



Old Killingly Pond

Killingly, Connecticut

May 1992

**EASTERN CONNECTICUT  
ENVIRONMENTAL  
REVIEW TEAM  
REPORT**

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**ENVIRONMENTAL REVIEW TEAM REPORT  
ON**

**OLD KILLINGLY POND  
KILLINGLY, CONNECTICUT**

This report is an outgrowth of a request from Killingly Town Council to the Windham County Soil and Water Conservation District (SWCD). The S&WCD referred this request to the Eastern Connecticut Resource Conservation and Development (RC&D) Area Executive Council for their consideration and approval. The request was approved and the measure reviewed by the Eastern Connecticut Environmental Review Team (ERT).

The ERT met and field checked the site on Thursday, March 26, 1992. Team members participating on this review included:

Nicholas Bellantoni	State Archaeologist CT Museum of Natural History
Patti Callahan	Soil Conservationist USDA - Soil Conservation Service
Doug Cooper	Supervising Environmental Analyst DEP - Inland Water Resource Management
Jean Crespi	Assistant Professor UCONN - Department of Geology and Geophysics
Joseph Hickey	State Parks Planner DEP - Parks and Recreation
Charles Lee	Environmental Analyst III DEP - Lakes Management Unit
Frank Singleton	Chief, Public Health Sanitarian Northeast District Department of Health
Brian Murphy	Fisheries Biologist DEP - Eastern District Headquarters

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Dawn McKay	Biologist/Environmental Analyst II DEP - Natural Resource Center
James Rabbit	Regional Planner Northeastern CT Council of Governments
Dick Raymond	Forester II DEP - Goodwin Conservation Center
Paul Rothbart	Wildlife Biologist DEP - Eastern District Headquarters
Elaine Sych	ERT Coordinator Eastern CT RC&D Area, Inc.

Prior to the review day, each Team member received a summary of the proposed project, a list of the town's concerns, a location map, a topographic map, and a soils map. During the field review the Team members were given additional information. The Team met with, and were accompanied by the Killingly Environmental Planner, Linda Walden and the Director of Recreation, Richard Calarco. Following the review, reports from each Team member were submitted to the ERT Coordinator for compilation and editing into this final report.

This report represents the Team's findings. It is not meant to compete with private consultants by providing site designs or detailed solutions to development problems. The Team does not recommend what final action should be taken on a proposed project — all final decisions rest with the Town and landowner. This report identifies the existing resource base and evaluates its significance to the proposed development, and also suggests considerations that should be of concern to the developer and the Town. The results of this Team action are oriented toward the development of better environmental quality and the long-term economics of land use.

The Eastern Connecticut RC&D Executive Council hopes you will find this report of value and assistance in making your decisions on this proposed recreation area.

If you require additional information, please contact:

Elaine A. Sych  
ERT Coordinator  
Eastern Connecticut RC&D Area  
P.O. Box 70, Haddam, Connecticut 06438  
(203)345-3977

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## INTRODUCTION

The Town of Killingly has requested assistance from the Environmental Review Team in evaluating the recreational potential of Old Killingly Pond.

Old Killingly Pond is located east of Pond Road in Killingly on the Killingly - Rhode Island border. It is a 138 acre impounded pond, with approximately 74 acres in Killingly. The State of Connecticut owns approximately 150 acres both to the north and south of the pond, as well as to the east and west. The Town of Killingly owns the Pond Road right-of-way which abuts the area known as "the wall". National Patent Medical Corporation owns the water rights to the pond.

The Killingly Town Council has appointed an Old Killingly Pond Advisory Committee whose charge it is to "develop a long-range comprehensive plan for the area". The plan should consider whether the area has the potential to be used as a Town/State beach, the cost of making improvements and the trade-offs associated with not utilizing the area for a public beach. In order to make informed recommendations regarding the most appropriate and feasible use of Old Killingly Pond area the ERT report should be most helpful.

For generations, the so-called "wall" area along Pond Road has been used for unsupervised family swimming and as a favorite summer hangout. In more recent years, the crowds have grown larger, more unruly, and are composed of fewer families. These crowds have caused concern to the residents of the area, as well as raised questions of liability, water quality, traffic, police involvement, etc. In its discussions on how to address the problems of the area and yet provide recreational opportunities to Town residents, the Old Killingly Pond Advisory Committee has been examining three options: 1) greater regulation and supervision of the pond through development of a Town/State beach, 2) close the area to swimming, while allowing fishing and boating and 3) close the "wall" area to the public completely. Before any decisions are made to expend monies on these options it needs to be determined if any of these proposals are feasible and appropriate to the site, and if Old Killingly Pond is the most suitable site in town to plan for a swimming area.

The following sections of this report describe and evaluate the natural resources on the site, discuss and evaluate the issues mentioned above regarding feasibility, suggest general management measures and highlight issues that need to be studied further.

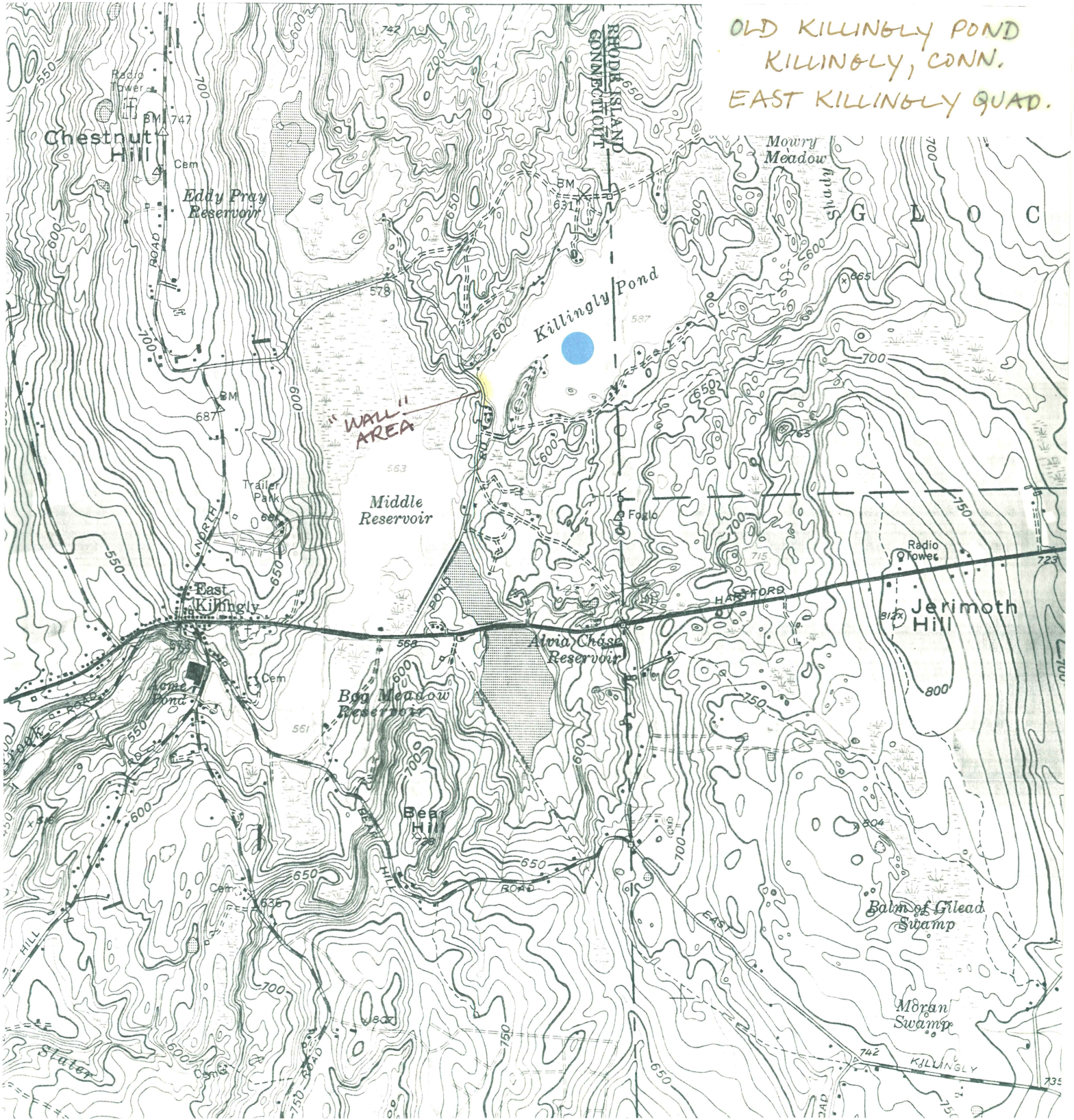
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# TOPOGRAPHIC MAP

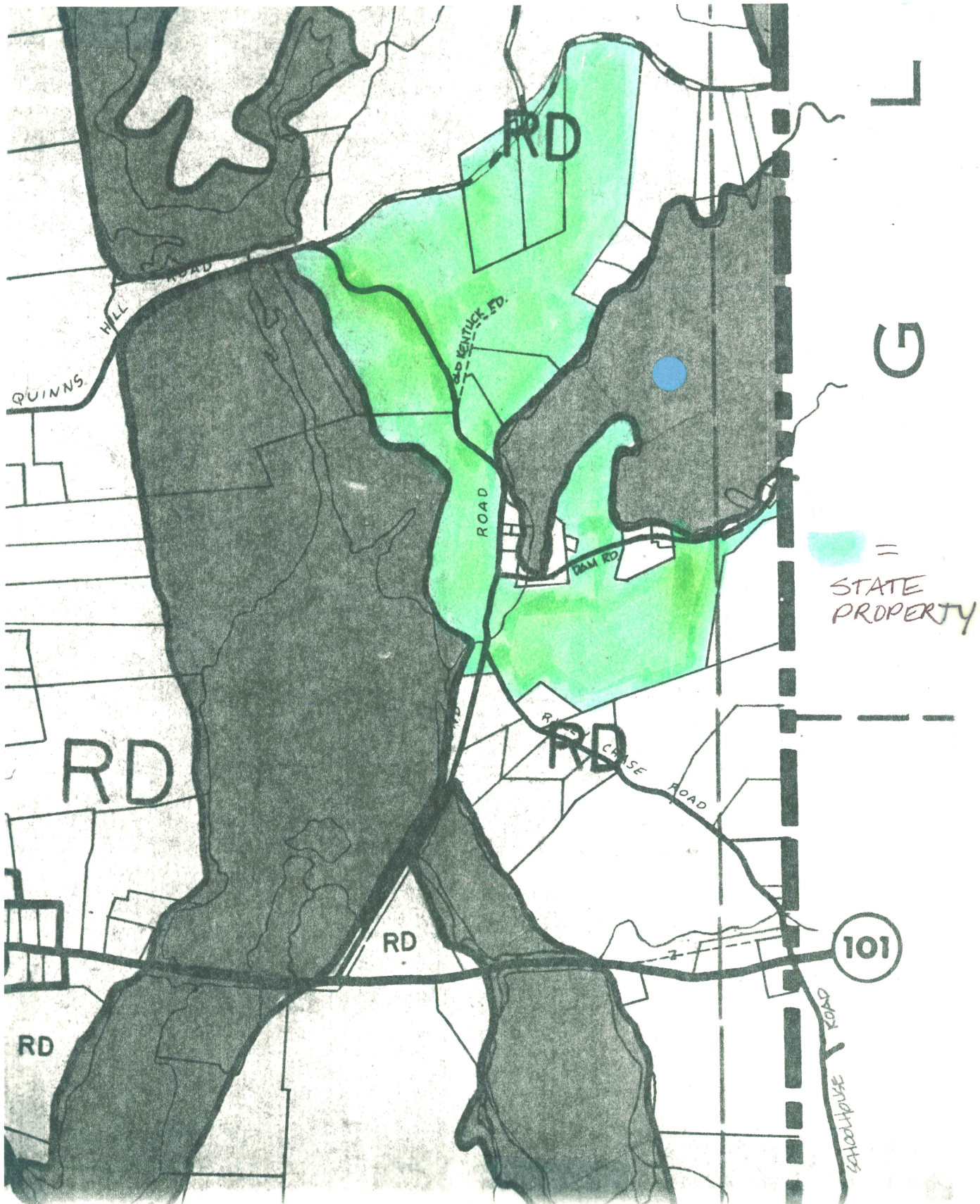
Scale 1" = 2000'

OLD KILLINGLY POND  
KILLINGLY, CONN.  
EAST KILLINGLY QUAD.



# MAP SHOWING STATE OWNED PROPERTY

Scale Unknown



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# TOPOGRAPHY - GEOLOGY - HYDROLOGY

Jean Crespi  
Assistant Professor  
Department of Geology and Geophysics  
University of Connecticut  
U-45, Room 207, 354 Mansfield Rd., Storrs, CT 06269  
Telephone: (203) 486-1383

## Topography

The topography of the proposed town/state beach site on the west side of Old Killingly Pond varies from flat and marshy to hummocky and hilly. Slopes average 5% but are locally much steeper along the promontory into the pond. The maximum relief of the site is about 100 feet.

## Bedrock Geology

The entire site is underlain by the Hope Valley Alaskite Gneiss, a Proterozoic greyish-pink, medium- to coarse-grained alaskite gneiss composed primarily of microcline, plagioclase, quartz, and biotite. The Hope Valley Alaskite Gneiss forms part of the Hope Valley Terrane, an exotic block that was amalgamated to North America during the middle or late Paleozoic. The Hope Valley Alaskite Gneiss is moderately to strongly deformed and lies in the footwall of the Lake Char Fault, one of the most prominent fault zones in eastern Connecticut.

No exposures of bedrock are present within the site; however, numerous exposures occur directly north of Old Killingly Pond along the Rhode Island-Connecticut border. In this area, the foliation in the Hope Valley Alaskite Gneiss is nearly horizontal (dips are typically less than 10°) and the lineation trends north-south. Unlike other areas of the East Killingly Quadrangle, this flat-lying fabric exerts little control on the general topography. No major faults have been mapped in the vicinity of Old Killingly Pond.

## Surficial Geology

The site is blanketed by a poorly sorted mixture of rock fragments deposited by glacial activity; the fragments range from boulder - to clay-sized and the mixture is only crudely stratified. Depth to bedrock is not known; however, the presence of abundant bedrock exposures directly north of Old Killingly Pond suggests bedrock lies relatively close to the surface.

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## **Hydrology**

The subsurface hydrology of the site has not been studied in detail. The hummocky topography and probable shallow and irregular bedrock surface likely combine to produce a complex groundwater flow environment. Groundwater divides may differ significantly from surface water divides.

## **Recommendations**

The Council should be aware of the marshiness of the site and probable shallow depth to bedrock when evaluating the cost and suitability of building a parking lot.

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**OLD KILLINGLY POND**

**KILLINGLY, CONNECTICUT**

**Bedrock Geology**

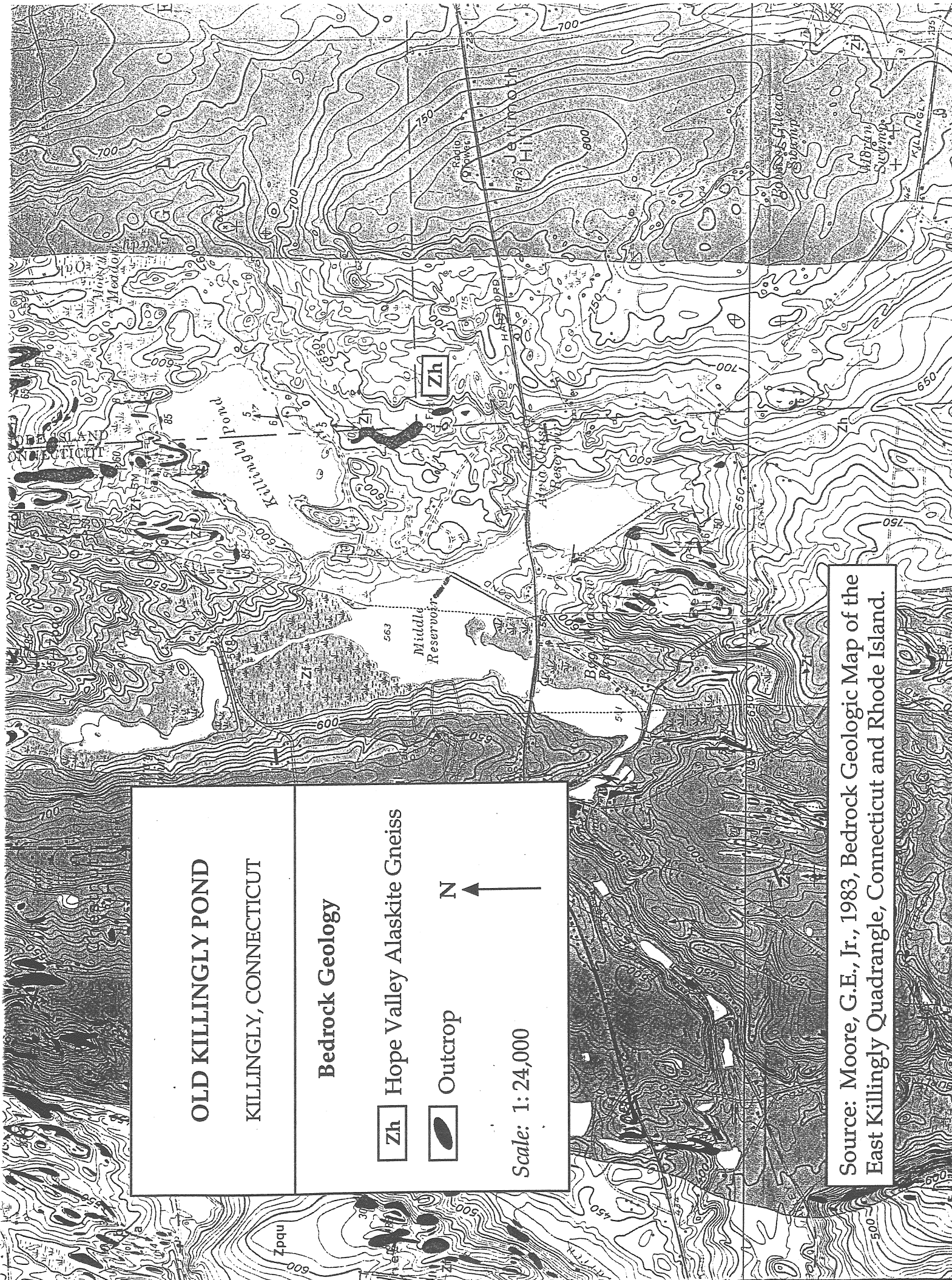
**Zh** Hope Valley Alaskite Gneiss

**[Symbol]** Outcrop



Scale: 1: 24,000

Source: Moore, G.E., Jr., 1983, Bedrock Geologic Map of the East Killingly Quadrangle, Connecticut and Rhode Island.



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## SOILS

Patti Callahan  
Soil Conservationist  
USDA - Soil Conservation Service  
Windham County Agricultural Center  
Wolfden Road, Brooklyn, CT 06234  
Telephone: (203) 774-0224

A general soils map showing the extent of soil types surrounding Old Killingly Pond is included in this section of the report. As can be seen on the map, a major portion of the soil surrounding the pond consists of GeC. This soil type, Gloucester extremely stony sandy loam, is found on ridges and hills of glacial till uplands. It is gently sloping to sloping and somewhat excessively drained.

Slope and stoniness are the major limitations of this soil for community development. Suitability of this site for onsite septic systems is severe because the rapid permeability of the soil causes a hazard of groundwater pollution. Areas rated with severe limitations would require the most extensive and costly measures to overcome the natural soil limitations.

As a result of soils and topography, there are no easily accessible areas around the pond suited for the development of roads or parking lots. The slope is steep, there is a prevalence of stones at or near the surface of the soil, and some excavations in the soil may be unstable.

Recreational development for picnic areas, camp areas and playgrounds is severe. Limitations, again, are limited by steep slopes and large stones near the surface of the soil. Much of the site is wooded and some trails exist. Development of more paths and trails for hiking would have only slight limitations. Areas rated with a slight limitation, have a degree of suitability such that a minimum amount of time and money would be needed to overcome relatively minor soil limitations.

There are only a few, small areas surrounding the pond that are classified as wetlands. They are delineated on the general soils map. The two hydric soil types making up these areas are; Aa- Adrian and Palms mucks, and Rn- Ridgebury, Leicester and Whitman extremely stony fine sandy loams. The Adrian and Palms mucks have moderately slow permeability and low strength as a result of the highly organic nature of the soils. The Ridgebury, Leicester and Whitman extremely stony fine sandy loams consist of level, poorly drained and very poorly drained soils in depressions and drainageways of glacial till uplands. High water table, stoniness and steep slopes are the major limitations of this

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mapping unit.

The wetland soil types described above, should be avoided if this area is to be developed into a community swimming area.

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## **THE NATURAL DIVERSITY DATA BASE**

Dawn M. McKay  
Biologist/Environmental Analyst II  
DEP - Natural Resources Center  
165 Capitol Avenue, Room 553, Hartford, CT 06106  
Telephone: (203) 566-3540

The Natural Diversity Data Base maps and files regarding the Old Killingly Pond site have been reviewed. According to the data base information, there are no known extant populations of Federally Endangered and Threatened Species or species proposed for State Endangered, Threatened or Special Concern status (General Statutes Section 26-303 - Section 26-315) within the project boundaries.

Natural Diversity Data Base information includes all information regarding critical biologic resources available to us at the time of the request. This information is a compilation of data collected over the years by the Natural Resources Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultation with the Data Base should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

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## VEGETATION

Dick Raymond  
Forester II  
DEP - Goodwin Conservation Center  
RR #1, Box 100, North Windham, CT 06256  
Telephone: (203) 455-0699

### Forest Cover Types

The State land management unit may be divided into three forest cover types.

**Softwoods/Hardwoods** - The softwoods/hardwoods type is one composed of any combination of percentages from 60% softwoods and 40% hardwoods to 40% softwoods and 60% hardwoods. Hemlock, white pine, black, scarlet and white oaks, birch, hickory and red maple are the usual species occurring in this type.

**Mixed Hardwoods** - The mixed hardwoods type is one composed of 60% or more hardwoods and not over 40% softwoods. The hardwoods present are the Connecticut hardwoods, white, black, scarlet and chestnut oaks, hickory and a small percentage of other hardwoods such as beech, birch, and red maple. The softwoods will be hemlock and white pine.

**Hardwood Swamp** - The hardwood swamp type is composed of at least 60% hardwoods and not over 40% softwoods. The type is usually composed of red maple with elm, black ash, yellow birch and black gum. The softwood when it occurs, will be white pine or hemlock. This type always occupies a wet site.

### Effects on Vegetation

The proposed utilization of the site for recreation development will impact the vegetation negatively dependent upon the extent of clearing, which depends upon the magnitude of development. Removal of all vegetation to construct access, parking and beach areas will be necessary. Opening of these areas will expose trees, presently protected from the winds, to turbulent winds potentially causing damage and windthrow. Hemlock is also susceptible to shock following rapid exposure to full sunlight. Clearing operations, where possible, should remove only the lowest quality trees or those which are a direct hazard to area users. The healthier, more vigorous trees should be retained for their high shade and aesthetic value.

Later, some loss of vegetation will occur due to soil compaction, sun shock, mechanical root damage, direct trampling and vandalism. Such vegetation losses reduce the

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aesthetic quality of the area and may cause accelerated erosion in some places. These disturbances will accelerate mortality of low vigor trees. Dead or dying trees in developed areas are hazardous and should be removed to reduce the risk of injury.

## **Management**

Overall management and protection of this Department of Environmental Protection land unit is the responsibility of the Parks and Recreation Supervisor, Mashamoquet Brook, with forest resource management delegated to the Division of Forestry.

Past silviculture operations on this site have removed fuelwood and sawlogs. Hemlock seed has been collected from this source for propagation at the State Forest Tree Nursery.

## **Mitigating Measures**

The trees which are to be removed in clearing operations will be utilized for their highest value. Trees to be removed will be marked, likely with the Division of Forestry retaining an economic interest.

Dead or dying trees, which have the potential to become hazardous to area users, should be removed, and where possible utilized for their highest value.

Any trails must be well defined and clearly marked, thus limiting extensive soil compaction, mechanical root injury and trampling of herbaceous vegetation outside these areas. Detrimental soil compaction may be reduced by spreading wood chips, crushed stone or cinders over trails. The construction of wood corduroy or bridges over wet areas will protect these environmentally sensitive areas.

Eventual loss of some trees caused by soil compaction, even with the addition of woodchips, crushed stone or cinders is unavoidable. As trees die, they should be removed to prevent a potential hazard.

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VEGETATION      STATE OWNED LANDS

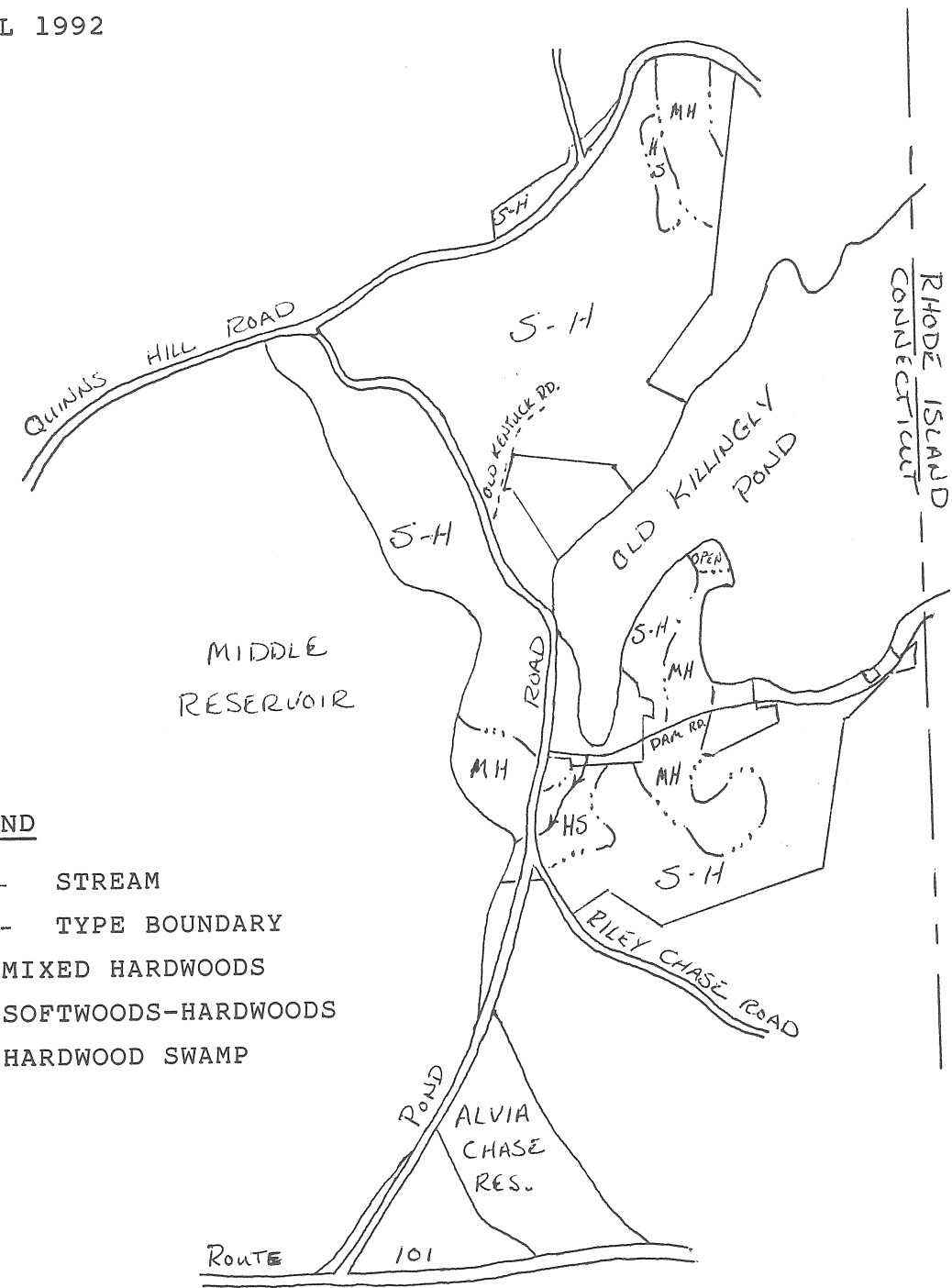
OLD KILLINGLY POND

KILLINGLY, CT

APRIL 1992



SCALE  
1" = 1000'  
APPROXIMATE



LEGEND

- ← STREAM
- - - - TYPE BOUNDARY
- MH MIXED HARDWOODS
- S-H SOFTWOODS-HARDWOODS
- HS HARDWOOD SWAMP



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## **WILDLIFE RESOURCES**

Paul Rothbart  
Wildlife Biologist  
DEP - Eastern District Headquarters  
209 Hebron Road, Marlborough, CT 06447  
Telephone: (203) 295-9523

The water bodies on site all provide some degree of value to wildlife, although in most cases very limited. Large deep open water bodies with little vegetative cover provide limited wildlife habitat. Use is often limited to resting sites.

The only wetland habitat of "quality" on the project site is the area west and northwest of the "Wall Area". This section has excellent shoreline and emergent vegetation and provides valuable waterfowl nesting habitat. Other species utilizing such areas include kingfishers, herons, kingbirds, cedar waxwings, otters, muskrats, mink, and numerous amphibians and reptiles.

Any recreational development on the area should strive to protect this limited "quality" wildlife habitat.

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## **FISHERIES RESOURCES**

Brian Murphy  
Fisheries Biologist  
DEP - Eastern District Headquarters  
209 Hebron Road, Marlborough, CT 06447  
Telephone: (302) 295-9523

### **Description of Resource**

The fisheries of Old Killingly Pond have not been recently sampled by the DEP Inland Fisheries Division. Past sampling surveys in the mid 1950's showed that the pond supports a warmwater fisheries; however, population levels of fish were found to be quite low (CT Board of Fisheries and Game 1959). The warmwater fish community is comprised of smallmouth bass, largemouth bass, chain pickerel, yellow perch, white sucker, golden shiner, sunfish species, and brown bullhead. Low fish population levels in the 1950's were attributed to low fertility and highly acidic waters (pH=5.6) that lack fish cover such as aquatic vegetation.

Although the existing status of the fisheries is unknown relative to species composition and population levels, recent water quality surveys have determined that water quality conditions have worsened. pH levels in 1989 ranged from 4.5 to 5.1 and lake waters have a minimal buffering capacity (CTDEP 1991). The acidic classification of the lake has been determined to be threatened. A threatened classification is one in which alkalinity (measure of water to neutralize acids) ranges from 0 to 5 mg/l.

At present, it is understood that the lake receives only minimal fishing pressure in the early spring and late fall. State owned property is classified as a state park scenic reserve. Public fishing is accomplished primarily along state owned shoreline access or through the launching of canoes or cartop boats in the area immediately north of the "wall". Reports from a few anglers show that the fishing is poor.

### **Recommendation**

The fisheries resources of Old Killingly Pond appear to be limited by unfavorable water quality conditions. These water quality conditions limit fish population survival resulting in low population numbers. From a fisheries perspective, no immediate actions can be taken by the Town of Killingly to improve this situation. The Inland Fisheries Division may survey the lake in the future to collect recent fisheries population data. In the interim, there is no immediate need to improve boating access, especially if the quality of fishing is poor.

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## Literature Cited

CT Board of Fisheries and Game. 1959. A fishery survey of the lakes and ponds in Connecticut. Report Number 1. Project F4-R. 395pp. lakes. Bureau of Water Management. 98pp.

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## WATER QUALITY AND MANAGEMENT

Charles Lee  
Environmental Analyst III  
DEP - Bureau of Water Management  
Lakes Management Unit  
122 Washington Street, Hartford, CT 06106  
Telephone: (203) 566-6691

Through a cooperative Connecticut Department of Environmental Protection (CT,DEP) and United States Environmental Protection Agency (U.S.,EPA) lake assessment program, Killingly Pond was sampled by the United States Geological Survey (USGS) on April 25, 1989 and August 28, 1989. The intent of this program was to identify the trophic and acidic classification of lakes in Connecticut which provide access to the public for recreation.

The trophic classification indicates the level of biological productivity within a lake. Lakes that are very biologically productive have high concentrations of phosphorus and nitrogen in the water column and are classified as eutrophic. Because of these plants nutrients, eutrophic lakes usually have extensive beds of aquatic weeds and frequent algae blooms. Lakes with low nutrient concentrations and little plant growth are classified as oligotrophic. Lakes in between these two classifications are classified as mesotrophic. Results from this survey determined that Killingly Pond is an early mesotrophic lake.

The CT,DEP acidity classification is based on lake alkalinity, measured in mg/l  $\text{CaCO}_3$ .  $\text{CaCO}_3$  is the acid neutralizing agent in a lake. Lakes sampled in this program were classified as acid impaired, acid threatened, or not threatened. Killingly Pond was classified as threatened with alkalinity measured at 1 mg/l  $\text{CaCO}_3$ .

Like most lakes, the water quality of Killingly Pond is a reflection of the watershed characteristics. An example of this is the low nutrient concentrations found in the water column of Killingly Pond. The watershed is relatively small and undeveloped with a watershed to surface area ratio of 6:1. Because of this small undeveloped watershed, only a limited amount of nutrients drain into Killingly Pond. This results in sparse weed growth and low algal production.

Another reflection of the watershed is the low alkalinity of Killingly Pond. The soils in the watershed are low in  $\text{CaCO}_3$  and therefore, have a limited ability to buffer acid runoff. Acid runoff can result from acid precipitation or from acid producing vegetation

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in the watershed. Conifer trees, found in the watershed, will produce low pH soils as a mechanism to reduce competition from other plants. Sphagnum moss in the headwaters of Killingly Pond replaces base compounds in the soil with acid. Therefore, one cannot simply say the reason Killingly Pond is classified as acid threatened is solely because of acid precipitation. Like any lake, a thorough analyses of the vegetation and the geology within the drainage basin is required to accurately assess the reasons a lake may be a low alkalinity or low pH lake.

For many years, Killingly Pond has provided recreational swimming on an unsupervised bases. Undoubtedly part of the attraction to Killingly Pond is the fine water quality. The Town of Killingly is fortunate to have such a high water quality lake available to its citizens for recreation. If this area is developed as a town beach, the facility should be planned so that this level of water quality is maintained. Areas of special concern are controlling pollutants conveyed by stormwater runoff from roads and parking areas, trash and litter control, and properly designing and maintaining sanitary facilities. Additionally, the beach area should also be designed to divert runoff around the sand section of the swimming area. Sand used for the beach should be washed so that all fine materials are removed before the sand is put in place. These precautions will help prevent sand from eroding into Killingly Pond and and reduce the need for replacement.

The Town of Killingly is also fortunate to have two other lakes with fine water quality within its borders. Both Alexander Lake and Wauregan Reservoir (Quinegaug Pond) were also sampled by the USGS through the CT,DEP/U.S.,EPA lake assessment program. Data from this survey were used to classify Alexander Lake as mesotrophic and Wauregan Reservoir as early mesotrophic.

Although the water quality of Alexander Lake is still very good, it has been down graded from a similar survey conducted in 1974. CT,DEP is addressing this concern by including Alexander Lake in a joint CT,DEP/U.S.,EPA program. This objective of this program is to identify sources of nutrient enrichment and sedimentation in watersheds of lakes which provide public assess but have not benefited from past state or federal lake restoration programs. CT,DEP will contact town officials when the survey is to begin.

The data available on Wauregan Reservoir in the CT, DEP's Bureau of Water Management files is limited to the information provided from the lake assessment survey. These data indicate that the water quality of Wauregan Reservoir is very good and ideal for swimming. If Alexander Lake or Wauregan Reservoir are used as a town swimming area, the planning precautions described for Killingly Pond should also be adhered to.

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**KILLINGLY RESERVOIR (Killingly Pond)**

Killingly Reservoir, owned by the Chestnut Hill Reservoir Company, is located in Windham County in the township of Killingly. A portion of the reservoir extends into Rhode Island. This artificial impoundment has an area of 137.5 acres, a maximum depth of 20 feet and an average depth of 11.6 feet. The pond is fed by small tributary brooks and springs. Submerged and emergent vegetation is scarce and is confined to the shallow areas. The bottom is variable and is composed mostly of sand, gravel, rubble, boulders and ledge. The water is clear and the transparency exceeds 10 feet. This reservoir, like most shallow ponds, is not thermally stratified.

The shoreline is well wooded with only a few cottages and summer homes present. There are no boat liveryes or other public facilities. This pond may be fished with either a Rhode Island or Connecticut angling license.

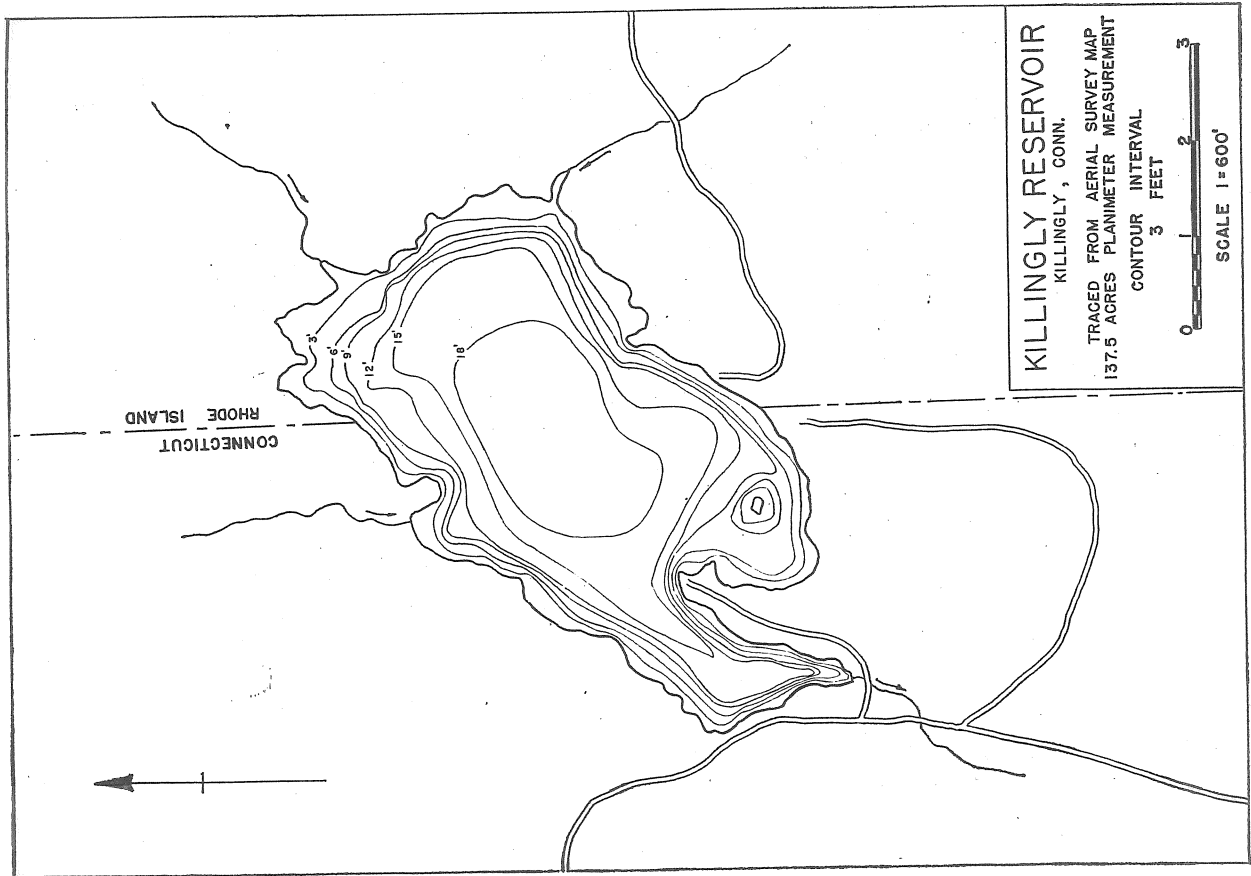
There are no records to indicate that this pond has ever been stocked by the State Board of Fisheries and Game.

Largemouth bass and smallmouth bass are present, but scarce. Too few of these fish were taken to determine growth rates. Chain pickerel and yellow perch are scarce and both species exhibit above-average growth. Common suckers, common sunfish and golden shiners are present, but scarce. Bullheads are common in abundance.

Killingly Reservoir has an extremely small fish population. The scarcity of fish can be attributed to some extent to the low basic fertility and to the lack of cover. Local sportsmen may be able to improve spawning areas and nursery areas by installing anchored brush shelters in the shoal areas. These brush shelters can serve as places for perch to spawn and can furnish escape cover for small fish.

Bass should be protected by a 14-inch minimum legal length. This regulation should not remain in effect for more than three years unless a re-check indicates that it is still needed.

No other special regulations are needed at this time.



I. Lake Name: Killingly Pond

II. Location:

Town - Killingly

USGS Quadrangle Name - East Killingly, Conn.-Glocester, R.I.

USGS Quadrangle Number - 44

Basin Identification Number - 3404

Latitude - 41<sup>o</sup> 51' 45"

Longitude - 71<sup>o</sup> 47' 35"

III. Physical Characteristics:

Surface Area - 137.5 acres

Mean Depth - 11.6 feet (3.5 meters)

Maximum Depth - 20 feet (6.1 meters)

Volume - 69,478,000 cubic feet (1,967,000 cubic meters)

Retention Time - 292 days

Watershed Area - 828.5 acres

Watershed/Surface Ratio - 6.0

Bathymetry - Available (b)

IV. Important Fisheries:

Largemouth Bass, Sunfish, Chain Pickerel, Yellow Perch, Sunfish

V. Public Access:

State owned public boat launch; access from Killingly Pond State Park Scenic Reserve.

VI. Classification:

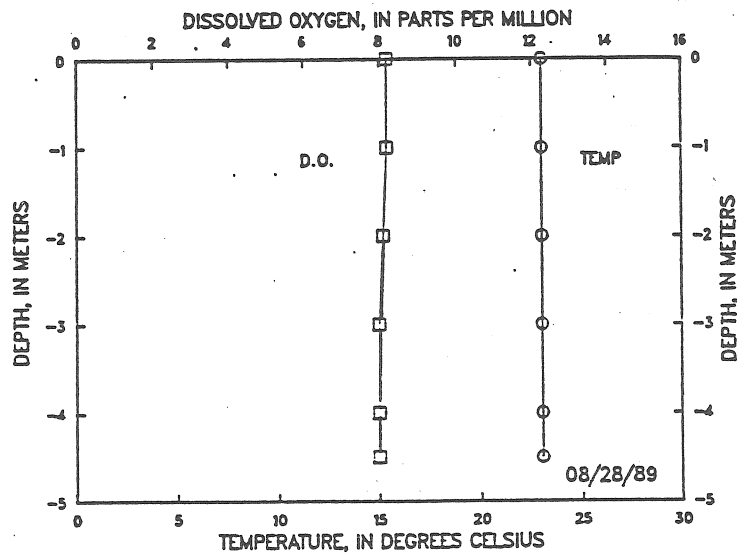
Water Quality Classification - A

Trophic Classification - Early Mesotrophic

Acidity Classification - Threatened

KILLINGLY POND  
(Killingly, CT)

Date	Alkalinity/CaCO <sub>3</sub> mg/l	Transparency m	Sample Depth	pH	Chlorophyll-a units	Total P	Organic N ppb	NH <sub>4</sub> - N	NO <sub>2</sub> N + NO <sub>3</sub> N	Total N
04/25/89	1	4.6	comp	5.1	-	10	284	16	18	318
08/28/89	1	4.6	0.3	4.5	0.2	5	395	5	10	410
			2.1	4.5	-	5	492	8	10	510
			4.6	4.5	-	6	2289	11	10	2310



Aquatic Macrophyte Notes

Areal coverage of aquatic vegetation was small. Growth was sparse in density; the only aquatic vegetation found was Utricularia spp. (Bladderwort).



I. Name: Alexander Lake

II. Location:

Town - Killingly

USGS Quadrangle Name - Danielson, Conn.

USGS Quadrangle Number - 43

Basin Identification Number - 3700

Latitude - 41<sup>o</sup> 51' 38"

Longitude - 71<sup>o</sup> 53' 57"

III. Physical Characteristics:

Surface Area - 190.4 acres

Mean Depth - 24.2 feet (7.4 meters)

Maximum Depth - 53 feet (16.2 meters)

Volume - 200,710,000 cubic feet (5,683,000 cubic meters)

Retention Time - 1,084 days (3 years)

Watershed Area - 571.2 acres

Watershed/Surface Ratio - 3

Bathymetry - Available (b)

IV. Important Fisheries:

Yellow Perch, Trout, Largemouth Bass, Smallmouth Bass, Chain Pickerel,  
Sunfish, Brown Bullhead

V. Public Access:

Town access.

VI. Classification:

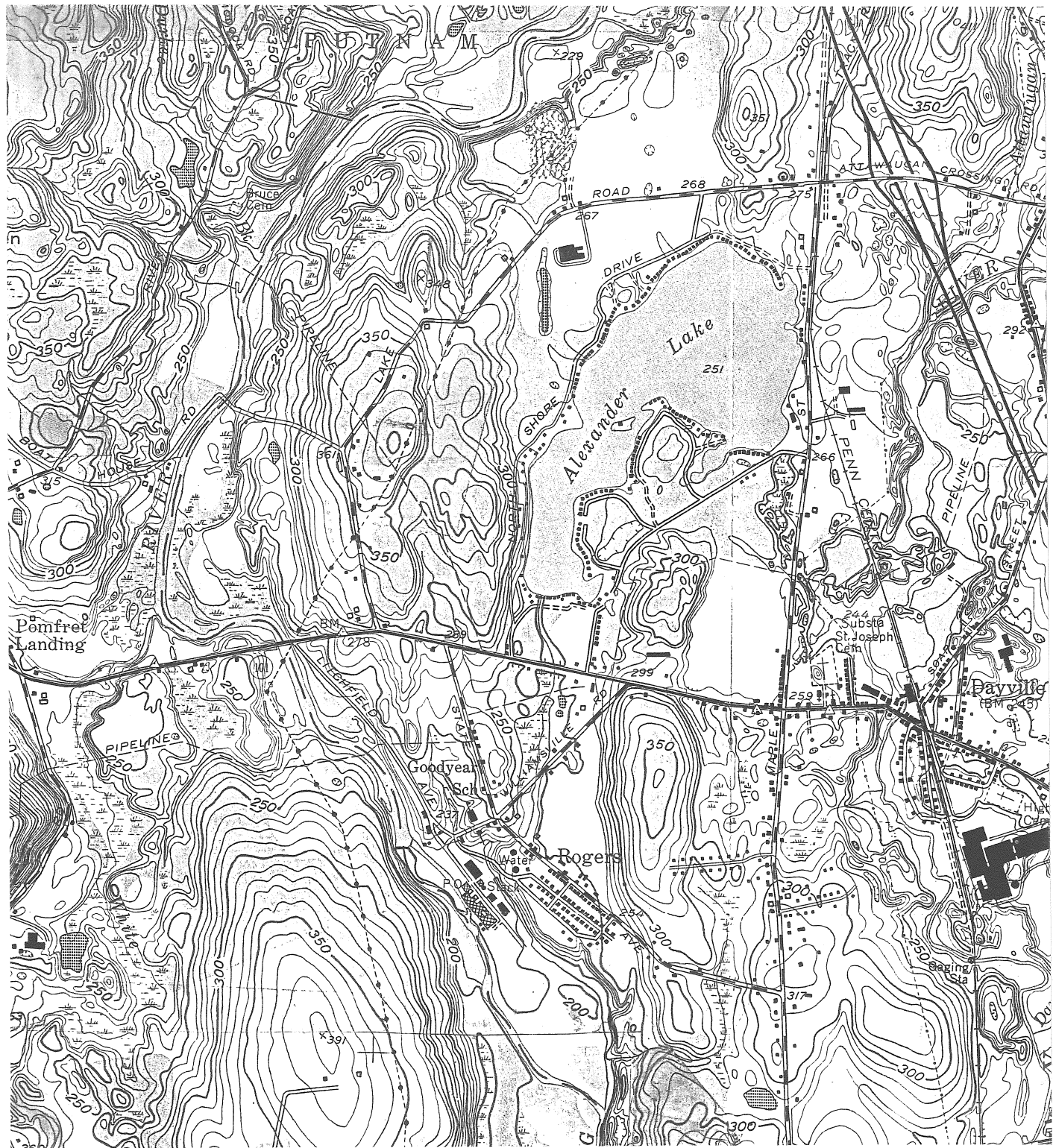
Water Quality Classification - A

Trophic Classification - Mesotrophic (1989); Oligotrophic (1975)

Acidity Classification - Not Threatened

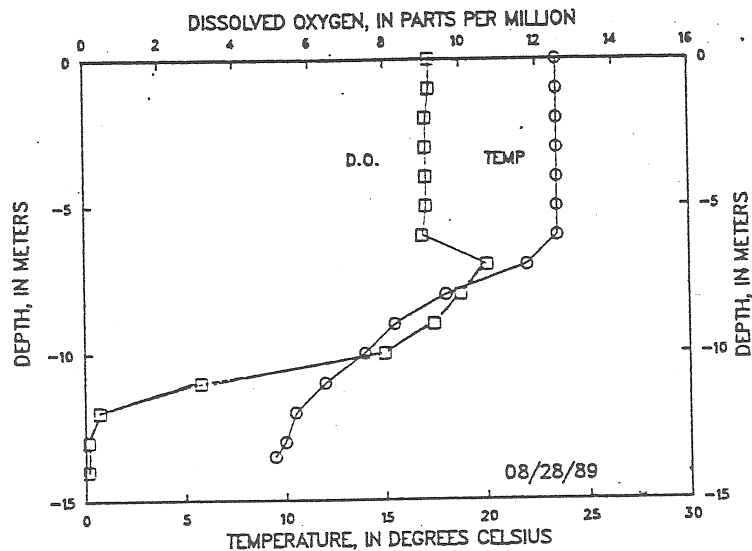
# ALEXANDER LAKE

Scale 1" = 2000'



ALEXANDER LAKE  
(Killingly, CT)

Date	Alkalinity/CaCO <sub>3</sub> mg/l	Transparency m	Sample Depth	pH	Chlorophyll-a units	Total P	Organic N	NH <sub>4</sub> - N	NO <sub>2</sub> N + NO <sub>3</sub> N	Total N
04/25/89	11	6.7	comp	6.8	-	50	483	17	10	510
08/28/89	5	6.1	0.3	8.3	2.6	23	970	28	10	1008
			6.1	8.1	-	6	790	7	10	807
			12.2	5.9	-	7	790	7	10	807
			13.4	5.9	-	51	210	292	10	512



Aquatic Macrophyte Notes

Areal coverage of aquatic vegetation was small. A small but dense patch of Nymphaea tuberosa (White Water Lily) was found in a shallow cove located along the southeastern shore of the lake and moderately dense growths of Nitella spp. (Stonewort) were found to the west of this cove.

I. Name: Wauregan Reservoir (Quinebaug Pond)

II. Location:

Town - Killingly

USGS Quadrangle Name - Danielson, Conn.

USGS Quadrangle Number - 43

Basin Identification Number - 3700

Latitude - 41<sup>o</sup> 46' 30"

Longitude - 71<sup>o</sup> 53' 18"

III. Physical Characteristics:

Surface Area - 68 acres

Mean Depth - Not available

Maximum Depth - 24.06 feet (7.3 meters)

Volume - Not available

Retention Time - Not available

Watershed Area - 623.2 acres

Watershed/Surface Ratio - 9.2

Bathymetry - Not available

IV. Important Fisheries:

Largemouth Bass, Chain Pickerel, Yellow Perch, Smallmouth Bass,  
Calico Bass, Sunfish

V. Public Access:

Public access boat launch; access located in Quinebaug Pond State  
Park; parking for 12 cars with trailers.

VI. Classification:

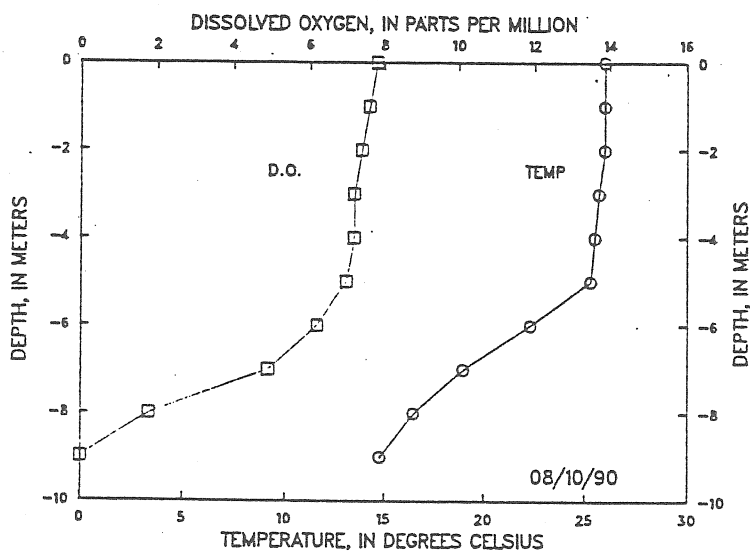
Water Quality Classification - A

Trophic Classification - Early Mesotrophic

Acidity Classification - Not Threatened

WAUREGAN RESERVOIR  
(Killingly, CT)

Date	Alkalinity/CaCO <sub>3</sub>	Transparency	Sample Depth	pH	Chlorophyll-a	Total P	Organic N	NH <sub>4</sub> - N	NO <sub>2</sub> -N + NO <sub>3</sub> -N	Total N
	mg/l	m		units			ppb			
05/23/90	7	4.3	comp	6.7	-	7	170	29	86	285
08/10/90	9	2.9	0.3	7.1	1.9	8	480	19	10	509
			5.2	6.6	-	11	660	39	10	709
			6.7	5.9	-	8	490	108	10	608
			8.2	5.7	-	12	410	86	10	506



Aquatic Macrophyte Notes

Areal coverage of aquatic vegetation was small. Vegetation included sparse growths of Sagittaria spp. (Arrowhead), Anacharis occidentalis (Elodea) and the green algae Nitella hyalina (Stonewort).

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## **INLAND WATER RESOURCES REVIEW**

Douglas Cooper  
Supervising Environmental Analyst  
DEP - Bureau of Water Management  
Inland Water Resources Division  
165 Capitol Avenue, Hartford, CT 06106  
Telephone: (203) 566-7280

1) The present uncontrolled informal beach area is generally limited to the roadway frontage across the dike and wall area along Pond Road. This access is of very limited size and does not provide for off-road parking. The concrete block wall shows signs of disrepair. Numerous concrete blocks are misaligned and subject to minor washout from erosion and wave action. Excessive foot traffic has eliminated vegetative cover and contributes to soil erosion.

2) The lake bed in the wall area is rocky and relatively shallow. As such, bathing beach development in this locale would require import of a significant amount of sandy fill material. This fill would, of necessity, be placed waterward of the normal lake shoreline. Beach fills can result in deterioration in the water quality due to increased turbidity. Such fills are subject to regulation under the inland wetlands and watercourses act and must be reviewed in light of available, less damaging, alternatives prior to approval.

3) Development of the area for more formal recreational uses may dictate the need for additional, off-road parking. There are nearby some areas which are non-wetland and possess acceptable slopes which could be developed for limited (i.e. 20-40 car) parking areas. Certain of these locations are, however, on State of Connecticut property and use would require DEP approval.

4) The roadway and lake front area which is presently being used for parking and bathing is a dike for Old Killingly Pond and is subject to regulation under the DEP Dam Safety Program. Inspections by personnel of that program have revealed that the condition of the dike is unsatisfactory and that certain repairs to the dike are necessary. Any further use of this area or other improvements to the shoreline or roadway will require authorization by the DEP Dam Safety Program. (Telephone: 566-7245)

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## **DEPARTMENT OF HEALTH COMMENTS**

Frank C. Singleton, Chief  
Public Health Sanitarian  
Northeast District Department of Health  
182 South Main Street, Brooklyn, CT 06234  
Telephone: (203) 774-7350

### **Water Quality and Recreation Concerns**

The development of a public bathing area requires certain consideration on legal issues, such as liability and ownership which will not be discussed further in this section. Access to this particular location may also be a safety concern that should be addressed by someone involved with traffic analysis.

The management and staffing of a bathing area is an important issue that requires considerable thought because of liabilities associated with injuries and drownings. The CT Public Health Code does not require a lifeguard in a public bathing area, but the development of an organized bathing area without lifeguards can be the source of considerable problems because of uncontrolled bathers.

The design of the bathing area has not been decided and therefore, it is difficult to analyze the suitability of a proposed beach. However, the CT Public Health Code minimum figure of dilution water per bather per day is a thousand gallons based on the number of bathers above this that may be accommodated providing the peak usage does not exceed two or three days. Amount of dilution water will vary throughout the course of the season. Since most bather utilization will occur during drier times when flow is lower, using a flow rate than can be expected to be equaled or exceeded 90% of the time will be a conservative viewpoint.

Until the volume and acreage of the lake are calculated, the above figure is unknown in terms of 1,000 gallons per bather. Another way to approach the problem in providing adequate dilution water where bathers will crowd into a small area is to estimate that 1,000 gallons of water within the immediate bathing area is available per bather per day. Since most activity in bathing areas is confined to water depths of seven feet or less, an average depth at most bathing areas would be somewhere between three or four feet. At this depth, approximately fifty square feet of surface area would contain one thousand gallons of water. Most bathing activity occurs within fifty feet of shore. Thus, one running foot of beach front per bather, would be adequate in determining bather load at the beach. For example, a beach area that was approximately 100 feet long would be restricted to 100 bathers per day to prevent the possibility of bacteria deterioration and to allow for swimming activity.

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One problem in this area may be the condition of the lake bottom. Bottom contours of the bathing area should be a smooth moderate slope with sufficient shallow area. Hazardous projections or rocks should be removed. If unable to be removed, they should be prominently marked to avoid injuries. Any object a person can become entangled in must also be removed. Swimming areas should be roped off with a lemon-line, floats and rope barrier, including an area for non-swimmers. A lemonline should run at the five foot depth level. Depth markers are also recommended.

Public bathing areas must provide bathhouses and toilets in adequate number and be in good repair. Toilets should be adequately maintained and serviced regularly. A recommended minimum number of fixtures for a swimming area based on maximum load are: one toilet per 75 males, one toilet per 50 females, one urinal per 75 males, one sink per 100 males and one sink per 100 females. Shower ratios are one per 50 males and one per 50 females.

Although no lifeguard is required by law at the bathing area, the Town should choose to employ lifeguards for specific time periods. If lifeguards are provided, it is recommended that a raised lifeguard chair be available. Not only does the raised chair give an unobstructed view of the swimming area, but it maintains a sense of authority and responsibility for the individual to be watching the swimming area at all times instead of chatting with the residents. If no lifeguard is on duty, there should be a warning sign placed in plain view with clear legible letters at least four inches high that states "Warning - No Lifeguard on Duty." Other beach front rules should also be listed such as "Children Not Allowed in Beach Area Without an Adult in Attendance", "No Horseplay", "No Glass on the Beach", and "Do Not Swim Alone".

Rescue equipment is required. The minimum unit of rescue equipment recommended per one hundred running feet of beach is one reach pole or shepherd's crook with blunted end plus two ring buoys with a maximum inside diameter of fifteen inches that have a fifty foot, one quarter inch diameter throw line attached to each ring buoy. A small boat would also be recommended to control bathing behavior and for rescue purposes.

It is required that an emergency plan be adopted by the Town. This plan would include knowing where the nearest available public telephone or if no public telephone is available, a telephone would have to be installed at the beach area. A first aid kit is also required along with the training for the beach personnel to use it.

## **Soils and Related Concerns**

The topography is mostly sloped 3-15%, with soils ranging from poorly drained to well drained. Primarily, the parcel contains Gloucester (GeC) and Charlton (CrC) soils, with

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the most accessible soils being GeC. There are also minor areas of other soils within this parcel of Ridgebury (Rn), Sutton (SxB) and Hollis (HrC).

Gloucester soils are sloping and somewhat excessively drained. The water table is commonly at a depth of more than 6 feet. GeC has rapid permeability, run-off is medium. GeC is generally suited to community development. Slope, poor filtering, large stones are limiting factors for on-site septic systems and building construction (some slopes of excavations in this soil are unstable). The stones on the surface hinder construction landscaping). Rapid permeability causes a hazard of ground water pollution in areas used for septic tanks.

The remaining soils Crc, Rn, HrC, and SxB, include severe limitations for community development (constructions of building and on-site septic systems). These limitations include a seasonal high water table at a depth of about 10 inches from fall through spring, bedrock at a depth of 14 inches, seasonal high water table at a depth of about 20 inches from fall to spring and compact soils. Refer to the Soil Survey Book, of Windham County, for additional information on these soils and their limitations.

A review of soil testing conducted on abutting property to the subject site showed excessive drainage, surface run-off, wetland soils, ledge and compact soils along with a high water table (Perched and apparent). Other testing conducted in the vicinity of this parcel along Riley Chase Road, Pond Road and Quinn Hill Road shows a range of soils.

After the site visit on March 26, 1992, it appears the major limitations will be slopes, surface water run-off, rocks and ledge. This may limit the type of and size of the sewage disposal system which may restrict the number of bathers allowed, if flush toilets and showers are to be used. It does appear that there are some areas that would be appropriate, in regards to slope. Another concern is with sediment pollution of the lake, if a lot of construction is proposed. At the time of excavation, and construction, all erosion and sediment control regulations will have to be strictly enforced to prevent any erosion and sediment pollution.

Based on visual observation, the residential development around the lake appears sparse (which includes some year-round and seasonal dwellings), it does not appear that there is a great potential for septic discharges into the pond.

Wetlands impacts may be significant by developing a beach along with adjacent buildings that are required because additional nutrient loading from the development of a public bathing area could occur. This should be evaluated by the Inland-Wetlands Agency.

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## Sewage Disposal

The CT Public Health Code requires the following regarding sewage disposal:

“adequate numbers of fly-tight privies or water-flushed toilets and sewage disposal systems shall be installed with the approval of the local director of health and maintained in an approved manner. Separate toilets for men and women shall be provided.”

Public Health requirements :

- ◆ Estimated sewage flows for picnic parks (toilet wastes only, per person) 5 gal. per day
- ◆ Estimated sewage flows for picnic parks (with bath houses, showers, flush toilets, per person) 10 gal. per day

Based on an average of 250 bathers per day at 10 gal per day; 500 bathers per day at 10 gal per day; and 1,000 bathers per day at 10 gal per day - with an average perc rate of 10-20 minutes, with an average sewage application rate:

### **250 BATHERS PER DAY**

250 X 10 Gallons Per Day = 2,500 Gallon Tank 2,500 divided by 1.1 = 2,273 sq. ft. divided by 3 = 758 lineal feet

### **500 BATHERS PER DAY**

500 X 10 Gallons Per Day = 5,000 Gallon Tank 5,000 divided by 1.1 = 4,545 sq. ft. divided by 3 = 1,515 lineal feet

### **1,000 BATHERS PER DAY**

1,000 X 10 Gallons Per Day - 10,000 Gallon Tank 10,000 divided by 1.1 = 9,901 sq. ft divided by 3 = 3,030 lineal feet

Again, it is important that the Town decided what type and size of bathing/recreational area is desired and what accommodations (privies or flush toilet) are desired and what number of bathers per day is desired.

Obviously, the larger the number of bathers allowed, the greater number of privies or flush toilets and the larger size of subsurface sewage disposal systems will be required.

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This would require a careful review of all conditions to determine if the soils and site conditions will be suitable for on-site subsurface sewage disposal.

A review of the few drilled wells in the area indicates that there should not be any difficulty in obtaining an adequate potable water supply on this site in terms of water quality. A bedrock well yield is impossible to predict and wells would be required to be drilled and tested in advance of approval of this area for bathing purposes. If the area was opened for sixty days, it may fall under the category of a non-community public water supply, which has certain legal sampling and management requirements and may require a certificate of need from the Public Utilities Commission along with a management arrangement with a public water company.

### **Bathing Water Quality**

The requirement for Artificial Bathing Place, for bacteriological water quality are as follows:

“The quality of water shall meet bacterial standards and dilution/flow requirements. An acceptable geometric mean for enterococcal indicator organism density for bathing waters is to be used when evaluating a proposed bathing area.”

The last test conducted on May, 1991, showed very clean conditions for a bathing area (see attached copy). Conditions can change, due to rain or lack of, run-off; any septic discharges, etc. Storm water management does not appear to be an issue at this site.

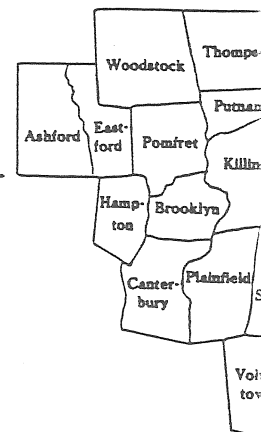
Further testing would be required, to evaluate these waters for bathing, to determine if it meets the standards for quality and flow. A request for an opinion on low pH at this site was requested as part of this report. pH is not an issue in natural bathing areas because chlorination is not utilized and corrosion of circulation piping is not an issue. Low pH can affect bather comfort in public pools, but does not appear to be a problem in natural bathing areas. If it were a problem, there is no practical method of adjusting pH in natural bathing areas.

# NORTHEAST DISTRICT DEPARTMENT OF HEALTH

P.O. Box 145 - 182 South Main Street - Brooklyn, Connecticut 06234  
Telephone: (203) 774-7350

August 21, 1991

Mr. Thomas Homan  
Town Manager  
Town of Killingly  
172 Main Street  
Danielson, CT 06239



SUBJECT: OLD KILLINGLY POND - YOUR LETTER DATED AUGUST 14, 1991

Dear Mr. Homan:

At the request of Mr. Wegrzyn, who is presently on vacation, I am responding to your letter dated August 14, 1991 regarding the subject site.

I spoke to the Town Planner's office and Mr. Rein informed me that to the best of his knowledge, this site is not designated as a public beach. The Northeast District Department of Health normally samples bathing places open to the public. The District does not sample, on a routine basis, bodies of water which are not designated as beach areas. However, we would be glad to sample this pond based on your letter.

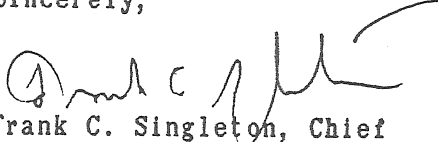
I would like to comment on Mr. Mikaelian's letter to Mr. Griffiths along with the associated newspaper article in the OBSERVER/PATRIOT dated August 21, 1991. Mr. Mikaelian states in his unsigned letter, that Doctor's have informed them that the most likely form of infection was a marine-borne virus found in fresh unclean water. I would like to point out that this is an undocumented assumption and that "marine" is defined as "of or pertaining to the sea". Unless the District has more concrete information submitted other than Mr. Mikaelian's letter, I would hesitate to conclude that his son's meningitis is related to his swimming in Old Killingly pond.

The last test conducted in May of 1991, showed very clean conditions for a bathing area. Conditions can obviously change rapidly, but even if future sampling shows high counts of bacteria, there is no mechanism to close an area that is not designated as a beach. In other words, swimming in a pond or river by individuals, is not regulated while swimming in a designated beach area can be regulated.

It became clear both in Mr. Mikaelian's letter and the newspaper article, that there is a land use conflict at this site. I believe that any solution to this problem that would be satisfactory to all concerned, would require a management plan for this recreation area, which apparently is not in place because of multiple jurisdictions regarding the ownership of the pond and surrounding land use.

The District is advising you as requested in your letter, that nothing can be done to regulate bathing in an area that is not designated as a "bathing area" by some legal entity. We will be glad to sample the pond and submit whatever results are transmitted by the state lab, but regardless of the outcome, the District does not intend to sample this area on a routine basis until we are informed that it has been designated as a "bathing area".

Sincerely,



Frank C. Singleton, Chief  
Public Health Sanitarian - NDDH

FCS:vc \_

Enclosure

cc: Thomas J. Wegrzyn, Director of Health, Fred Rein, Town  
Planner



STATE OF CONNECTICUT

Department of Health Services
Laboratory Division
10 Clinton St.
P.O. Box 1689
Hartford, CT 06144
TELEPHONE: (203) 566-5063

Table with columns: ID, ACCESSION NO., ACCOUNT NO., ROUTE. Values: NR:BA-586, 03077469, 006234

INFORMATION

B. A. MACOMBER
KILLINGLY POND
POND RD.
NONE GIVEN

BATHING AREA
NORTHEAST DISTRICT DEPT HEALTH
THOMAS WEGRYN, MPH
BOX 145 RT 205
BROOKLYN CT 06234

RECEIVED MAY 29 1991

Table with columns: COLLECTED, RECEIVED, REPORTED. Values: 05/20/91 12:25, 05/21/91 08:57, 05/23/91 12:07

REPORT

FINAL REPORT

COMMENT

Main data table with columns: TEST, RESULT, ACCEPTABLE RANGE, LOW, ACCEPTABLE RANGE, HIGH. Includes text: DATE/TIME ANALYZED 5/21/91 10:26, ANALYZED BY RH, ANALYTICAL METHOD MEMBRANE FILTER TECHNIQUE FOR MICROBIOLOGICAL ANALYSES ONLY, ENTEROCOCCI <5 PER 100 ML, THIS IS A FINAL REPORT.

# NORTHEAST

## Infection raises new concerns about pond

By KATIE VAN VORSE  
Observer Correspondent

**KILLINGLY** — A case of meningitis has prompted residents of the Old Killingly Pond area to renew demands that the Town Council take action to control activities at the dam.

In a letter to Town Manager R. Thomas Homan, Harry V. Mikaelian wrote that his adolescent son contacted meningitis, a bacterial infection of the brain and spine, after swimming in the pond. Residents have complained that par-

ters near the dam are creating a public health risk by urinating and defecating in the water.

The pond has been a trouble spot for the town for years. There have been continuing problems with cars, many with Rhode Island plates, clogging the parking lots, and with littering and disturbances. Stepped up State Police patrols have reduced but not eliminated the problems.

Homan said he informed the Northeast District Department of Health and the state Department

of Health of the infection last week. He said he expects the departments will test the water and send the town the results.

Residents have sent petitions and letters to the town over the years asking that the pond either be officially taken over as a town beach or else closed.

Several residents of the area around the pond, which is around a mile north or Route 101 on the Rhode Island line, attended the Town Council meeting last week to voice complaints and demand solutions.

Susan and Gene Larrow, who live near the pond with their young children, said their was a lot of public drinking, foul language, and littering, especially on weekends. They counted 450 cars there one weekend, and reported seeing dead fish and "all kinds of scum" near the wall side of the pond, where most of the lotterers congregate.

"What's it going to take for you people to do something about the problem?" Mikaelian asked the Council. "At what point are you going to say, 'This is not the town beach'."

The consensus among residents was that they had walled long enough, and that the town should do something about the pond now.

Kurt Meyer Jr. expressed concern about the town's liability for parking problems. "It's a problem that's not going away," he warned.

Virge Lorents, chairman of the Planning and Zoning Commission, also lives near the pond. She suggested the town use tow trucks to get rid of illegally parked cars, and she urged the Council to set up a standing subcommittee to work with representatives from the state Department of Environmental Protection, which owns the dam site, and Chestnut Hill Water Company, which holds water rights to the pond.

Meyer said environmental experts should be called in to determine the number of cars that the pond can safely handle, and he wants residents involved.

"There are Killingly taxpayers who love the pond and use it, and don't want to be locked out of the process," he said.

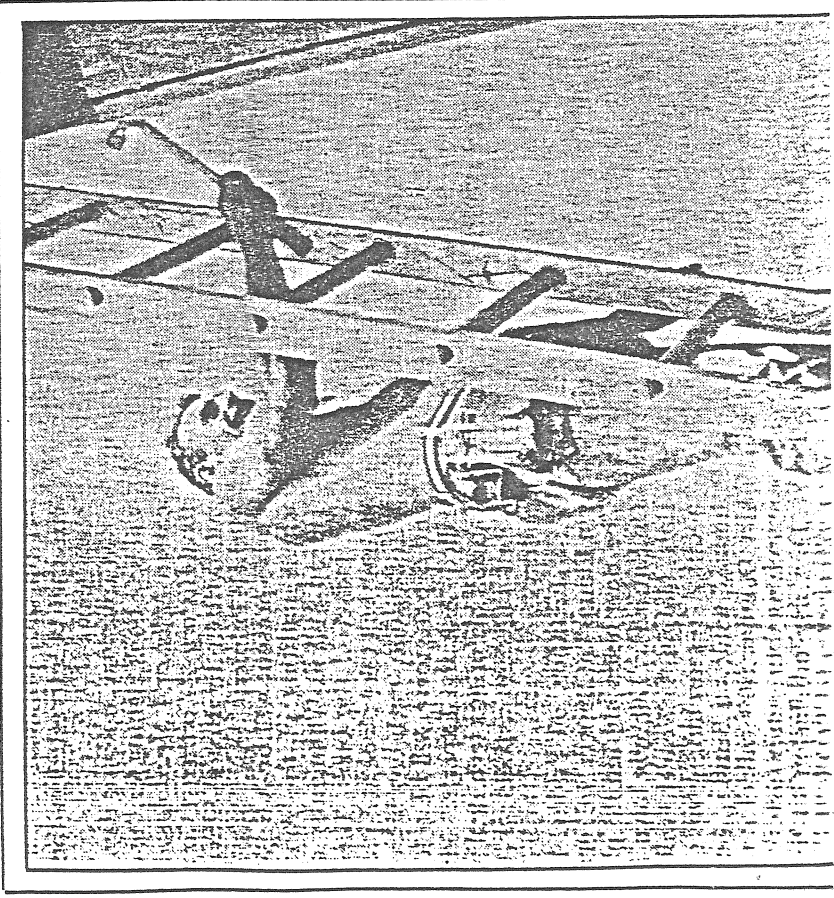
## Society makes strides despite short history

By DAVID BOYLAN  
Observer Staff Writer

The Association of Northeastern Connecticut Historical Societies is celebrating its fifth anniversary. Although it is still young as such organizations go, it already has a list of credits.

The interest was there, Miller said, and so a committee was formed to come up with by-laws.

Since its formation, ANECHS has undertaken several projects. One of those was form a special



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## STATE PARK PLANNER REVIEW

Joseph Hickey  
State Park Planner  
DEP - Bureau of Parks and Recreation  
165 Capitol Avenue, Hartford, CT 06106  
Telephone: (203) 566-2304

The purpose of this study is to review the potential of Killingly Pond as a possible municipal swimming area, as well as to consider whether or not it would be the most suitable site for this purpose within the town. In screening potential beach locations, the town should consider such general criteria as:

1. **INSTANT DEMAND** - Especially in terms of meeting health standards regarding volume of water available for dilution purposes.
2. **INSTANT DEMAND** - Using an old SCORP standard of 4% of community population as the instant capacity to be served at a municipal swimming area, Killingly should be considering a facility with an instant capacity of approximately 600 people.
3. **LOCATION** - Preferably a geographically centered site which would be relatively more convenient to centers of population.
4. **FEASIBILITY OF DEVELOPMENT** - Especially in terms of soil and slope.
5. **ACCESSIBILITY** - Preferably from state or major local arterial roads to minimize traffic impact on neighborhood streets.
6. **OPERATIONAL COSTS** - With significant economies of scale likely through operation of one facility versus several smaller ones.

With these general criteria in mind, the following summary comments can be offered on various sites offering swimming opportunity in the Town of Killingly:

1. **KILLINGLY POND** - A 138 acre waterbody with a volume able to support a use level of 2, 830 people daily (*Please refer to the Department of Health Review section for more detailed information on determining bather load*). Although the pond's shore contains a mix of state and private cottage ownership, state land on the western shore theoretically could support a small beach despite some probable development problems because of stony soils. Similarly, the rocky nature of the shoreline and pond bottom would require development of a beach. On the other hand, its crystal clear character
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makes it a very attractive prospect for swimming.

However the pond poses a number of problems as a potential municipal beach site. First of all it is poorly located (see **A** on Map #1) in terms of servicing the town's population. Secondly effective management control is impossible because of the proximity of Pond Road to the pond's shore and the mix of landownership. Because of the proximity of this public right of way, the pond has become a magnet for large scale casual use, often at night and often of a problem nature. Thus Killingly Pond must be considered as a readily accessible "attractive nuisance" suffering from a management vacuum caused by split management jurisdiction.

Eventually a town or state beach may be developed at Killingly Pond. However, whether or not such development occurs, the management problems will continue. Posting of "No Parking" signs along Pond Road in the vicinity of "the Wall", coupled with heavy police patrol and ticketing of parked vehicles can provide a partial solution, as has been done elsewhere. A more effective solution would be to close the road between points **A&B** on Map #2 to install gates, as well as to post "No Parking" signs between points **B & C**. This would require action by the town to close the road and reportedly the relocation of a U.S Mail Route, but should not cause serious access disturbance to any private landowners on the waterbody. Although some people will walk a considerable distance to reach an attractive pond of this quality and some informal use can be expected to continue with this suggested scenario, placing constraints on ready vehicular access has been found to seriously reduce usage and particularly problem usage at locations which previously had been management headaches.

**2. CHASE RESERVOIR** - An attractive 78 acre waterbody (**B** on Map #1 and on Map #2) which reportedly has been proposed to be sold by the Crystal Water Company. Although it is rather shallow, its volume would support approximately 610 swimmers daily and it appears to have a clean, hard bottom with few if any weed problems as of a 1980 visit during an ERT review. Beach development probably would require some dredging to deepen the water in the beach area. Nevertheless it is a high quality waterbody, surrounded by handsome woodland, and is in a relatively good location to serve town residents. Therefore, either the town or DEP should consider acquiring it, should the Crystal Water Company decide to sell it.

**3. CRYSTAL POND** - A very small but handsome pond (see on Map #1 and Map #2) owned by the Crystal Water Company and leased by the Town of Killingly which apparently would like to buy it. It is in a central location and could be the focal point of an attractive town park. However, as indicated in a recent ERT review, it can support only 102-121 swimmers/day and therefore could not handle more than the children's swim program currently in operation. Thus the town still will have the need for a town beach and will have to decide whether it is willing to support two swimming facilities or instead to operate one sizeable facility while utilizing Crystal Pond for more passive activities including

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fishing, picnicking, etc.

**4. QUINEBAUG POND** - A 65 acre DEP owned lake (**D** on Map #1 and Map #3) within a 180 acre property. It is a high quality spring-fed natural waterbody formerly used for water supply and which should be able to handle up to 1850 swimmers daily despite its small watershed and lack of feeder streams. Use constraints include:

a. Steep slopes to the west and east as well as nearby residential development on the terrace just west of the lake.

b. The lease of all but 21.5 acres of the property to the Department of Children and Youth Services, which has developed a camp at the south end of the pond.

c. Reported strong neighborhood opposition to a proposed lease of the remaining 21.5 acres (see hatched area on Map #3) to the town for use as a town beach. Nevertheless, the potential for a beach at the north end of the pond remains and it is comparatively well located in terms of ready access to town residents.

**5. ROSS POND** - within the largely undeveloped Old Furnace State Park (see **E** on Map #1 and Map #4) A relatively small (40 acre) shallow waterbody, it could support an estimated potential daily usage of 350-400 swimmers. However its watershed although limited in extent should be able to provide up to 90,000,000 gallons of storage versus the estimated existing 65-70,000,000 gallons. An inexpensive change in the level of the water control structure, erroneously installed too low in the 1960's, could restore the original water level and thus increase the use potential of the pond. However some dredging of sediments in the area of the beach probably would be necessary and the pond is geographically not ideally situated to serve centers of population in Killingly.

## **Summary**

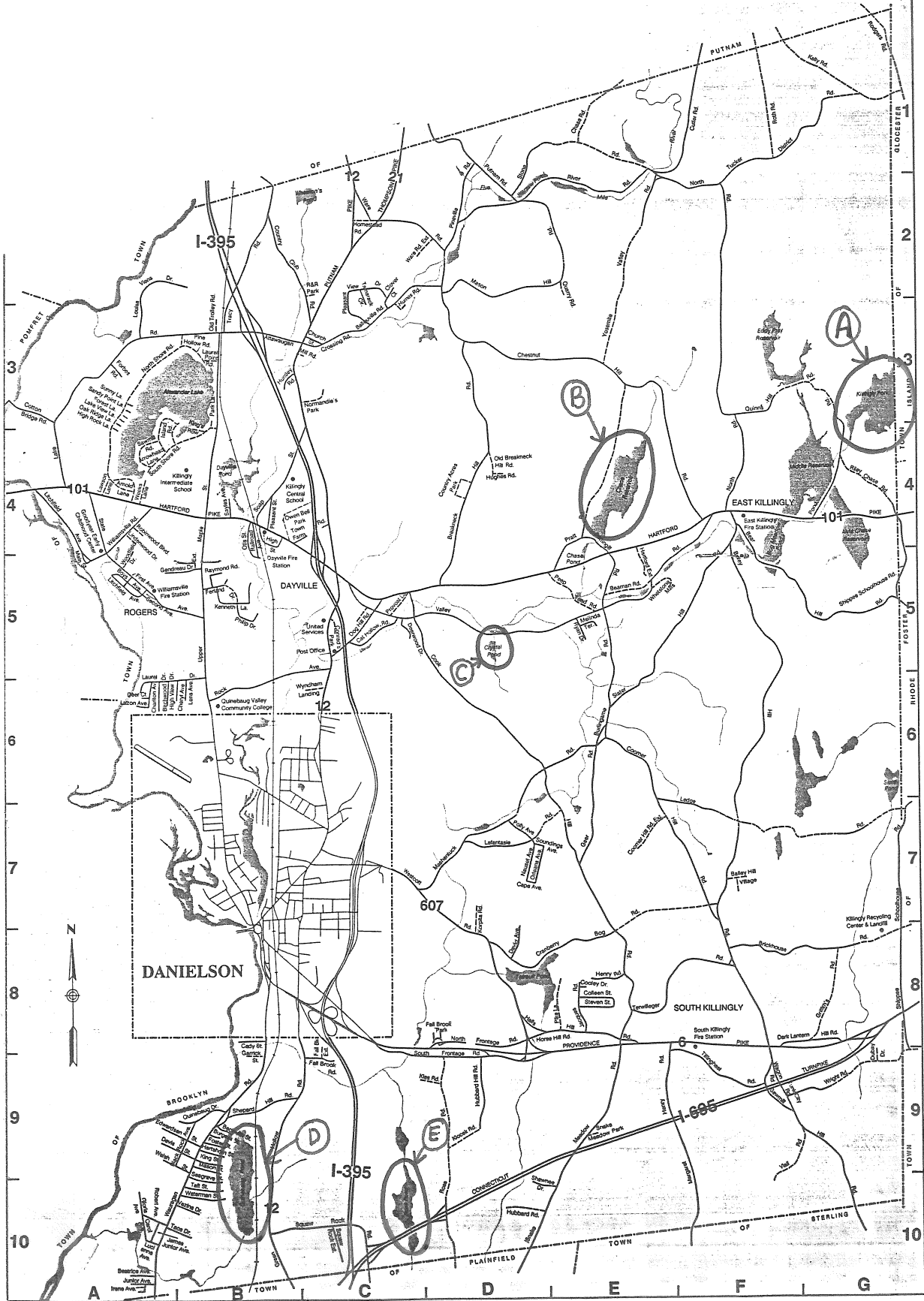
The foregoing review purposely has not included a detailed analysis of site conditions at Killingly Pond or other potential swimming sites in Killingly, as determination of possible sites and evaluation of their relative assets and liabilities was considered to be the essential first step. It will then be possible for Killingly to proceed logically on an appropriate course of action which could include a possible lease of a DEP property or lease or purchase of a Crystal Water Company property.

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# MAP #1

1992  
Map of Killingly  
Windham County, Connecticut



6667 IV NW  
(PUTNAM)

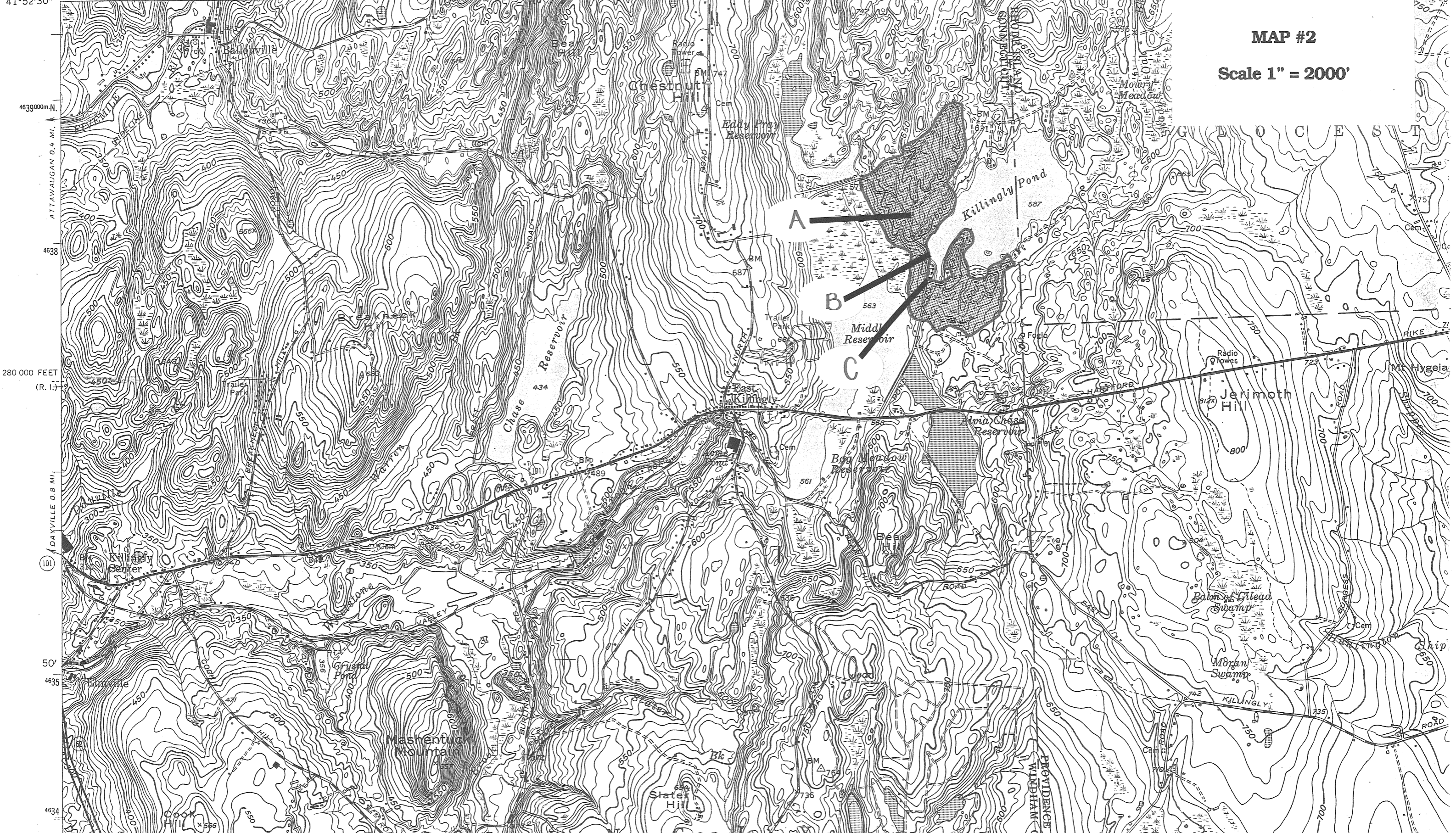
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

EAST KILLINGLY  
CONNECTICUT—R  
7.5 MINUTE SERIES

71°52'30" 262000m E. EAST PUTNAM 4.3 MI. 264 50' EAST PUTNAM 3.5 MI. 266 6667 IV NE (THOMPSON) 267 47'30" 269 41°52'30" 400000 FEET (R. I.) 263 870 000 FEET (CONN.)

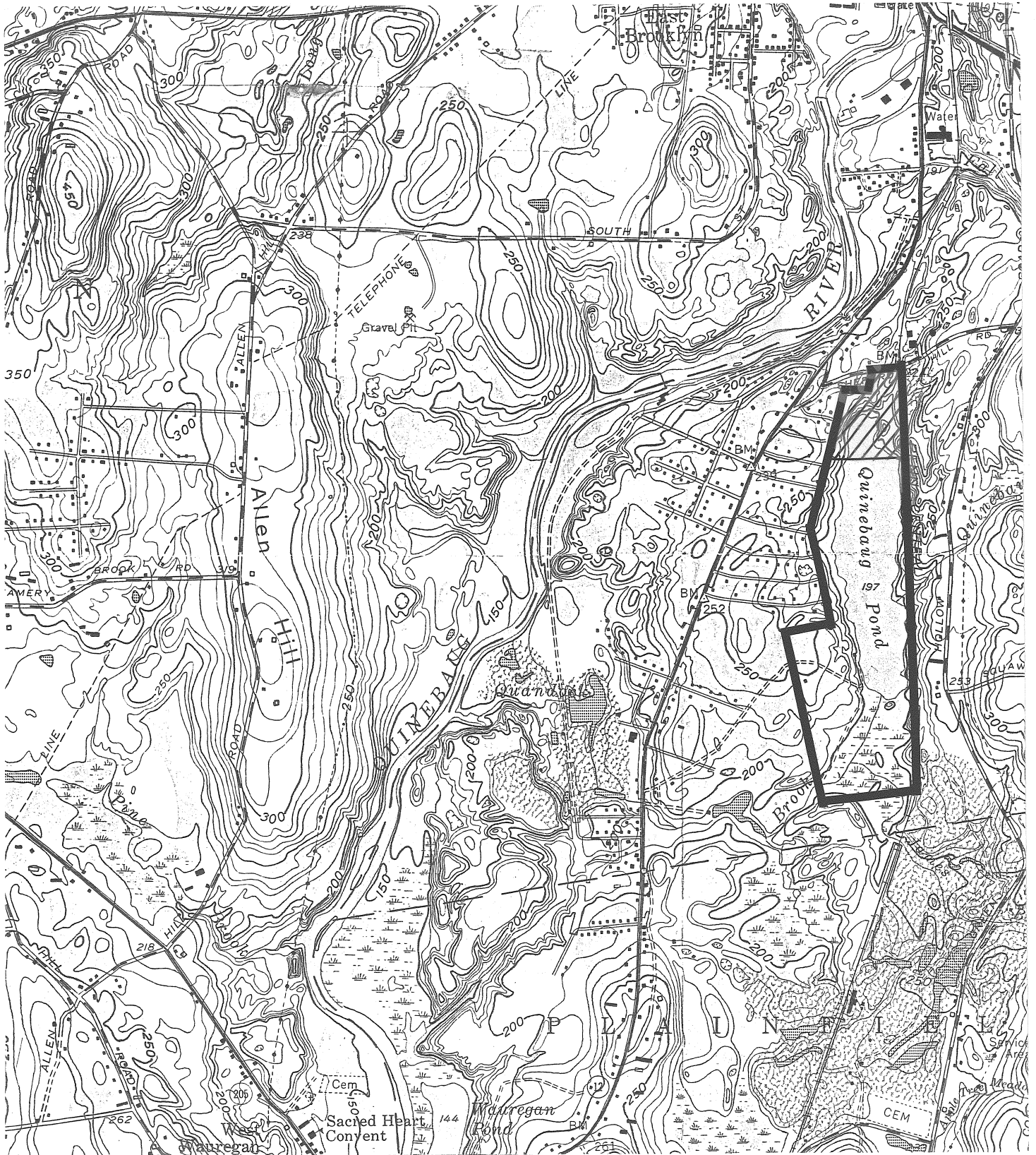
MAP #2

Scale 1" = 2000'



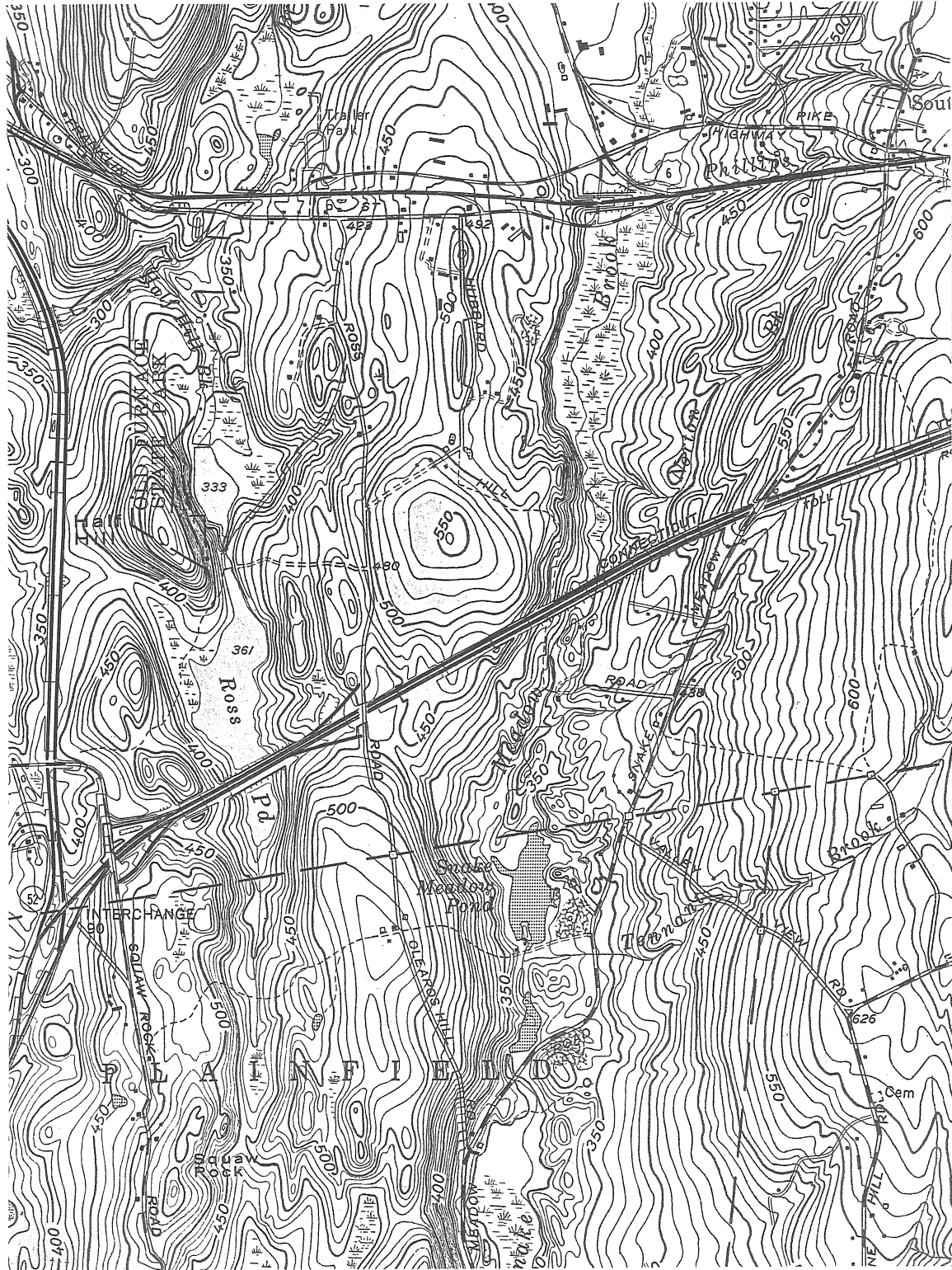
MAP #3

Scale 1" = 2000'



# Map #4

Scale 1" = 2000'



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## PLANNING REVIEW

James D. Rabbit  
Regional Planner  
Northeastern Connecticut Council of Governments  
P.O. Box 198, Brooklyn, CT 06234  
Telephone: (203) 774-1254

### Site Development Factors

**Soils:** The prominent soil type is GeC (Gloucester Soil). Gloucester soils are extremely stony, sandy loam and generally have slopes between three (3%) and fifteen (15%) percent slopes. Soil type may impact site development (excavation and landscaping). The impacts would include but not be limited to elevated costs associated with additional fill, landscaping, beach construction, septic disposal and parking/access.

**Topography:** The topography of the site ranges from approximately two (2) percent to over twenty (20) percent. Areas closest to the pond have slopes in the 2% to 5% range. The steeper slopes are located approximately two hundred feet from the pond's edge on the northwest shore, just north of Pond Road. Topography would limit site development and active recreational areas to approximately 200 feet from the water's edge. Topography would not, however, limit passive recreational activities on the entire site.

**Wetlands:** Wetlands are located at, and associated with, the outlet structure for Old Killingly Pond. Wetland corridors are adjacent to the outlet structure at the site. Two areas on the site could limit and/or hinder site development. The first is located on the west side of Pond Road, and the second is located just south of a private dirt road east of Pond Road. These areas are downstream from the 2 outlet structures for the pond. To allow future site development the outlet structures could be improved. Such improvements if undertaken could lessen the overall impact on the wetlands by site development. However, both areas are located downstream from the pond and could be left in their natural state, as long as this decision does not compromise the structural integrity of the dams.

**Recreation:** Both active and passive recreational uses could be developed at the Old Killingly Pond. Passive recreational activities could be located at the northwestern peninsula (the Point). Topography, soil type, and access would limit active recreational activities in the area. The aesthetics of the natural environment could be maintained in this area if left for passive uses (fishing, hiking, camp site). Active and passive recreational uses could be combined and located on the northwest shore of the pond, just east of Pond Road. This area would also be the best location for a swimming area since it has ample

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southern exposure. Development of this area would be limited by the surrounding topography, water quality and depth. A boat launch could also be located in this area, adjacent to Pond Road. The restricted area available for parking may, however, severely limit the number of active and passive recreational activities and facilities offered at the site.

**Traffic, Access and Parking:** Residential traffic appears to be low, a reflection of the overall low density of the area. Although seasonal traffic was not observed, it is said to be heavy during the summer months. Average daily traffic counts are not available for comparison. Site access is limited by existing pavement width and condition. The site is served by Pond Road, a paved road to the east and a dirt road to the west. Pond Road is approximately twenty feet wide; this width limits the number of vehicles that the road can safely handle. Widening of Pond Road would be difficult, because of its proximity to both water and wetlands. Parking at the site is also limited. Indeed, parking needs may hamper site development plans. Site restrictions may limit the number of parking spaces that are needed. If ample parking can not be built on the site, planned recreational uses may need to be scaled down or abandoned. Access and parking could severely limit any planned recreational activities, thus severely limiting site development.

**Safety:** This issue will need to be addressed by the Town. The isolation of this site may compromise needed security concerns. Limiting access to the site may solve some of the problems but not all. Site security needs thus must be a component of the selection process. Security of this site may be difficult due to its isolated location.

**Conclusion:** Old Killingly Pond has potential for both passive and active recreational uses, but its potential is limited due to restrictions of topography, soil types, wetlands, access and parking requirements. Old Killingly Pond may not meet the overall needs of the Town of Killingly. The existing conditions of the two dams located at the pond should be carefully examined by a professional engineer before any decisions are made on this site. The condition of the dams may make it economically impractical to develop this site.

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## **ARCHAEOLOGICAL REVIEW**

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CT State Museum of Natural History  
The University of Connecticut  
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A search of the Office of State Archaeology site files reveals that a number of sites are located in close proximity to the project area. Within the immediate area is the Old Killingly Pond Reservoir site, a 19th Century Mill site which was initiated by the owners of Chestnut Hill Mills. In addition, within a half mile of the proposed project area are the Eddy Pray Reservoir site, the Eddy Pray Reservoir Dam site and the Alvia Chase Reservoir Dam site. The Eddy Pray Reservoir site is a significant prehistoric village site where several types of stone tools have been found. The Eddy Pray Reservoir Dam and the Alvia Chase Reservoir Dam are both significant 18th century mill sites similar to the Old Killingly Pond Reservoir site.

The Office of State Archaeology suggests that the entire region around the pond is sensitive to prehistoric archaeological remains. It is recommended that any subsurface disturbance which may be required should first undergo an archaeological survey, prior to any construction.

The Office of State Archaeology is prepared to offer the Town of Killingly any technical assistance in obtaining an archaeological survey.

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# ABOUT THE TEAM

The Eastern Connecticut Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a variety of federal, state and regional agencies. Specialists on the Team include geologists, biologists, foresters, soil specialists, engineers and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area — an 86 town region.

**The services of the Team are available as a public service  
at no cost to Connecticut towns.**

## PURPOSE OF THE TEAM

The Environmental Review Team is available to help towns and developers in the review of sites proposed for major land use activities. To date, the ERT has been involved in reviewing a wide range of projects including subdivisions, landfills, commercial and industrial developments, sand and gravel excavations, elderly housing, recreation/open space projects, watershed studies and resource inventories.

Reviews are conducted in the interest of providing information and analysis that will assist towns and developers in environmentally sound decision-making. This is done through identifying the natural resource base of the project site and highlighting opportunities and limitations for the proposed land use.

## REQUESTING A REVIEW

Environmental reviews may be requested by the chief elected official of a municipality or the chairman of town commissions such as planning and zoning, conservation, inland wetlands, parks and recreation or economic development. Requests should be directed to the chairman of your local Soil and Water Conservation District and the ERT Coordinator. A request form should be completely filled out and should include the required materials. When this request is approved by the local Soil and Water Conservation District and the Eastern Connecticut RC&D Executive Council, the Team will undertake the review on a priority basis.

For additional information and request forms regarding the Environmental Review Team please contact the ERT Coordinator: 203-345-3977, Eastern Connecticut RC&D Area, P.O. Box 70, Haddam, Connecticut 06438.