The Saratoga Associates

May 1, 1979

Mr. James Beil
Pine Bush Intermunicipal Steering Committee
50 Wolf Road
Albany, New York 12233

Re: Pine Bush Study - 01038

Dear Mr. Beil:

We are pleased to submit the ninety percent (90%) draft of "The Comprehensive Evaluation" phase of the Pine Bush Study.

This report summarizes the evaluation process of the environmental base data for development and conservation capability. The composite maps and summary map transmitted herein identify the suitability of the land for both development and conservation and will be utilized in the next and final phase of the study implementation.

Sincerely,

Robert F. Bristol

RFB:pak

Encl.

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INTRODUCTION

The Comprehensive Evaluation represents the second phase of the three-phased Intermunicipal Pine Bush Study commenced in late September, 1978. The goal of this phase was to synthesize the extensive environmental base data into a format which was usable in assisting the community in making land use policy decisions for the Pine Bush.

The Environmental Base Analysis, as previously submitted, represented the most accurate and up-to-date mapping and land use planning data available for the study area. The environmental base data provided the necessary starting point for the development of the Comprehensive Evaluation.

The Comprehensive Evaluation is the critical link between the environmental base and the evolution of a viable land use policy. In order to accomplish this goal, the Pine Bush study area was evaluated for both conservation and development characteristics. Composite maps for both of these categories were developed. A synthesis of these composites was developed which depicts the land areas where these basic community "needs" compliment or conflict with each other.

This report summarizes the activities of this second phase of study.

METHODOLOGY

The purpose of the Comprehensive Evaluation section of this study is to analyze the data collected in the environmental base to determine the inherent capabilities of the study area in terms of conservation potential and development capability.

The first step in this evaluation was to determine which of the environmental base data were pertinent to each category. Each basic piece of data (in map form) was evaluated or rated for its capabilities and limitations according to the specific category - be it conservation or development. These individual "potential" or "capability" maps were then combined together in an overlay process to produce a composite map. Two composite maps were prepared. One for conservation capability and one for development capability. In each case, the composite represents a hierarchical relationship of land areas within the study area based on the environmental base data interpretations.

Both composite maps were then compared, by an "overlay" process, to the "current land commitment" map. This comparison provided an indication of the current development trends and/or official proposal relationships to the conservation and development capabilities of the land.

The conservation and development composites were then combined or synthesized into a single map called the Summary Map. The purpose of this summary map is to graphically depict the various relationships occurring through natural and human influenced processes. The resulting map clearly shows areas of land where no conflict exists between land capability for conservation or development. As well, the land areas where conflict occurs between these community needs are also depicted.

These relationships, as shown, establish the basic "model" for evaluation of potential land use policy options available to the four municipalities who govern the Pine Bush. The next phase, DEFINITION OF MANAGEMENT DEVICES AND ALTERNATIVES, will explore the potential policy alternatives available to the community.

CONSERVATION CAPABILITY

Certain lands have a potential for conservation because of the natural resources they contain, the environmental sensitivity they exhibit, the historic artifacts they accommodate or the beauty they radiate.

These intrinsic qualities need to be identified in order to determine which lands have the highest potential for conservation. In as much as land is a finite resource, conservation capability can be measured. As well, the land's attributes for conservation are compared with its potentials for development. It is only through such a comparison that a community can make proper decisions about its land use policies.

The following discussion describes the characteristics and criteria used for establishing conservation capability. In many cases, absolute standards for each characteristic were difficult to define. As a general rule, information from the environmental base data was ranked into one of the following five categories :

- low conservation value
- moderate conservation value
- high conservation value
- unique conservation value
- preemptive

The preemptive category was only used in areas where federal or state laws prescribe conservation which restricts the use of land.

1. Corresponding to map symbols on the conservation capability maps.

CONSERVATION FACTORS

Certain natural characteristics and features have been selected as factors for mapping because of their extreme sensitivity to man's activities and/or their significance in the context of the ecosystem. These factors are:

- slope
- sub-surface hydrology
- surface hydrology/geomorphology
- vegetative cover
- wildlife habitats

In the following discussion, these factors are described in terms of their functional relationship with land areas having high potential for conservation. Sources of data, the ways in which the data are used, and reasoning in support of sources and methods used in this analysis are also outlined.

- Slope

Areas of moderate (8-15%) and severe slope (15% or greater) are worth preserving for a number of reasons.

First, disturbance or removal of the vegetative cover and surface soils in such areas results in erosion problems which may upset the local ecological balance. Exposed areas washed by rains develop scoured surfaces and gullies. Silt and sediment are carried by surface water runoff and deposited on adjacent lands and in natural drainage ways. This degrades the quality of these lands and waterways for other important uses including agriculture, wildlife habitat areas, water supply, or scenic and recreational use.

Secondly, areas of moderate and severe slopes have special scenic qualities. In some areas, slopes create a unique character and provide visual relief from the urban and/or built suburban landscape.

Finally, when moderate and severe slopes are used for human settlement, development activities become more difficult, costly and potentially hazardous. In areas of wind blown sand deposits, removal of the natural vegetative cover would expose the thin topsoil and erodable sands to the forces of wind and water. This sensitive condition increases as slope increases. There are more problems associated with the design, engineering and construction of permanent facilities in such areas. This results in in-

creased design, construction and maintenance costs. Unforeseen problems may also materialize when moderate and severe slopes are developed. In areas of exposed clay and silt, increased exposure to climatic elements due to removal of the natural vegetative cover and topsoil will commonly cause soil "creep", land slumping or mass movement (landslides).

The Soil Conservation Service of the United States Department of Agriculture, maps the slope of all soil areas as part of its National Cooperative Soils Survey. The slope categories of the Soil Conservation Service detailed mapping survey are:

- A 0 - 3%
- B 3 - 8%
- C 8 - 15%
- D 15 - 25%
- E 25 - 75%

The Soil Conservation Service has adopted a rating system for slope hazard with which the Conservation Evaluation was based, which classified A and B slopes as slight (low conservation value), C slopes as moderate (moderate conservation value) and D as severe (high conservation value). The grouping of S.C.S. slope categories was based on these limitation ratings for soils of various slopes. Moderate as well as severe slopes should be preserved due to risk of erosion, natural hazard, development problems and/or scenic value.

For the purposes of this evaluation, areas exhibiting slopes in the 25-75% category were considered unique in conservation value because of their extreme sensitivity. Soil types in this category are also susceptible to mass movement and have been identified on the basis of Soil Conservation Service information.

- Subsurface Hydrology

  The Pine Bush is underlain by substantial shallow and deep aquifers. The aquifers are important as conservation factors because they exhibit potential large volumes of water yield for both domestic and municipal supply.

  The extent of these aquifers is difficult to pinpoint and consequently the data available is very general. The subsurface hydrology map indicates the recharge areas of the aquifers. This data, from both Albany County Environmental Management Council and Robert Dineen, Geologist with the New York State Museum and Science Service, was utilized in an attempt to address the conservation value of subsurface hydrologic factors.

- Deep Sand and Gravel Aquifers

The deep aquifers occur in sand and gravel glacial deposits. The recharge areas of these aquifers are of considerable conservation value to maintain the supply of surface water to the aquifer. The major threat to deep sand and gravel aquifers is development which forms impervious barriers (paving, buildings, etc.) on the surface of recharge areas or modifies surface drainage patterns (storm drainage, drainage channel modification, etc.) thus reducing the volume of surface water available at the recharge area. Because of the depth of these aquifers, the natural filtration of sand and gravel reduces the threat of pollution. However, potential comtamination by chemical pollution could occur and therefore should be considered.

- Shallow Sand Aquifers

The shallow aquifers occur in the wind blown sand deposits above the layer of lake clay and silt. These shallow aquifers are located throughout the study area and specific major recharge area are less definitive. Although the shallow sand aquifers offer lesser volumes of water supply, they exhibit a high conservation value because they are more susceptable to pollution. Similar to the deep aquifers, the shallow aquifers are threatened by development which reduces surface water supply availability to recharge areas.

It becomes obvious that uses that contribute to the ground water contamination should not be allowed in recharge areas. The density, types of developments and storm water drainage systems must be designed in a manner which maintains and supports both the high quality and volume of the Pine Bush aquifers.

Tapping the shallow aquifers in the Pine Bush with wells has been considered impractical for municipal water supply because the fine screen filters required would reduce available volume. A study is currently being conducted in the Town of Guilderland to create a reservoir in the Hungerkill Valley. The design concept would utilize the natural springs which occur where the sand aquifer meets the exposed clay layer to supply the reservoir.

If such a concept becomes a reality or if the concept should be proposed for other streams within the Pine Bush

with similar geomorphology and small watershed, the preservation of the aquifers and their respective watersheds will become a primary conservation factor. Development within the watersheds of proposed reservoirs, as previously described, could potentially reduce both quality and quantity of water supply. The community will bear the cost of the construction operation of such facilities and adverse development within the watershed increases costs in two ways; reduced aquifer yield means higher costs per gallon of water and contamination means higher costs for water treatment.

For the purposes of this study and because the reservoir as well as other concepts is being considered only at a feasibility level at this time. The evaluation of the aquifers was based solely on domestic water supply potential. However, the conservation of the aquifer and watershed for proposed municipal water supplies is a significant factor. Any municipality considering the use of the Pine Bush aquifers as a future water source should seriously restrict development patterns in watersheds of the specific recharge areas.

- Surface Hydrology and Geomorphology

The surface hydrology and geomorphology of the Pine Bush study area provides four major conservation factors:

- streams
- lakes, ponds and reservoirs
- wetlands
- flood plains

- Streams

The study area is located on the watershed divide of the Hudson and Mohawk Rivers. The drainage patterns formed by the network of streams and drainage channels radiate to the north, east and south. These streams have eroded through the wind blown sand deposits in many areas to expose the lake clays and silts. The resulting steep slopes and numerous springs at the intersection of the clay and silt layer create a moist ravine ecosystem.

These streams and their adjacent ravines are extremely sensitive to active use or any form of development. The springs feeding the streams are subject to pollution and reduction of available surface water recharge. The steep slopes are subject to slippage and erosion and the streams are subject to pollution and siltation.

These areas exhibit unique conservation value and should be restricted to passive use and/or preserve areas.

- Lakes, Ponds and Reservoirs

  Glass Pond and Lake Rensselaer are the only two major water bodies within the study area. Both have been identified as unique conservation factors for their visual and recreational value as well as sensitivity to pollution and siltation.

- Wetlands

  Over thirty wetlands exist within the Pine Bush study area which were mapped by the Albany County E.M.C. and D.E.C. The wetlands were considered a preemptive use for conservation because they are protected in New York State by law.

  Wetlands have many important natural process functions. During wet seasons, they place millions of gallons of water into storage which would otherwise run downstream as floodwater. Later, wetlands slowly release this stored water to streams or aquifers during periods of lower flows. Wetlands have this capability because of their soils materials which work like a sponge. Wetlands serve as a type of water filter and purifier. Silt and sediment washed off the land into streams settle out in wetlands interspersed along the stream's course. Nutrients in potentially polluting concentrations (phosphates and nitrates) are converted into plant growth within wetlands.

  Wetlands are a very important part of the overall habit range for nearly all types of wildlife. They serve as fish breeding areas for many fish species and are important refuge areas for many species of birds. Wetlands are so rich in terms of biological productivity that a full range of plant animal ecological interactions are observable.

- Flood Plains

  Flood plains are areas next to streams and rivers which are covered by water during periods of heavy runoff. When runoff becomes so great in magnitude that the water level rises above the top of the established channel, lands adjacent to the channel are inundated.

  Flood plains are a major hazard for development. Additionally, when flood plains are filled and drained, downstream sections of these streams will have increased flood levels.

  Within a watershed, the build-up of urban land use means the installation of more streets, driveways, rooftops and other non-absorbent surfaces. Water, in the form of precipitation, runs off of these areas very quickly and will increase the rate at which peak flood levels are reached in local streams. The decrease in the total area of water holding surfaces such as soils, wetlands and plants causes

more water to reach the stream all at once, thus increasing the level of flooding. Therefore, in built-up areas, it is important to consider having a buffer zone outside of the presently-drawn flood plain boundaries for protection in the future when flood levels are heightened by increased urbanization.

The basic source of information on flood plain boundaries for the major streams was the United States Department of Housing and Urban Development National Flood Insurance Program flood insurance rate maps for 100-year flood plains.

The 100-year flood plain was chosen for purposes of this analysis because it represents an area which would be inundated by the worst conditions of flooding which could reasonably be expected according to presently developed data. The 100-year flood plain was considered a unique conservation value.

- Vegetative Cover

Vegetation is significant for conservation for many reasons including erosion control, wildlife habitat, scenic quality, noise, wind and visual buffer, the oxygen/carbon dioxide cycle, etc. The environmental base grouped vegetative cover into 15 general categories. The conservation evaluation of each vegetative category was developed first, on the sensitivity of that category to human activities and secondly, on the benefits of that category to people.

- Westland Vegetation

Five separate categories of wetland vegetation and open water were mapped. Wetland vegetation is significant for wildlife habitat, flood control and erosion control. All categories of wetland vegetation and open water were considered to be of unique conservation value.

- Coniferous Tree, Deciduous Shrub

This mixed category includes the pine barrens vegetation complex. Two similar categories were mapped which show the coniferous tree, deciduous shrub mix with either a coniferous tree or a deciduous tree sub-classification. These areas exhibit some of the characteristics of the pine barrens, however, they are transitional zones and are reverting to a forested condition. They are significant for conservation but a management program will be required to check encroaching vegetation. All areas exhibiting the "A" classification were considered to be of unique conservation value.

- Mature Forest In and Along Gullies

  Forested areas on extreme clay slopes were identified as high conservation value. This vegetation type provides both erosion control and slope stability in a sensitive soil/slope condition.

- Deciduous Trees, Coniferous Trees

  These tree categories were considered as moderate conservation value. Forested areas are important for scenic and visual qualities and wildlife habitat and should be maintained wherever possible.

- Others

  Six minor vegetation types were mapped: extractive area, active farm land, golf course, landfill, developed area and shrubs. All were identified as low conservation value because they represent various degrees of site development.

- Habitats

The Environmental Base Analysis presented a very broad range of wildlife existing in the study area. Wildlife habitats within the study area range from unique habitats of the Karner Blue Butterfly to the manicured landscape of golf courses and residential areas.

- Karner Blue Butterfly

The Karner Blue Butterfly is protected by law and is included on the New York State list of endangered species. This endangered status reflects the need to preserve the Karner Blue's habitat. Areas mapped by Cryan and Dirig in their dissertation entitled "Status of the Karner Blue Butterfly in New York State" were considered areas of unique conservation value.

- Wetland Habitat

Wetlands exhibit the highest value and diversity of any wildlife habitat. Because of this fragile and diverse ecosystem, wetlands, as identified by the New York State Department of Environmental Conservation and the Albany County Environmental Management Council (see surface hydrology map) as preemptive. The preemptive classification reflects the legal protection of these wetlands.

A second mapping source, vegetative cover, as prepared by the New York State Department of Environmental Conservation Habitat Inventory Unit was compared to the previous wetland mapping. The vegetative cover map indicated wetland vegetation types beyond those on the surface hydrology map. These wetland habitats were identified as unique conservation value for wildlife.

- Buck Moth Habitat

The Buck Moth, like the Karner Blue, inhabits the pine barrens. Although the Buck Moth is not currently an endangered or protected species, it is listed as a candidate for such status. Because of this concern and its unique habitat, the Buck Moth habitat was considered to be of high conservation value. The source for the Buck Moth habitat map was Cryan and Dirig's dissertation "The Moths of Autumn."

- Other Habitats

The diversity of wildlife of the more common species were considered moderate conservation values. These areas include the vegetative cover categories - coniferous trees, deciduous trees, coniferous trees deciduous shrubs (not previously identified as unique), mature forest in and along gullies and ravines and shrubs.

All of the remaining vegetative cover categories were considered low value for conservation.

COMPOSITE OF CONSERVATION CAPABILITY

In the derivation of conservation capability, a relative level of attribute is established; to what degree do the intrinsic characteristics of the land make conservation of that land an appropriate goal? As described above, the factors relating to ecological significance are combined in an overlay mapping process. Most of these are merely added for a given area so that a total number of factors of "occurrences" is indicated. Specifically, these are:

- low conservation value
- moderate/high conservation value
- high conservation value
- unique conservation value
- preemptive

Thus, for a given area of land, the composite map (Conservation Capability Composite) indicates the number of factors which occur in that area, or the prevalence of preemptive uses.

DEVELOPMENT CAPABILITY

Almost all land has some capability for development. The potential for active building development must be assessed because land is a finite resource. There are efficiencies (economically and physically) to be gained from sound location decisions; every community has the responsibility of developing plans and policies which recognize the potential of both conservation and development. As a basis for implementation, a plan should display the forces at work in the development process.

- Development Factors

  The capability for development was measured and mapped on the basis of six characteristics:

  - utility access
  - transportation access
  - zoning
  - slope
  - depth to high water table
  - surface hydrology/geomorphology

  The discussion below describes the characteristics used for establishing development capability and the sources used for each category. Absolute standards for each characteristic are difficult to define. As a general rule, information in the environmental base data was placed in one of the following four categories :

  - slight limitations to development
  - moderate limitations to development
  - high limitations to development
  - prohibitive limitations to development

- Utility Access

  The availability of water and sanitary sewer service is a prime determinant in the pattern of new development. These systems represent a substantial part of the "infra-structure" or framework for development, setting the long-range direction for growth.

  The utility map indicates the major existing corridors of water and sewer service. A number of sewer and water districts have been established in the study area. Areas that have existing sewer and water service exhibit low limitations to development. Areas with only water service

2. Categories correspond to map symbols on the development capability maps.

exhibit moderate limitations to development. Areas not serviced by utilities represent higher costs for development.

- Transportation Access

Highways represent the fixed framework for transportation. Although the automobile might very well undergo vast changes in times of future design and use, the highway corridor should be regarded as a relatively fixed opportunity for transportation, whatever the mode. Proximity to transportation is not only a necessary criteria from a commercial viewpoint, but also a sound concept in terms of land use pattern, in terms of basic efficiency and compatibility with other land uses.

Highway accessibility was considered for residential and non-residential development. Major non-residential uses such as large shopping centers, office development, industry and various combinations of these depend to a great extent on major transportation linkages, the most vivid situation probably being the practice of marketing analysis and "on the ground" results of commercial shopping centers. Although visibility from the highway may be regarded as a critical locational aspect from the developer's viewpoint, a wider land area is actually capable of supporting commercial uses. From a review of the base maps, it appears that commercial development often occurs at a distance of 3/4 to 3/8 miles from the road.

Residential location is also strongly related to the existing and projected patterns of transportation corridors. This corridor of capabability could be seen as with a wider zone than the corridor related to commercial uses, with a hollow center, allowing for a "buffer" zone between major highways and residential development. This "sleeve" configuration is an attempt to represent the desire of people to have a high degree of accessibility to transportation routes without being personally affected by its presence.

For purposes of simplicity and due to a recognition that the geometry of a needed buffer might change with highway design and vehicle technology, the combined access corridor for residential and commercial uses is assumed as a one-mile wide corridor. These were considered to exhibit moderate limitations to development.

Expressway interchanges were assumed to have an impact area on one and one-half mile radius, for both residential and commercial uses and were considered to exhibit low limitations to development.

- Zoning

Zoning within the study areas reflects the separate programs of each of the four municipalities. The zoning of the municipalities is not restrictive to development. In fact, the entire study area is zoned for development ranging from single family to industrial with only minor exceptions. Past records also indicate that variances within the area are common. Zoning was considered to exhibit low limitations to development for all single-family and higher density categories. Agriculture and lesser density categories were considered to exhibit moderate limitations to development.

- Slope

As previously discussed under conservation capability, limitations to development increases as slope increases. Steeper slopes increase design, construction and maintenance costs for various technical reasons. Grading, earth work, erosion, sewage, drainage systems, foundations, paving and roads, etc. become more complex, requiring specialized design in many cases and consequently are more costly to build. For obvious reasons, developers who avoid slope problems have a definite advantage.

The slope categories of the Soil Conservation Service's Detailed Mapping Survey are:

- A 0 - 3%
- B 3 - 8%
- C 8 - 15%
- D 15 - 25%
- E 25 - 75%

The Soil Conservation Service adopted a rating system for slope hazard which classified A and B slopes (0-8%) as slight, C slopes (8-15%) as moderate, D slopes (15-25%) and above as severe. The soils within the study area that exhibit E slopes (25-75%) are the fragile exposed clay layers in the stream valleys. These areas were considered prohibitive to development.

- Depth To High Water Table

Many limitations imposed on development are soil-related factors. Within the study area, the predominence of deep sandy soils offers few limitations to development. However, the extensive shallow aquifer does cause a seasonal high water table in some areas. As with slope,

where high water table problems are incurred, design and construction costs rise. The high water table restricts subsurface structures such as basements and septic systems. The high water table also presents problems with foundations and pavements because the freeze thaw cycles cause lifting and heaving. Special precautions must be taken in the form of underdrainage and imported gravel fill to overcome the problem.

The Soil Conservation Service as part of severe restrictions to development not only for environmental reasons but for legal reasons. Both flood plains and wetlands are mapped and categorized by federal and state governments. Development within these areas was considered prohibitive.

The exposed lake clay and silt, when compared to other geomorphology categories within the study area, indicate the fragile characteristics of that area and extreme hazards to development. The exposed lake clay and silt were considered severe limitations to development.

- Composite of Development Capability

As with conservation capability, the aggregation of characteristics related to development capability must result in some form of adding measures of quality. The concept is to combine those factors favorable to development, so that all lands can be ranked on a continuum and the capabilities for conservation and development can be compared.

The development composite identifies five categories of development capability:

- slight limitations to development
- moderate limitations to development
- moderate/severe limitations to development
- severe limitations to development
- prohibitive limitations to development

SUMMARY MAP: A GUIDE FOR THE FUTURE

The Summary Map is a synthesis of the conditions and pressures affecting land in the study area and is a consolidation of the composite maps of Development Capability and Conservation Capability. The Summary Map expresses nine categories of existing value. While these values should guide the kinds of future use of the area, be it an undeveloped wildlife habitat or an active recreation area or development for human habitation, the Summary Map does not express a final plan for the Pine Bush.

The values expressed on the Summary Map are as follows:

- developed land
- preemptive
- high conservation
- moderate conservation
- high development
- moderate development
- high development/high conservation
- high development/moderate conservation
- moderate development/moderate conservation
- others

- Developed Land

  The developed land category represents all parcels of land within the study area which were identified as developed on the current Land Commitment Map of the Environmental Base Analysis. Developed land was eliminated from evaluation on both the conservation composite and the development composite. Existing development exhibits low conservation value as well as high development limitations. The goal of this evaluation concentrates on the undeveloped land in order to establish a model for land use policy for future growth.

- Preemptive

  The preemptive category represents the protected wetlands as mapped by Albany County Environmental Management Council and the Department of Environmental Conservation. Preemptive is high conservation areas which are protected under New York State law.

- High Conservation

  The high conservation category represents areas of unique conservation value as mapped on the conservation capability composite. Areas of high conservation identify sites which exhibit more significant factors for conservation than any

others. High conservation parcels are suitable for preservation areas, as well, they offer little benefit (economically) for development purposes. These areas should not be considered in future planning as development-oriented parcels.

- Moderate Conservation

The moderate conservation category represents areas of high conservation value as mapped on the conservation capability composite. Areas of moderate conservation are slightly less significant than high conservation. However, these areas exhibit many quality conservation characteristics. All parcels identified as moderate conservation should be considered suitable for preservation and/or active recreation with limited opportunities for very low density constructed elements (buildings, playfields and the like).

- High Development

The high development category represents areas of slight development limitations as mapped on the development capability composite. Areas of high development identify sites which exhibit the fewest restrictions and most favorable conditions for conventional construction and real estate development trends. The high development category is the land most suitable for future development and only of minor value for conservation. Future development needs should be directed to these lands prior to the use of any others in accordance with an overall plan.

- Moderate Development

The moderate development category represents areas of moderate development limitations as mapped on the development capability composite. Similar to the high development category, moderate development parcels are sites suitable for development with few conflicts with conservation values. These lands are second only to high development lands in their economic desirability for development and thus should be oriented to development which requires fewer land modifications in its construction and use. Generally, this means that residential development of low or moderate density would be most suitable.

- High Development/High Conservation

The high development/high conservation category identifies parcels which exhibit unique conservation value as well as slight limitations to development as mapped on the composites. Determination of land use policy in these "con-

flict" areas presents a more complex situation for land areas in previous categories.

The allocation of these lands to either conservation or development ends must be determined only after extended study of the ultimate extent of community needs and desires. All alternatives should be carefully weighed and sensitive selections for use must reflect high quality environmetal concern. These lands should be left in an undesignated zoning category until future social needs require a "decision" as to their use.

- High Development/Moderate Conservation
- Moderate Development/Moderate Conservation

Both of these categories, similar to high development/high conservation, identify "conflict" areas. The land use of these valuable sites must be carefully considered because of their inherent conservation values. It is feasible to consider low density uses of land capably integrated with the natural land characteristics in development patterns reflecting both development and conservation needs.

	% Study Area	Acres
Developed Land	45	6,361
Preemptive	5	743
High Conservation	4	523
Moderate Conservation	3	431
High Development	8	1,104
Moderate Development	17	2,337
High Development/ High Conservation	0	14
High Development/ Moderate Conservation	2	214
Moderate Development/ Moderate Conservation	7	1,005
Others	9	1,230
TOTAL	100%	13,962

COMMITTED LANDS

The Summary Map includes parcels of land which are committed to two uses; developed intensive and publicly owned lands (non-intensive).

Significant parcels of land have been acquired by the City of Albany and New York State. Approximately 924 acres of land are committed to non-intensive use.

Parcels of land committed to intensive development occur predominantly within the City of Albany and the Town of Guilderland. The parcels of developed land and land committed to development indicate the growth trends in the Pine Bush. Much of the land committed to development occur within areas of moderate conservation. The development pressures in Guilderland are highest in the watershed of the Hungerkill. Many of these parcels are proposed in conflict with quality environmental planning standards but have progressed through the legal building process far enough to render them committed to development. However, committed and built are not synonomous and full efforts should be made to require compliance with high quality, environmentally sensitive planning and construction techniques wherever possible. Whenever feasible, project reevaluation by lowering densities, changing uses and the like should be considered by the controlling planning agencies.

PROJECTED DEVELOPMENT REQUIREMENTS

Figure 7 of the Environmental Base Analysis indicates a projected 7800 housing units required within the study area by 2000. The projected acreage required to accommodate this increase is approximately 1328. Assuming an additional acreage requirement for schools, services and commercial use, the total acreage demand for development through 2000 would be between 1450-1500 acres.

The Summary Map indicates 1104 acres of high development areas and 2337 acres of moderate development areas. This is a total of 3441 acres of quality land capable of being developed with little or no conservation conflict. Thus, the study area exhibits the potential to accept the projected development demands through 2000 without developing areas of conservation values.

In order to accomplish such a goal, the overall area must be carefully planned in order to define land use areas in efficient, effective patterns fully reflective of community and private economic investments as well as quality of life concerns.