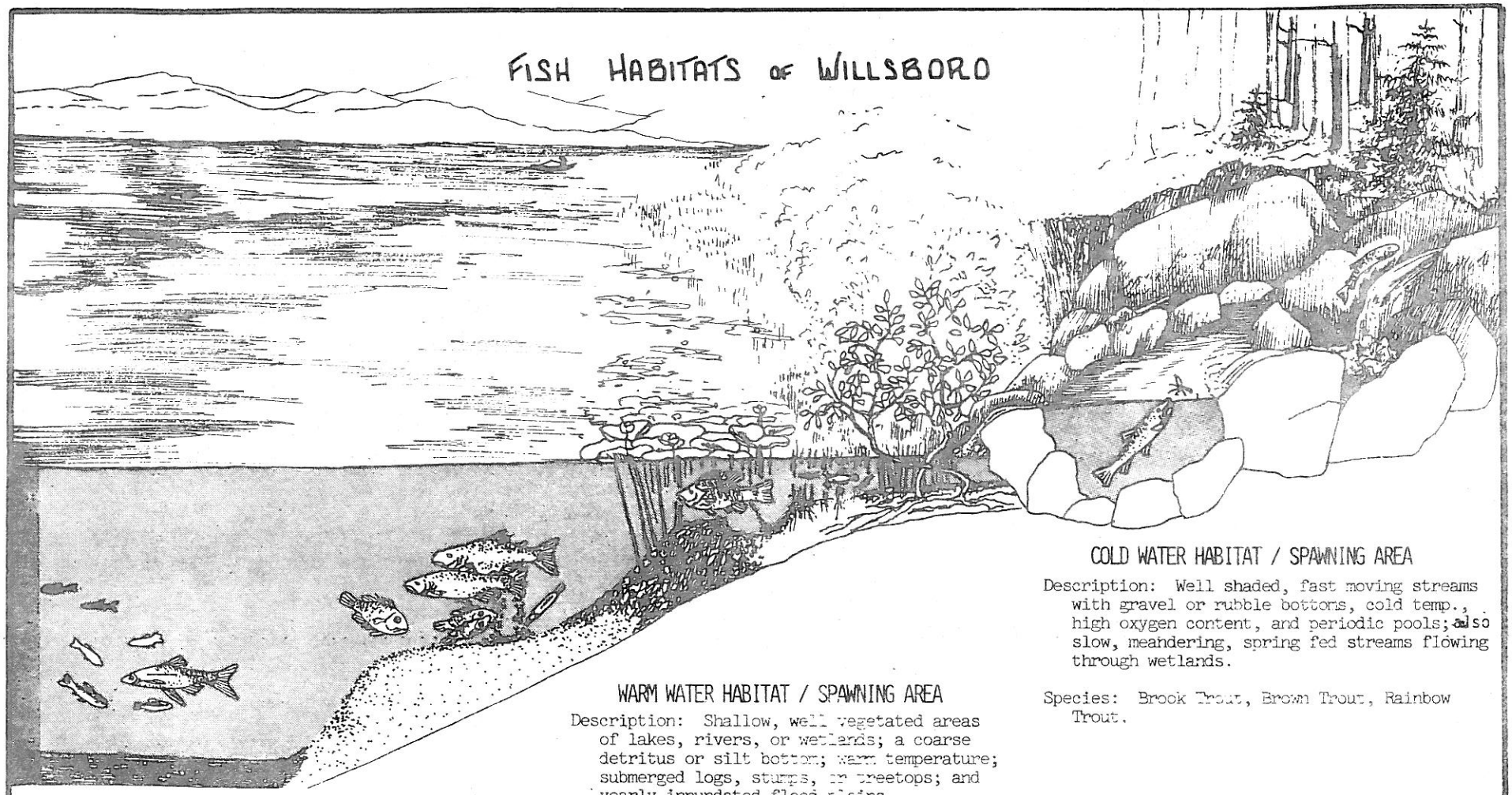
ATTRACTIVE ROAD CORRIDORS

LANDSCAPE BOUNDARYS

PANORAMIC VIEW

EXTENSIOE VISTA

FISH HABITATS OF WILLSBORO



COLD WATER HABITAT / SPAWNING AREA

Description: Deep, relatively infertile lakes with gravel or boulder margins, occasional "weed" beds and cold, well oxygenated water layers

Species: Lake Trout, Brook Trout, Rainbow Trout, Smallmouth Bass

WARM WATER HABITAT / SPAWNING AREA

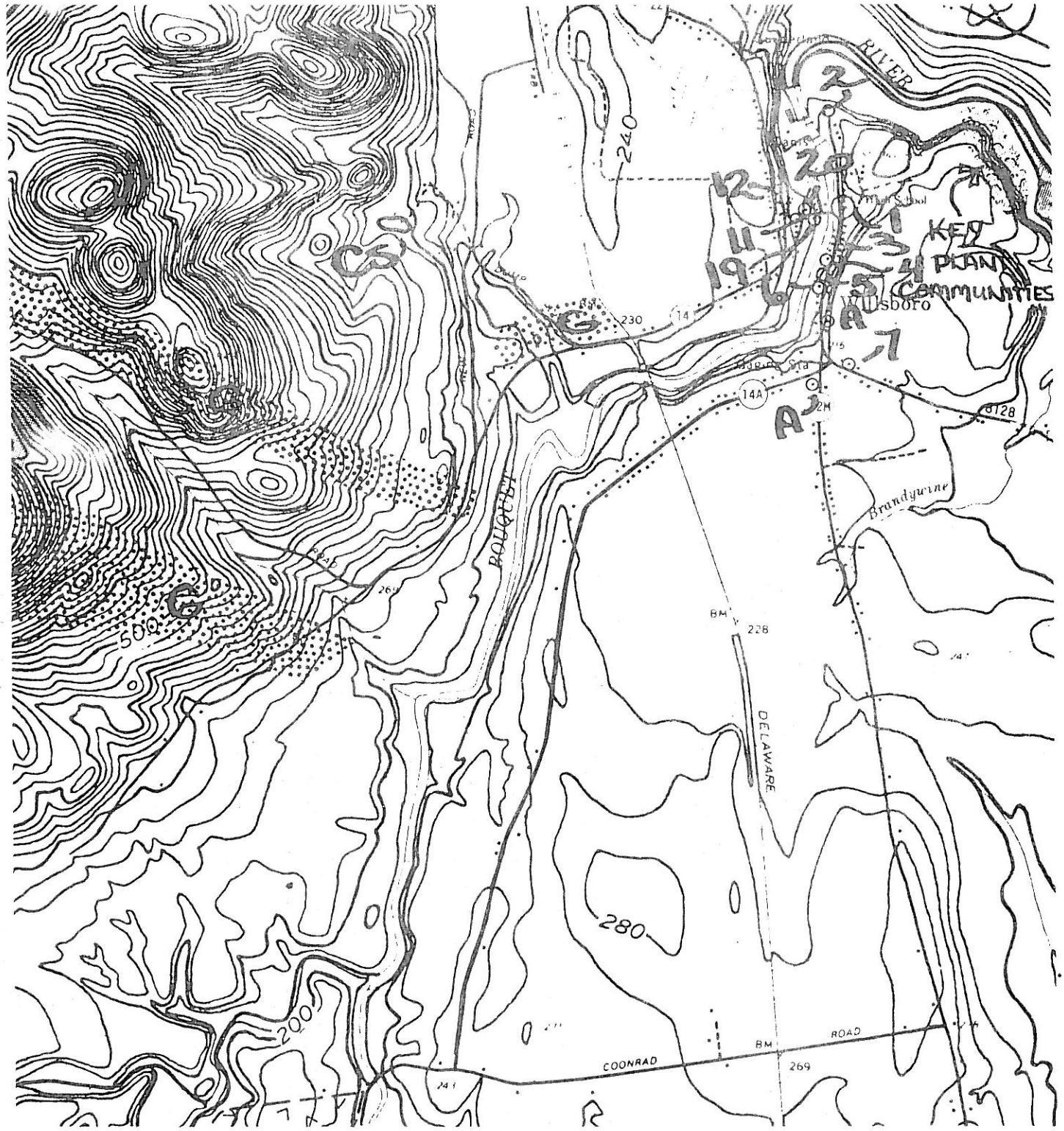
Description: Shallow, well vegetated areas of lakes, rivers, or wetlands; a coarse detritus or silt bottom; warm temperature; submerged logs, stumps, or treetops; and yearly innundated flood plains.

Species: Northern Pike, Largemouth Bass, Yellow Perch, Brown Bullhead, Rock Bass, Pumpkinseed, White Sucker, Red-Breast Sunfish, Pickerel.

COLD WATER HABITAT / SPAWNING AREA

Description: Well shaded, fast moving streams with gravel or rubble bottoms, cold temp., high oxygen content, and periodic pools; also slow, meandering, spring fed streams flowing through wetlands.

Species: Brook Trout, Brown Trout, Rainbow Trout.



UNIQUE NATURAL & CULTURAL FEATURES

#1-20 HISTORIC SITES

A EXAMPLES OF EARLY HOMES

G GEOLOGIC SITE

C COLD WATER SPECIES

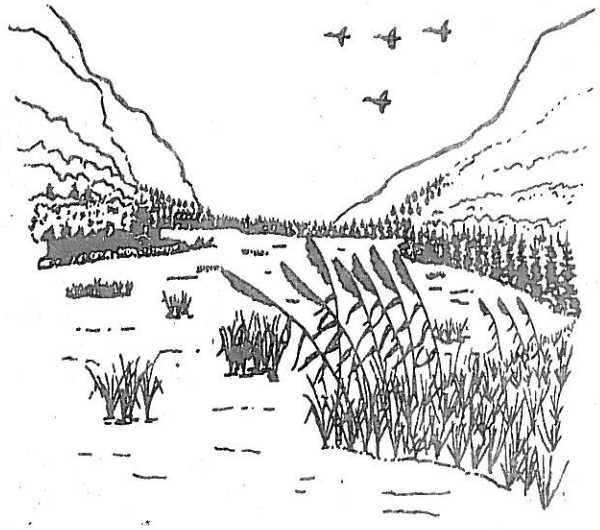
S STOCKED WATERS

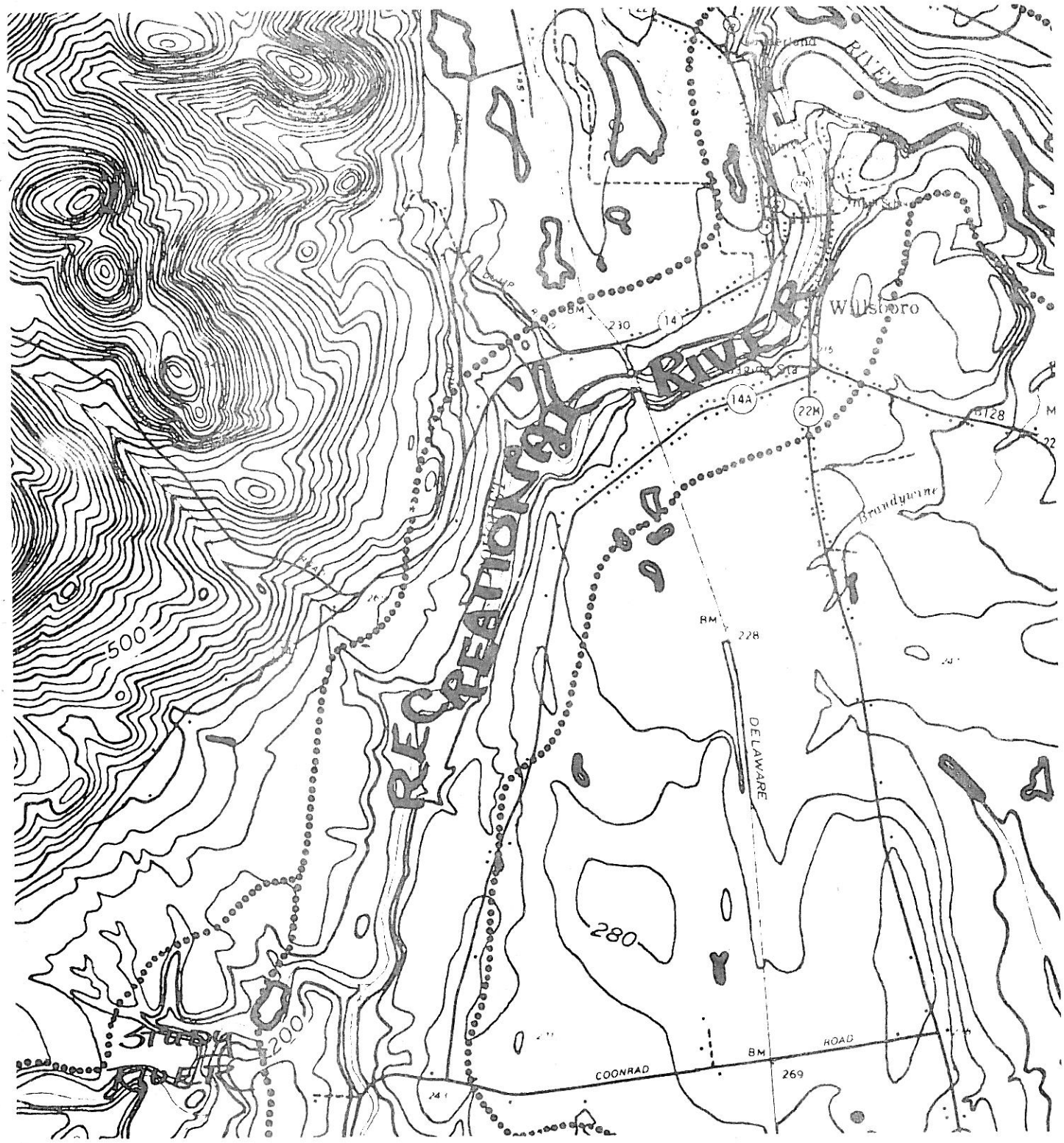
Shallow soils, steep slopes, critical wildlife habitats, floodplains and large wetlands are also common along many of these corridors.

The objective in review of new land uses and development in these areas is to protect and enhance the aesthetic qualities and rural, parklike atmosphere along major highway corridors. This can be accomplished best by the design of development sites on large lots, utilizing vegetation and topographic screening or by selecting small cluster development sites which will protect the scenic and natural resources of the areas. Use of vegetative and topographic screening can also reduce the impact of highway noise. Segments of Route 22 in Willsboro are critical environmental areas.

RIVER CORRIDORS

The North Branch of the Bouquet River has been designated to be studied for possible inclusion in the New York State Wild Scenic and Recreational Rivers System. The river and its 1/4 mile setback from each shoreline is classified as a Critical Environmental Area. New land use and development in the river corridor as shown on the Critical Environmental Areas Map will be reviewed under the guidelines of Class A Regional Projects maintaining the free-flowing and natural characteristics of the river and its environs.

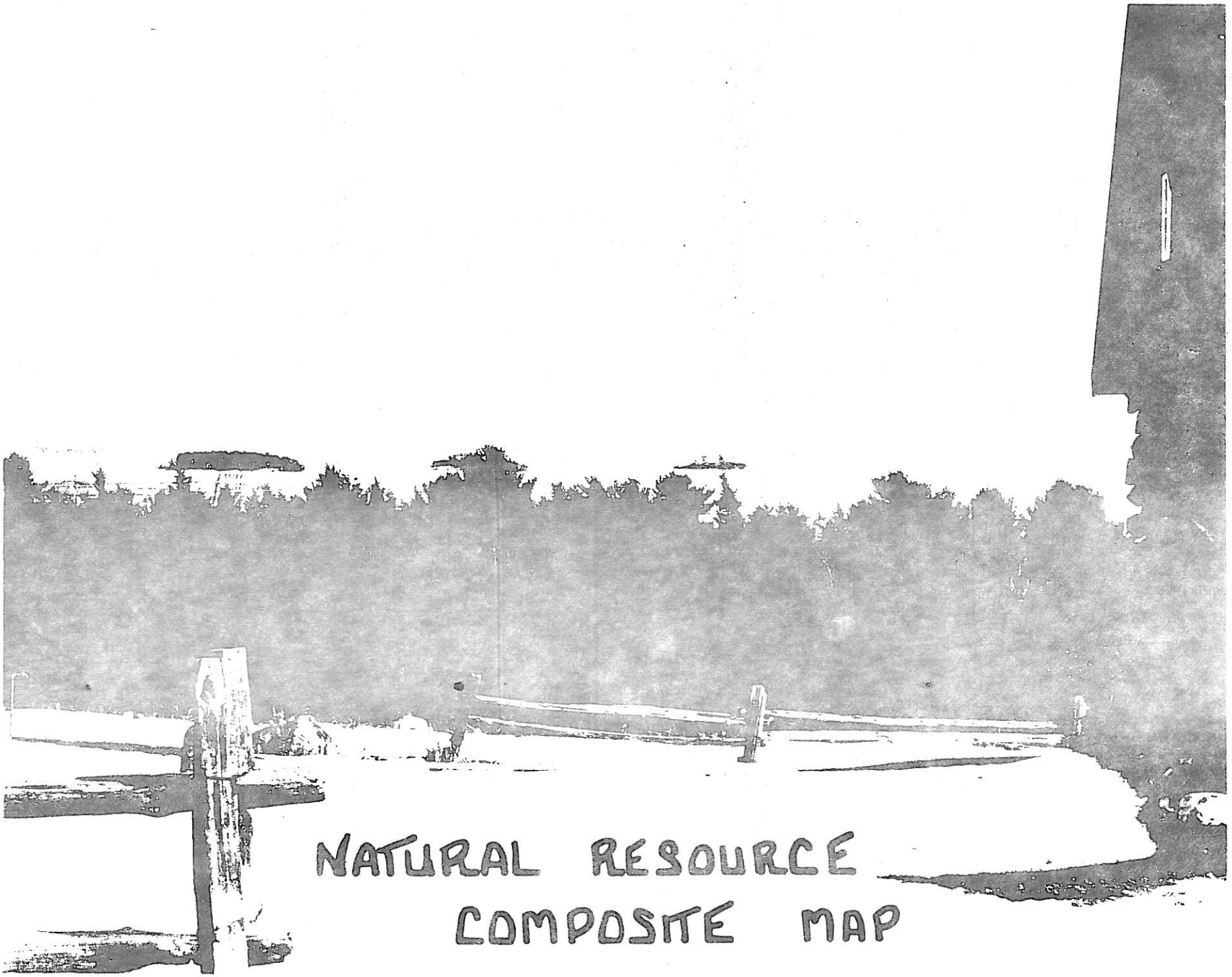




CRITICAL ENVIRONMENTAL AREAS

WETLANDS

RECREATIONAL RIVER IS PART OF THE NEW YORK STATE WILD, SCENIC, & RECREATIONAL RIVER SYSTEM.



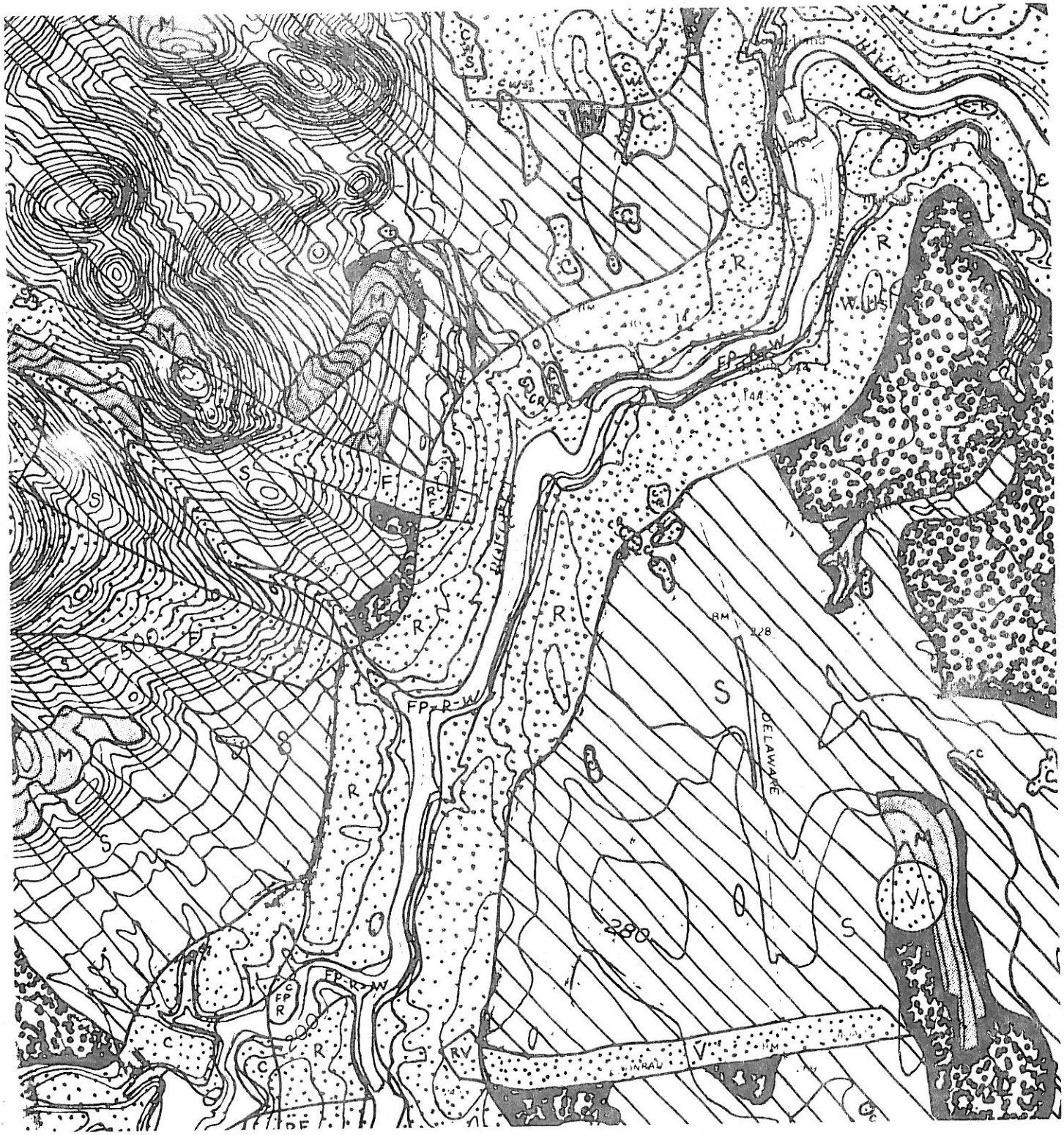
NATURAL RESOURCE COMPOSITE MAP

AREAS POSING POTENTIAL DANGER TO HUMAN HABITATION

Flood prone areas present danger to human habitation. Flooding destroys life and property and occurs on a predictable basis. Areas that have a 1% chance of being flooded are defined as the 100 year flood plain and are likely to be flooded at least once in a person's lifetime. Structural approaches to flood control like dams and channelization projects are unreliable and often cause adverse environmental affects by changing stream flow and other hydrologic conditions.

Development should be prohibited in flood plains. Flood plains are best used for land management activities, such as farming, wildlife management, and recreation.

The Composite Map serves several purposes. As an index for referral to each resource map, it identifies areas of opportunity or restraint for land use. For this reason, it is a useful tool for prospective developers and may assist the Planning Board in developing the Town plan and the Zoning Officer in identifying resource considerations in the review of project applications.



COMMUNITY DEVELOPMENT OPPORTUNITIES AND LIMITATIONS

- VALUABLE SOILS & FAVORABLE SOILS
- AREAS HAVING MODERATE PHYSICAL LIMITATIONS
- AREAS HAVING SEVERE PHYSICAL LIMITATIONS
- AREAS HAVING SIGNIFICANT ENVIRONMENTAL IMPORTANCE
- AREAS POSING POTENTIAL DANGER TO HUMAN HABITATION

RESIDENTIAL RURAL DENSITY

These are areas along the western shore of Long Pond and in the agricultural area south and west of Willsboro hamlet that are suitable for residential development on a very limited scale. This category is characterized by land currently having very limited residential development; largely engaged in active agriculture and containing areas having moderate or severe physical limitations to development or having significant environmental importance. For the reasons stated above, the suggested density standard would be on an average 8.5 acres per unit.

LAND CONSERVATION

This classification of the Town Plan is the most restrictive in terms of permitted intensity of use. It encompasses areas with one or a combination of severe physical limitations, areas having significant environmental importance, land with virtually no residential development, and a large percentage of the farmland in Willsboro located in the Essex-Lewis-Willsboro agricultural district.

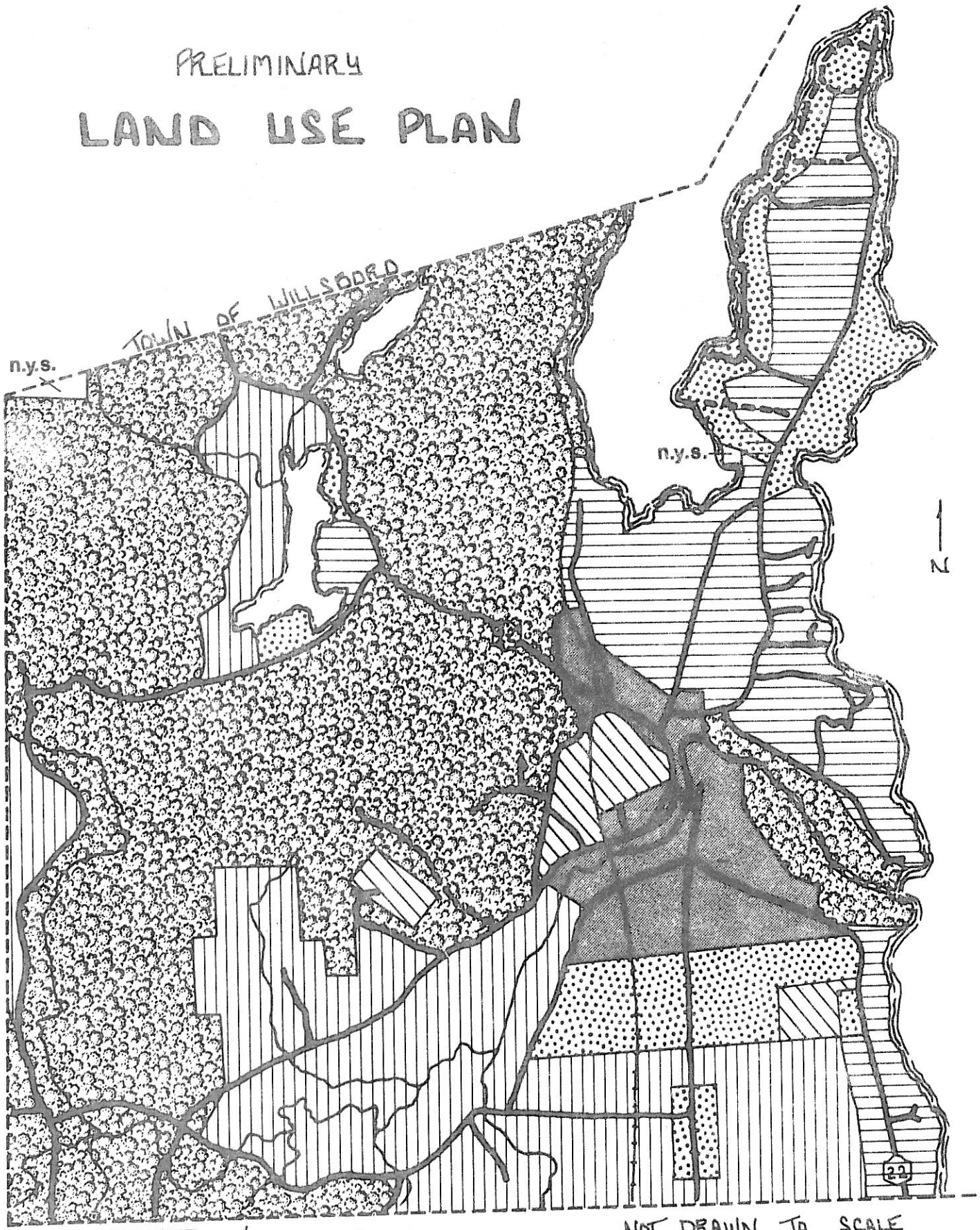
This category discourages residential and commercial development and aims at conserving land of agricultural importance and areas of significant environmental importance. The overall density standard would be 42.7 acres per principal building.

INDUSTRIAL

This category is intended to accommodate uses that include the Interpace Mining operations and existing and future light industrial uses in the parks north and south of Willsboro hamlet along Route 22.

PRELIMINARY

LAND USE PLAN



PRESENT WATER RESOURCES
PROBLEMS & SENSITIVITIES

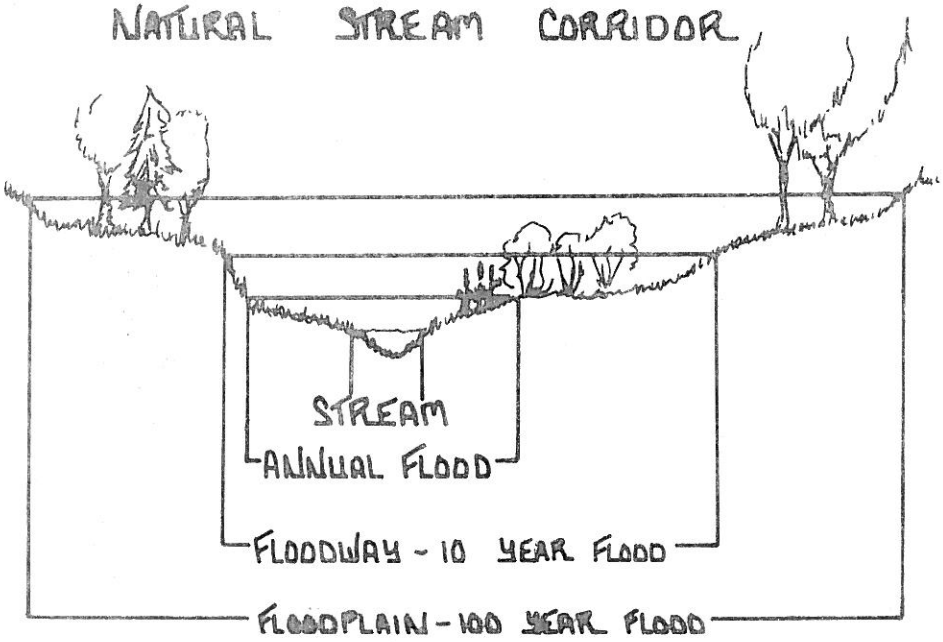
The qualities of Willsboro's surface waters vary considerably, each having its own character and potential for water quality problems. The most important surface waters in Willsboro with potential for water quality problems are: Willsboro Bay, the Bouquet River, the North Branch of the Bouquet River and Long Pond.

Willsboro Bay is an important recreational resource for swimmers, fishermen and boating enthusiasts. The Bay is also the source of water supply for much of the Town. The present quality of the water is adequate for this use. Due to intensive land uses within the watershed, the Bay is subject to two types of degradation: sedimentation (the flow of fine soil particles into the bay) and plant nutrient enrichment (the weed and algae growth). Sedimentation causes difficulty in filtering and purifying water for drinking purposes; in addition, the sedimentation can suffocate aquatic vegetation and other habitats necessary for fish propogation and survival.

An oversupply of nutrients results from improperly operating septic systems, as well as from general watershed disturbances. This is especially obvious near Big Brook, and where there are cottages along the shoreline. The resulting increase in the amount of vegetative growth decreases the degree of water clarity. Since the area around Willsboro Bay is one of the most intensively developed in town and the bay is such a significant water resource, the sensitivity to quality problems is an essential resource consideration.

Long Pond is a water resource of varied uses; the pond is the water supply for the residents along its shores, as well as a fishing, swimming and boating area for residents and visitors. Due to its shallowness (maximum depth 20') the pond is sensitive to intensive watershed development and shoreline disturbances. The inflow of nutrients from watershed vegetative disturbances and the excessive number of on-site septic systems could adversely affect the quality and character of the waters of Long Pond.

The Bouquet River has two major problems: the discharge of sewage from adjacent residences and a heavy sediment load from the numerous upstream agricultural fields. A sewage treatment system is proposed for the Town to resolve the direct discharge problem. The sediment problem is not easy to solve, as its prevention requires the elimination of direct field drainage into the river. Vegetation-buffer strips along both the river and its permanent and intermittent streams can filter out some of the silt. Otherwise, drainage can be directed through catchment basins to settle out some of the heavier particles.



GROUND WATER

Maintaining the quality of Willsboro's ground water is also important; streams depend upon ground water to maintain regularity in their flow during excessively dry periods. In addition, Willsboro residences outside the water districts utilize this resource for drinking supplies.

Supplies of water exist under the surface of the ground in saturated soils, fractures in the bedrock or in loose deposits of sand, gravel and permeable rock known as aquifers. Precipitation and runoff infiltrate the soil to replenish groundwater supplies, primarily through the highly permeable soil called ground water recharge areas. These soils generally have a permeability greater than 6 inches per hour, and slopes which are less than 8 percent. Ground water later returns to the surface in springs, wetlands, rivers, streams, ponds and lakes. Areas of potential recharge are represented by highly permeable glacial outwash soils (Windsor and Colton) which can be located on the Meso Soil Inventory.

EFFECTS OF LANDUSES ON SURFACE WATER

Surface water quality may be affected by a variety of factors associated with land and water uses. Their effects often depend upon their proximity to a water body (lake, river or intermittent stream), but land use in all areas of a watershed has the potential of affecting water quality.

PLAN OVERVIEW

VILLAGE CENTER

This category is basically the hamlet of Willsboro. It is further characterized by being served by public water as the area is almost entirely included in a public water district where this utility can be extended without any further petition for this service. The type of land uses appropriate to this category are those typically found in Adirondack hamlets or its immediate periphery, including one, two, and multiple family residential uses, commercial uses, and public/semi-public uses.

The availability of public water in this area increases both the potential and the appropriate intensity for development. This area is located within public water service areas and there are no physical limitations which would otherwise limit or prevent communities of the type and intensity suggested.

It is envisioned that this category would include new commercial development in the town and two and multiple family residential uses.

RESIDENTIAL MEDIUM DENSITY

This category is designed for year-round and seasonal residential use at an intensity which recognizes the availability of public water, proximity to an existing water district, soil capable to accept septic tank effluent as determined by the soil inventory, and primarily existing land use or subdivision pattern at a medium density level.

The fact that these areas are located in part along the shoreline of Long Pond, Willsboro Bay, and Lake Champlain, together with the desire not to clutter the shoreline and the need for minimum space to accommodate on-site septic fields would suggest a density standard of 1.2 acres per unit,on the average.

RESIDENTIAL LOW DENSITY

This category provides for the same residential uses on the previous residential category. However, the lack of public water, general low level of existing development, desire to protect the visual attractiveness and quality of the Willsboro shoreline, presence of soil with moderate or severe limitations for septic tank effluent in sections of this category suggest a higher area requirement per unit at an overall level of density of approximately 3.2 acres per unit. Some areas of this category north of Willsboro hamlet in an area containing good soil and a vegetative cover could have a potential for higher intensities of development.

Following is a summary of planning considerations for each composite category:

AREAS PRESENTING OPPORTUNITIES FOR DEVELOPMENT

The most suitable land for community development is characterized by soils and slopes with slight limitations and no biological or water resource restrictions. Proper planning and construction techniques can avoid major construction and environmental problems.

AREAS HAVING MODERATE PHYSICAL LIMITATIONS

Also suitable for community development is land whose soils and slope are rated moderately limiting and have no biological or water resource restrictions. Proper planning and construction techniques can avoid major construction and environmental problems.

AREAS HAVING SEVERE PHYSICAL LIMITATIONS

Soil and slope with severe limitations (and no biological and water resource considerations) present physical obstacles to development and maintenance of planned land use. Engineering solutions can be devised, but substantial financial costs are incurred and are sometimes prohibitive. Adverse environmental and visual impacts on the sites are difficult to avoid or control. Development in these areas should be carefully sited to avoid or minimize major alteration of soil and topographic features.

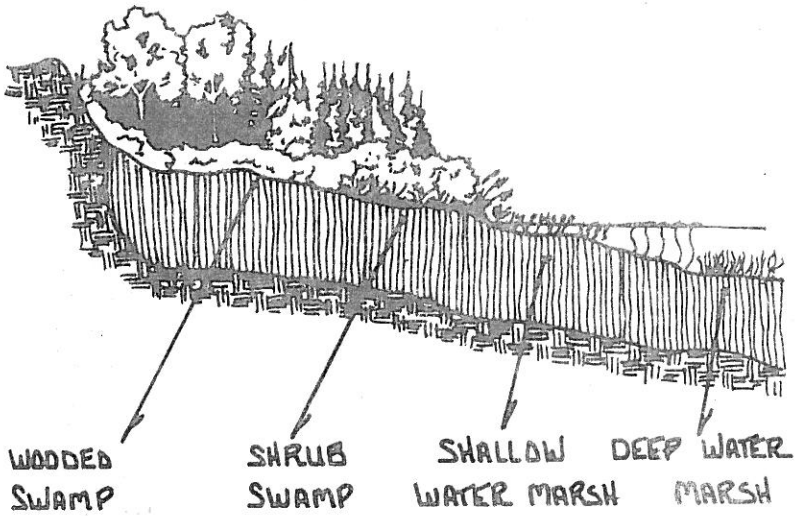
Only low-density development should occur where soils and slopes make construction and maintenance difficult. Development that necessitates costly alterations of topography should be avoided.

AREAS HAVING SIGNIFICANT ENVIRONMENTAL IMPORTANCE

Significant environmental resources such as wildlife and plant communities, wetlands, rural road corridors, water supply watersheds, and quality water features are sensitive to development. Engineering solutions to proposed developments are rarely applicable and are unable to prevent undue adverse impact. Protecting these often irreplaceable areas requires an understanding of the ecological complexity of the resources. These resources are often associated with severe physical limitations.

Development can be inappropriate in areas of visual and historic importance. Careful attention to use, design, and location will protect these valuable assets.

Development is incompatible with fragile biologic resources such as deer yards, waterfowl nesting places, and rare plant sites. We should preserve these irreplaceable habitats and guide development to less sensitive areas.



Wetlands provide valuable habitat for many typical and unusual plants and animals. Also, many rare or endangered plants are found in wet areas.

Many of the physical and biological characteristics of wetlands limit their development potential. Muck soils in wetlands have a low bearing strength and are unsuitable for building foundations. The seasonal high water table is near or at the surface for extended periods each year causing wet or flooded basements and failure of septic systems. Wetlands are a delicate ecological resource which can easily be damaged.

The fragility of wetland environments and the importance of their role in nature's scheme has earned them protection under the N.Y.S. Freshwater Wetlands Act. Under the Act, wetlands within the Blue Line will continue to be regulated by the Adirondack Park Agency, but the Act also provides for the adoption of local protective ordinances and creation of a wetlands board of appeals by local governments.

HIGHWAY CORRIDORS

Lands withing 150 feet (Rural Use) or within 300 feet (Resource Management) of the right-of-way of federal, state or designated county highways are classified as critical environmental areas. These areas are generally characterized by open space and rural land uses such as recreation, agriculture, forestry and sparse single family dwellings.

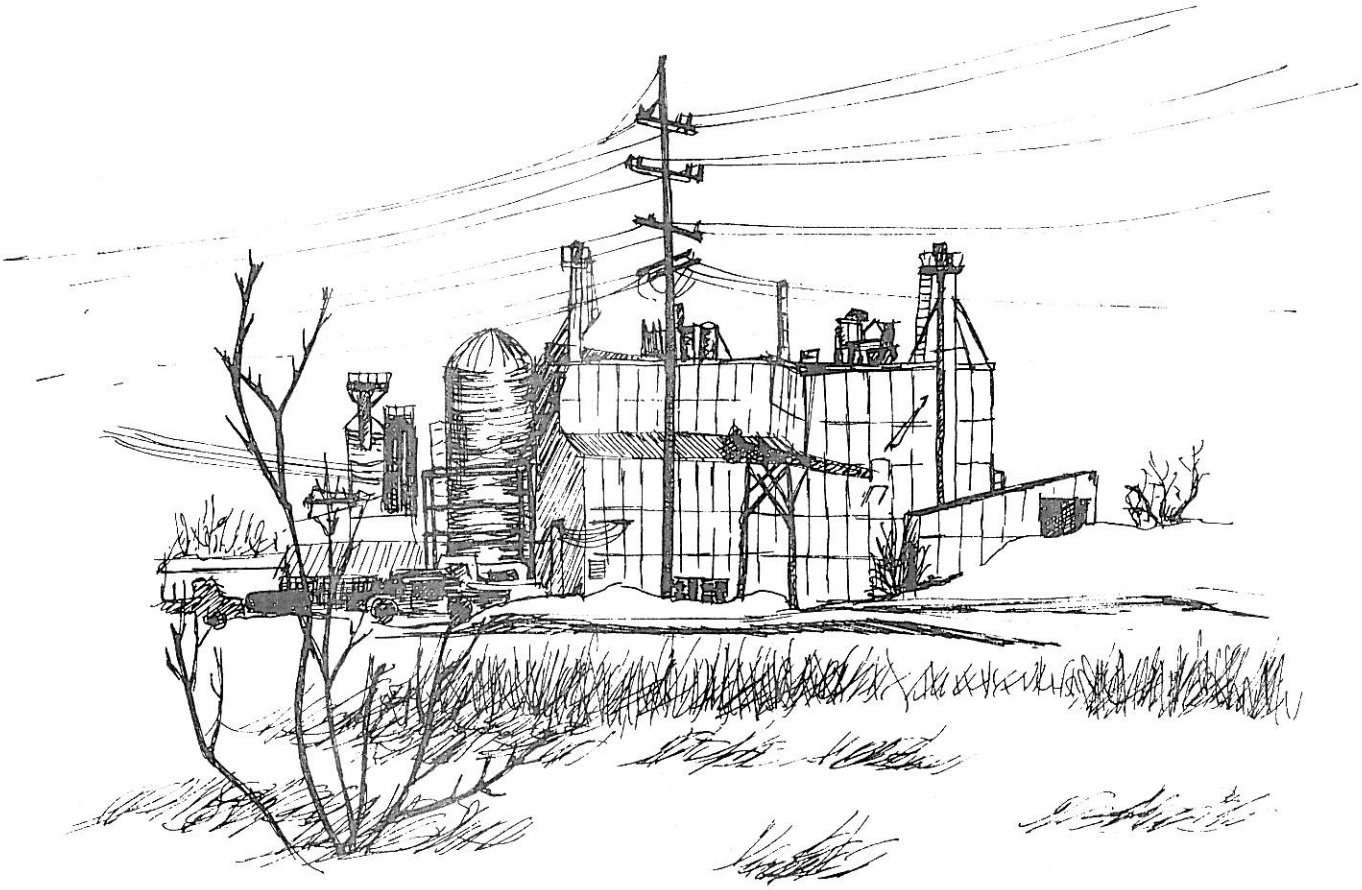
GEOLOGIC SITES

As a part of the Lake Champlain shoreline, Willsboro's geological past is exposed for easy exploration.

Limestone Deposits: located on Frisbies Point, Ligonier Point, Jones Point, and at the Beekmantown Quarry.

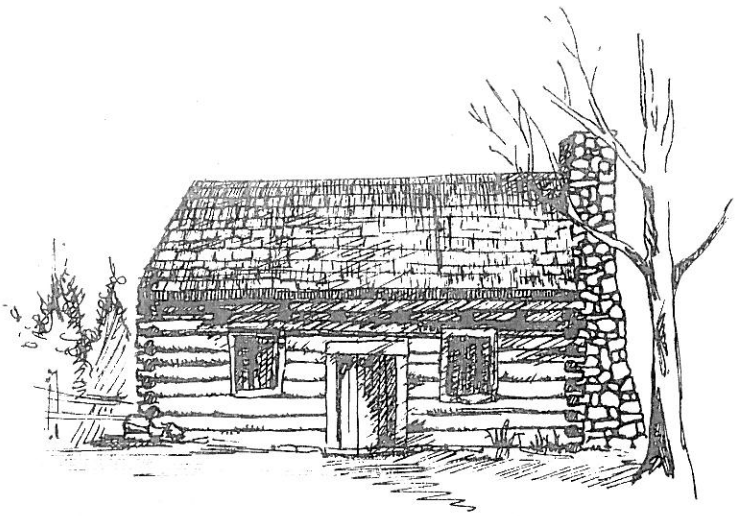
Garnet: the geologist can find garnet in the railroad cut on Rattlesnake Mountain.

Wollastonite: The Interpace Corporation processing plant located on Mountain View Drive, is the principal supplier of the Wollastonite mineral in the United States. Of economic significance to the community and geologic and historic interest to the visitor, Wollastonite is a filler and bonding agent which enhances the quality of many products such as pottery, plywood, wallboard, porcelain, and paints. The location of the Willsboro mine and ore are shown on the map. Another ore deposit is located in Lewis.



Adsit Log Cabin

This log cabin was built in 1778 by Samuel Adsit and is a small, one-room museum exhibiting artifacts and antique furnishings.



The War of 1812 Battlefield

Near Bouquet River Point, this site contains battleground artifacts.

The 1812 Farm Homestead

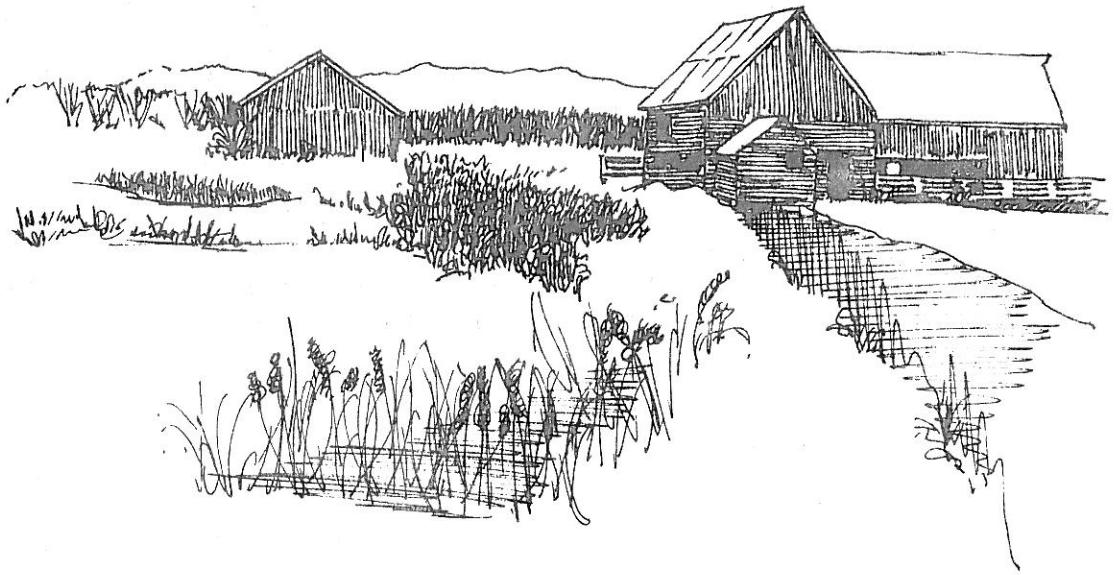
On the corner of Johns Pavillion Road and Rte. 22, this single story, wooden shingled house is now a farm museum open in the spring and summer months.

Burgoyne Encampment

This encampment at the mouth of the Bouquet River housed Burgoyne's troops in 1777 on their way to Saratoga. General Burgoyne led about half the British troops in the American Revolution. His surrender at Saratoga determined France's decision to side with the Americans, enabling America to gain her independence.

Also, in 1814, General Bard and his army encamped here on their way to the Niagara Frontier.

management, the land's potential, and type of farm operation, the creation of an agricultural district benefits the town, the county, the village, and the farmer. Controlling non-farm growth concentrates public services in areas of dense population. The preservation of prime farmland maintains green belts that further protect corridors around unique,natural,and scenic areas. Another benefit is that a farmer within the agricultural district may have his land assessed for its agricultural value, rather than for its market value, and is protected from special tax districts, such as the expansion of the Willsboro water district.



An agricultural district is reviewed periodically by the county legislative body, the Department of Environmental Conservation, the Agricultural Resources Commission, and the Office of Planning Services.

red-breasted merganser and the black crowned night heron. One species of plant found on the islands is the pink ladyslipper.

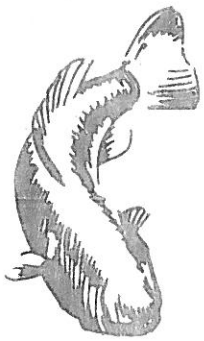
ponds, lakes, and associated wetlands provide the habitat for fish. Willsboro's planning program should take into account these resources since development can exert direct and indirect influences on fish populations through alteration of their aquatic environment and adjoining watersheds. Willsboro's water bodies are listed in the Appendix along with type of fishery and, where information is available, the inhabiting species and its importance.

Fish are traditionally divided into coldwater and warmwater species. These categories are based on habitat, spawning behavior and temperature preferences. The warmwater species found in Willsboro are pumpkinseed sunfish, brown bullhead, northern pike, yellow perch and creek chub. The coldwater species are brook, lake, rainbow and brown trout, splake, land-locked salmon, white sucker and fall fish.

WARMWATER HABITAT

Warmwater species are characterized by their affinity for warm temperatures and shallow, well-vegetated areas of lakes and rivers.

Warmwater fish tolerate wide ranges of habitat and water quality conditions, although they are sensitive to toxic wastes such as heavy metals and pesticides. Fish are most sensitive to environmental change during spawning periods and this is when greatest mortality occurs.



COLDWATER HABITAT

Coldwater habitats may be categorized into two general types: well-shaded, rapidly flowing, well-oxygenated streams and lakes with cold, well-oxygenated layers of water. The ideal trout waters have rubble, gravel or bouldery bottoms, the best streams of which contain alternating stretches of pools and riffles.

Finally, the inventory can assist in site review of individual development proposals in which negative impacts can only be avoided if the features are understood in relation to man's activities. Assessment of unique features can be an important factor in conditioning a development proposal. The inventory is not exhaustive and there is a need to review individual sites for additional unique features.

KEY WILDLIFE HABITATS

Abundant fish and wildlife resources are an integral part of the Adirondack environment and provide immeasurable recreational, aesthetic and commercial value. Protection of key wildlife habitats is essential to the maintenance of sustained yields from our renewable wildlife resource. By providing such protection, we gain the benefits of a healthy wildlife population and we afford vital protection of our forests, water and soil. Willsboro, although it is not rich in species numbers, provides habitats for a variety of unique and interesting animal and plant communities. Development occurring in or near these habitats could result in the destruction and permanent loss of much of the area's valuable wildlife resource.

DEER WINTERING AREAS

During deep snow and cold weather, deer congregate to seek shelter and conserve their energy. One major determinant of the number of deer in the region is the availability and quality of food and cover for deer in the winter. Deer wintering areas have a distinctive combination of vegetation, topography, and hydrology, which provide protection and food for deer forced to seek shelter (yard) due to severe weather conditions and deep snow. The vegetation of these areas includes conifers, coniferous wetlands, and mixed conifer-deciduous forests.

Deer areas in Willsboro have been identified from extensive field observation by the Department of Environmental Conservation (D.E.C.) and by recent periodic aerial surveys which have shown deer using the areas.

Many factors influence deer population and hunter take, including quality food and cover during the winter season and type and intensity of land use. Deer favor nutritious browse which, of course, must be within reach during deep snow conditions. Dense coniferous cover provides shelter. Absence of permanent human habitation, proper timber harvesting with wildlife considerations, and control of recreational use within deer wintering areas also can contribute to maintaining a healthy deer population.

VIEW 11

The roadside vegetation opens to afford a view of scattered locust trees and a private residence along the immediate roadside area.

VIEW 12

A dense stand of lovely deciduous trees frame the view access to the shoreline of Vermont. The Green Mountains may be seen from this vantage point, as well as the Willsboro shoreline of Lake Champlain.

VIEW 13

A short open field edged by sparse woodland vegetation form the foreground of an impressive view of Vermont.

VIEW 14

The road in this area is quite high above the shoreline; a sparsely wooded field within which the stark Smith House can be seen, dwarfed by the open space around it. The height of the vantage point directs one view forward across the Lake to the Vermont shore.

VIEW 15

This view of Route 27B extends eastward across scattered tree vegetation to the shores of Vermont.

VIEW 16

This view extends west towards the Adirondack Mountains, affording an impressive view of the mountainous terrain and dense deciduous vegetation of the lands in this woodland region of Willsboro.

VIEW 17

This view if framed by heavy tree growth. Continued growth will obstruct this vista, which includes Vermont and Lake Champlain.

VIEW 18

This extensive vista can only be observed from the summit of Rattlesnake Mountain. The 360° view extends for miles in all directions, providing views of Willsboro Hamlet, Vermont Shore, Lake Champlain, and the Green Mountains, as well as the High Peaks area of the Adirondack Mountains.

Vividness--Texture and patterns in vegetation, color, or other features and diversity of edges (forest or field edges, stream line, etc.) clarify the distinctness of a vista.

Frame--The exclusion of certain peripheral visual information by landforms is the frame of the view. Frame directs one's vision toward a particular part of the landscape.

ATTRACTIVE ROAD CORRIDORS

In the north, there are extensive views of the Lake Champlain coastline from Route 27A, with a particularly expansive view of the lake (Number 17).

The western corridor of Route 27A (Farrell Road) farther south exposes the majestic mountains. The corridor is virtually free of man-made structures and is graced with patterns of vegetation and open country.

South of Willsboro lies a lovely lake shore corridor touching several notable landscapes. Cook Road looks north to the mountains as it connects Willsboro's agricultural setting with the Lake Champlain Coast.

View One introduces an extensive Reber Valley farm setting along Route 14. The open country, dotted with picturesque farms, should maintain its rural atmosphere and ensure the open views of this beautiful country.

EXTENSIVE VISTAS & PANORAMIC VIEWS

VIEW 1

Entering the Town of Willsboro from the west on 14A, this expansive vista in the Reber Valley extends for ½ mile along the horizon. Open fields on either side of the road comprise the immediate view as the road cuts northward, directing one's vision toward the farm residences and buildings in the distance. Stately elms and maples dot the land along these structures as the rolling mountains contrast this flat open scene.

VIEW 2

On a winding country road, traversing fields and open meadows, this vista provides a solitary experience for the observer. No structures are visible from this section of the corridor. Tree-lined land forms a border in the distance, opening the landscape to an unobstructed view of Willsboro's foothills.

The sparsely developed, attractive shore lends itself to varied public recreational activities. The designation of this landscape as a special district would preserve the landscape and the visual character of the shoreline.

RIVER VALLEY

At the Bouquet River Point the lake shore blends into the Bouquet River Valley, whose waters pass through a variety of landforms. There are few, if any, extended views from the river itself, largely because of its steep banks. Also views are obscured in most cases by dense vegetation. Where the river begins to flow southwest onto the flat open country, views afforded in this area are described in the Farm Country Landscape section.

Along Route 27 the Bouquet River Valley affords an impressive view of Willsboro Village. Within the Hamlet itself, large shade trees soften the effect of close settlement and development along the main street. Such vegetation in most developed areas add to the visual quality and interest of a community.

Early settlements in many Adirondack Towns occurred along major rivers; Willsboro is no exception. In addition, the Town should be aware of the effect of continued development along the river corridor. Every attempt to insure that development proceed in a way that is compatible with the natural character of the Bouquet River should be encouraged. This awareness will help avoid visual inconsistencies, such as the entrance to the community from Lake Champlain where the Bouquet flows past an unsightly sandpit near two historic cemeteries.

MOUNTAIN FOREST

The Mountain Forest landscape occupies most of the western half of the Town of Willsboro. The terrain is largely inaccessible, densely covered with deciduous and coniferous vegetation. Viewed from afar, this dense vegetation covers the rugged pattern of the mountainous landscape. The terrain inhibits structural development but future planning should consider the visual pattern of the landscape.

Willsboro Point and the Four Brothers Islands from Willsboro's Peninsular Landscape unit. With the exception of Willsboro hamlet, the Point is the most densely settled area of the community. The closely settled shorelines afford very few outlooks toward Lake Champlain, Willsboro, or the mountains. There are two vistas indicated in the area.

The Four Brothers Islands are a wilderness preserve owned by the University of Vermont.

DESCRIPTION OF WILLSBORO'S SURFACE WATER RESOURCES

There are 4 natural ponds and lakes in Willsboro, 37.3 miles of streams and rivers, 23.6 miles of undeveloped lake shoreline and 5.8 miles of developed lake shoreline. Hydrologic Data on the important water bodies in the town is as follows.

Lake Champlain Watershed:

Lakes	Area	Maximum Depth	Classification
Long Pond	286 ac.	20'	AA
Warm Pond	126 ac.	90'	CT
Lake Champlain	436 sq. mi.	400'	AA,A
Willsboro Bay	NA	154'	AA

Streams	Distance	Average Width	Classification
Big Brook	2.3 mi.	5'	BT
Brandywine Brook	1.7 mi.	2'	D
Shanty Brook	1.9 mi.	4'	AAT

Bouquet River Watershed:

Streams	Distance	Average Width	Classification
Bouquet River	6.4 mi.	48'	D,C,A,
No. Branch Bouquet R.	4.5 mi.	25'	CT
Reber or Cold Brook	3.6 mi.	6'	CT

The Water Resource Inventory Map shows the location of these lakes, streams and their drainage patterns, as well as their water quality classification.

WATER QUALITY CLASSIFICATIONS

To protect the existing use of privately owned waters, the Department of Environmental Conservation (D.E.C.) enforces a set of standards governing the quality and purity of the waters of New York State. The classifications of Willsboro's waters, according to these standards, is based on current and potential usage of the water:

AA - for use as a water supply without treatment
A - for use as a water supply with treatment
B - for primary contact recreation (swimming)
D - intermittent streams, poor quality, industrial or agricultural usage, or no data available
T - Trout-inhabited water

TABLE 2 - SOIL LIMITATIONS AND INTERPRETATIONS FOR LAND USE

Soil No.	Soil Association	Limitations for On-Site Sewage disposal		Limitations for Community Development		Good Sources of			Woodland Suitability	Recreation Limitations	Agricultural Limitations
		Degree	Reason	Degree	Reason	Sand	Gravel	Road Fill			
28	VERGENNES-KINGSBURY										
	VERGENNES	SEVERE	SLOW PERM.	SEVERE	TOO CLAYEY				FAIR CLAY	SEVERE CLAY	MODERATE II EROSION
	KINGSBURY	SEVERE	PROLONGED WETNESS	SEVERE	WETNESS				FAIR	SEVERE WETNESS	SEVERE IV WETNESS
29,30,31	WINDSOR	SLIGHT	--	SLIGHT	--	*		*	POOR	MODERATE TOO SANDY	MODERATE III SANDY
33,34	COLTON	SLIGHT	--	SLIGHT	--	*	*	*	POOR	SURFACE TEXTURE	MODERATE III SANDY
35	ALLUVIAL LAND	SEVERE	FLOODING	SEVERE	FLOODING				POOR EXCESSIVE WETNESS	SEVERAL FLOODS	SEVERE VI WETNESS
36	RUMNEY-SALO										
	RUMNEY	SEVERE	FLOODS WETNESS	SEVERE	FLOODS WETNESS				FAIR WETNESS	SEVERE WETNESS	MODERATE III WETNESS
	SALO	SEVERE	FLOODS WETNESS	SEVERE	FLOODS WETNESS				POOR	SEVERE WETNESS	SEVERE VI WETNESS
37	CARLISLE-PALMS										
	CARLISLE	SEVERE	PROLONGED HIGH WATER TABLE	SEVERE	WETLANDS FLOODS				SEVERE WETNESS	SEVERE WETNESS	SEVERE WETNESS
	PALMS	SEVERE	WETNESS FLOODS	SEVERE	WETNESS				SEVERE WETNESS	SEVERE WETNESS	SEVERE VII WETNESS
40,41,42	ROCK OUTCROP-CANAAN										
	ROCK OUTCROP	SEVERE	DEPTH TO BEDROCK	SEVERE	DEPTH TO BEDROCK				POOR DEPTH TO BEDROCK	SEVERE DEPTH TO BEDROCK	SEVERE VII DEPTH TO BEDROCK
	CANAAN	SEVERE	DEPTH TO BEDROCK	SEVERE	DEPTH TO BEDROCK				POOR DEPTH TO BEDROCK	MODERATE BOULDERS	SEVERE-VI BOULDERS
22	ELMWOOD-SWANTON										
	ELMWOOD	SEVERE	SLOW PERM. WETNESS	SEVERE	WETNESS FROST ACTION				FAIR	SLIGHT	SLIGHT II
	SWANTON	SEVERE	SLOW PERM.	SEVERE	WETNESS FROST ACTION				POOR	SEVERE WETNESS	MODERATE III WETNESS

TABLE 1 - SOIL CHARACTERISTICS

Soil No.	Soil Association	% Assoc.	Depth to Bedrock	Depth to seasonal high water	Permeability of Soil horizon A	B	C	*	Parent material	Drainage	Stoniness	Erosion Potential
28	VERGENNESS-KINGSBURY								LACUSTRINE			
	VERGENNESS	40	> 5 FT	1-3 FT	0-6 <2	6-29 <.06	29-40 <.06			WELL		MODERATE
	KINGSBURY	30	> 4 FT	1/2-1/2	0-8 .2-6	8-28 .06-.2	28-40 <.06			POOR		HIGH
29,30,31	WINDSOR	75	> 5 FT	> 6 FT	0-2 6-20	2-20 6-20	20-60 6-20	*	GLACIAL OUTWASH ON TERRACES	EXCESSIVELY		LOW
33,34	COLTON	70	> 5 FT	> 6 FT	6-00 >6	8-22 >6	22-50 >20	*	GLACIAL OUTWASH ON TERRACES	EXCESSIVELY	COBBLE-LY STONE	LOW
35	ALLUVIAL LAND	70	-	-	-	-	-		FLOOD PLAINS	VERY POORLY		HIGH FLOOD PLAIN
36	RUMNEY-SACO								ALLUVIAL			
	RUMNEY	40	> 5 FT	0-1 1/2	0-10 .6-6.0	10-28 2.0-6.0	28-40 6.0-20.0			POOR		MEDIUM
	SACO	30	> 5 FT	0-1/2	0-12 .6-2.0	12-30 .6-2.0	30-60 .6-2.0			POOR		MEDIUM
37	CARLISLE-PALMS								ORGANIC MATERIAL			
	CARLISLE	50	> 5 FT	0-1	0-66 6.-20.					VERY POORLY	-	LOW
	PALMS	30	> 5 FT	0-1	0-35 6.0-20.0	35-60 .6-2.0				VERY POORLY		LOW
40,41,42	ROCKOUTCROP-CANAAN								GLACIAL TILL ON BEDROCK UPLANDS			
	ROCK OUTCROP	35	0	0	-	-	-			WELL	ROCK	
	CANAAN	30	10-20IN	>6 FT	0-9 2.0-20.0	9-17 2.0-20.0				WELL	VERY BOULDERY	MEDIUM
22	ELMWOOD-SWANTON								LACUSTRINE			
	ELMWOOD	40	> 5 FT	1-3 FT	0-8 .6-6.0	8-25 2-6.0	25-40 <.06			WELL		MEDIUM
	SWANTON	25	> 5 FT	0-1/2FT	.6-6.0	.6-6.0	<.2			POORLY		MEDIUM

* -Permeability of Soil horizon: The first 3 columns refer to the layers of mineral soil below the surface beginning with the first layer or "A" horizon. The numbers on the top indicate the depth of the soil horizon from the surface. The numbers on the bottom indicate the rate water moves through the soil expressed in inches per hour. The fourth column, "*", refers to the quality of the soil as a potential ground water recharge area. The soil is starred if it has permeability of 6 inches per hour or greater through all soil horizons. -Consult the soil report for more details.

surface soil texture, and coarse fragments on the soil surface.

AGRICULTURAL SOILS

The most widely used soil interpretation is the land-capability classification, designed primarily for agricultural purposes. Soils are grouped into one of eight classes according to what they are capable of producing, the risk of erosional damage, water management problems, and response to treatment (fertilizer, tilling, etc.).

Willsboro's soils have been grouped in the following agricultural soil classes:

Class II: Soils with some limitations that reduce the choice of plants or require moderate conservation practices.

Class III: Soils with various limitations that reduce the choice of plants or require moderate conservation practices, or both.

Class IV: Soils with very severe limitations that restrict the choice of plants, require special conservation practices with careful management or both.

Class V: Soils with limitations impractical to remove without major reclamation. Use limited largely to pasture, woodland or wildlife.

Class VI: Soils with very severe limitations that make them generally unsuited for cultivation. Generally suited to pasture, woodland or wildlife.

Class VII: Soils with extreme limitations. Restricted to woodland, wildlife or specially-managed pasture.

This information is useful to such other organizations as home builders, engineers, recreation officials, highway departments, assessors, water departments, contractors and utility companies.

roads, their use as sand, gravel and roadfill, their woodland suitability, and suitability for recreation. Agricultural soils are also identified and evaluated since they are important to the local economy. Two Soil Interpretation Maps predict the soils' ability to support septic systems and community development. The most limiting characteristic of each soil association is used to determine its rating on each map. For instance, a soil association may have slight limitations for a foundation for a building, but may have severe limitations for septic systems. One of three relative limitation ratings (slight, moderate, or severe) are assigned each soil association.

Slight: Limitations are easily overcome and maintenance minimized.

Moderate: Limitations need to be recognized, but can be overcome with planning, design, or maintenance. Suitability may vary with changing seasons.

Severe: The soil has one or more unfavorable properties. Limitations are difficult and costly to modify, requiring major soil reclamation, blasting, special design or intense maintenance.

The following charts explain the criteria used to determine the ratings on the Soil Interpretation Maps:

Soil Characteristics for Septic systems	Slight	Moderate	Severe
Depth to Seasonal High Water Table	> 4'	1.5 to 4'	< 1.5'
Depth to Bedrock	> 7'	4.0 to 7'	< 4.0'
Stoniness	Little Rock Outcropping	Slightly Rocky	Very Rocky
Flood Potential	None	Slight	Severe
Permeability (in./hr.)	1"/hr.	.63" to 1"	< .63"

DEFINITIONS FOR SOIL CHARACTERISTICS (TABLE 1)

Soil No.: A number is assigned to each soil type as located and keyed on the Soil Inventory Map.

Soil Association: Name of dominant and co-dominant soil types found in the delineated landscape area.

Percent Association: Estimate of the proportion that each soil type makes up in the landscape area. Minor soil types make up the remaining percentage of soils not listed. An example is # 4, Berkshire - Dixmont Association, where Berkshire comprises 40%, Dixmont 20% and minor soils 40% of the landscape area.

Depth to Bedrock: Depth of soil from the surface of the ground to the highest level of solid rock underlying the soil and other consolidated material.

Permiability: The rate of flow water passes through the soil, expressed in inches per hour.

Parent Material: Identifies the type and method of geologic origin of the soils.

Drainage: Indicates the frequency and duration the soil is saturated with water. There are 7 drainage classes from excessively drained to very poorly drained.

Stoniness: Indicates the size and frequency of rock fragments in the soil greater than 10 inches in diameter.

Erosion Potential: Susceptibility of soil particles to be moved by running water.

Depth to Seasonal High Water: Depth of soil from the surface of the ground to the highest level where the soil is saturated with water during wet periods of the year.

ANALYSIS

Each slope category may be interpreted, generally, in terms of its degree of limitation for development and land use.

Land with 0-3% slope is generally free of limitations, although there may be problems. In areas of poorly drained soil, surface water may not run off or percolate properly. Frost pockets are a common characteristic of low-lying land on slight slopes. Wetlands and flood plains are usually found in areas of this slope category.

Areas with a 3-8% slope are most suited topographically for development.

Generally, slopes with an 8-15% grade are acceptable for development. However, some problems may arise as the slope increases, including difficulties with road and driveway construction, installation of sewage disposal facilities, soil erosion, increased construction cost and storm water runoff. These limitations can usually be overcome with careful site planning.

Land areas containing 15-25% slope present considerable development limitations which can be overcome, but at considerable expense to the developer, adjoining property owners, the town, and the environmnet. Some of the problems encountered include access to areas with steep slopes, soil erosion, malfunctioning septic systems, increased requirements for cut and fill operations and vegetative cutting.

Slopes greater than 25% present the same problems, but more seriously than lesser slopes.

A house located on a moderate slope (8-15%) would eliminate most slope-related concerns, greatly reducing expense and effort.

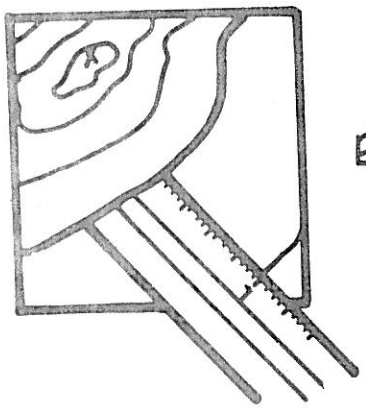
INVENTORYING SLOPE

In a planning inventory, slope is given as a percentage. If the land rises 10 feet in elevation over a horizontal distance of 100 feet, the slope of the land is 1/100, or 10%. A typical stairway, with a 7-foot rise over 10 feet, is 70%; roads are generally sloped 1-2%.

$$\frac{\text{RISE}}{\text{RUN}} \times 100 = \%\ \text{OF SLOPE}$$

For convenience in a town-wide plan, slopes are averaged and placed in categories of 0-3%, 3-8%, 8-15%, 15-25%, and greater than 25%. These are delineated on a topographic map with a scale of 1 inch equals 2000 feet and a 20-foot contour interval.

SCALE 1" = 2000'
RUN = 2000'
RISE = 20'



EACH TOPOGRAPHIC LINE = 20'

$$\frac{\text{RISE}}{\text{RUN}} = \frac{20'}{2000'} \times 100 = 1\%\ \text{SLOPE}$$

increased the number of cows and total milk products. This is true although the actual total number of commercial farms has decreased in the area.

The annual dollar valuation of primary agricultural activities in Willsboro is:

Willsboro Agricultural Dollars	1,551,950.00
Production Expenses	619,200.00
Machinery and Improvements (20%)	312,000.00
Farm Owner and Labor (Balance)	620,750.00

The small part-time and supplemental income farms are not included in the figures provided, however these farms are of significant numbers. Their role must be considered in the value of overall agricultural land use in Willsboro.[1]

The labor force population in Willsboro has decreased since 1960 from 680 individuals to 641, a 9 percent decrease. Of these persons, 594 are employed. Employment in the community is largely dependent upon the private sector. 55 percent of the labor force are private wage and salary workers; 30 percent of the remaining group were employed by the government. Traditionally, Adirondack communities greatly rely (average 25-30 percent of the labor force) upon the government as a principal employer. 15 percent of the labor force in Willsboro, a large proportion, are self-employed. Willsboro has a larger proportion of its labor force employed by government or self-employed than either Essex County or the Northern Area of New York State.

In 1970 Willsboro's employed workers were represented among a wide range of occupational groups. 19 percent of the labor force were employed as clerical workers, 18 percent as craftsmen and foremen, and 17 percent as operatives. 10 percent were employed as professional technical workers and 12 percent as service workers. Only 2.9 percent were farmers or farm management. Workers were represented by the following industries: 16.7 percent were in the retailing industry, 12 percent in the construction industry, 8 percent in manufacturing (both available and non-durable goods combined). 7.4 percent were involved in the agricultural sector, 16 percent were employed in the professional or related service group, and 16 percent in the public administration industry. The greatest decrease in activity for Willsboro residents was in the manufacturing industry--30.5 percent in 1960, dropping to 8 percent in 1970. 6.6 percent were associated with the mining industry.

[1]Source: The data presented is secured from Agricultural Stabilization and Conservation Service, Cooperative Extension records, the 1974 Census of Agriculture,and Reports by the New York State Agricultural Resource Commission

TABLE H4

Comparison of Housing Characteristics
Town of Willsboro, Essex County and
Northern Area; 1970 Census

	Willsboro	Essex County	N.Y. State
Percentage of housing units in 1-unit structures	82.7	78.2	40.3
Percentage of owner occupied units which are mobile homes	8.2	6.2	1.3
Percentage of persons in households with 1.01 or more persons	11.1	15.4	14.8
Percentage of occupied housing units with complete plumbing facilities	94.5	92.1	97.2

Source: Census of Housing, New York, 1970 Bureau of the Census, U.S. Department of Commerce, Washington, D.C.

RECOMMENDATIONS

1. The local government should take advantage of a federal program, The Community Development Act, which provides grants to communities which are interested in improving the quality of existing housing in the town. Funds could be used to rehabilitate commercial and residential areas of the town as well as enable public recreational areas to be established.

2. The Town Plan should reflect the differences in distribution and service needs of both seasonal residences and permanent residences. For example, seasonal residences would probably be further from the center of town and in areas of lower density than year-round housing. This implies that if the number of seasonal residents increases, then their service needs will be important. Better fire protection, police protection and highway maintenance are important to seasonal residents. On the other hand, if the number of permanent residents will be increasing, then their service needs will be particularly important. Better public schools, highway maintenance and health care are important to year-round residents.

3. Incorporate in the Town Land Use Plan and accompanying land use controls areas in the town as residential use which would facilitate more owner and rental housing.

TABLE P4

POPULATION: 3 TO 4 YEARS OLD ENROLLED IN SCHOOL

Nursery School Through Elementary	-	335
High School	-	135
College	-	25
Total	-	496

Source: U.S. Census of Population, New York, 1970; Bureau of the Census, U.S. Department of Commerce, Washington, D.C.

SEASONAL POPULATION

An important sector of the town population is its seasonal population. While the projected growth for Willsboro appears to be within the town's ability to accommodate increases, seasonal residents have not been included in the year round figures. This sector of the population can also place significant demands on community services and affect land use.

The seasonal population consists of four groups: (1) transients and day visitors, (2) tourists who use overnight accommodations, (3) seasonal residents, (4) and campers in group campsites.

It is estimated that Essex County will increase its seasonal population from 35% to 50% between 1980 and the year 2000. It is expected that Willsboro will experience some substantial seasonal growth as part of this increase. Currently, the average seasonal resident population is 1129 individuals. The maximum seasonal population is twice this number, or 2850 persons, according to the Lake Champlain--Lake George Seasonal Population Growth Study.

POPULATION PROJECTIONS

Population projections for Essex County and Willsboro through the year 2000 are reflected in Table 5. As compared with state figures, Willsboro and Essex are projected to grow at a very slow rate. The loss of people has been a statewide phenomenon according to the U.S. Census Bureau. They indicate that as of July, 1975, New York State has an unprecedented decline of 140,000 persons since 1970. Therefore, Willsboro seems to have been growing contrary to this statewide trend.

TABLE P1

NATURAL INCREASE IN POPULATIONS 1960-1974

Year	Recorded Live Births	Recorded Deaths	Net Gain
1960	40	21	19
1961	39	21	18
1962	52	19	33
1963	39	17	22
1964	49	24	25
1965	31	19	+12
1966	30	29	+ 1
1967	37	17	+20
1968	24	19	+ 5
1969	28	15	+13
1970	24	24	0
1971	20	21	- 1
1972	18	26	- 8
1973	19	23	- 4
1974	22	6	16

TABLE P2

Population Change 1960-1970

Essex County Towns

1960 Willsboro Population	1,716
Natural Increase	178
1970 Willsboro Population	1,688
Out-Migration	206

Sources: U.S. Census of Population, New York, 1960 and 1970; Bureau of the Census, U.S. Department of Commerce Washington, D.C.; New York State Department of Health.

Although Willsboro is not a rapidly growing Town, it has maintained a stable level of population and economic activity. The expansion of the two industries in the Town may indicate some level of incremental growth. At a minimum, the Town will maintain its present level of use. It is clear there is no single dominate land use which characterizes the Town. The Use of the land in Willsboro and the community character it fosters is a diverse one. Most of the land areas of the Town are currently undeveloped and in terms of the number of principal buildings in private lands under the Adirondack Park Private Land Use and Development Plan, the Town has reached only 22% of its development potential.

The present land use pattern in Town will continue and to a large extent establish the frame for future growth. Future growth and land use in the Town should seek to maintain those present land uses in the Town and encourage the development of and growth of uses compatible with the resources of the Town.

EXISTING LAND USE SUMMARY

Town of Willsboro

1977

Residential Uses	
Permanent Units	634
Seasonal Units	391
Mobile Homes	84
Mixed Use	25
Residential and Commercial	
Residential and Public	
Residential and Semi-public	
Commercial Uses	33
Year-round	25
Seasonal	8
Industrial Uses	11
TOTAL	1211

Source: Metcalf and Eddy, 1970
APA Existing Land Use Survey, 1977

According to the Existing Land Use,growth in the residential community has occurred in the permanent year-round sector by 22 percent. Growth has occurred among seasonal residences but only by an 8 percent increase. This phenomenon may require the attention of the Town Planning Board to insure and evaluate the type and level of services available to new residents. Specific planning policies may be undertaken to meet this changing,growing status of the population and their housing units in the community.

There are 33 commercial uses in Willsboro; 25 are year-round establishments, including stores, repair and equipment shops, restaurants, and accomodations. The 8 commercial establishments which are seasonal are mainly fast-food or small restaurants,or summer visitor accommodations open only part of the year. According to the Community Information and Opinion Survey conducted by the Planning Board, over 40 percent of the respondents shopped in other places for all goods except drugs and medicines, which were bought in Willsboro. Most residents sought professional services (lawyers, bankers, insurance companies) within the Town of Willsboro.

Public and semi-public uses in Willsboro include the school library, Town hall, fire department, the post office, and the Town garage, as well as community cemeteries. There are 27 public/semi-public uses in the community. Most public facilities and services were rated favorably in the Community Opinion Poll.

The industrial uses include 2 major industrial employers in the community. Agriculture has also become an increasingly important land use in Willsboro. Since 1969, the number of acres involved in active agriculture has increased. This coincides with the establishment of these lands in the Reber Valley into an incorporated Agricultural District with the Towns of Essex and Lewis.

Recreational uses in the Town are limited. There is a State Boat Launch site on Willsboro Bay. This is the only public access to water ways in the entire community. In addition, the Town has completed construction of two new recreation fields just outside of the Hamlet of the Town. Since the community has a major seasonal population the Town should encourage or sponsor the development of recreational use and activity in the Town. The year-round population would also benefit by the establishemnt of more diverse recreation uses in the county.

Willsboro's location along Lake Champlain, its woodlands, open space, and agricultural lands are all significant resources which preserve and maintain the unique rural and open space character of the Town. The woodland areas in particular,as well as the Willsboro shoreline, are a potential recreational resource which could generate a significant degree of tourism and seasonal revenues to the Town.

of a new fire station outside of the Main Street area.

As summer residents contemplate winterizing their second homes, the summer use roads now classed as public use will also require improvement. If this occurs, improvements can be undertaken on a use-demand basis. Since road construction and repair costs are becoming more expensive each year,the community may wish to undertake a long-range plan for paving these roads.

Public transportation serving the Town is extremely limited in type and frequency of service. The Adirondack Trailways bus service is available only during the summer season and on a year-to-year basis dependant upon demand. The bus makes one stop each weekend in Willsboro. Rail service by Amtrak is available all year round to both New York City and Montreal. The train makes two stops a day at the Willsboro Railroad Station. The nearest airports are in Plattsburgh, 30 miles away, and in Burlington, 80 miles away. Ferry service to Vermont is available during the non-winter months from Essex to the south of the Town and Plattsburgh to the north.

The only significant recreational trails are snowmobile trails. The Town intends to undertake the marking and maintenance of hiking and horseback riding trails along Willsboro Mountain, Sugarloaf, and Rattlesnake Mountains. This will help to fulfill growing demands for leisure time activities in the area. The Town should attempt to develop a Town-wide network of trails and link up with trails in neighboring towns.

Currently, there is a state boat launch site located on the Willsboro Peninsula. This is the only public water access site in the community,providing an opportunity for all residents to enjoy Willsboro Bay and Lake Champlain.

Police protection is provided to the Town by 7 municipal constables, and support from the Essex County Sheriff and the New York State Police from the Westport sub-station. The Willsboro Fire District includes the hamlet of the Town as well as a fire protection district which extends to include all of Willsboro Point. This district is rated B by the Public Protection Department of the Insurance Services Office. The fire station, on Main Street, has four engines and one ambulance. The emergency service is provided by a voluntary squad consisting of 50-60 members from the men's and women's auxiliary groups. In addition, there is another fire station located in the Reber area,also manned by a volunteer squad, with three engines. The emergency service was rated the highest of all public services in Willsboro in the Community Opinion and Information survey.

Health services in the community are presently being provided by the Smith House Health Center which opened in February, 1977. It is a family medicine center staffed by three doctors and a small support staff. Patients are seen on a private patient basis at standard fees. The nearest hospital facilities are in Elizabethtown and complete facilities, including obstetrics and gynecology, are found in Plattsburgh.

In conjunction with the Smith House Health Center, the Town is undertaking a federally funded community action program. The pregram would feature creative counseling for both adults and teenagers, a Youth Employment Service, the establishment of a Town-wide hotline, as well as a drug abuse information center. It is anticipated the program will begin in spring or summer of 1977.

The Town maintains a sanitary landfill which is currently operated in compliance with the Health Department and Department of Environmental Conservation standards. The life expectancy of the landfill is approximately five years with the possibility of an 18-20 year extension if adjacent land is acquired.

The Town Highway Department is responsible for maintaining all state, Town, and county roads in Willsboro. The Department was rated favorable in the Community Information survey and each year the Department undertakes a specific road improvement program in addition to their regular construction and maintenance tasks. The garage and equipment are adequate to meet the Department needs.

Other community facilities include a Town Hall which is used for various community activities and meetings, a library, and a post office.

The facilities which are adequate to meet current and expected demands are the school, the fire department and emergency service, the health care center, and the library.

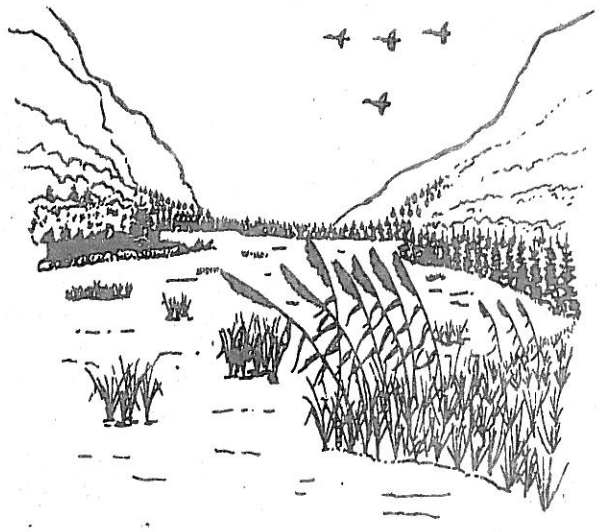
The facilities which need improvement are parking facilities, a community center and Town Hall facilities, recreational facilities for senior citizens in the Town, the road system on Willsboro Point, police protection, and the public water supply system.

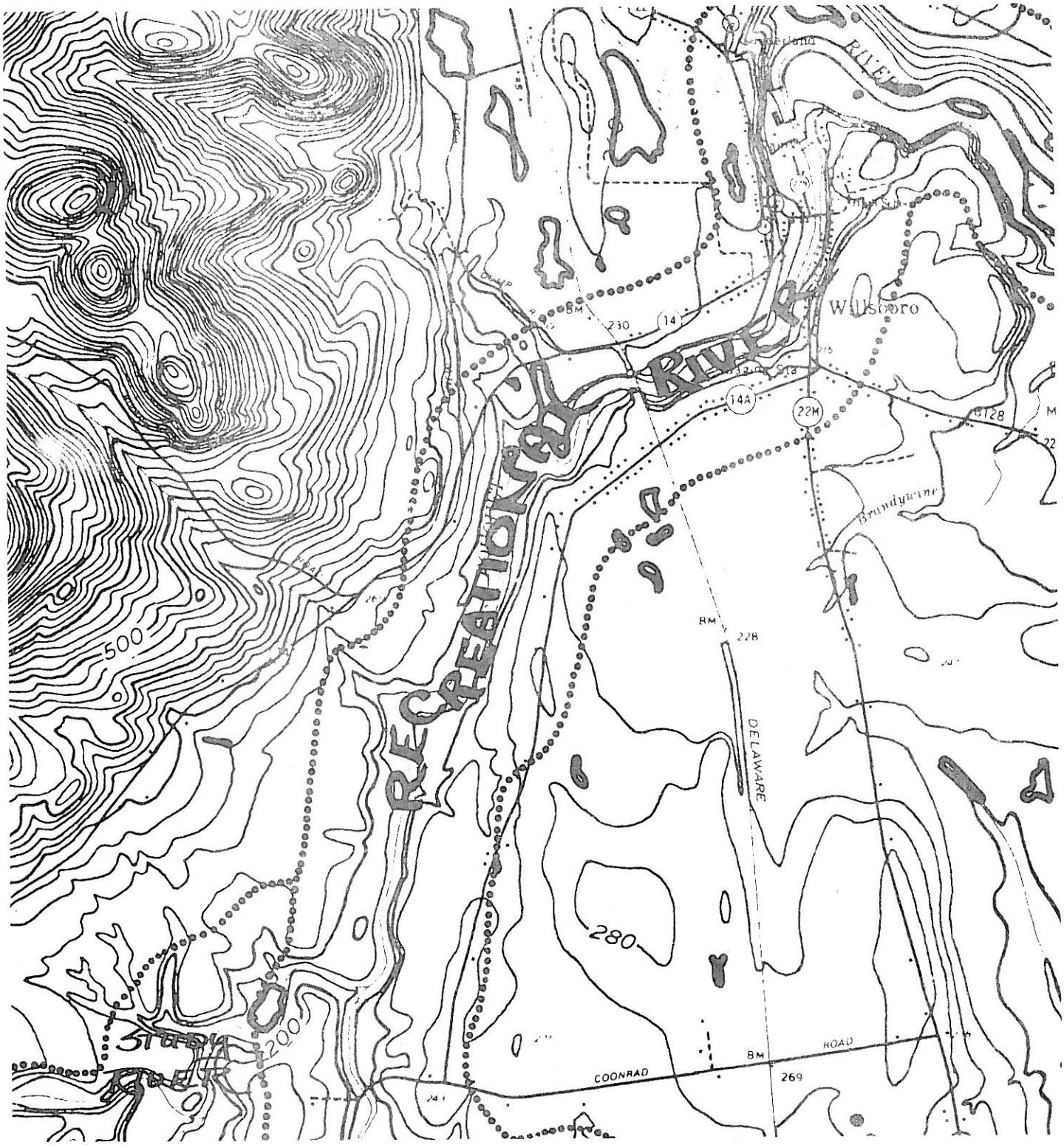
Shallow soils, steep slopes, critical wildlife habitats, floodplains and large wetlands are also common along many of these corridors.

The objective in review of new land uses and development in these areas is to protect and enhance the aesthetic qualities and rural, parklike atmosphere along major highway corridors. This can be accomplished best by the design of development sites on large lots, utilizing vegetation and topographic screening or by selecting small cluster development sites which will protect the scenic and natural resources of the areas. Use of vegetative and topographic screening can also reduce the impact of highway noise. Segments of Route 22 in Willsboro are critical environmental areas.

RIVER CORRIDORS

The North Branch of the Bouquet River has been designated to be studied for possible inclusion in the New York State Wild Scenic and Recreational Rivers System. The river and its 1/4 mile setback from each shoreline is classified as a Critical Environmental Area. New land use and development in the river corridor as shown on the Critical Environmental Areas Map will be reviewed under the guidelines of Class A Regional Projects maintaining the free-flowing and natural characteristics of the river and its environs.

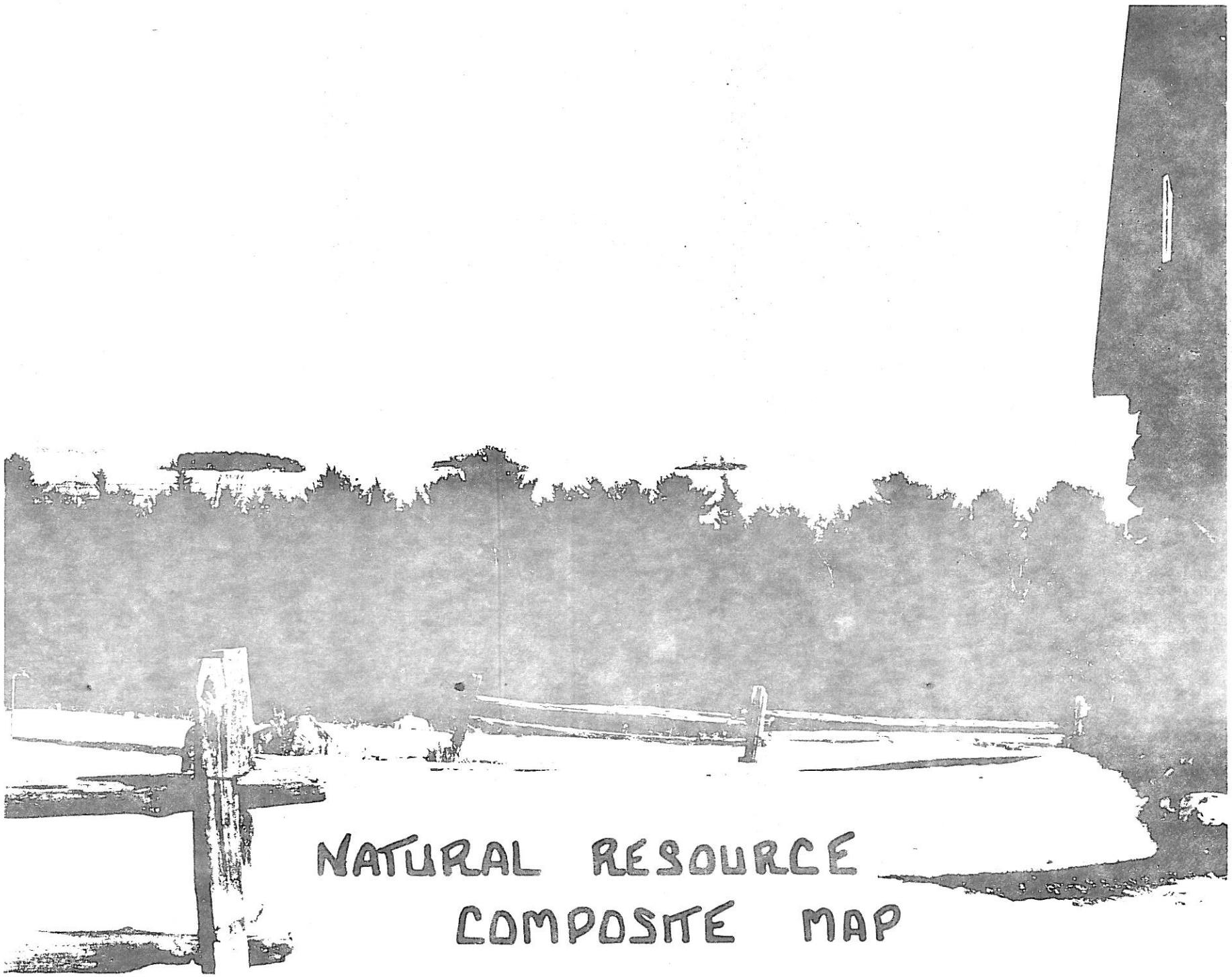




CRITICAL ENVIRONMENTAL AREAS

WETLANDS

RECREATIONAL RIVER IS PART OF THE NEW YORK STATE WILD, SCENIC, & RECREATIONAL RIVER SYSTEM.



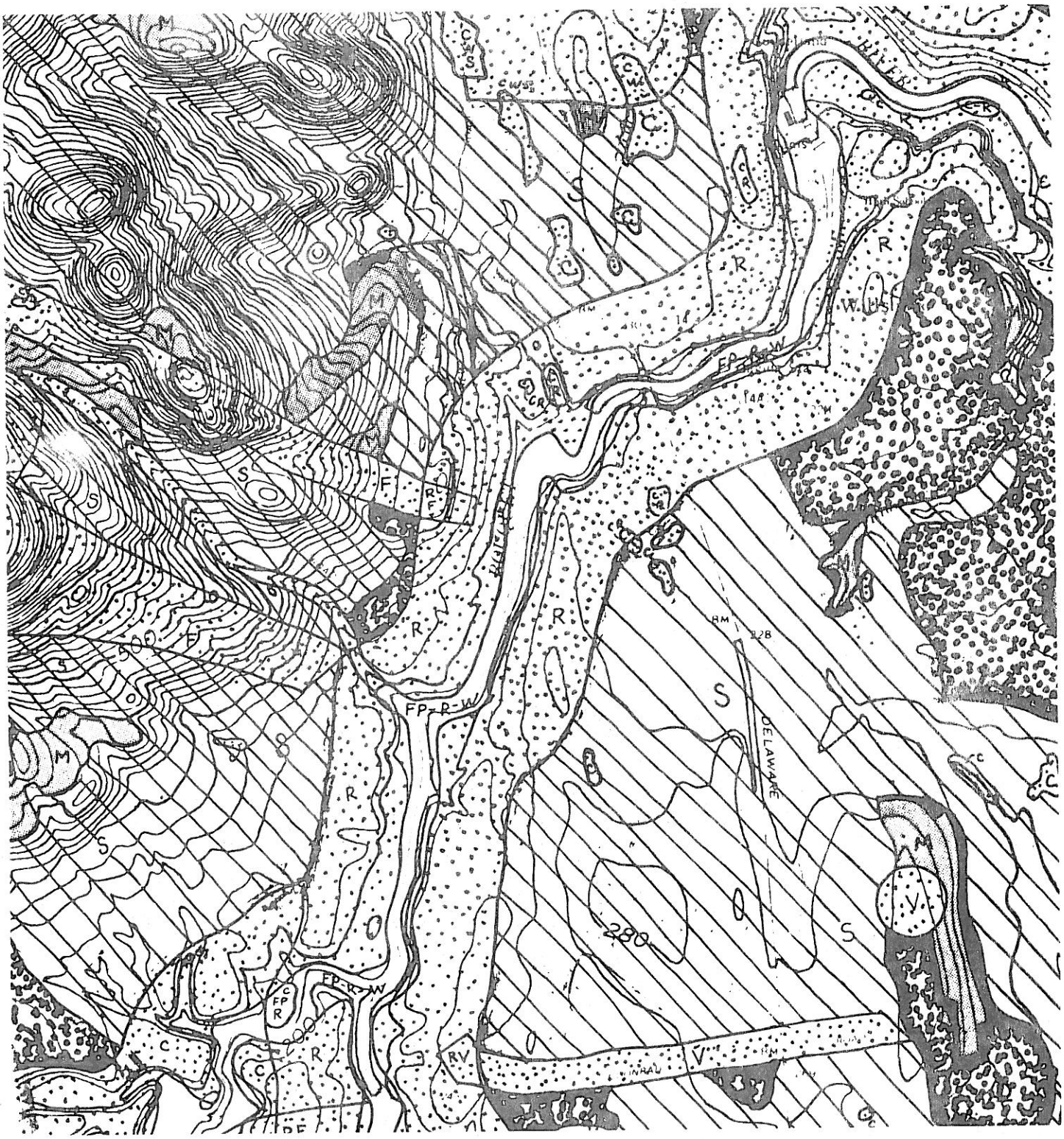
NATURAL RESOURCE COMPOSITE MAP

AREAS POSING POTENTIAL DANGER TO HUMAN HABITATION

Flood prone areas present danger to human habitation. Flooding destroys life and property and occurs on a predictable basis. Areas that have a 1% chance of being flooded are defined as the 100 year flood plain and are likely to be flooded at least once in a person's lifetime. Structural approaches to flood control like dams and channelization projects are unreliable and often cause adverse environmental affects by changing stream flow and other hydrologic conditions.

Development should be prohibited in flood plains. Flood plains are best used for land management activities, such as farming, wildlife management, and recreation.

The Composite Map serves several purposes. As an index for referral to each resource map, it identifies areas of opportunity or restraint for land use. For this reason, it is a useful tool for prospective developers and may assist the Planning Board in developing the Town plan and the Zoning Officer in identifying resource considerations in the review of project applications.



COMMUNITY DEVELOPMENT OPPORTUNITIES AND LIMITATIONS

- VALUABLE SOILS & FAVORABLE SOILS
- AREAS HAVING MODERATE PHYSICAL LIMITATIONS
- AREAS HAVING SEVERE PHYSICAL LIMITATIONS
- AREAS HAVING SIGNIFICANT ENVIRONMENTAL IMPORTANCE
- AREAS POSING POTENTIAL DANGER TO HUMAN HABITATION

RESIDENTIAL RURAL DENSITY

These are areas along the western shore of Long Pond and in the agricultural area south and west of Willsboro hamlet that are suitable for residential development on a very limited scale. This category is characterized by land currently having very limited residential development; largely engaged in active agriculture and containing areas having moderate or severe physical limitations to development or having significant environmental importance. For the reasons stated above, the suggested density standard would be on an average 8.5 acres per unit.

LAND CONSERVATION

This classification of the Town Plan is the most restrictive in terms of permitted intensity of use. It encompasses areas with one or a combination of severe physical limitations, areas having significant environmental importance, land with virtually no residential development, and a large percentage of the farmland in Willsboro located in the Essex-Lewis-Willsboro agricultural district.

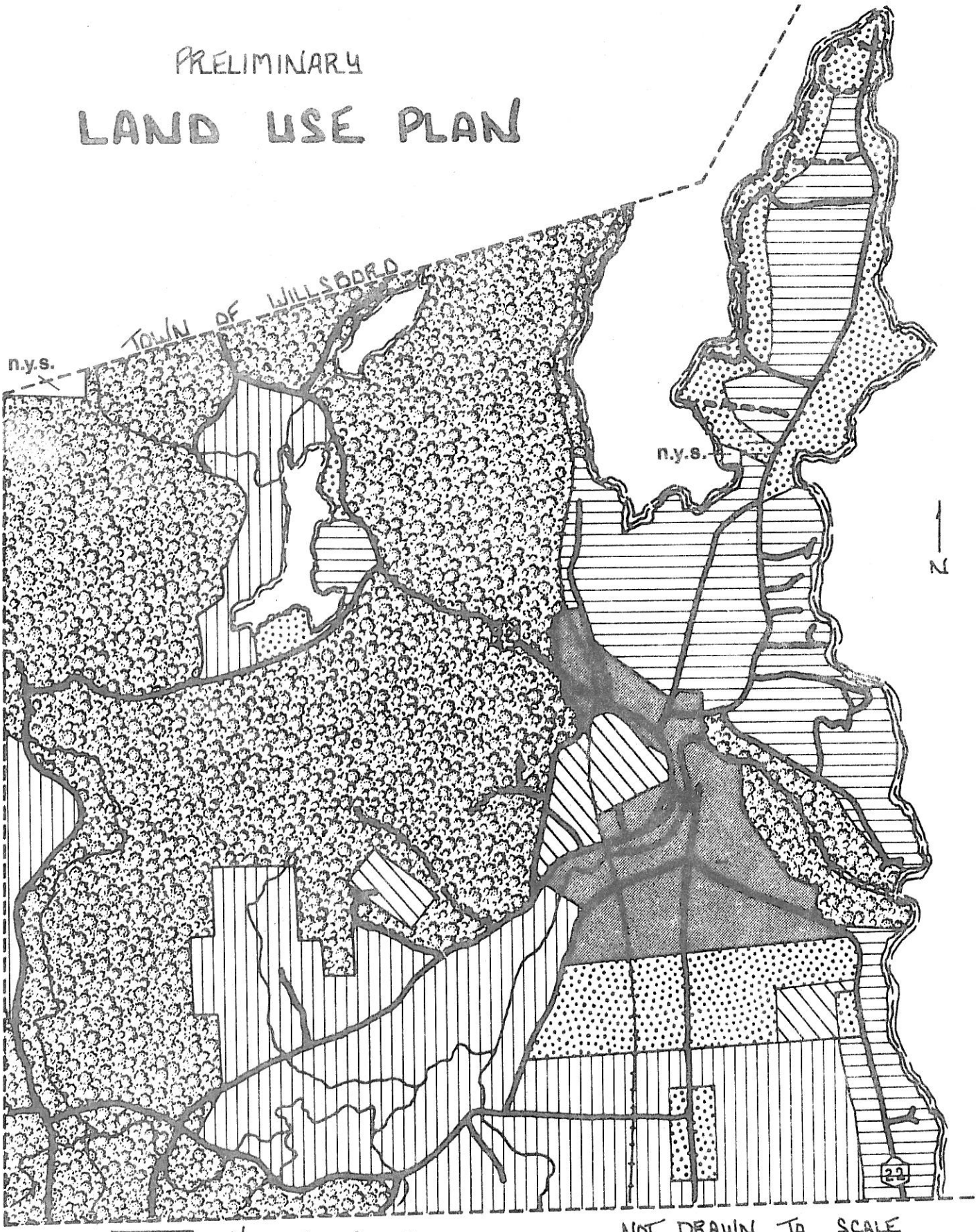
This category discourages residential and commercial development and aims at conserving land of agricultural importance and areas of significant environmental importance. The overall density standard would be 42.7 acres per principal building.

INDUSTRIAL

This category is intended to accommodate uses that include the Interpace Mining operations and existing and future light industrial uses in the parks north and south of Willsboro hamlet along Route 22.

PRELIMINARY

LAND USE PLAN



PRESENT WATER RESOURCES PROBLEMS & SENSITIVITIES

The qualities of Willsboro's surface waters vary considerably, each having its own character and potential for water quality problems. The most important surface waters in Willsboro with potential for water quality problems are: Willsboro Bay, the Bouquet River, the North Branch of the Bouquet River and Long Pond.

Willsboro Bay is an important recreational resource for swimmers, fishermen and boating enthusiasts. The Bay is also the source of water supply for much of the Town. The present quality of the water is adequate for this use. Due to intensive land uses within the watershed, the Bay is subject to two types of degradation: sedimentation (the flow of fine soil particles into the bay) and plant nutrient enrichment (the weed and algae growth). Sedimentation causes difficulty in filtering and purifying water for drinking purposes; in addition, the sedimentation can suffocate aquatic vegetation and other habitats necessary for fish propogation and survival.

An oversupply of nutrients results from improperly operating septic systems, as well as from general watershed disturbances. This is especially obvious near Big Brook, and where there are cottages along the shoreline. The resulting increase in the amount of vegetative growth decreases the degree of water clarity. Since the area around Willsboro Bay is one of the most intensively developed in town and the bay is such a significant water resource, the sensitivity to quality problems is an essential resource consideration.

Long Pond is a water resource of varied uses; the pond is the water supply for the residents along its shores, as well as a fishing, swimming and boating area for residents and visitors. Due to its shallowness (maximum depth 20') the pond is sensitive to intensive watershed development and shoreline disturbances. The inflow of nutrients from watershed vegetative disturbances and the excessive number of on-site septic systems could adversely affect the quality and character of the waters of Long Pond.

The Bouquet River has two major problems: the discharge of sewage from adjacent residences and a heavy sediment load from the numerous upstream agricultural fields. A sewage treatment system is proposed for the Town to resolve the direct discharge problem. The sediment problem is not easy to solve, as its prevention requires the elimination of direct field drainage into the river. Vegetation-buffer strips along both the river and its permanent and intermittent streams can filter out some of the silt. Otherwise, drainage can be directed through catchment basins to settle out some of the heavier particles.

In Willsboro, there are three main land uses which potentially affect water quality: Agriculture, Residential Development, and Logging.

These can affect lakes and streams by contributing silt, sediment, nutrients and toxic substances which change water quality, destroying biological habitats, and affecting such present uses as water supply and recreation.

It is possible to prevent adverse impacts on water quality from all land use and development through the proper distribution of densities and through the use of buffers (set-backs) and proper stream crossings. These practices should be incorporated into the Local Zoning Plan and Ordinance.

AGRICULTURE

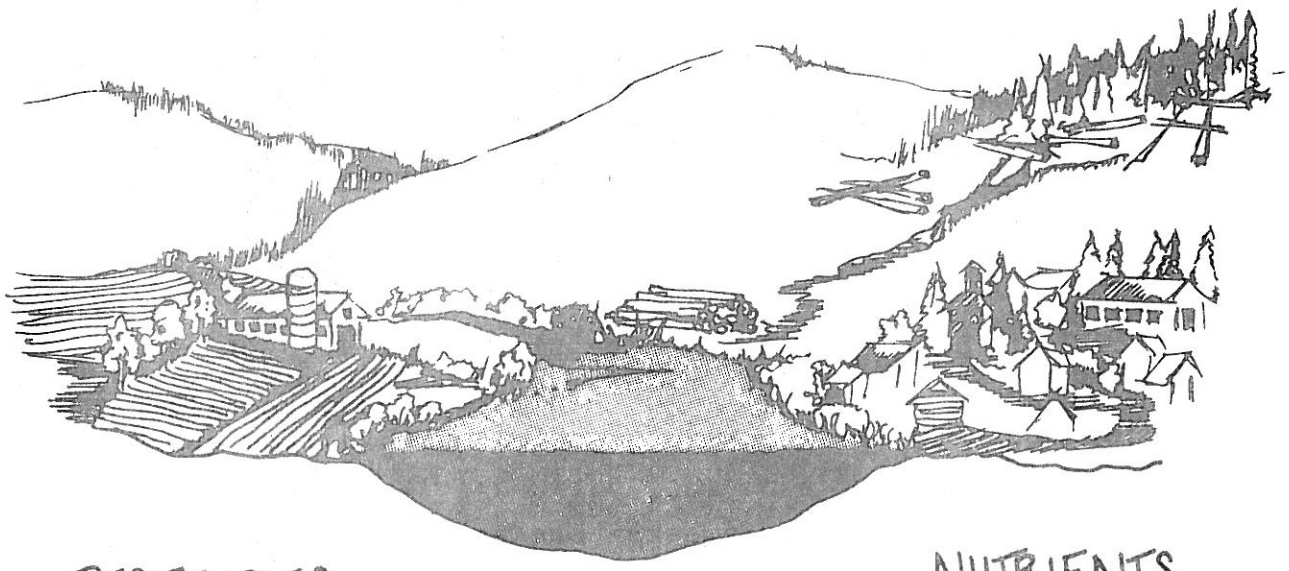
Contribute Toxic Pesticides, nutrients, (fertilizers & animal wastes) silts and sediment.

HOUSING

Increased density causes greater runoff, nutrient inputs from septic systems, and increased recreational pressures on water bodies.

LOGGING

Contribute nutrients and silt trhough vegetation and soil.



PESTICIDES

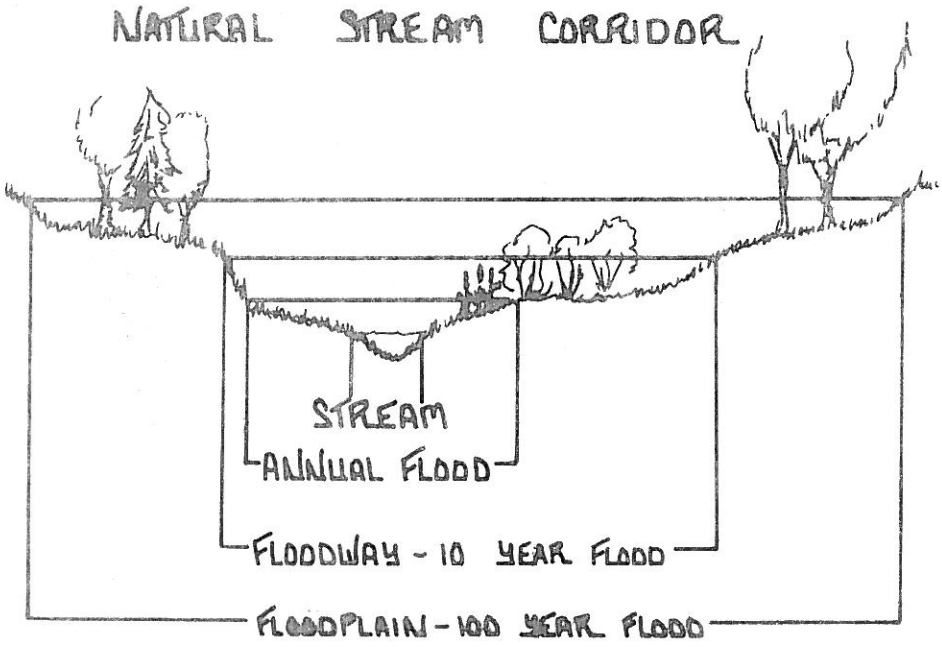
Render water unsuitable for drinking and for fishing.

NUTRIENTS

Increase weed and algae growth and decrease water clarity.

SEDIMENT

Destroys biological habitats, causes greater flooding, and ruins aesthetic beauty and recreational viability.



GROUND WATER

Maintaining the quality of Willsboro's ground water is also important; streams depend upon ground water to maintain regularity in their flow during excessively dry periods. In addition, Willsboro residences outside the water districts utilize this resource for drinking supplies.

Supplies of water exist under the surface of the ground in saturated soils, fractures in the bedrock or in loose deposits of sand, gravel and permeable rock known as aquifers. Precipitation and runoff infiltrate the soil to replenish groundwater supplies, primarily through the highly permeable soil called ground water recharge areas. These soils generally have a permeability greater than 6 inches per hour, and slopes which are less than 8 percent. Ground water later returns to the surface in springs, wetlands, rivers, streams, ponds and lakes. Areas of potential recharge are represented by highly permeable glacial outwash soils (Windsor and Colton) which can be located on the Meso Soil Inventory.

EFFECTS OF LANDUSES ON SURFACE WATER

Surface water quality may be affected by a variety of factors associated with land and water uses. Their effects often depend upon their proximity to a water body (lake, river or intermittent stream), but land use in all areas of a watershed has the potential of affecting water quality.

In Willsboro, the water classifications are in the A and AA range, signifying drinking water and public water supply classifications, respectively, along the shore. Inland and along the Bouquet River the classifications are in the B (bathing), C (fishing), and D (agricultural and industrial uses) ranges. Many of the mountain streams in the town contain trout and are designated with a subscript T in the classification scheme. Trout inhabited waters must remain relatively cold, clear and pollution free; hence the "T" designation is a good indicator of water which is of high quality. The land use plan should seek to maintain and improve the water quality. To help ensure good water quality and proper use of water, a permit from the Department of Environmental Conservation is required for any alteration or discharges into water bodies classified A, AA, B, or CT. In February of 1975, the engineering firm of Tisder Associates conducted a Feasibility Report for a sanitary sewage and sewage treatment facility in Willsboro. This report recommends the development of a centralized system for the Hamlet of Willsboro. Such a plan, if undertaken, will help improve water quality in Willsboro.

FLOOD HAZARD AREAS

Flood hazard areas are lands that adjoin a river, stream, pond, lake or wetland, and are likely to be occasionally flooded due to spring snowmelt, severe rainfall, and/or over-saturation of the soil. The areas are essential to the normal passage of water downstream, and act as water storage areas during floods. A typical flood plain is composed of a main channel and the adjoining land needed to carry and discharge flood waters. Such flood plains range from narrow bands along small swift-flowing streams to broad plains along low, meandering rivers.

The extent of flooding is affected by many factors, including man's activities both within and without the flood plain. Flood frequency and severity may be amplified, for example, by building structures adjacent to water courses, removing forest vegetation in a watershed, filling of wetlands, and altering a stream's natural bed and bank. Where such activities substantially concentrate and increase runoff, the frequency of flooding will increase.

Flood hazard areas in Willsboro are mapped on the Surficial Water Resources Map. Two sources were used to delineate these flood hazard zones. One source is a set of maps showing special flood hazard areas surveyed by the U.S. Department of Housing and Urban Development, Federal Insurance Administration (H.U.D.). H.U.D. is currently modifying its January 17, 1975, survey. Other areas of periodic flooding shown on the Surficial Map are organic soils (deposited in bogs, swamps, and around lakes) which have been mapped by the Soil Conservation Service.

Because of the high potential danger to the development of homes and their septic systems, the best utilization of these areas is for open space uses (forestry, agricultural uses, parks, golf course) which offer minimum obstruction to the flow of floodwaters.

PLAN OVERVIEW

VILLAGE CENTER

This category is basically the hamlet of Willsboro. It is further characterized by being served by public water as the area is almost entirely included in a public water district where this utility can be extended without any further petition for this service. The type of land uses appropriate to this category are those typically found in Adirondack hamlets or its immediate periphery, including one, two, and multiple family residential uses, commercial uses, and public/semi-public uses.

The availability of public water in this area increases both the potential and the appropriate intensity for development. This area is located within public water service areas and there are no physical limitations which would otherwise limit or prevent communities of the type and intensity suggested.

It is envisioned that this category would include new commercial development in the town and two and multiple family residential uses.

RESIDENTIAL MEDIUM DENSITY

This category is designed for year-round and seasonal residential use at an intensity which recognizes the availability of public water, proximity to an existing water district, soil capable to accept septic tank effluent as determined by the soil inventory, and primarily existing land use or subdivision pattern at a medium density level.

The fact that these areas are located in part along the shoreline of Long Pond, Willsboro Bay, and Lake Champlain, together with the desire not to clutter the shoreline and the need for minimum space to accommodate on-site septic fields would suggest a density standard of 1.2 acres per unit,on the average.

RESIDENTIAL LOW DENSITY

This category provides for the same residential uses on the previous residential category. However, the lack of public water, general low level of existing development, desire to protect the visual attractiveness and quality of the Willsboro shoreline, presence of soil with moderate or severe limitations for septic tank effluent in sections of this category suggest a higher area requirement per unit at an overall level of density of approximately 3.2 acres per unit. Some areas of this category north of Willsboro hamlet in an area containing good soil and a vegetative cover could have a potential for higher intensities of development.

PRELIMINARY TOWN LAND USE PLAN

PLAN CONSIDERATIONS

It is the purpose of this section to identify the methodology and procedure used in arriving at the recommendations for a revised town land use plan and to describe the proposed land use districts. The individual factors considered include the following:

- Local goals and objectives
- Existing land use characteristics
- Community resources
- Individual and composite assessment of natural resources
- Planning issues and policy recommendations
- Existing comprehensive development plan and zoning map
- Adirondack Park Land Use and Development Plan and the regional goals embodied therein

The proposed Land Use Plan for the Town of Willsboro was developed from the detailed inventory and analysis which preceded this section. The land use plan describes various categories which are designed to reflect appropriate types of activity and levels of intensity of use within each. These districts are:

- Village Center
- Residential Medium Density
- Residential Low Density
- Residential Rural Density
- Land Conservation
- Industrial

Following is a summary of planning considerations for each composite category:

AREAS PRESENTING OPPORTUNITIES FOR DEVELOPMENT

The most suitable land for community development is characterized by soils and slopes with slight limitations and no biological or water resource restrictions. Proper planning and construction techniques can avoid major construction and environmental problems.

AREAS HAVING MODERATE PHYSICAL LIMITATIONS

Also suitable for community development is land whose soils and slope are rated moderately limiting and have no biological or water resource restrictions. Proper planning and construction techniques can avoid major construction and environmental problems.

AREAS HAVING SEVERE PHYSICAL LIMITATIONS

Soil and slope with severe limitations (and no biological and water resource considerations) present physical obstacles to development and maintenance of planned land use. Engineering solutions can be devised, but substantial financial costs are incurred and are sometimes prohibitive. Adverse environmental and visual impacts on the sites are difficult to avoid or control. Development in these areas should be carefully sited to avoid or minimize major alteration of soil and topographic features.

Only low-density development should occur where soils and slopes make construction and maintenance difficult. Development that necessitates costly alterations of topography should be avoided.

AREAS HAVING SIGNIFICANT ENVIRONMENTAL IMPORTANCE

Significant environmental resources such as wildlife and plant communities, wetlands, rural road corridors, water supply watersheds, and quality water features are sensitive to development. Engineering solutions to proposed developments are rarely applicable and are unable to prevent undue adverse impact. Protecting these often irreplaceable areas requires an understanding of the ecological complexity of the resources. These resources are often associated with severe physical limitations.

Development can be inappropriate in areas of visual and historic importance. Careful attention to use, design, and location will protect these valuable assets.

Development is incompatible with fragile biologic resources such as deer yards, waterfowl nesting places, and rare plant sites. We should preserve these irreplaceable habitats and guide development to less sensitive areas.

COMPOSITE MAP

COMMUNITY DEVELOPMENT LIMITATIONS & OPPORTUNITIES

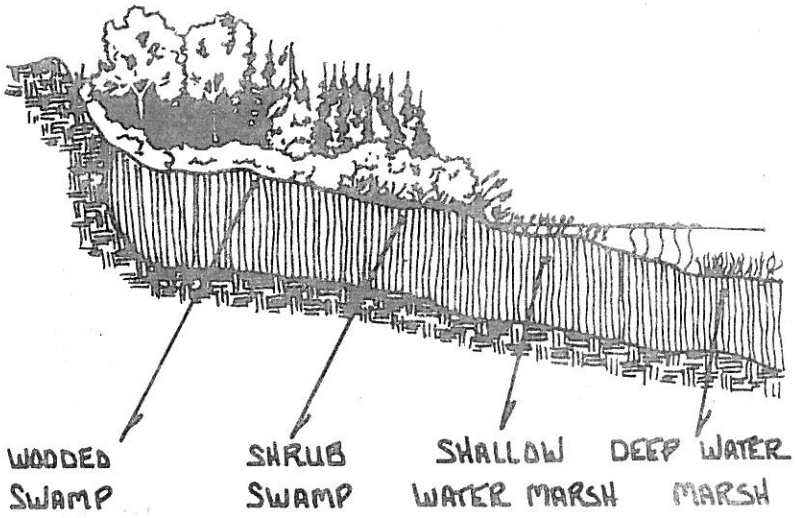
The physical and biological resources of Willsboro -- soil, slope, water, critical environmental areas, visual aspects, and unique natural areas -- have been identified individually, emphasizing the areas acceptable or vulnerable to development. These elements must be examined collectively in order to make sound decisions to utilize a given area of the Town.

The locations of resource opportunities and limitations in Willsboro have been summarized and shown on the Community Development Limitations and Opportunities Map. The map combines the individual resource constraints by overlaying (one upon the other) each resource map.

Soil and slope resources were assessed for their degree of opportunity or limitation for development -- rated slight, moderate, or severe. Other selected resource conditions -- unique natural features, wetlands, waters classified AA, A, B, C and T, public water supply watershed, visual features, and river corridors -- were assessed only for their environmental importance. Although certain land uses may be compatible within or adjacent to environmentally important areas, careful site planning is paramount. Areas subject to flooding, including alluvial and organic soils and areas designated flood prone, were shown on the composite map as potentially dangerous to human habitation. Construction of facilities for human use in these areas should be avoided.

The maps were overlayed on a composite map in sequential order, beginning with the areas subject to flooding, outlining the resource boundaries on the composite. Next, the environmentally important areas were transferred to the composite. Following this, severe and moderate soils and slope considerations were transferred, categorized by their respective ratings. The spaces left uncovered reveal the areas with the highest development potential without major resource limitations. The modified technique employed for the Town of Willsboro shows no overlapping resource limitations.

The factors most limiting to an area are stressed on the composite map; detailed information on any other considerations would be found on the individual maps and in the reports. Noted in particular are soils with high ground water, a detriment to septic systems. Also pointed out are higher growth areas within water districts, presently planned to be serviced by on-site septic systems.



Wetlands provide valuable habitat for many typical and unusual plants and animals. Also, many rare or endangered plants are found in wet areas.

Many of the physical and biological characteristics of wetlands limit their development potential. Muck soils in wetlands have a low bearing strength and are unsuitable for building foundations. The seasonal high water table is near or at the surface for extended periods each year causing wet or flooded basements and failure of septic systems. Wetlands are a delicate ecological resource which can easily be damaged.

The fragility of wetland environments and the importance of their role in nature's scheme has earned them protection under the N.Y.S. Freshwater Wetlands Act. Under the Act, wetlands within the Blue Line will continue to be regulated by the Adirondack Park Agency, but the Act also provides for the adoption of local protective ordinances and creation of a wetlands board of appeals by local governments.

HIGHWAY CORRIDORS

Lands withing 150 feet (Rural Use) or within 300 feet (Resource Management) of the right-of-way of federal, state or designated county highways are classified as critical environmental areas. These areas are generally characterized by open space and rural land uses such as recreation, agriculture, forestry and sparse single family dwellings.

CRITICAL ENVIRONMENTAL AREAS

Critical Environmental Areas located in the Town of Willsboro include Wetlands, Highway Corridors and the River Corridor along the North Branch of the Bouquet River, being studied for possible inclusion in the New York State Scenic and Recreational Rivers System. The identification of these resources in the land use program promotes the protection and preservation of hydrologic, wildlife, vegetational, scenic, educational, recreational and open space values of these areas. Under the Adirondack Park Agency Act, proposed land uses and development in these critical areas, as designated on the Critical Environmental Areas Map, are Class A Regional Projects.

Specific critical areas in Willsboro include scattered wetlands (Examples of which surround Long Pond), 150 and 300-foot corridors along State Highway 22, and the North Branch of the Bouquet River Corridor, a 1/4 mile setback from each shore.

WETLANDS

Commonly referred to as bogs, marshes or swamps, wetlands include any land which is continually or periodically inundated by water. Open waters adjacent to or surrounded by a wetland are considered part of the wetland if these areas are essential to the preservation of the wetland vegetation.

Wetlands are characterized commonly by the presence of distinctive species of vegetation. In Willsboro, shrub swamps, wetlands which occur mostly along streams and floodplains, may be found at the outlet of Long Pond, south of Route 22; a mixed deciduous and coniferous (hardwoods and evergreens) wooded swamp may be found between Johns Pavillion Road and southwest of Long Pond. Shallow water marshes are located along the shorelines of Lake Champlain; the the deep water marsh type may be found on the Bouquet River.

Wetlands serve many useful purposes. Wetlands can decrease flood damage by acting as catch basins absorbing excess water caused by heavy rains or melting snow.

Wetlands are efficient cleansers of pollution. Both natural and manmade silt and other sediments carried by streams settle out in marshes and swamps.

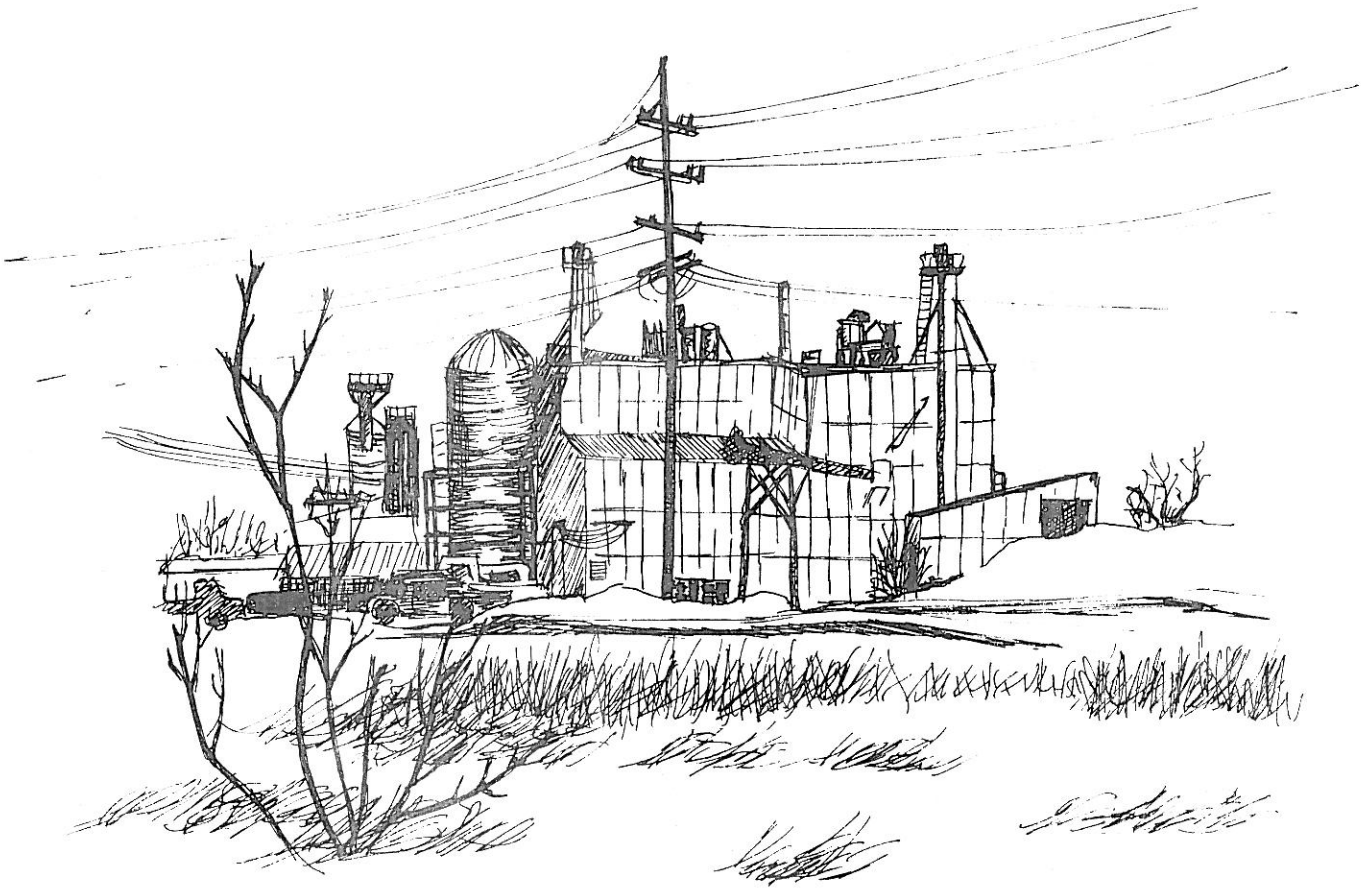
GEOLOGIC SITES

As a part of the Lake Champlain shoreline, Willsboro's geological past is exposed for easy exploration.

Limestone Deposits: located on Frisbies Point, Ligonier Point, Jones Point, and at the Beekmantown Quarry.

Garnet: the geologist can find garnet in the railroad cut on Rattlesnake Mountain.

Wollastonite: The Interpace Corporation processing plant located on Mountain View Drive, is the principal supplier of the Wollastonite mineral in the United States. Of economic significance to the community and geologic and historic interest to the visitor, Wollastonite is a filler and bonding agent which enhances the quality of many products such as pottery, plywood, wallboard, porcelain, and paints. The location of the Willsboro mine and ore are shown on the map. Another ore deposit is located in Lewis.



Ransom Noble Marker

"May 13, 1814, Lt. Col. Commandant Ransom Noble of the 37th Regiment, New York Military, attacked British public stores at the Falls." The seizure of this flour magazine at Willsboro Falls enabled the Americans to gain control of Lake Champlain at the Battle of Plattsburgh.

Lakeview Cemetery (1791); Memorial Cemetery (1793)

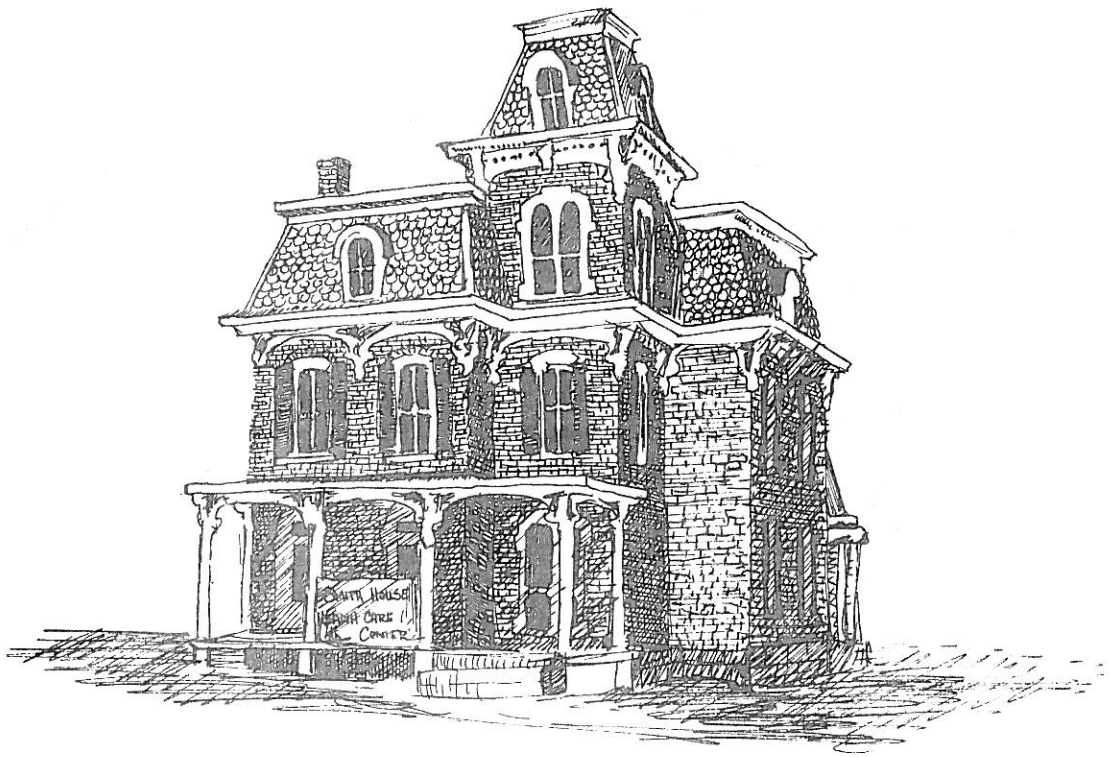
These cemeteries were established to commemorate the war dead. In the Lakeview Cemetery rests William Gilliland, the founder of Willsboro.

Phoenix Mill

Located at the foot of the Falls in the Bouguet River in the village of Willsboro. The stone and brick mortar structure was built in 1765 and the grain mill was a major industry in the town until the 1900's. The mill's stonework and mill machinery needs the attention of a restorer.

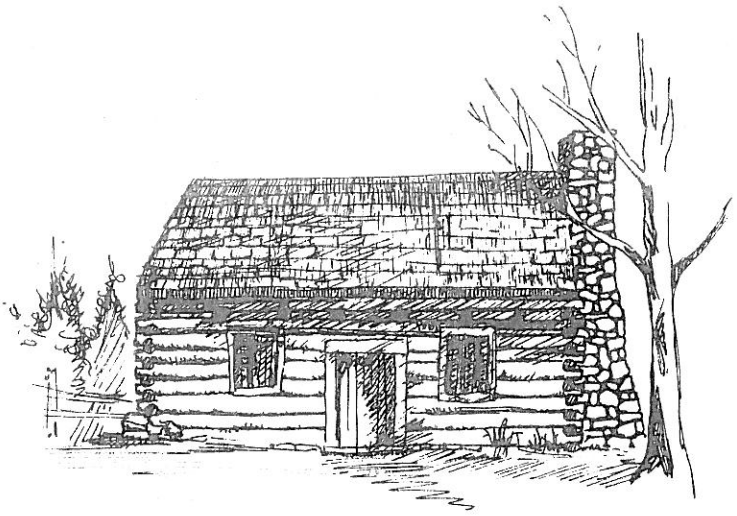
The Smith House

This home represents a prototype of the high Victorian Era in architectural style; it was built with mansard roofs, lavish ornamentation and its stark angularity dominates the landscape. It has been renovated recently and has become the Smith Health Center. This is a fine example of the adaptive use of an historic building.



Adsit Log Cabin

This log cabin was built in 1778 by Samuel Adsit and is a small, one-room museum exhibiting artifacts and antique furnishings.



The War of 1812 Battlefield

Near Bouquet River Point, this site contains battleground artifacts.

The 1812 Farm Homestead

On the corner of Johns Pavillion Road and Rte. 22, this single story, wooden shingled house is now a farm museum open in the spring and summer months.

Burgoyne Encampment

This encampment at the mouth of the Bouquet River housed Burgoyne's troops in 1777 on their way to Saratoga. General Burgoyne led about half the British troops in the American Revolution. His surrender at Saratoga determined France's decision to side with the Americans, enabling America to gain her independence.

Also, in 1814, General Bard and his army encamped here on their way to the Niagara Frontier.

CULTURAL & PHYSICAL FEATURES

Along with natural and biological features, the Unique Natural and Cultural Features Map depicts geilogical and historical sites, which should be considered in town planning.

HISTORIC SITES

Historic sites grace the community and instill an appreciation for its heritage. Restoration, adaptive use,and preservation of historic sites in Willsboro can heighten awareness of its unique cultural features, enhancing the character of the town.

Willsboro's location on Lake Champlain links its history with America's important struggles for independence, the French and Indian War, the Revolutionary War, and the War of 1812. Tracts of land were given to veterans in the late 1700's to encourage settlement of the region. In 1965, William Gilliland established the community of Willsboro as part of 12 land grants he had acquired between Crown Point and Cumberland Head. As stated on an historical marker, the town of Willsboro was "formed in 1788" and was "the county seat of Essex County (from 1797-1807)."

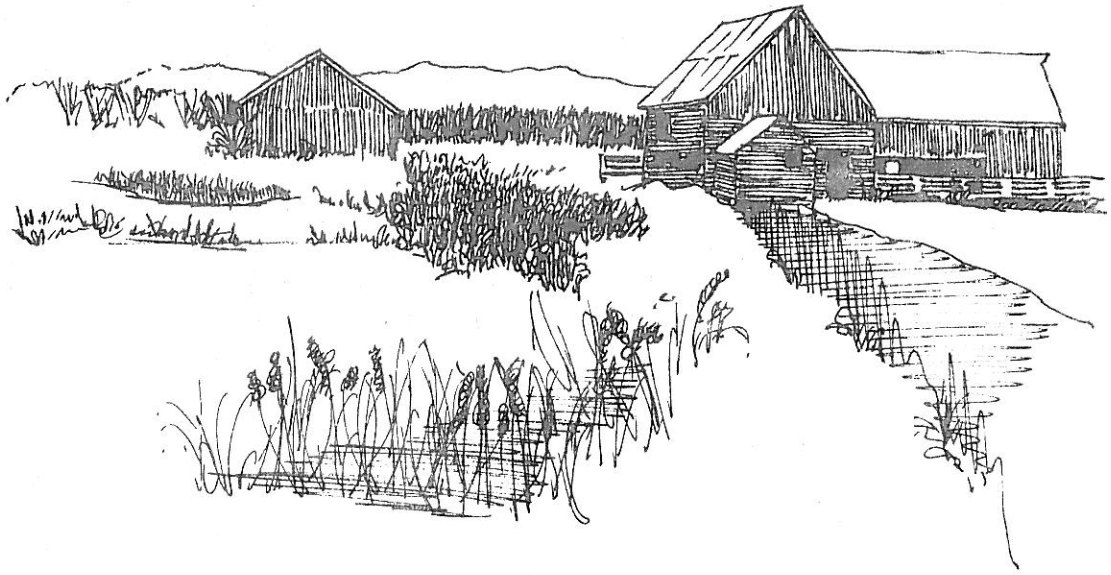
Populations rose and fell with the varying modes of travel, such as the railroad, and with expanding technology. The buildings in Willsboro reflect the changing moods; the firehall and town hall, the schoolhouse, the churches, the railroad station, the grange hall, early homes and hotels, and such large estates as Hale Homestead, Lincoln Homestead, Manning House, and the Frisbie Farm and Blacksmith Shop all exemplify Willsboro's growth. The native Chazy limestone has assured the long existence of Willsboro's Bank and the Clark Homestead (1820's). During a time of prosperity in the mid-1800's, ancient architectural styles were "revived" in the Champlain Valley.

The Town of Willsboro can perpetuate its cultural heritage by carefully preserving its noted landmarks. Mr. Thomas Sperito, town historian, was most helpful in compiling the following historic resources of the town.

The Paine Memorial Library

The library has a well-known collection of the ornithology of Four Brothers Island. The library was established in 1930 by A.G. Paine as a memorial to his parents and is supported by a trust fund and tax dollars.

management, the land's potential, and type of farm operation, the creation of an agricultural district benefits the town, the county, the village, and the farmer. Controlling non-farm growth concentrates public services in areas of dense population. The preservation of prime farmland maintains green belts that further protect corridors around unique,natural,and scenic areas. Another benefit is that a farmer within the agricultural district may have his land assessed for its agricultural value, rather than for its market value, and is protected from special tax districts, such as the expansion of the Willsboro water district.



An agricultural district is reviewed periodically by the county legislative body, the Department of Environmental Conservation, the Agricultural Resources Commission, and the Office of Planning Services.

N.Y.S. WILD SCENIC & RECREATIONAL RIVERS SYSTEM

The Bouquet River has been designated a Recreational River in the N.Y.S. Wild, Scenic, and Recreational Rivers System. This statewide program seeks to ensure proper planning and compatible land use and development along the river corridor. The river corridor in the Town of Willsboro is readily accessible; it provides a fine canoeing and fishing area for recreationists. Several wetlands adjacent to the river provide excellent waterfowl habitat and the river is a prime natural fish spawning area for smallmouth bass and walleyes. Some of the corridor contains a natural flood-plain for excess waters. Other assets of the Bouquet are the scenic views of the river and the surrounding landscape. The river corridor is rich in community history and through proper land use planning, it will continue to be a significant attribute of the community.

New land uses and development within one-quarter mile of the river are subject to the rules and regulations of the N.Y.S. Wild, Scenic, and Recreational Rivers System Act, as administered by the Adirondack Park Agency. The intent of the law is to protect the free-flowing, natural character and resources of designated rivers. The law also allows for the preservation of river views from existing structures, for the creation of river views for new structures, for the cutting of firewood inside 100 feet of the mean high water mark, and for the establishment of land management programs by private landowners and the community.

WILLSBORO'S AGRICULTURAL DISTRICT

In 1971, the State Legislature amended the Agriculture and Markets Law to allow the creation of "agricultural districts," a provision that encourages commercial farming and provides some check on incompatible development within the agricultural district.

Agricultural District #5, depicted on the Unique Natural and Cultural Features Map, includes 11 farms, covering 3840 acres, in the towns of Willsboro, Essex, and Lewis. In Willsboro, this prime agricultural soil, of the Vergennes-Kingsbury, Windsor, and Parishville types, occurs in two areas: the Reber Valley in the southwest, extending into Essex and Lewis, and an open plateau, with origins in northern Essex, extending along County Road #22 (the Middle Road).

Uncontrolled scattered development may create conflicting land uses, raise costs for public services, and stimulate land speculation, the latter leaving idle a large percentage of prime land in anticipation of town growth. Based upon soil classification, current

red-breasted merganser and the black crowned night heron. One species of plant found on the islands is the pink ladyslipper.

Coldwater species are generally more sensitive to various environmental changes. These species are particularly sensitive to fluctuations in water temperature caused by poor construction or industrial practices. Removal of shoreline vegetation washes soil downstream (siltation), changing the nature of the water in the following manner:

1. More sunlight is absorbed by the silt particles, warming the water.

2. Warm water holds less oxygen that cold water.

3. Added nutrients clogs the shoreline with algae; algae decay requires a great deal of oxygen.

4. Natural spawning beds are destroyed, especially for Brook Trout which require crystal clear, cold, well-oxygenated water for proper incubation and gill function.

KEY PLANT COMMUNITIES

Vegetation is important to the town's visual character, wildlife production, recreation areas, soil stability, watershed protection, and act as a buffer from sun, wind, and noise. Unique plant communities are areas such as bogs, plant species uncommon to the area and plant species of unusual size or age. The presence of these unique plant areas is the result of natural forces and their continued existence depends upon protection against adverse influences by inappropriate land use. Continued protection by planning considerations will ensure the values of vegetation.

A mature forest stand of mixed deciduous-coniferous wood has been identified on the accompanying map; it is found on the southern shore of the Bouquet River and represents a unique plant community.

The Four Brothers Islands Natural Preserve located off the northwestern coast of Willsboro Point is a sanctuary for many rare and endangered species of plants and birds. This environment supports these species by its natural protection and isolated situation; the disturbance of this habitat by pesticides or other artificial alterations of the natural environs would jeopardize the survival of these species.

Some of the bird species found on the islands include cattle egret, double-breasted cormorant, black-back gulls, herring gulls,

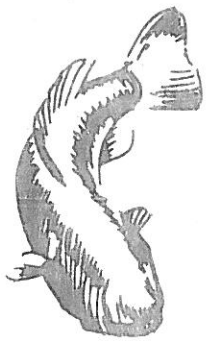
ponds, lakes, and associated wetlands provide the habitat for fish. Willsboro's planning program should take into account these resources since development can exert direct and indirect influences on fish populations through alteration of their aquatic environment and adjoining watersheds. Willsboro's water bodies are listed in the Appendix along with type of fishery and, where information is available, the inhabiting species and its importance.

Fish are traditionally divided into coldwater and warmwater species. These categories are based on habitat, spawning behavior and temperature preferences. The warmwater species found in Willsboro are pumpkinseed sunfish, brown bullhead, northern pike, yellow perch and creek chub. The coldwater species are brook, lake, rainbow and brown trout, splake, land-locked salmon, white sucker and fall fish.

WARMWATER HABITAT

Warmwater species are characterized by their affinity for warm temperatures and shallow, well-vegetated areas of lakes and rivers.

Warmwater fish tolerate wide ranges of habitat and water quality conditions, although they are sensitive to toxic wastes such as heavy metals and pesticides. Fish are most sensitive to environmental change during spawning periods and this is when greatest mortality occurs.



COLDWATER HABITAT

Coldwater habitats may be categorized into two general types: well-shaded, rapidly flowing, well-oxygenated streams and lakes with cold, well-oxygenated layers of water. The ideal trout waters have rubble, gravel or bouldery bottoms, the best streams of which contain alternating stretches of pools and riffles.

Deer wintering areas also support other key wildlife, including rabbits, porcupine, songbirds, black bear, coyotes, fisher, red squirrel and many small animals.

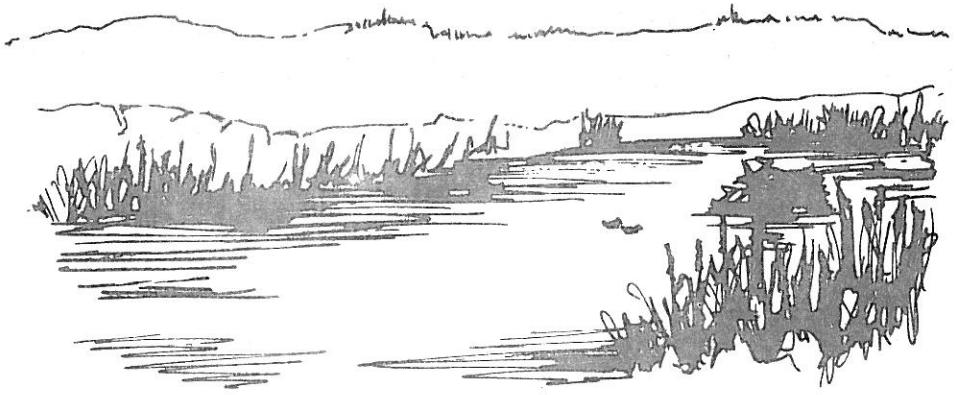
DIVERSE ECOSYSTEM

Where two or more vegetation communities meet, there is an appearance of a boundary or edge. The boundary may be caused by natural plant succession, be man-influenced, be abrupt, or be gradual and ill-defined. Wildlife is abundant generally in these relatively small areas.

These edge areas (diverse ecosystems) provide a wide range of wildlife requirements for food, water, cover and reproduction. They are commonly found along watercourses, wetlands, areas of human and natural disturbance and areas with major soil or topographic differences. Aerial photo interpretations and field observations led to the identification and mapping of such areas in Willsboro.

WATERFOWL AREAS

Wildlife biologists emphasize that these habitats are essential for the maintenance of migrating and breeding waterfowl populations. The wetlands and vegetation surrounding the south shore of the Bouquet River, southwest of the Hamlet, is especially significant in this regard. Protection through special zoning districts and careful site planning are recommended.



FISH RESOURCES

The fish resources of Willsboro are important to the town, as fishing is a popular sport for residents, and the Willsboro Fish and Game Club depends primarily on this resource for its activities. Knowledge of fish habitats and fish sensitivities is a key in the protection of this valuable wildlife resource. The streams, rivers,

Finally, the inventory can assist in site review of individual development proposals in which negative impacts can only be avoided if the features are understood in relation to man's activities. Assessment of unique features can be an important factor in conditioning a development proposal. The inventory is not exhaustive and there is a need to review individual sites for additional unique features.

KEY WILDLIFE HABITATS

Abundant fish and wildlife resources are an integral part of the Adirondack environment and provide immeasurable recreational, aesthetic and commercial value. Protection of key wildlife habitats is essential to the maintenance of sustained yields from our renewable wildlife resource. By providing such protection, we gain the benefits of a healthy wildlife population and we afford vital protection of our forests, water and soil. Willsboro, although it is not rich in species numbers, provides habitats for a variety of unique and interesting animal and plant communities. Development occurring in or near these habitats could result in the destruction and permanent loss of much of the area's valuable wildlife resource.

DEER WINTERING AREAS

During deep snow and cold weather, deer congregate to seek shelter and conserve their energy. One major determinant of the number of deer in the region is the availability and quality of food and cover for deer in the winter. Deer wintering areas have a distinctive combination of vegetation, topography, and hydrology, which provide protection and food for deer forced to seek shelter (yard) due to severe weather conditions and deep snow. The vegetation of these areas includes conifers, coniferous wetlands, and mixed conifer-deciduous forests.

Deer areas in Willsboro have been identified from extensive field observation by the Department of Environmental Conservation (D.E.C.) and by recent periodic aerial surveys which have shown deer using the areas.

Many factors influence deer population and hunter take, including quality food and cover during the winter season and type and intensity of land use. Deer favor nutritious browse which, of course, must be within reach during deep snow conditions. Dense coniferous cover provides shelter. Absence of permanent human habitation, proper timber harvesting with wildlife considerations, and control of recreational use within deer wintering areas also can contribute to maintaining a healthy deer population.

UNIQUE NATURAL & CULTURAL FEATURES

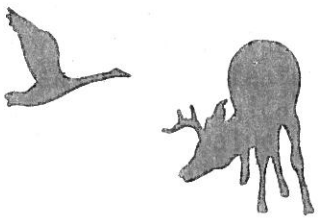
The Town of Willsboro possesses many exceptional assets that benefit the resident and visitor alike. Many natural features in the town are of significant biological, educational, aesthetic and recreational value. Cultural aspects create an historical perspective of equal importance which contribute to community pride, character and economic life. Together these features determine the natural and scenic quality of the region and define the distinct character of the town. Therefore, these significant attributes require consideration in the preparation of the Town plan and review of new land uses.

Willsboro's unique features include geologic sites, deer wintering and waterfowl areas, diverse ecosystems, rare and endangered species habitats, fish spawning areas, key plant communities and historic special interest areas. Protection and proper utilization of these sensitive, and sometimes irreplaceable, resources should be a prime planning objective to ensure the economic and environmental well-being of the community.

Consideration of unique features in the planning process is often more difficult than other resources such as soils, slope and water because the planner must assess objective and subjective values of features. It is difficult also to predict the social and economic as well as environmental impacts of a proposed land use plan on the character of the town and its unique features.

This study seeks to define each type of feature, identify and locate examples of each type of feature in the town, and provide recommendations for ensuring proper consideration of these resources in the planning process.

This study can also form the basis of a community cultural improvement program, in that many of inventoried unique features offer potential for recreational, social or other direct use by residents and visitors. There are many private and public programs to assist communities in improving their natural and cultural resources.



VIEW 11

The roadside vegetation opens to afford a view of scattered locust trees and a private residence along the immediate roadside area.

VIEW 12

A dense stand of lovely deciduous trees frame the view access to the shoreline of Vermont. The Green Mountains may be seen from this vantage point, as well as the Willsboro shoreline of Lake Champlain.

VIEW 13

A short open field edged by sparse woodland vegetation form the foreground of an impressive view of Vermont.

VIEW 14

The road in this area is quite high above the shoreline; a sparsely wooded field within which the stark Smith House can be seen, dwarfed by the open space around it. The height of the vantage point directs one view forward across the Lake to the Vermont shore.

VIEW 15

This view of Route 27B extends eastward across scattered tree vegetation to the shores of Vermont.

VIEW 16

This view extends west towards the Adirondack Mountains, affording an impressive view of the mountainous terrain and dense deciduous vegetation of the lands in this woodland region of Willsboro.

VIEW 17

This view if framed by heavy tree growth. Continued growth will obstruct this vista, which includes Vermont and Lake Champlain.

VIEW 18

This extensive vista can only be observed from the summit of Rattlesnake Mountain. The 360° view extends for miles in all directions, providing views of Willsboro Hamlet, Vermont Shore, Lake Champlain, and the Green Mountains, as well as the High Peaks area of the Adirondack Mountains.

VIEW 3

Looking south on Route 11B, this open meadow edged with forest vegetation is an attractive scene. A clear view of the mountains can be seen in the distant background. The view typifies the open country setting of the landscape.

VIEW 4

Just a bit further down the road, the elements of this scene are varied, adding interest to the vista. Again, the rolling foothills form a majestic backdrop to the farmhouses and tree vegetation clustered along the horizon as the country's meadows open before them.

VIEW 5

This view is characteristic of an open-space area, which gives an unobstructed view of the distant mountain.

VIEW 6

This view extends across cornfields and a stand of birch and maples to the gently rolling hills of Willsboro Mountain forests in the northeast. Protecting this vista would maintain a high quality of physical attractiveness within the community as well as enhance the local economy, attracting visitors and residents alike.

VIEW 7

This expansive vista extends westward for a mile across an old stone wall to a tree-lined slope then gently directs one's vision to the open farmlands of the Reber Valley. The Adirondack Mountains to the distant east, and framed woodland scenes to the north and south. An impressive vantage point.

VIEW 8

This view extends from the road to an old stone wall, to Champlain, and across to the Green Mountains of Vermont.

VIEW 9

Looking east across the small stone wall, a majestic apple orchard precedes one's vision of Lake Champlain and the Vermont Shoreline.

VIEW 10

This scene allows selected views of the woodlands to the west of Route 22.

Vividness--Texture and patterns in vegetation, color, or other features and diversity of edges (forest or field edges, stream line, etc.) clarify the distinctness of a vista.

Frame--The exclusion of certain peripheral visual information by landforms is the frame of the view. Frame directs one's vision toward a particular part of the landscape.

ATTRACTIVE ROAD CORRIDORS

In the north, there are extensive views of the Lake Champlain coastline from Route 27A, with a particularly expansive view of the lake (Number 17).

The western corridor of Route 27A (Farrell Road) farther south exposes the majestic mountains. The corridor is virtually free of man-made structures and is graced with patterns of vegetation and open country.

South of Willsboro lies a lovely lake shore corridor touching several notable landscapes. Cook Road looks north to the mountains as it connects Willsboro's agricultural setting with the Lake Champlain Coast.

View One introduces an extensive Reber Valley farm setting along Route 14. The open country, dotted with picturesque farms, should maintain its rural atmosphere and ensure the open views of this beautiful country.

EXTENSIVE VISTAS & PANORAMIC VIEWS

VIEW 1

Entering the Town of Willsboro from the west on 14A, this expansive vista in the Reber Valley extends for ½ mile along the horizon. Open fields on either side of the road comprise the immediate view as the road cuts northward, directing one's vision toward the farm residences and buildings in the distance. Stately elms and maples dot the land along these structures as the rolling mountains contrast this flat open scene.

VIEW 2

On a winding country road, traversing fields and open meadows, this vista provides a solitary experience for the observer. No structures are visible from this section of the corridor. Tree-lined land forms a border in the distance, opening the landscape to an unobstructed view of Willsboro's foothills.

LAKE DISTRICT

Long Pond and its immediate watershed-- the area that drains into Long Pond--comprise the Lake District. The shoreline, which is visually and ecologically sensitive, may be viewed from both the lake and from selected portions of the adjacent roads. Protection of its visual character may be effected best by maintaining a vegetative buffer to harmonize development with the natural character of the lake's shoreline.

SCENIC ROADWAYS & VISTAS

Willsboro's landscapes have three common attributes which give the community a quality visual impact: attractive road corridors, extensive vistas, and panoramic views.

ATTRACTIVE ROAD CORRIDORS

Travelways should be given particular attention as the automobile is the mode of travel from which individuals perceive the community. Travel corridors, as well as significant views along these roads, are delineated on the Visual Map.

EXTENSIVE VISTAS

Vistas which are especially characteristic of a landscape area or provide long range and expansive scenic views are extensive vistas. Improper development within the cone of vision, even if it occurred far from the vantage point of the observer, could alter dramatically the quality of the view.

PANORAMIC VIEWS

An extensive vista which allows views in all directions, 360° is a panoramic view. These views are unobstructed by landscape elements such as forests, or man-made structures or nearby mountains.

Twenty-two views and four scenic corridors have been identified in Willsboro. In this visual analysis, vistas were evaluated by considering the following elements individually and in combination. These elements together form a person's perception of a view:

Unity--A viewer judges the composite of elements in the landscape to be compatible or incompatible. A certain unity of view within a vista is important for it contributes to the visual identity and ease of perception of a landscape.

Variety--Diversity or contrast within a view contributes to the overall high quality visual impact of a landscape.

The sparsely developed, attractive shore lends itself to varied public recreational activities. The designation of this landscape as a special district would preserve the landscape and the visual character of the shoreline.

RIVER VALLEY

At the Bouquet River Point the lake shore blends into the Bouquet River Valley, whose waters pass through a variety of landforms. There are few, if any, extended views from the river itself, largely because of its steep banks. Also views are obscured in most cases by dense vegetation. Where the river begins to flow southwest onto the flat open country, views afforded in this area are described in the Farm Country Landscape section.

Along Route 27 the Bouquet River Valley affords an impressive view of Willsboro Village. Within the Hamlet itself, large shade trees soften the effect of close settlement and development along the main street. Such vegetation in most developed areas add to the visual quality and interest of a community.

Early settlements in many Adirondack Towns occurred along major rivers; Willsboro is no exception. In addition, the Town should be aware of the effect of continued development along the river corridor. Every attempt to insure that development proceed in a way that is compatible with the natural character of the Bouquet River should be encouraged. This awareness will help avoid visual inconsistencies, such as the entrance to the community from Lake Champlain where the Bouquet flows past an unsightly sandpit near two historic cemeteries.

MOUNTAIN FOREST

The Mountain Forest landscape occupies most of the western half of the Town of Willsboro. The terrain is largely inaccessible, densely covered with deciduous and coniferous vegetation. Viewed from afar, this dense vegetation covers the rugged pattern of the mountainous landscape. The terrain inhibits structural development but future planning should consider the visual pattern of the landscape.

Willsboro Point and the Four Brothers Islands from Willsboro's Peninsular Landscape unit. With the exception of Willsboro hamlet, the Point is the most densely settled area of the community. The closely settled shorelines afford very few outlooks toward Lake Champlain, Willsboro, or the mountains. There are two vistas indicated in the area.

The Four Brothers Islands are a wilderness preserve owned by the University of Vermont.

VISUAL

A unique combination of expansive lake shores, mountain forests, and open farmlands together form the landscapes which are Willsboro. This open country setting is a significant resource within the natural and man-made environment. Whether or not people choose to live, visit, or conduct business in a community depends to a great extent upon their visual impression. To protect and enhance the character of a community like Willsboro, its visual resources must be assessed. Thenceforth, methods for protecting or improving these attributes can be explored.

WILLSBORO LANDSCAPE UNITS

One of the existing aspects of Willsboro's visual quality is the contrasts in its scenery. The mountains retain the character of the ancient Adirondacks then slope to meet the open plains and farmlands of the south and the rocky shoreline of Lake Champlain to the east. The main shoreline is undeveloped which maintains a rural setting for the buildings of the community. The tree-lined streets in the village and residential areas complete this scene.

These varied landscapes form the areas of visual interest in Willsboro. Each individual geographic area, on the basis of similar development characteristics, water features, topography, and vegetation possesses a distinct visual identity. Together these landscapes comprise and shape the character of the larger community. There are six landscape areas of visual interest in Willsboro: Farm Country, Lake Shore, Mountain Forest, Lake District, River Valley, and the Peninsula.

FARM COUNTRY

Backdropped by the forested mountains of the Adirondack Region, the open agricultural lands in the southern Reber Valley provide many extensive vistas. Road corridors run through a blend of geometric patterns formed by distant mountains, cultivated fields, interspersed with modest farmsteads. It is important to preserve this open space in order to maintain the many distant views in this area.

LAKE SHORE

The irregularity of the shoreline is uncommon to most Lake Champlain communities. This gives Willsboro an interesting array of geological and ecological features which enhance its visual character and the quality of its visual impact.

DESCRIPTION OF WILLSBORO'S SURFACE WATER RESOURCES

There are 4 natural ponds and lakes in Willsboro, 37.3 miles of streams and rivers, 23.6 miles of undeveloped lake shoreline and 5.8 miles of developed lake shoreline. Hydrologic Data on the important water bodies in the town is as follows.

Lake Champlain Watershed:

Lakes	Area	Maximum Depth	Classification
Long Pond	286 ac.	20'	AA
Warm Pond	126 ac.	90'	CT
Lake Champlain	436 sq. mi.	400'	AA,A
Willsboro Bay	NA	154'	AA

Streams	Distance	Average Width	Classification
Big Brook	2.3 mi.	5'	BT
Brandywine Brook	1.7 mi.	2'	D
Shanty Brook	1.9 mi.	4'	AAT

Bouquet River Watershed:

Streams	Distance	Average Width	Classification
Bouquet River	6.4 mi.	48'	D,C,A,
No. Branch Bouquet R.	4.5 mi.	25'	CT
Reber or Cold Brook	3.6 mi.	6'	CT

The Water Resource Inventory Map shows the location of these lakes, streams and their drainage patterns, as well as their water quality classification.

WATER QUALITY CLASSIFICATIONS

To protect the existing use of privately owned waters, the Department of Environmental Conservation (D.E.C.) enforces a set of standards governing the quality and purity of the waters of New York State. The classifications of Willsboro's waters, according to these standards, is based on current and potential usage of the water:

AA - for use as a water supply without treatment
A - for use as a water supply with treatment
B - for primary contact recreation (swimming)
D - intermittent streams, poor quality, industrial or agricultural usage, or no data available
T - Trout-inhabited water

WATER RESOURCES

The surface and ground waters of Willsboro are of primary importance to members of the community. Historically, the surface waters have been employed for a variety of social and economic uses. Its waterways have served as transportation routes, as irrigation sources for dairy farms, as a supply for industries and as sources of drinking water. Today these water bodies provide a wide variety of recreational, social and economic opportunities.

Equally important, though not visually obvious, are Willsboro's ground water supplies. Since these are utilized by some Town residents for drinking or domestic uses, ground water availability is an important locational requirement for development.

The direction of flow for all surface and ground waters in Willsboro determines its watersheds. A watershed is defined by the topography which governs the path that runoff will follow and includes the main water body's uplands, shorelands, and adjacent wetlands. Within this drainage pattern, a continuous system of interaction, called the hydrologic cycle, takes place.

HYDOLOGIC CYCLE

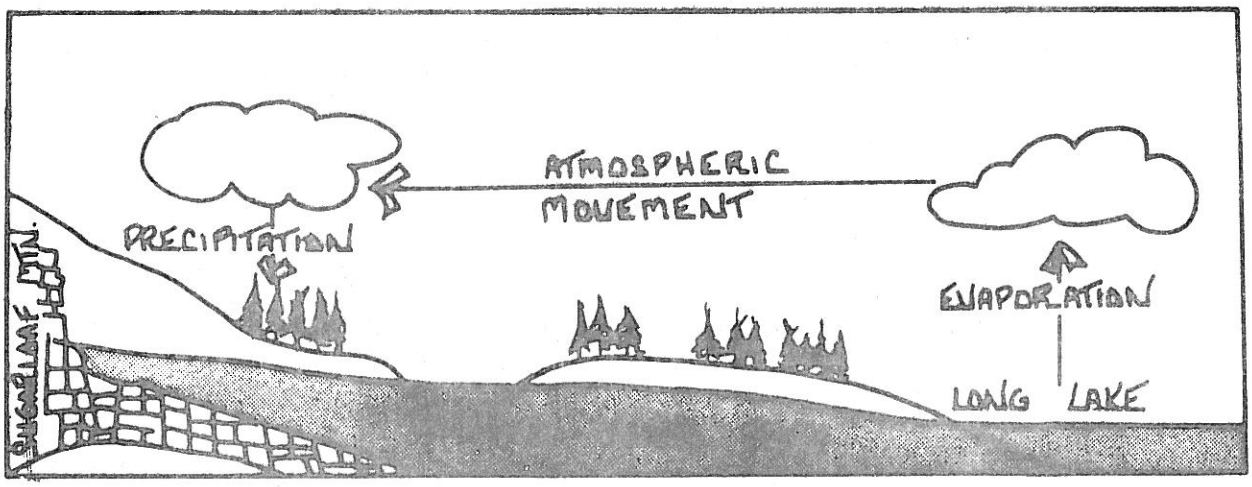


TABLE 2 - SOIL LIMITATIONS AND INTERPRETATIONS FOR LAND USE

Soil No.	Soil Association	Limitations for On-Site Sewage disposal		Limitations for Community Development		Good Sources of			Woodland Suitability	Recreation Limitations	Agricultural Limitations
		Degree	Reason	Degree	Reason	Sand	Gravel	Road Fill			
28	VERGENNES-KINGSBURY										
	VERGENNES	SEVERE	SLOW PERM.	SEVERE	TOO CLAYEY				FAIR CLAY	SEVERE CLAY	MODERATE II EROSION
	KINGSBURY	SEVERE	PROLONGED WETNESS	SEVERE	WETNESS				FAIR	SEVERE WETNESS	SEVERE IV WETNESS
29,30,31	WINDSOR	SLIGHT	--	SLIGHT	--	*		*	POOR	MODERATE TOO SANDY	MODERATE III SANDY
33,34	COLTON	SLIGHT	--	SLIGHT	--	*	*	*	POOR	SURFACE TEXTURE	MODERATE III SANDY
35	ALLUVIAL LAND	SEVERE	FLOODING	SEVERE	FLOODING				POOR EXCESSIVE WETNESS	SEVERAL FLOODS	SEVERE VI WETNESS
36	RUMNEY-SALO										
	RUMNEY	SEVERE	FLOODS WETNESS	SEVERE	FLOODS WETNESS				FAIR WETNESS	SEVERE WETNESS	MODERATE III WETNESS
	SALO	SEVERE	FLOODS WETNESS	SEVERE	FLOODS WETNESS				POOR	SEVERE WETNESS	SEVERE VI WETNESS
37	CARLISLE-PALMS										
	CARLISLE	SEVERE	PROLONGED HIGH WATER TABLE	SEVERE	WETLANDS FLOODS				SEVERE WETNESS	SEVERE WETNESS	SEVERE WETNESS
	PALMS	SEVERE	WETNESS FLOODS	SEVERE	WETNESS				SEVERE WETNESS	SEVERE WETNESS	SEVERE VII WETNESS
40,41,42	ROCK OUTCROP-CANAAN										
	ROCK OUTCROP	SEVERE	DEPTH TO BEDROCK	SEVERE	DEPTH TO BEDROCK				POOR DEPTH TO BEDROCK	SEVERE DEPTH TO BEDROCK	SEVERE VII DEPTH TO BED-
	CANAAN	SEVERE	DEPTH TO BEDROCK	SEVERE	DEPTH TO BEDROCK				POOR DEPTH TO BEDROCK	MODERATE BOULDERS	ROCK SEVERE- VI BOULDERS
22	ELMWOOD-SWANTON										
	ELMWOOD	SEVERE	SLOW PERM. WETNESS	SEVERE	WETNESS FROST ACTION				FAIR	SLIGHT	SLIGHT II
	SWANTON	SEVERE	SLOW PERM.	SEVERE	WETNESS FROST ACTION				POOR	SEVERE WETNESS	MODERATE III WETNESS

TABLE 2 - SOIL LIMITATIONS AND INTERPRETATIONS FOR LAND USE

WILLSBORO

Soil No.	Soil Association	Limitations for On-Site Sewage Disposal: Degree	Limitations for On-Site Sewage Disposal: Reason	Limitations for Community Development: Degree	Limitations for Community Development: Reason	Good Sources of: Sand	Gravel	Roads	Woodland Suitability	Recreation Limitations	Agricultural Limitations
1	AMENIA-NELLIS										
	AMENIA	MODERATE	SEASONAL WETNESS SLOW PERM	SEVERE	WETNESS				GOOD	SLIGHT	SLIGHT II EROSION HAZ.
	NELLIS	SEVERE	SLOW PERM.	SLIGHT	---				GOOD	SLIGHT	MODERATE III EROSION HAZ.
6	HERMON	MODERATE	LG. STONES	MODERATE	BOULDERS				POOR SAND&BOULDER	MODERATE BOULDERY	SEVERE VI BOULDERS
9	BECKET	SEVERE	SLOW PERM.	SLIGHT	---				FAIR BOULDERS	SLIGHT	SEVERE VI BOULDERS
17,18	PARISHVILLE	SEVERE	SLOW PERM.	MODERATE	WETNESS				FAIR	SLIGHT	MODERATE III EROSION HAZ.
19	RIDGEBURY-WHITMAN										
	RIDGEBURY	SEVERE	SLOW PERM.	SEVERE	WETNESS				FAIR	SEVERE WETNESS	SEVERE VI BOULDERS
	WHITMAN	SEVERE	WETNESS SLOW PERM.	SEVERE	WETNESS				POOR	SEVERE WETNESS	SEVERE VII BOULDERS
20,21	CANAAN-ROCK OUTCROP										
	CANAAN	SEVERE	DEPTH TO BEDROCK	SEVERE	DEPTH TO BEDROCK				POOR DEPTH TO BEDROCK	MODERATE BOULDERS	SEVERE VI BOULDERS
	ROCK OUTCROP	SEVERE	DEPTH TO BEDROCK	SEVERE	DEPTH TO BEDROCK				POOR DEPTH TO BEDROCK	SEVERE DEPTH TO BEDROCK	SEVERE DEPTH TO BEDROCK VII
23	KINGSBURY-COVINGTON										
	KINGSBURY	SEVERE	PROLONGED WETNESS	SEVERE	WETNESS				FAIR	SEVERE WETNESS	SEVERE IV WETNESS
	COVINGTON	SEVERE	WETNESS SLOW PERM.	SEVERE	WETNESS FROST ACTION				SEVERE WETNESS	SEVERE WETNESS	SEVERE IV WETNESS
24	LIVINGSTON	SEVERE	PROLONGED HIGH WATER TABLE	SEVERE	WETNESS				POOR	SEVERE WETNESS	SEVERE IV WETNESS
26	SCARBORO	SEVERE	WETNESS	SEVERE	WETNESS	*			POOR	SEVERE WETNESS	SEVERE V WETNESS
27	SWANTON-WHATLEY										
	SWANTON	SEVERE	SLOW PERM WETNESS	SEVERE	WETNESS FROST ACTION				POOR	SEVERE WETNESS	MODERATE III WETNESS
	WHATLEY	SEVERE	WETNESS	SEVERE	FROST ACTION WETNESS				POOR	SEVERE WETNESS	SEVERE V WETNESS

TABLE 1 - SOIL CHARACTERISTICS

Soil No.	Soil Association	% Assoc.	Depth to Bedrock	Depth to seasonal high water	Permeability of Soil horizon A	B	C	*	Parent material	Drainage	Stoniness	Erosion Potential
28	VERGENNESS-KINGSBURY								LACUSTRINE			
	VERGENNESS	40	> 5 FT	1-3 FT	0-6 <2	6-29 <.06	29-40 <06			WELL		MODERATE
	KINGSBURY	30	> 4 FT	1/2-1/2	0-8 .2-6	8-28 .06-.2	28-40 <06			POOR		HIGH
29,30,31	WINDSOR	75	> 5 FT	> 6 FT	0-2 6-20	2-20 6-20	20-60 6-20	*	GLACIAL OUTWASH ON TERRACES	EXCESSIVELY		LOW
33,34	COLTON	70	> 5 FT	> 6 FT	6-00 >6	8-22 >6	22-50 >20	*	GLACIAL OUTWASH ON TERRACES	EXCESSIVELY	COBBLE-STONE	LOW
35	ALLUVIAL LAND	70	-	-	-	-	-		FLOOD PLAINS	VERY POORLY		HIGH FLOOD PLAIN
36	RUMNEY-SACO								ALLUVIAL			
	RUMNEY	40	> 5 FT	0-1 1/2	0-10 .6-6.0	10-28 2.0-6.0	28-40 6.0-20.0			POOR		MEDIUM
	SACO	30	> 5 FT	0-1/2	0-12 .6-2.0	12-30 .6-2.0	30-60 .6-2.0			POOR		MEDIUM
37	CARLISLE-PALMS								ORGANIC MATERIAL			
	CARLISLE	50	> 5 FT	0-1	0-66 6.-20.					VERY POORLY	-	LOW
	PALMS	30	> 5 FT	0-1	0-35 6.0-20.0	35-60 .6-2.0				VERY POORLY		LOW
40,41,42	ROCKOUTCROP-CANAAN								GLACIAL TILL ON BEDROCK UPLANDS			
	ROCK OUTCROP	35	0	0	-	-	-			WELL	ROCK	
	CANAAN	30	10-20IN	>6 FT	0-9 2.0-20.0	9-17 2.0-20.0				WELL	VERY BOULDERY	MEDIUM
22	ELMWOOD-SWANTON								LACUSTRINE			
	ELMWOOD	40	> 5 FT	1-3 FT	0-8 .6-6.0	8-25 2-6.0	25-40 <.06			WELL		MEDIUM
	SWANTON	25	> 5 FT	0-1/2FT	.6-6.0	.6-6.0	<.2			POORLY		MEDIUM

* -Permeability of Soil horizon: The first 3 columns refer to the layers of mineral soil below the surface beginning with the first layer or "A" horizon. The numbers on the top indicate the depth of the soil horizon from the surface. The numbers on the bottom indicate the rate water moves through the soil expressed in inches per hour. The fourth column, "*", refers to the quality of the soil as a potential ground water recharge area. The soil is starred if it has permeability of 6 inches per hour or greater through all soil horizons. -Consult the soil report for more details.

TABLE 1 - SOIL CHARACTERISTICS

Soil No.	Soil Association	% Assoc.	Depth to Bedrock	Depth to seasonal high water	Permeability of Soil horizon A	B	C	*	Parent material	Drainage	Stoniness	Erosion Potential
1	AMENIA-NELLIS								GLACIAL TILL ON UPLANDS			
	AMENIA	40	> 4 FT	1-2FT	0-14 .63-2.0	14-28 .63-2.0	28-48 .20-.63			MODERATE		MODERATE
	NELLIS	30	> 4 FT	> 3FT	0-7 .63-2.0	7-23 .63-2.0	23-40 .20-.63			MODERATE		MODERATE
6	HERMON	70	> 5 FT	3-6FT	0-22 2.0-6.3	22-60 6.3-20.0			GLACIAL TILL ON UPLANDS	EXCESSIVE	VERY BOULDERY	LOW
9	BECKET	65	> 3 1/2FT	> 3FT	0-20 .63-2.0	20-60 > .20			GLACIAL TILL ON UPLANDS	WELL	VERY BOULDERY	LOW
17,18	PARISHVILLE	65	> 4 FT	> 3FT	0-24 .6-2.0	24-60 06-2			GLACIAL TILL ON UPLAND PLAINS	WELL	VERY STONY	LOW
19	RIDGEBURY-WHITMAN								GLACIAL TILL ON UPLANDS			
	RIDGEGUPY	35	> 5 FT	0-1/2FT	0-6 .6-6.0	0-16 .6-6.0	16-42 < .6			POOR	BOULDERY	MEDIUM
	WHITMAN	30	> 5 FT	0-1/2FT	0-8 .6-6.0	0-15 .6-6.0	15-30 < .6			VERY POORLY	BOULDERY	MEDIUM
20,21	CANAAN-ROCK OUTCROP								GLACIAL TILL ON UPLANDS			
	CANAAN	40	0-20 IN.	> 6FT	0-9 2.0-20.0	9-17 2.0-20.0				WELL	VERY BOULDERY	MEDIUM
	ROCKOUTCROP	30	0	0	-	-	-			WELL	ROCK	
23	KINGSBURY-COVINGTON								LACUSTRINE			
	KINGSBURY	40	> 4 FT	1/2-11/2FT	0-8 .2-.6	8-28 .06-.2	28-40 ≤.06			POOR		HIGH
	COVINGTON	30	> 5 FT	1/2FT	0-7 .2	7-24 ≤.06	24-45 < .06			POOR		HIGH
24	LIVINGSTON	65	> 3 1/2FT	AT SURF.	0-24 .06-.0	24-60 ≤.60			LACUSTRINE	VERY POORLY		HIGH
26	SCARBORO	70	> 5 FT	0-1FT	0-6 .2-.6	6-28 >6.0	28-50 >6.0		LACUSTRINE	VERY POORLY		LOW
27	SWANTON-WHATLEY								LACUSTRINE			
	SWANTON	40	> 5 FT	0-1-1/2FT	0-6 .6-6.	6-21 .6-6.	21-48 < .2			POOR		MEDIUM
	WHATLEY	25	> 5 FT	0-1	0-20 .6-6.	20-40 ≤2				POOR		MEDIUM

surface soil texture, and coarse fragments on the soil surface.

AGRICULTURAL SOILS

The most widely used soil interpretation is the land-capability classification, designed primarily for agricultural purposes. Soils are grouped into one of eight classes according to what they are capable of producing, the risk of erosional damage, water management problems, and response to treatment (fertilizer, tilling, etc.).

Willsboro's soils have been grouped in the following agricultural soil classes:

Class II: Soils with some limitations that reduce the choice of plants or require moderate conservation practices.

Class III: Soils with various limitations that reduce the choice of plants or require moderate conservation practices, or both.

Class IV: Soils with very severe limitations that restrict the choice of plants, require special conservation practices with careful management or both.

Class V: Soils with limitations impractical to remove without major reclamation. Use limited largely to pasture, woodland or wildlife.

Class VI: Soils with very severe limitations that make them generally unsuited for cultivation. Generally suited to pasture, woodland or wildlife.

Class VII: Soils with extreme limitations. Restricted to woodland, wildlife or specially-managed pasture.

This information is useful to such other organizations as home builders, engineers, recreation officials, highway departments, assessors, water departments, contractors and utility companies.

Soil Characteristics for Community Development	Slight	Moderate	Severe
Depth to Seasonal High Water Table	> 4'	1.5 to 4'	< 1.5'
Depth to Bedrock	> 5'	3.0 to 5'	< 3.0'
Stoniness	Little Surface Stoniness	Slightly Rocky	Very Rocky
Flood Potential	None	Slight	Severe

STANDARDS FOR OTHER SOIL USES

Suitability as a source of sand, gravel and roadfill:

To qualify as a probable source, the layer of sand and/or gravel must be at least three feet thick. Soft materials, such as shale or siltstone, are not considered as sand or gravel in these interpretations.

The three-foot thickness need not be entirely in the uppermost 5 or 6 feet, but a good percentage of the sand and gravel must occur there to be rated as a suitable source for sand, gravel and roadfill.

The roadfill rating reflects how well a soil performs after it is removed from its original location and placed in a road embankment elsewhere. This interpretation is restricted to local roads with embankments less than 6 feet and assumes that adequate drainage is installed to prevent frost upheaval. Soil properties considered include shrink-swell potential, slope, stoniness, rockiness, and soil drainage class.

Suitability for Woodlands:

The woodland productivity of each soil association--rated good, fair, poor--is based on indicator tree species. Soil problems affecting management are excessive stones, wetness, shallow soil depth, clayey or sandy texture.

Suitability for Recreation:

Soil properties imposing limitations to use as picnic and play areas, camp areas, paths and trails are depth to seasonal high water table, flood hazard, slope, surface stoniness, permeability,

roads, their use as sand, gravel and roadfill, their woodland suitability, and suitability for recreation. Agricultural soils are also identified and evaluated since they are important to the local economy. Two Soil Interpretation Maps predict the soils' ability to support septic systems and community development. The most limiting characteristic of each soil association is used to determine its rating on each map. For instance, a soil association may have slight limitations for a foundation for a building, but may have severe limitations for septic systems. One of three relative limitation ratings (slight, moderate, or severe) are assigned each soil association.

Slight: Limitations are easily overcome and maintenance minimized.

Moderate: Limitations need to be recognized, but can be overcome with planning, design, or maintenance. Suitability may vary with changing seasons.

Severe: The soil has one or more unfavorable properties. Limitations are difficult and costly to modify, requiring major soil reclamation, blasting, special design or intense maintenance.

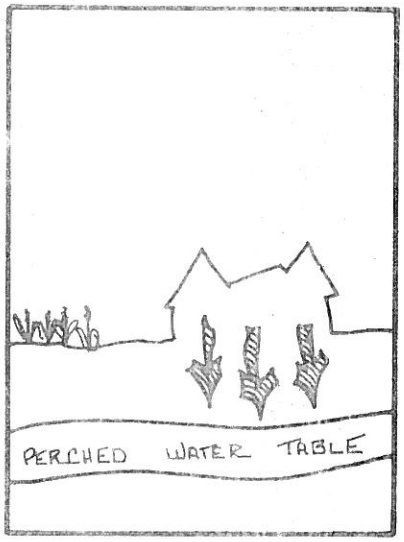
The following charts explain the criteria used to determine the ratings on the Soil Interpretation Maps:

Soil Characteristics for Septic systems	Slight	Moderate	Severe
Depth to Seasonal High Water Table	> 4'	1.5 to 4'	< 1.5'
Depth to Bedrock	> 7'	4.0 to 7'	< 4.0'
Stoniness	Little Rock Outcropping	Slightly Rocky	Very Rocky
Flood Potential	None	Slight	Severe
Permeability (in./hr.)	1"/hr.	.63" to 1"	< .63"

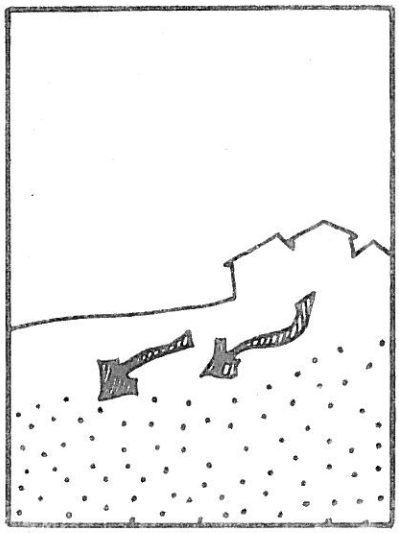
Slope and soil are closely related to suitable use of soil for septic systems.

CONDITIONS

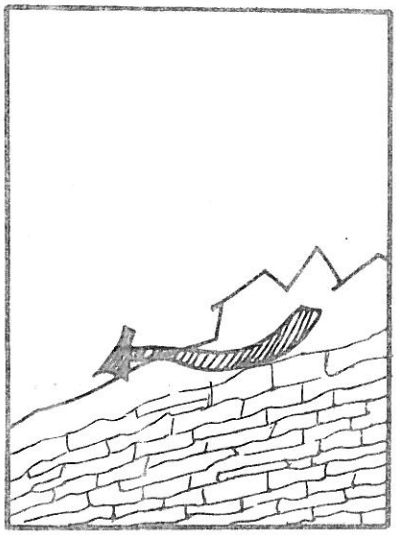
SLOPE : Too flat (0-3%)
SOILS : Dense (Clay)



SLOPE : Slight (3-8%)
SOILS : Mixture of clay and sand



SLOPE : Too steep (>25%)
SOILS : Shallow depth to bedrock (<4')



RESULTS

Poor drainage and treatment of effluent

Good drainage and proper purification of effluent

Effluent may emerge onto surface and not treated properly

The soil limitations and interpretations for land use in Table II rates the soil associations according to their ability to absorb effluent from septic systems, their ability to support basements and

DEFINITIONS FOR SOIL CHARACTERISTICS (TABLE 1)

Soil No.: A number is assigned to each soil type as located and keyed on the Soil Inventory Map.

Soil Association: Name of dominant and co-dominant soil types found in the delineated landscape area.

Percent Association: Estimate of the proportion that each soil type makes up in the landscape area. Minor soil types make up the remaining percentage of soils not listed. An example is # 4, Berkshire - Dixmont Association, where Berkshire comprises 40%, Dixmont 20% and minor soils 40% of the landscape area.

Depth to Bedrock: Depth of soil from the surface of the ground to the highest level of solid rock underlying the soil and other consolidated material.

Permiability: The rate of flow water passes through the soil, expressed in inches per hour.

Parent Material: Identifies the type and method of geologic origin of the soils.

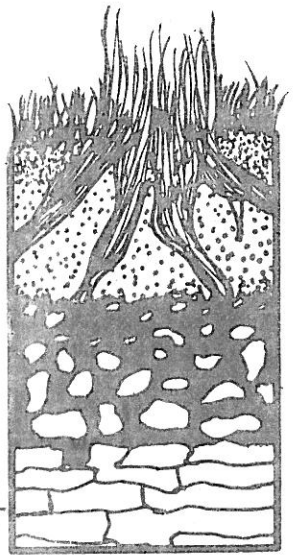
Drainage: Indicates the frequency and duration the soil is saturated with water. There are 7 drainage classes from excessively drained to very poorly drained.

Stoniness: Indicates the size and frequency of rock fragments in the soil greater than 10 inches in diameter.

Erosion Potential: Susceptibility of soil particles to be moved by running water.

Depth to Seasonal High Water: Depth of soil from the surface of the ground to the highest level where the soil is saturated with water during wet periods of the year.

SOILS



The degrees of soil decomposition are called SOIL HORIZONS

SOIL INVENTORY

Geology, climate and plant life are among the major influences which make soils different. For Willsboro's planning process, the Soil Conservation Service (S.C.S.) analyzed the composition of the soil to a depth of 5 feet. At the meso-intensity level of accuracy--i.e., identification of areas greater than 40 acres, the scale most commonly employed for town planning--the land is divided into units, or soil associations, which are numbered on the Soil Inventory Map. A soil association may contain more than one soil type, but is named by the dominant type. Basing this information on geology, vegetation, topographic maps, aerial photo interpretations, and limited field surveys, the soil scientist predicts the character of the soils in the area. For instance, a feature of the Livingston soil association is a prolonged high water table. For specific site review, potential soil opportunities and problem areas on a small parcel of land would require further field investigation.

Soil properties--particle size (sand, silt, gravel), depth, drainage capability--do not function independently of each other. Use of soil for buildings with basements depends upon the soils' ability to compact and to drain water, which is related to particle size and depth of soil. Use of soil for septic systems depends upon the ability to drain water which is related to particle size and moisture content of the soil horizons.

Table 1, in the Appendix, describes the characteristics by which Willsboro's major soil associations are inventoried.

ANALYSIS

Each slope category may be interpreted, generally, in terms of its degree of limitation for development and land use.

Land with 0-3% slope is generally free of limitations, although there may be problems. In areas of poorly drained soil, surface water may not run off or percolate properly. Frost pockets are a common characteristic of low-lying land on slight slopes. Wetlands and flood plains are usually found in areas of this slope category.

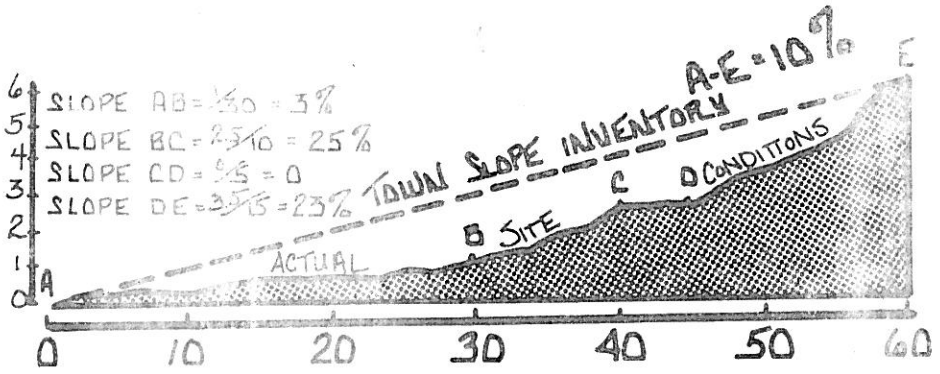
Areas with a 3-8% slope are most suited topographically for development.

Generally, slopes with an 8-15% grade are acceptable for development. However, some problems may arise as the slope increases, including difficulties with road and driveway construction, installation of sewage disposal facilities, soil erosion, increased construction cost and storm water runoff. These limitations can usually be overcome with careful site planning.

Land areas containing 15-25% slope present considerable development limitations which can be overcome, but at considerable expense to the developer, adjoining property owners, the town, and the environmnet. Some of the problems encountered include access to areas with steep slopes, soil erosion, malfunctioning septic systems, increased requirements for cut and fill operations and vegetative cutting.

Slopes greater than 25% present the same problems, but more seriously than lesser slopes.

However, to analyze slope conditions on an individual site, one would use a more appropriately scaled map--i.e., 1" = 50'; 1" = 100', etc.; with a 5' or 2' contour interval.



The best slopes for development, taking into consideration drainage, soil depth and texture, and distance from water, are about 3-12%.

THE LAY OF THE LAND IN WILLSBORO

For the purposes of Willsboro's planning program, slopes were grouped into categories of 0-3%, 3-8%, 8-15%, 15-25%, and greater than 25% slopes. The Willsboro Peninsula is characterized by varying slopes: steep slopes are found on the east coast and moderate slopes along the northern and western shoreline as well as in the interior of the peninsula.

The mountainous region, located in the northwest and central western sections of the town consists primarily of steep slopes. The 15-25% range predominates in this region with areas of slope 25% and over. Slopes in excess of 25% seem to occur, generally, as one approaches the higher elevations in the vicinity of Rattlesnake Mountain (elevation: 1285 ft.) and Sugarloaf Mountain (elevation: 1467 ft.).

The agricultural areas in the town contain gentler slopes, in the 3-8% range, interspersed with a few steep areas.

The eastern shoreline along Lake Champlain is characterized by moderate slopes in the 3-15% range. The slopes along the river corridor of the North Branch of the Bouquet vary greatly although they are steep in nature.

A house located on a moderate slope (8-15%) would eliminate most slope-related concerns, greatly reducing expense and effort.

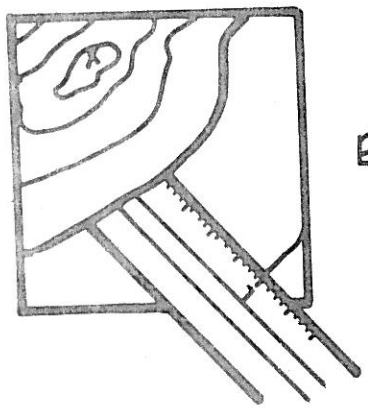
INVENTORYING SLOPE

In a planning inventory, slope is given as a percentage. If the land rises 10 feet in elevation over a horizontal distance of 100 feet, the slope of the land is 1/100, or 10%. A typical stairway, with a 7-foot rise over 10 feet, is 70%; roads are generally sloped 1-2%.

$$\frac{\text{RISE}}{\text{RUN}} \times 100 = \%\ \text{OF SLOPE}$$

For convenience in a town-wide plan, slopes are averaged and placed in categories of 0-3%, 3-8%, 8-15%, 15-25%, and greater than 25%. These are delineated on a topographic map with a scale of 1 inch equals 2000 feet and a 20-foot contour interval.

SCALE 1" = 2000'
RUN = 2000'
RISE = 20'



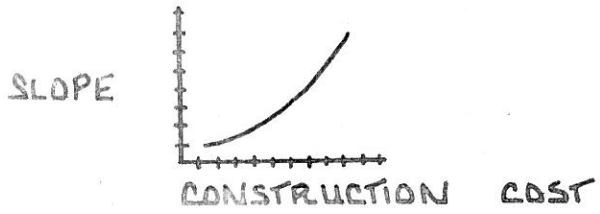
EACH TOPOGRAPHIC LINE = 20'

$$\frac{\text{RISE}}{\text{RUN}} = \frac{20'}{2000'} \times 100 = 1\%\ \text{SLOPE}$$

WHY CONSIDER SLOPE

Respecting the lay of the land by carefully preserving its virtues or only slightly changing a natural area, one can reveal and enhance the special qualities of a site. Suppose a person wanted to build a house in the Bouquet River Corridor. The Bouquet traverses a variety of elevations from steep banks to shallow plains, offering an opportunity for future development to take advantage of the magnificent views and still enhance the visual quality of the area.

The consideration of developable slope must take into account the slope's effects on drainage, soil stability, and other natural resources. Although site design,engineering,and construction techniques are available to minimize physical limitations, the construction and environmental costs may be prohibitive. The amount of vegetative clearing, soil excavation required for proper foundation, and site work (equipment moving)increases as slope increases.



A house set high on one of the steep bank cuts invites a variety of problems. A characteristic of Adirondack slopes is thin, rocky soil--a major deterrent to road-building, foundation stability, and proper septic disposal. A septic system must have a moderate filter rate and ground water recharge rate.

A house located in a swale may disrupt the natural drainage pattern and cause problems in locating drinking water, placing septic systems, wet basements, and sagging foundations.

Access to either of these sites may cause problems, as driveways should be inclined no more than 12% and should avoid steep roadcuts.

increased the number of cows and total milk products. This is true although the actual total number of commercial farms has decreased in the area.

The annual dollar valuation of primary agricultural activities in Willsboro is:

Willsboro Agricultural Dollars	1,551,950.00
Production Expenses	619,200.00
Machinery and Improvements (20%)	312,000.00
Farm Owner and Labor (Balance)	620,750.00

The small part-time and supplemental income farms are not included in the figures provided, however these farms are of significant numbers. Their role must be considered in the value of overall agricultural land use in Willsboro.[1]

The labor force population in Willsboro has decreased since 1960 from 680 individuals to 641, a 9 percent decrease. Of these persons, 594 are employed. Employment in the community is largely dependent upon the private sector. 55 percent of the labor force are private wage and salary workers; 30 percent of the remaining group were employed by the government. Traditionally, Adirondack communities greatly rely (average 25-30 percent of the labor force) upon the government as a principal employer. 15 percent of the labor force in Willsboro, a large proportion, are self-employed. Willsboro has a larger proportion of its labor force employed by government or self-employed than either Essex County or the Northern Area of New York State.

In 1970 Willsboro's employed workers were represented among a wide range of occupational groups. 19 percent of the labor force were employed as clerical workers, 18 percent as craftsmen and foremen, and 17 percent as operatives. 10 percent were employed as professional technical workers and 12 percent as service workers. Only 2.9 percent were farmers or farm management. Workers were represented by the following industries: 16.7 percent were in the retailing industry, 12 percent in the construction industry, 8 percent in manufacturing (both available and non-durable goods combined). 7.4 percent were involved in the agricultural sector, 16 percent were employed in the professional or related service group, and 16 percent in the public administration industry. The greatest decrease in activity for Willsboro residents was in the manufacturing industry--30.5 percent in 1960, dropping to 8 percent in 1970. 6.6 percent were associated with the mining industry.

[1]Source: The data presented is secured from Agricultural Stabilization and Conservation Service, Cooperative Extension records, the 1974 Census of Agriculture,and Reports by the New York State Agricultural Resource Commission

ECONOMIC ANALYSIS

Willsboro is a community which exhibits a diverse economic base. This has established a strong framework for continued stability and future growth. The community possesses expansive farmlands, two industrial employers (one of which is mining related), as well as maintaining a significant seasonal-tourist population. Agriculture, manufacturing, mining, and tourism are integral elements of the Town's economic base.

The Town of Willsboro is located along the shores of Lake Champlain; the village of the community is settled along the shores of the Bouquet River. Historically, the Town relied on its water resources for an important portion of its livelihood. The waterways were a transportation source, a power source for industries, and a source of recreational activity. These waters provided the fertile farmlands of the Reber Valley, insuring agriculture as a significant livelihood in the Town.

Today, within the Town, the largest single employers are the Interpace and Tampax Corporations.

Interpace Corporation employs approximately one-hundred workers. It is the principal supplier of the mineral Wollastonite in the United States. Willsboro is the center for the company's mining and processing operations. Interpace anticipates a 1.3 million dollar expansion of their current facility. This potential growth will aid in the stabilization and expansion of the economic base.

The Tampax Corporation has a branch plant which operates in Willsboro. The current work force consists of 100 employees. It, too, plans a gradual expansion of its work force to a maximum 250 workers.

Willsboro maintains a significant (2850 maximum) seasonal population, including both resident and transient tourist groups. With Willsboro's proximity to larger population centers, the Town could attract the one-day and week-end visitor as well as provide recreation opportunities for vacationer and seasonal resident, particularly in light of its rich historical heritage.

Willsboro's farmlands in the Reber Valley have been incorporated into an established Agricultural District in conjunction with farms in the Towns of Lewis and Essex. The Willsboro farms are an integral part of a regional and county production area, as well as an important part of the Essex-Lewis-Willsboro agricultural area. Since 1969 the Essex-Willsboro agricultural complex has actually increased the number of acres under cultivation (approximately 1000 acres) and

TABLE H4

Comparison of Housing Characteristics
Town of Willsboro, Essex County and
Northern Area; 1970 Census

	Willsboro	Essex County	N.Y. State
Percentage of housing units in 1-unit structures	82.7	78.2	40.3
Percentage of owner occupied units which are mobile homes	8.2	6.2	1.3
Percentage of persons in households with 1.01 or more persons	11.1	15.4	14.8
Percentage of occupied housing units with complete plumbing facilities	94.5	92.1	97.2

Source: Census of Housing, New York, 1970 Bureau of the Census, U.S. Department of Commerce, Washington, D.C.

RECOMMENDATIONS

1. The local government should take advantage of a federal program, The Community Development Act, which provides grants to communities which are interested in improving the quality of existing housing in the town. Funds could be used to rehabilitate commercial and residential areas of the town as well as enable public recreational areas to be established.

2. The Town Plan should reflect the differences in distribution and service needs of both seasonal residences and permanent residences. For example, seasonal residences would probably be further from the center of town and in areas of lower density than year-round housing. This implies that if the number of seasonal residents increases, then their service needs will be important. Better fire protection, police protection and highway maintenance are important to seasonal residents. On the other hand, if the number of permanent residents will be increasing, then their service needs will be particularly important. Better public schools, highway maintenance and health care are important to year-round residents.

3. Incorporate in the Town Land Use Plan and accompanying land use controls areas in the town as residential use which would facilitate more owner and rental housing.

TABLE H3

EXISTING LAND USE BY TYPE OF STRUCTURE

TOWN OF WILLSBORO, 1977

Structure Use Category	No. of Structures
All Residential	1109
Permanent Residence	634
Seasonal Residence	391
Mobile Homes	84
Commercial	
Year Round	25
Seasonal	8
Seasonal	8
Public and Semi-Public	27
Mixed Uses	25

Source: Existing Land Use Survey, Spring,1977, Adirondack Park Agency, Ray Brook, New York.

Quality of Housing

Two criteria are indicative of housing quality. First, the percentage of persons per household with 1.01 or more persons per room (overcrowding) is a significant indicator. The second one is the percentage of occupied units with complete plumbing facilities.

On the basis of these indicators, the quality of housing with respect to overcrowding is better in Willsboro than in Essex County or New York State. With respect to plumbing facilities, Essex County has better quality housing than either Willsboro or New York State. The number of houses in Willsboro with complete plumbing is higher than New York State overall.

TABLE 5

ALLOCATIONS OF PROJECTED COUNTY POPULATIONS

TO TOWNS AND CITIES, ESSEX COUNTY

	1975	1980	1985	1990	1995	Change 75-80	80-85	85-90	90-95
Willsboro	1,752	1,804	1,858	1,921	1,994	1.030	1.030	1.034	1.038
Essex County	35,880	37,039	38,255	39,668	41,105	1.053	1.052	1.056	1.060

	1970	1980	% Change
New York State	18,241,266	18,350,000	0.6%

1980	1990	% Change
18,350,000	18,977,000	0.3%

1990	2000	% Change
18,977,000	19,456,000	2.5%

Source: U. S. Census Bureau, N.Y.S. Economic Development Board

* A cohort survival projection for each county was allocated to municipalities within the county on a ratio basis.

TABLE P4

POPULATION: 3 TO 4 YEARS OLD ENROLLED IN SCHOOL

Nursery School Through Elementary	-	335
High School	-	135
College	-	25
Total	-	496

Source: U.S. Census of Population, New York, 1970; Bureau of the Census, U.S. Department of Commerce, Washington, D.C.

SEASONAL POPULATION

An important sector of the town population is its seasonal population. While the projected growth for Willsboro appears to be within the town's ability to accommodate increases, seasonal residents have not been included in the year round figures. This sector of the population can also place significant demands on community services and affect land use.

The seasonal population consists of four groups: (1) transients and day visitors, (2) tourists who use overnight accommodations, (3) seasonal residents, (4) and campers in group campsites.

It is estimated that Essex County will increase its seasonal population from 35% to 50% between 1980 and the year 2000. It is expected that Willsboro will experience some substantial seasonal growth as part of this increase. Currently, the average seasonal resident population is 1129 individuals. The maximum seasonal population is twice this number, or 2850 persons, according to the Lake Champlain--Lake George Seasonal Population Growth Study.

POPULATION PROJECTIONS

Population projections for Essex County and Willsboro through the year 2000 are reflected in Table 5. As compared with state figures, Willsboro and Essex are projected to grow at a very slow rate. The loss of people has been a statewide phenomenon according to the U.S. Census Bureau. They indicate that as of July, 1975, New York State has an unprecedented decline of 140,000 persons since 1970. Therefore, Willsboro seems to have been growing contrary to this statewide trend.

POPULATION DECREASE 1960 - 1970

In 1960, the population of Willsboro was 1,716. Tables P2 and P3 illustrate the fact that the decrease to 1,688 was due to migration. Natural increase (births and deaths) accounted for an increase of 128 persons, which means 206 persons moved out of the town during this period.

The age - sex distribution for residents in Willsboro in 1970 is illustrated in Table P4. This table illustrates not only that there are more males than females in the town, but also the various age groups, except for those enrolled in school, are shown by level in Table P5. The population in the town since 1960 has tended representative of Essex County as a whole. There are more individuals in Willsboro in the 5 - 14 age groups. The medial age is comparable to the County's and has risen since 1960. Also, the number of persons in the 65 and over age group has increased in the last ten years. It is the age group category 55 - 64 and 65+ is comprised almost exclusively of retired persons and senior citizens which live for the most part on fixed incomes.

TABLE P 3

POPULATION BY AGE AND SEX - 1970

Age	Male	Female
0 - 4	73	78
5 - 14	194	187
15 - 24	105	96
25 - 34	93	103
35 - 44	79	94
45 - 54	99	85
55 - 64	96	98
65 +	42	116
Total	831	857

TABLE P1

NATURAL INCREASE IN POPULATIONS 1960-1974

Year	Recorded Live Births	Recorded Deaths	Net Gain
1960	40	21	19
1961	39	21	18
1962	52	19	33
1963	39	17	22
1964	49	24	25
1965	31	19	+12
1966	30	29	+ 1
1967	37	17	+20
1968	24	19	+ 5
1969	28	15	+13
1970	24	24	0
1971	20	21	- 1
1972	18	26	- 8
1973	19	23	- 4
1974	22	6	16

TABLE P2

Population Change 1960-1970

Essex County Towns

1960 Willsboro Population	1,716
Natural Increase	178
1970 Willsboro Population	1,688
Out-Migration	206

Sources: U.S. Census of Population, New York, 1960 and 1970; Bureau of the Census, U.S. Department of Commerce Washington, D.C.; New York State Department of Health.

POPULATION ANALYSIS

Population characteristics are important aspects of a community's socio-economic structure. This analysis may aid the planning board to develop provisions in the town plan which will satisfy present and future population needs.

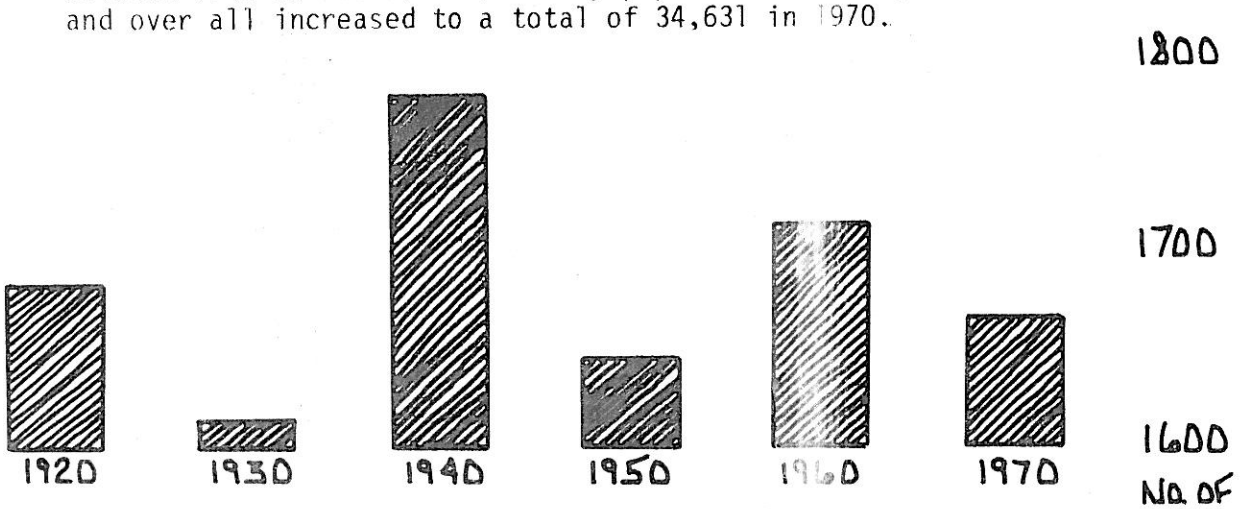
This analysis determines the composition of the population in terms of permanent and seasonal residents; it examines changes in the population due to natural growth or migration. Historical population trends are examined and future population growth projected. Population projections are important in determining whether or not the community is capable of supporting anticipated growth. The cost of providing public services to new residents is a major consideration in determining how much growth existing facilities can accommodate and the amount of growth the community should encourage.

PERMANENT POPULATION

Willsboro is a rural community. The majority of its population is located in Willsboro Hamlet and Willsboro Pennisula. During the past thirty years, the population has had a net decrease of 92 residents from 1,780 persons in 1940 to 1,688 in 1970. These figures represent a net decrease of 5.1 percent. The largest decrease in the population during this entire period was between 1940 and 1950 when there was 7.5 percent decrease from 1,780 residents to 1,646 residents.

Since that time, the population has experienced a trend of variable numbers. In 1950, Willsboro had a permanent population of 1,646. During this decade the population increased 4.2 percent, bringing the 1960 population figure to 1,716 persons. The population decreased again during the 1960 - 1970 decade from 1,716 persons to 1,688, a 1.6 percent decrease.

Essex County as a whole experienced a net gain in population between 1940 and 1970. The County population was 34,178 in 1940 and over all increased to a total of 34,631 in 1970.



POPULATION TRENDS 1920 - 1970

Although Willsboro is not a rapidly growing Town, it has maintained a stable level of population and economic activity. The expansion of the two industries in the Town may indicate some level of incremental growth. At a minimum, the Town will maintain its present level of use. It is clear there is no single dominate land use which characterizes the Town. The Use of the land in Willsboro and the community character it fosters is a diverse one. Most of the land areas of the Town are currently undeveloped and in terms of the number of principal buildings in private lands under the Adirondack Park Private Land Use and Development Plan, the Town has reached only 22% of its development potential.

The present land use pattern in Town will continue and to a large extent establish the frame for future growth. Future growth and land use in the Town should seek to maintain those present land uses in the Town and encourage the development of and growth of uses compatible with the resources of the Town.

EXISTING LAND USE SUMMARY

Town of Willsboro

1977

Residential Uses	
Permanent Units	634
Seasonal Units	391
Mobile Homes	84
Mixed Use	25
Residential and Commercial	
Residential and Public	
Residential and Semi-public	
Commercial Uses	33
Year-round	25
Seasonal	8
Industrial Uses	11
TOTAL	1211

Source: Metcalf and Eddy, 1970
APA Existing Land Use Survey, 1977

ADIRONDACK PARK LAND USE AND DEVELOPMENT PLAN FOR PRIVATLEY OWNED LANDS

CATEGORIES AS RELATED TO THE TOWN OF WILLSBORO

Adirondack Park Land Use Area	Area (Acres)	Percent of Total Acreage	Density Standard (Acres per Building)	Total Buildings Allowed Under Park Plan	Existing Buildings	Potential or New Buildings under Park Plan	Percent of Total Allowable Buildings now in Existence
Hamlet	1,255	4.7%	*	*	395	*	*
Moderate Intensity	2,600	9.8%	1.3	2,005	460	1,640	23.0%
Low Intensity	5,215	19.7%	3.2	1,629	191	1,482	11.7%
Rural Use	3,585	13.5%	8.5	421	55	401	13.0%
Resource Management	13,775	52.1%	42.8%	322	94	318	29.1%
Total Private Lands	26,430	100%		4,372	1,195	3,841	27.0%

* No density guidelines exist for Hamlet areas.

Source: Regional Existing Land Use Inventory, 1977

According to the Existing Land Use,growth in the residential community has occurred in the permanent year-round sector by 22 percent. Growth has occurred among seasonal residences but only by an 8 percent increase. This phenomenon may require the attention of the Town Planning Board to insure and evaluate the type and level of services available to new residents. Specific planning policies may be undertaken to meet this changing,growing status of the population and their housing units in the community.

There are 33 commercial uses in Willsboro; 25 are year-round establishments, including stores, repair and equipment shops, restaurants, and accomodations. The 8 commercial establishments which are seasonal are mainly fast-food or small restaurants,or summer visitor accommodations open only part of the year. According to the Community Information and Opinion Survey conducted by the Planning Board, over 40 percent of the respondents shopped in other places for all goods except drugs and medicines, which were bought in Willsboro. Most residents sought professional services (lawyers, bankers, insurance companies) within the Town of Willsboro.

Public and semi-public uses in Willsboro include the school library, Town hall, fire department, the post office, and the Town garage, as well as community cemeteries. There are 27 public/semi-public uses in the community. Most public facilities and services were rated favorably in the Community Opinion Poll.

The industrial uses include 2 major industrial employers in the community. Agriculture has also become an increasingly important land use in Willsboro. Since 1969, the number of acres involved in active agriculture has increased. This coincides with the establishment of these lands in the Reber Valley into an incorporated Agricultural District with the Towns of Essex and Lewis.

Recreational uses in the Town are limited. There is a State Boat Launch site on Willsboro Bay. This is the only public access to water ways in the entire community. In addition, the Town has completed construction of two new recreation fields just outside of the Hamlet of the Town. Since the community has a major seasonal population the Town should encourage or sponsor the development of recreational use and activity in the Town. The year-round population would also benefit by the establishemnt of more diverse recreation uses in the county.

Willsboro's location along Lake Champlain, its woodlands, open space, and agricultural lands are all significant resources which preserve and maintain the unique rural and open space character of the Town. The woodland areas in particular,as well as the Willsboro shoreline, are a potential recreational resource which could generate a significant degree of tourism and seasonal revenues to the Town.

EXISTING LAND USE

The patterns of land use in a community such as Willsboro provide information about the Town's history: where people settled and why; its present: what types of settlements currently exist; and its future: the potential and possibilities for growth which exist today. The configuration of land uses in Willsboro have changed or, in some cases, remained unchanged, to suit the needs and livelihoods of its residents.

Today, Willsboro is a moderately sized residential community located on the shores of Lake Champlain. Although the Bouquet River does not retain the economic importance that it did formerly, the village settlement remains along its banks. The configuration of land uses in the Town is diverse; a unique characteristic among communities of its size in the Adirondacks. Willsboro has both a permanent and seasonal population, which account for the over 1000 residential units in the Town, over twenty small commercial establishments, and eleven industrial uses.

The community consists of 27,392 acres of land. 17,356 acres, 62 percent of this, is woodland; wetlands comprise 294 acres and agricultural lands 4,424. 3,621 acres is open land, neither developed nor actively involved in agricultural production. The number of acres of developed land in the Town is quite small: only 1,674 acres. The acreage in Willsboro is almost exclusively privately owned land; there are two small parcels of state-owned land in the Town, comprising 23 acres.

According to the 1977 Existing Land Use Inventory, there are 1134 residential units in Town. Twenty-five of these residential uses are mixed uses, combining either a commercial, public, or semi-public use within the residential structure. The majority of housing units are centered in two settlement areas: the Hamlet of Willsboro, clustered along the banks of the Bouquet, or on Willsboro Point. There are 634 permanent, year-round residences in Willsboro. Seasonal residences occupy the majority of acres along the Peninsula. Another moderately sized seasonal community can be found settled along the shores of Long Pond. In all, there are 391 seasonal residences. The permanent population and many farmers are settled in the Reber Valley in the southern portion of the Town. The remaining units are found in the outlying areas but they occur most frequently along or nearby major roadways: Route 22, 14A, or Johns Pavillion Road in the West.

84 of the residential units are mobile homes. There is one mobile home park located on Willsboro Point. The 1970 Census accounts for approximately one-half of this number of mobile home units in the Town, as well as only 520 permanent and 362 seasonal units.

of a new fire station outside of the Main Street area.

As summer residents contemplate winterizing their second homes, the summer use roads now classed as public use will also require improvement. If this occurs, improvements can be undertaken on a use-demand basis. Since road construction and repair costs are becoming more expensive each year,the community may wish to undertake a long-range plan for paving these roads.

Public transportation serving the Town is extremely limited in type and frequency of service. The Adirondack Trailways bus service is available only during the summer season and on a year-to-year basis dependant upon demand. The bus makes one stop each weekend in Willsboro. Rail service by Amtrak is available all year round to both New York City and Montreal. The train makes two stops a day at the Willsboro Railroad Station. The nearest airports are in Plattsburgh, 30 miles away, and in Burlington, 80 miles away. Ferry service to Vermont is available during the non-winter months from Essex to the south of the Town and Plattsburgh to the north.

The only significant recreational trails are snowmobile trails. The Town intends to undertake the marking and maintenance of hiking and horseback riding trails along Willsboro Mountain, Sugarloaf, and Rattlesnake Mountains. This will help to fulfill growing demands for leisure time activities in the area. The Town should attempt to develop a Town-wide network of trails and link up with trails in neighboring towns.

Currently, there is a state boat launch site located on the Willsboro Peninsula. This is the only public water access site in the community,providing an opportunity for all residents to enjoy Willsboro Bay and Lake Champlain.

TRANSPORTATION

The principal mode of transportation in Willsboro is the automobile. The local highway system and the regional highway network of Willsboro are an important aspect of the framework within which community growth will occur.

State Route 22, which diagonally bisects the Town northwest to southeast, is the primary regional link with the local highway system. Interstate 87 (Adirondack Northway) is located 10 miles to the southwest of Willsboro Hamlet and 8 miles to the north, providing easy access to the major population centers: Plattsburgh and various Adirondack communities to the south and west. State Route 9 runs parallel to the Northway in the Town of Lewis.

Willsboro has 24.10 miles of Town roads, 22.29 miles of county roads, and 9.23 miles of state-owned highways. In addition, 4 miles of seasonal-use roads, located primarily on Willsboro Point, have been designated as "public use" roads and are also maintained by the Town. Most of these roads are not paved. All the Town roads are maintained by the Town's Highway Department and are adequate to serve the needs of a rural area. Some of them are, however, in need of re-work and repair, e.g.: various sections of the Farrell Road. Each year the Town undertakes, in addition to their construction and maintenance work, a specific road improvement program. The community opinion survey indicated that citizens felt that road maintenance and construction was, in general, good to average within the Town.

The greater portion of the public road network is located in the vicinity of Willsboro Hamlet. The majority of other Town roads are located along the eastern coast of Lake Champlain and on Willsboro Point.

The network of roads within the Town, with the exception of the central business district and summer-use roads, are adequate for the Town's immediate needs and anticipated short-term growth. The Hamlet of Willsboro contains serious parking and traffic congestion problems. Many churches, the fire station, retail and commercial establishments and municipal facilities are located along the main road where there are virtually no public parking facilities available. These problems could be alleviated by the relocation of some commercial establishments to other nearby areas, such as in the vicinity of the Essex Champlain Bank on Farrell Road. Another possibility could be the construction

Police protection is provided to the Town by 7 municipal constables, and support from the Essex County Sheriff and the New York State Police from the Westport sub-station. The Willsboro Fire District includes the hamlet of the Town as well as a fire protection district which extends to include all of Willsboro Point. This district is rated B by the Public Protection Department of the Insurance Services Office. The fire station, on Main Street, has four engines and one ambulance. The emergency service is provided by a voluntary squad consisting of 50-60 members from the men's and women's auxiliary groups. In addition, there is another fire station located in the Reber area,also manned by a volunteer squad, with three engines. The emergency service was rated the highest of all public services in Willsboro in the Community Opinion and Information survey.

Health services in the community are presently being provided by the Smith House Health Center which opened in February, 1977. It is a family medicine center staffed by three doctors and a small support staff. Patients are seen on a private patient basis at standard fees. The nearest hospital facilities are in Elizabethtown and complete facilities, including obstetrics and gynecology, are found in Plattsburgh.

In conjunction with the Smith House Health Center, the Town is undertaking a federally funded community action program. The pregram would feature creative counseling for both adults and teenagers, a Youth Employment Service, the establishment of a Town-wide hotline, as well as a drug abuse information center. It is anticipated the program will begin in spring or summer of 1977.

The Town maintains a sanitary landfill which is currently operated in compliance with the Health Department and Department of Environmental Conservation standards. The life expectancy of the landfill is approximately five years with the possibility of an 18-20 year extension if adjacent land is acquired.

The Town Highway Department is responsible for maintaining all state, Town, and county roads in Willsboro. The Department was rated favorable in the Community Information survey and each year the Department undertakes a specific road improvement program in addition to their regular construction and maintenance tasks. The garage and equipment are adequate to meet the Department needs.

Other community facilities include a Town Hall which is used for various community activities and meetings, a library, and a post office.

The facilities which are adequate to meet current and expected demands are the school, the fire department and emergency service, the health care center, and the library.

The facilities which need improvement are parking facilities, a community center and Town Hall facilities, recreational facilities for senior citizens in the Town, the road system on Willsboro Point, police protection, and the public water supply system.

COMMUNITY FACILITIES

A community facilities survey and analysis serves as an important guide in the community planning process by indicating whether existing or planned facilities can adequately support anticipated growth in the community. A survey of local facilities can also help the planning board determine what facilities the community is lacking and those which should be expanded or improved.

The Department of Environmental Conservation, the Town of Willsboro, and recreational organizations operate and maintain a variety of facilities including snowmobile trails, the state boat launching site, tennis courts, soccer fields, baseball fields, and an organized youth program. Hiking and horseback riding trails are currently being considered by the Town.

The Town of Willsboro Central School District includes all of Willsboro, a portion of the Town of Essex, and small segments of both Chesterfield and Lewis. The present enrollment is 629 students, just below the projected maximum enrollment of 650 - 660 students. It is anticipated within the next eight years enrollment will decrease greatly-- by 200 students. In compliance with Federal Law Title Nine, the District is presently planning the construction of sports facilities, locker rooms, showers and other facilities for girls.

There are two public water districts providing service to the Hamlet area and Willsboro Pond. There is also one private water district serving private homes in the southern Willsboro Bay area. The source of water supply for all three districts is Willsboro Bay on Lake Champlain. The quality of the water in the system is generally good and meets the drinking water standards set by the New York State Department of Health. There are some problems with the filtering process in the height of the summer season due to the algae growth in the bay. Except for this problem there are presently no limitations to the existing water system in terms of both quantity and distribution. The water system is adequate to accommodate present demands and any projected increase in demand within the near future. The system is presently being improved by increasing the size of the mains and the storage capacity of the system.

There is no public sewerage system in Willsboro. On-site septic systems are presently used for sewerage treatment and disposal. The Town is presently undertaking a study of the sewerage problems in the Town and is proposing a sewage district which would include as a minimum the hamlet area.