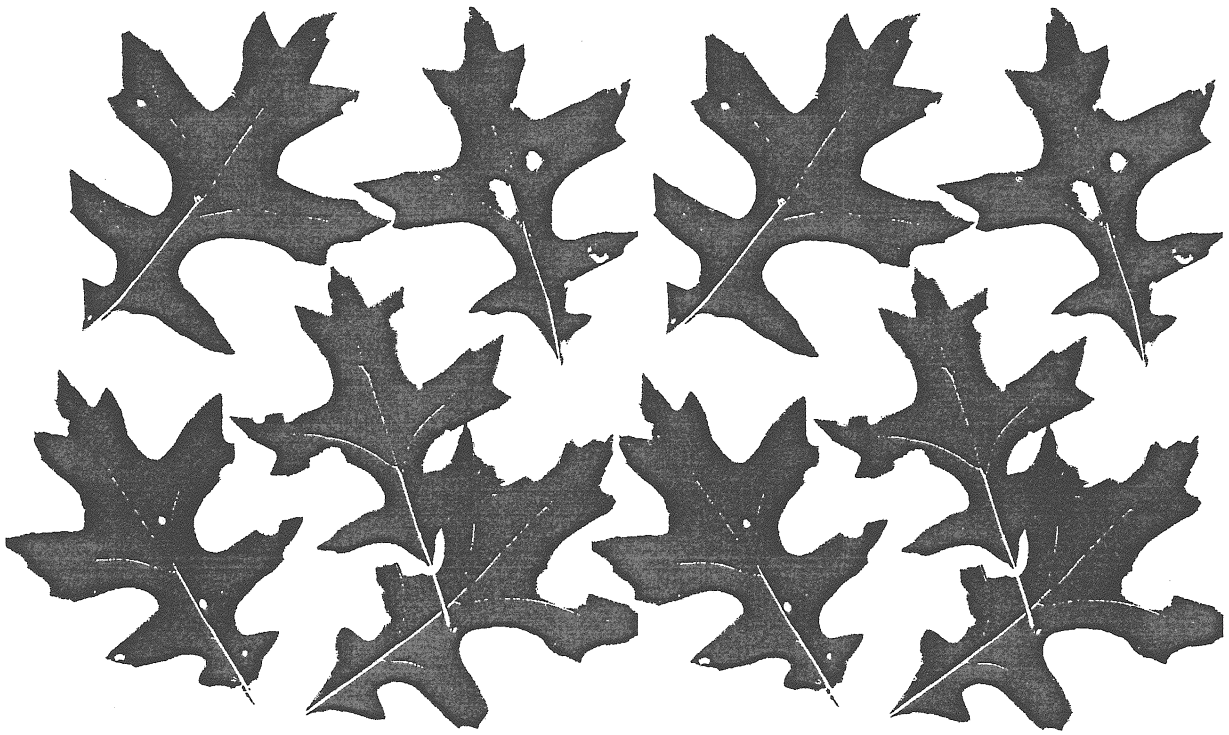
A.W. Stanley Park

New Britain, Connecticut



KING'S MARK ENVIRONMENTAL REVIEW TEAM REPORT

King's Mark Resource Conservation & Development Area, Inc.

A.W. Stanley Park

New Britain, Connecticut

King's Mark
Environmental Review Team Report

Prepared For
The New Britain Parks and Recreation Department
and the Friends of Stanley Park

August 1995

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Acknowledgments

The King's Mark Environmental Review Team Coordinator, Elaine Sych, would like to thank and gratefully acknowledge the following Team members whose professionalism and expertise were invaluable to the completion of this report.

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I would also like to thank Elaine Lechowicz, chairman of the Friends of Stanley Park, Peter Ledger, the New Britain parks and recreation director, and all the other members of Friends of Stanley Park for their cooperation and assistance during this environmental review.

Executive Summary

Introduction

The environmental review for A.W. Stanley Park was requested by the New Britain Parks and Recreation Department and the Friends of Stanley Park. A 30 acre portion of the park was studied and an assessment of the natural resources was provided along with recommendations for improving and enhancing the passive recreation and education potential of the park.

The review process consisted of four phases which included collection of data, analysis of data, identification of resource problems and a discussion of planning, management and land use guidelines.

Topography and Geology

The original topography of the site was greatly altered during the construction of the park in the 1920's. Dams were constructed, channels dredged, ponds excavated, ballfields graded and two small rock quarries were opened. Now "Nature" is reasserting itself by silting in the ponds and Bass Brook is trying to regain its old streamcourse.

The park is mostly covered by a sandy till overlying bedrock. The only rock outcropping in the park is Hampden Basalt. The other bedrock in the park is red sandstone and shale. Faulting has produced a complex outcrop distribution which can be seen on the geologic map of the New Britain Quadrangle. A detailed scintillation count re-survey of the park does not confirm the site of a radioactivity anomaly at the north end of Lower Pond that the author of the geologic map indicated on his map. The counts suggest no unusual radioactivity in the park.

Wetland Resources

The majority of the wetlands on this site are in the open water habitat of Lower Pond. Most of the pond is surrounded by forest. The pond contains two inlets, one from the cattail pond and another from the northern end of what was once a large forested wetland.

The cattail pond (at one time the swimming pool) was once an open water body and is now almost entirely a persistent-emergent marsh with cattails as the dominant vegetation. Bass Brook approaches this pond from the north in a channelized fashion where it flows through a heavily use area of the park.

There are two other small wetland areas in the northeastern forested portion of the park. These wetlands may be "vernal pools", although their water level may be influenced by the same watertable which creates Lower Pond rather than by surface runoff and meltwater.

These wetlands exist in a heavily urbanized watershed which presents many ways for pollution to enter watercourses and wetlands. Excessive sedimentation along with increased levels of nutrients entering Lower Pond and the "cattail pond" contribute towards eutrophication.

A detailed watershed/water quality/pond /pond study was not possible as part of this review, but there are several suggestions on how to approach this topic. Most of these require capital outlays and would be considered long term solutions.

- Define the watershed boundaries for both Lower Pond and cattail pond and map them taking into consideration the artificial drainage patterns that are found. Then formulate a plan to identify all the possible and actual sources of pollution. The next step is to address these sources with a plan of remediation.
- Another remedy to reducing nutrient levels in Lower Pond is to modify the inlet area at the northern end of the pond to provide for a more natural treatment of the incoming water.
- The cattail pond may be improved by restoring the bank of the inlet by removing the crumbling stone wall and introducing a "bio-technical" solution to maintain streambank stability and increase shading. Modification of the water flow through the cattail pond could produce a more diverse wetland ecosystem.
- Wetland restoration could take place in the area where the hiking trail runs through the lobe of associated wetland located midway down the southeastern side of Lower Pond. A significant amount of fill was placed here where the trail crosses the wetland. Removal of the fill could provide for an uninterrupted wetland down to the pond.

The Natural Diversity Data Base

According to the Natural Diversity Data Base files and maps there are no known populations of Federal or State Endangered, Threatened or Species of Special Concern at this site.

Fisheries Resources

Lower Pond is an impoundment of Bass Brook and an unnamed stream and has a surface area of approximately 8.3 acres. Water depths are relatively shallow appearing to average 4 feet.

The cattail pond is also an artificial impoundment of Bass Brook with a spillway release to Lower Pond.

The classification of surface waters in the watershed is listed as B/A, which means the waters are impacted. Soil erosion and sedimentation, roadway runoff and dissolved nutrients from the intensely developed land within the watershed has accelerated the eutrophication process, especially in the cattail pond.

The fisheries resources of the Lower Pond and cattail pond have never been formally investigated by the DEP Fisheries Division. The Bass Brook channel through the cattail

pond is likely to provide habitat for blacknose dace, tesselated darter, common shiner, and white sucker. Lower Pond would be characterized as warm water. Fish species associated with warm water include: largemouth bass, bluegill sunfish, pumpkinseed sunfish, black crappie, chain pickerel, yellow perch, golden shiner, and brown bullhead.

Development within the immediate watershed has impacted the water quality, especially within the cattail pond. There are a number of drainages discharging either directly into Bass Brook or tributary streams. Sediments and nutrients are are being retained in the cattail pond and are accelerating the eutrophication process.

Measures to eliminate or limit the sediments and nutrients going into the cattail pond would be difficult to establish and enforce. The cattail pond should remain as a wetland acting as a filter to protect Lower Pond. It may prove beneficial to to create catchment areas for sediments transported by stream flow at either the Bass Brook inlet to the cattail pond or within the vicinity of the dam.

There are no enhancement recommendations for Lower Pond, it is a viable warmwater pond resource.

Wildlife Resources

A.W. Stanley Park offers an opportunity to maintain a multiple use recreation area which includes protection and enhancement of wildlife habitat and outdoor resources education.

The value of city-owned forests, like A.W. Stanley Park, will increase and become more important as forests become smaller and more isolated. City-owned lands can be strategically managed to conserve habitat for wildlife and for the long term enjoyment of wildlife by urban residents.

It is recommended that public vehicle traffic which is currently allowed on the western side of Lower Pond (the dirt road) be closed. This will reduce habitat destruction and help to stop illegal dumping. The foot trails on the east side of Lower Pond should be limited to a main trail with only a few short paths which lead to specific habitat features.

Invasive non-native (exotic) plants should be removed because they reduce the quality of wildlife habitat by displacing native vegetation. An effort should be made to restore native plants. The invasive non-native plants include: winged euonymous, autumn olive, multiflora rose, tartarian honeysuckle, and Japanese knotweed.

The majority of the forest on the property is deciduous, with a minor component of evergreen. There is an opportunity to increase the conifer component on the southeast side of Lower Pond which will add cover and enhance nesting and foraging opportunities for residents and migrating wildlife.

The park offers many opportunities to educate urban residents about wildlife habitat and

its management. Interpretive signs and a printed trail guide can be used to educate park users about the function of habitat and the importance of habitat for the existence of wildlife.

The Team wildlife biologist is available upon request for further technical advice and assistance.

Forest Resources

The forest of A.W. Stanley Park is a two age deciduous forest. The older forest is made up of red, black, white , pin, and scarlet oaks, white pine, beech, sycamore, hickory, sugar and red maples with minor components of other mature trees. These trees are between 90 and 125 years old. The younger forest is comprised of red maple, white ash, sugar maple, black birch, oaks, and Norway maple a non-native invasive species. These trees are probably between 20 to 50 years old. Most of the property has not had a harvest in the past 100 years, except for a small area on the northeast side of Lower Pond.

There is little evidence of tree regeneration in the understory. The dense canopy has been successful in limiting the growth of bittersweet, honeysuckle and multiflora rose to the openings adjacent to the roads and trails. Should the understory be opened up too much these invasive species could become a problem in the interior of the forest.

The soils are productive for hardwood growth and there are limited patches of conifers. Over time, as the oaks die off, the forest will revert to a maple sugar, beech, white ash forest, with oak as a minor component. There are a number of recommendations dealing with the forest resources.

- Road and trailside trees should be checked for hazardous conditions.
- To increase diversity, the white pine stand on the east side of Lower Pond should be perpetuated by periodically thinning the hardwoods to let the white pine regeneration grow. At the northwest corner of Lower Pond the old field cedar and apple trees should also be released from competition from hardwoods. They provide wildlife food and cover and provide diversity.
- Road and trail sides should be periodically mowed to eliminate invasive species. Norway maple seedlings should also be removed.
- Existing trails should be upgraded and no new trails created. The soils are fragile, easily compacted and highly erodible.
- There is severe soil compaction in the picnic area. It is suggested that wood chips or stone dust be spread throughout the picnic area to provide for the missing organic layer.Large dead tree limbs need to be removed because they pose a hazard to people using the picnic area.
- Viewing areas for large, mature trees can be constructed by cutting brush or small trees between the trail and the desired tree, and narrative signs cans be posted on the trail.
- On the southeast side of Lower Pond there is a promising "sugar bush" developing. The trees could be tapped for sap as the trees mature. This provides an excellent educational opportunity to demonstrate a forest product that is used by almost everyone.

•Some kind of forest management plan will have to be developed in order to keep the forest healthy and diverse. The older, mature black oaks and other trees will succumb to age, insects, disease or human folly and if it is the desire of the city or the Friends of Stanley Park to keep oak as a major component of the forest then some form of forest management should be explored.

State Park Planner Comments

A.W. Stanley Park is an area worth preserving. The major area of deterioration is where vehicular traffic is allowed and the picnic area. Access needs to be changed, additional gates and parking provided, areas cleaned-up and new materials used in some of the high use areas. Also some repair is necessary to the trails to make them handicap accessible.

The only vehicles that should be allowed past the main loop are maintenance/city and emergency vehicles. Less damage will occur to the interior of the park if vehicles are stopped in more visible areas. Some existing roads can have gates, other roads should be blocked off, and the gates near Stanley Street should be closed at night. Recommendations include:
•Develop one parking area to replace all the turn-arounds presently in-situ.The borrow/ dump area that exists opposite the north entrance off Stanley Street would be a likely location.
•The ground surface of the picnic area should be scarified and covered with a layer of wood chips and picnic table "pads" built.
•Specifications for handicap accessible trails are included in the report. The paved main trail walked by the ERT should need only minor modifications.
•Active recreation should be limited to what is already on site. Activities that could be added include interpretive signs along the trails, viewing decks on the ponds and handicap accessible fishing decks.
•White pines could be planted along Hartford Road to absorb street noise and provide a visual buffer.

Outdoor Education/Passive Recreation

A.W. Stanley Park provides many opportunities for passive recreation activities and planning studies have shown that there is a growing need for local outdoor recreation areas. Vandalism, misuse and overuse are all problems that urban parks can experience, but there are steps that can be taken to mitigate problems. Vandalism can be reduced by:
•restricting vehicle traffic to the main loop of the park;
•involving the community in the planning and physical up-keep of the park; and
•maintaining a presence in the park and community through planned activities.

The New Britain Youth Museum at Hungerford Park cannot meet the demand for programs and A.W. Stanley Park presents an opportunity to expand Hungerford's activities and serve as a satellite program center. The ponds, open fields, and paved trail could easily

be incorporated into Hungerford's programs. A cooperative effort of Hungerford's professionals, the Friends of Stanley Park and other local volunteers could make this work.

Ideas for programming and community involvement include:
- using natural materials for holiday decorating for seniors;
- outdoor skills training for scout leaders;
- watershed and landuse planning training for local commissioners;
- nature photography;
- youth park ranger program;
- development of a sugar bush;
- park clean-up/fix-up days;
- possible use of stone building for programs.

The Hartford County Soil and Water Conservation District is available to meet with and provide additional information to the Friends of Stanley Park and the City of New Britain.

Archaeological and Historical Resources

A review of the State of Connecticut Site Files and Maps show no known prehistoric archaeological site listed for the park. An on-going State Historic Preservation Office-sponsored survey of municipal parks lists two historic foundations and two fieldstone bridges as historic resources found in the park. The inventory form provides historic background information that is useful for preservation efforts. The City and the Friends of Stanley Park should consider obtaining a copy for management purposes. Pre-historic sites have been undocumented, however, there is a moderate to high sensitivity that cultural materials associated with past Indian lifeways still exist. An archaeological survey for the undisturbed areas of the park which are under consideration for landuse activities is recommended. Local contacts and historians may be able to assist in providing information on prehistoric/historic artifacts that are not recorded at the state level. The Office of State Archaeology is available for technical assistance in completing a survey.

Contents

Illustrations

Introduction

An environmental review was requested by the New Britain Parks and Recreation Department and the Friends of Stanley Park.

A.W. Stanley Park was created from a parcel of land in the 1920's from a piece of land donated to the City of New Britain by Alix Stanley. The section of the park reviewed by the ERT includes a 30 acre woodland and two artificially created waterbodies fed by Bass Brook. A paved road and many hiking/walking trails were established in the park. A large picnic area was built, and many smaller picnic areas with stone fireplaces were scattered throughout the park. One of the waterbodies was used as a swimming pool, and a concession building, restrooms and changing facilities were built. It became a popular place for families to picnic, swim and enjoy nature. In the past twenty-five years the swimming pool was drained, the paved road was closed to through traffic and this part of the park is not maintained as it had been. Today the paved road is neglected and overgrown, buildings have been vandalized, the picnic area is bare and unappealing, and dirt trails have become vehicle access points for people illegally dumping. The park does contain over 100 documented species of nesting and migrating birds and has a diverse population of wildflowers, trees and shrubs.

The purpose of the ERT study is to provide an assessment of the natural diversity of the 30 acre section of the park and to make recommendations concerning the trail system, the ponds, buildings and how to enhance the passive recreation and education potential of the park without adversely affecting the habitat or wildlife.

The Environmental Review Team Process

Through the efforts of the City of New Britain, the Friends of Stanley Park and the King's Mark ERT, this environmental review and report was prepared. This report primarily provides a description of the on-site natural resources and presents planning, design ideas, management and land use guidelines. The review process consisted of 4 phases:

1. Inventory of the site's natural resources (collection of data);
2. Assessment of these resources (analysis of data);
3. Identification of resource problems; and

4. Presentation of planning, management and land use guidelines.

The data collection phase involved both literature and field research. The ERT field review took place on April 27, 1995. Mapped data or technical reports were also perused, and specific information concerning the property was collected. Being on-site allowed some Team members to verify information and identify other resources.

Once Team members had assimilated an adequate data base, they were able to analyze and interpret their findings. Results of this analysis enabled Team members to arrive at an informed assessment of the property's natural resource opportunities and limitations. Individual Team members then prepared and submitted their reports to the ERT coordinator for compilation into the final ERT report.

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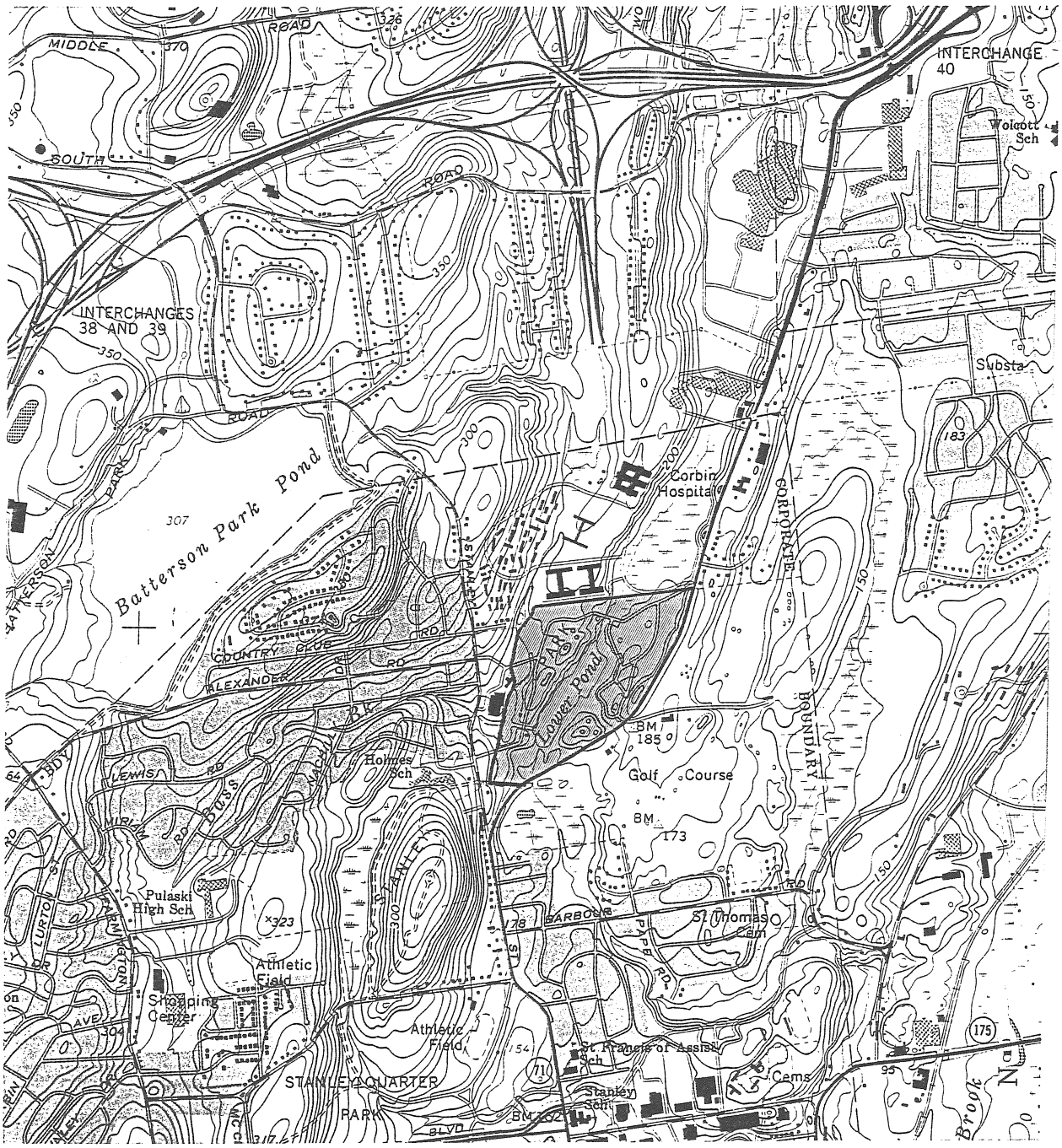
Figure 1

Location Map

Scale 1" = 2000'



Topography

A.W. Stanley Park straddles a small valley bounded by basalt ridges to the east and a gentle till covered sloping hillside on the west (Fig. 2). The original topography of the site was substantially changed with the construction of the two major earthenwork dams, the dredging of a 50 foot channel to drain the large wetland north of the park, the redirection of Bass Brook into Lower Pond, excavation and grading of the ballfield and the opening of two small rock quarries in the basalt ridges. Although these alterations were made only 50 to 100 years ago, it is evident that "Nature" is reasserting its control as the two artificial ponds are rapidly silting in and Bass Brook is trying to reclaim its old course by focusing its erosive power on the western edge of the bridge foundations under Hartford Road.

Surficial Geology

The park is for the most part covered by a loose, unstratified red-colored sandy till overlying the bedrock surface. The till blanket appears to be much thicker (up to perhaps 50 feet) on the western side than on the eastern side where the bedrock reaches the surface in a few spots. Wind blown (eolian) silt deposits up to 4 to 5 feet in thickness smooth out the topography by filling small closed topographic depressions on what must have been a very irregular ground moraine till surface in the northeastern corner of the park.

Where till and eolian silt cover is absent the smooth rounded and even polished surfaces of some of the basalt outcrops along the ridge crest just west of Hartford Road bear evidence of the efficiency of glacial erosion at the base of the thick ice sheet that covered the area 14,000 years ago. Long linear grooves and scratches produced by large rocks dragged by the ice across these polished surfaces provide ample evidence that the ice flowed from north to south.

Good exposures of the till are found where a park road cuts through the subdued ridge just west of the Lower Pond and in the excavation around the edge of the ballfield. The till is relatively uncompacted and is composed of glacially ground-up red shale and sandstone bedrock. The till is predominantly composed of sand, silt and clay-sized particles but large (inches to several feet across) angular rock fragments are abundant

within a few feet of the till surface. All of these features suggest that the till in the park originated as loose dust and dirt which was unceremoniously dumped in place as the ice sheet melted. Till may also accumulate at the base of the ice sheet where the bedrock is actively being ground into a fine powder. This type of till is compacted by the enormous weight of thousands of feet of ice and quite unlike the loose sandy till exposed in the park.

After the ice disappeared from the area, but before vegetation could establish a secure foothold, fine silts and sand sized particles were picked up by wind and redeposited in the wet hollows and protected depressions that dotted the barren terrain. These eolian (wind) silt deposits are exposed under the roots of large fallen trees in the "flat" area in the northeastern portion of the park.

Bedrock Geology

The only rock outcropping in the park is the Hampden basalt. A half-mile to the north, red sandstones and shales, the other principal rock comprising the bedrock in the park, are well exposed in road cuts in the apartment and condominium complexes. The rocks are Mesozoic in age, approximately 190 million years old; the sandstones and shales originally accumulated in a landlocked closed arid basin which extended from the present Long Island Sound to at least the Massachusetts-Vermont border; the basalt is the remnants of a 100-foot thick lava flow that flooded the entire basin. Subsequent faulting broke up the simple pile of sediments and lava to produce the complex outcrop distribution evident on the geological map of the New Britain Quadrangle (GQ-494). With the limited exposure in the park it is difficult to be certain of the bedrock geology in such a faulted area. One reasonable, but by no means definitive interpretation, of the bedrock is illustrated in Fig. 3. Although all the major faults on the map are inferred, smaller faults with similar orientations were observed in outcrops within and near the park. Another line of evidence supporting the interpretation shown is the distribution of basalt with abundant millimeter to centimeter sized gas cavities (vesicles) which characterize the uppermost part of the Hampden flow elsewhere. Simpson, the geologist responsible for the geological map of the New Britain Quadrangle, inferred the location of many of the NE-SW faults shown on GQ-494 by the presence of "anomalously high radioactivity." A detailed scintillation count re-survey of the park (Fig. 4) does not confirm the site of a radioactivity anomaly at the north end of Lower

Pond indicated on his map. Average background radioactivity in the New Britain area is roughly 200 counts per minute. The highest count rate observed within the Park was about 350 counts per minute - which can hardly be considered "anomalously high." The highs seem to occur in areas underlain by fine-grained red-bed derived sediments and lows in the vicinity of the basalt ridges. These observations are consistent with the natural abundances of the common radioactive elements Potassium, Uranium and Thorium in shales and basalt, and suggest no unusual radioactivity in the Park.

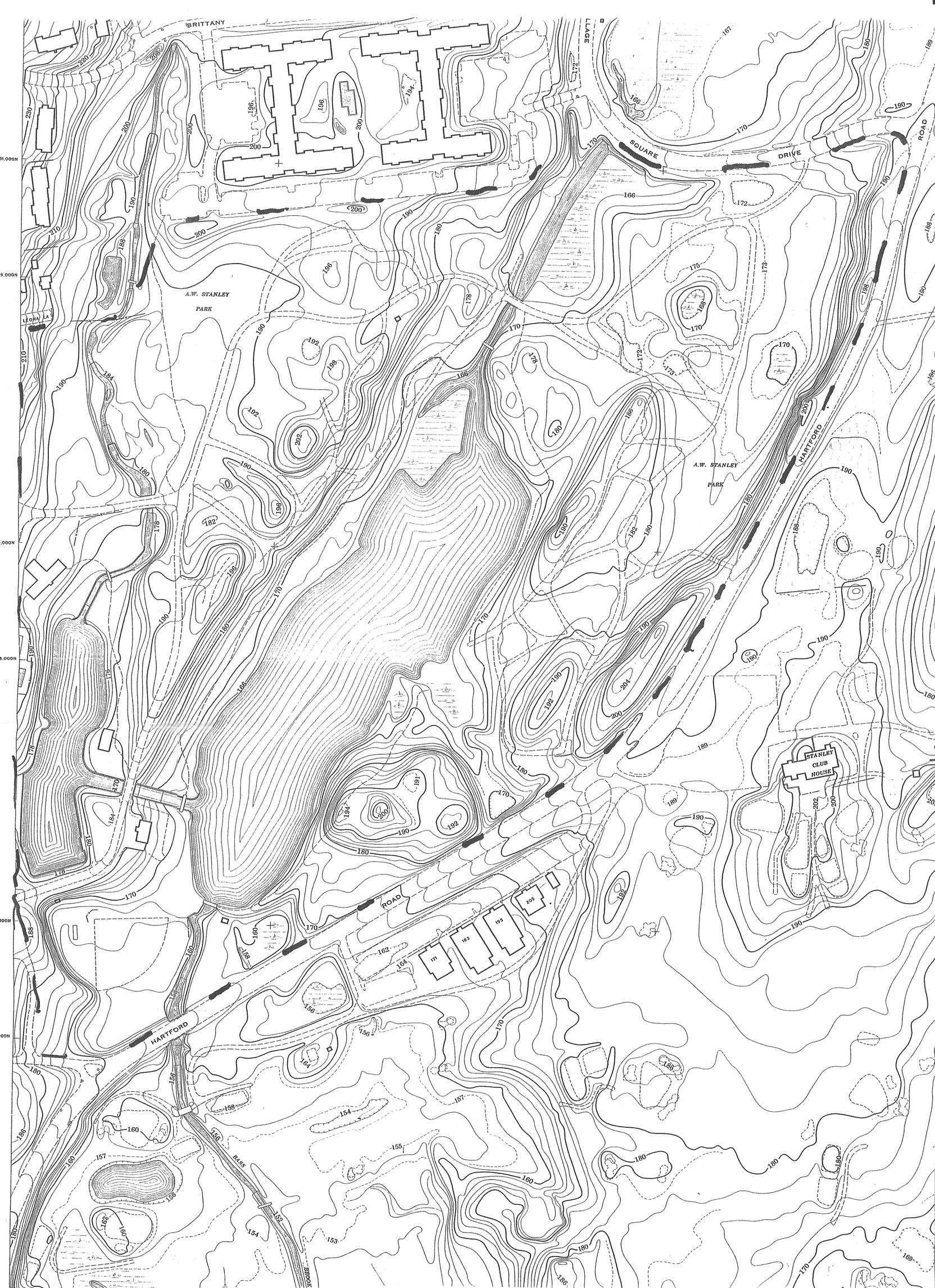


Figure 2

Topographic Map

Scale 1" = 200' (10% reduction)

Site Location

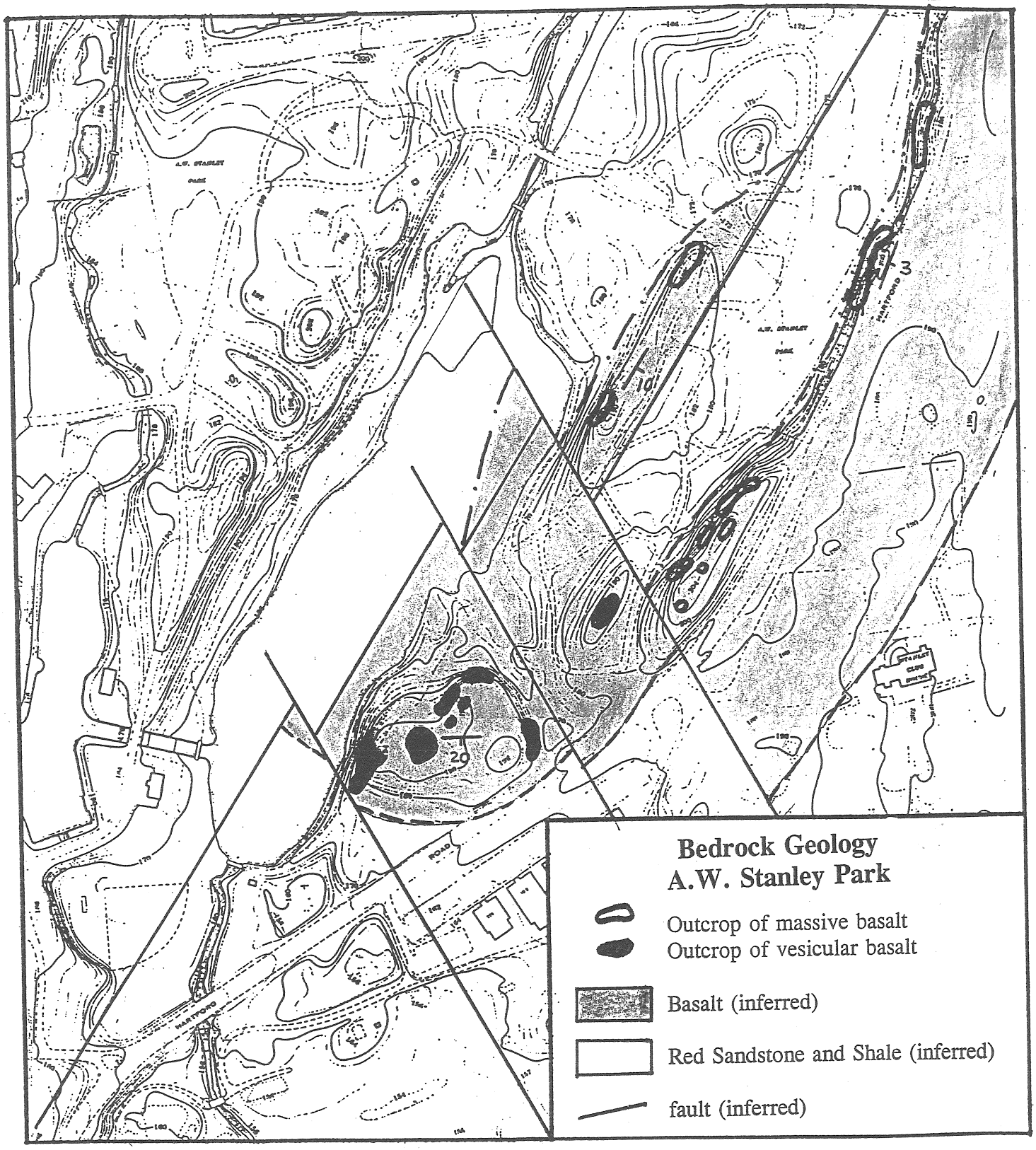


Figure 3

Bedrock Geology

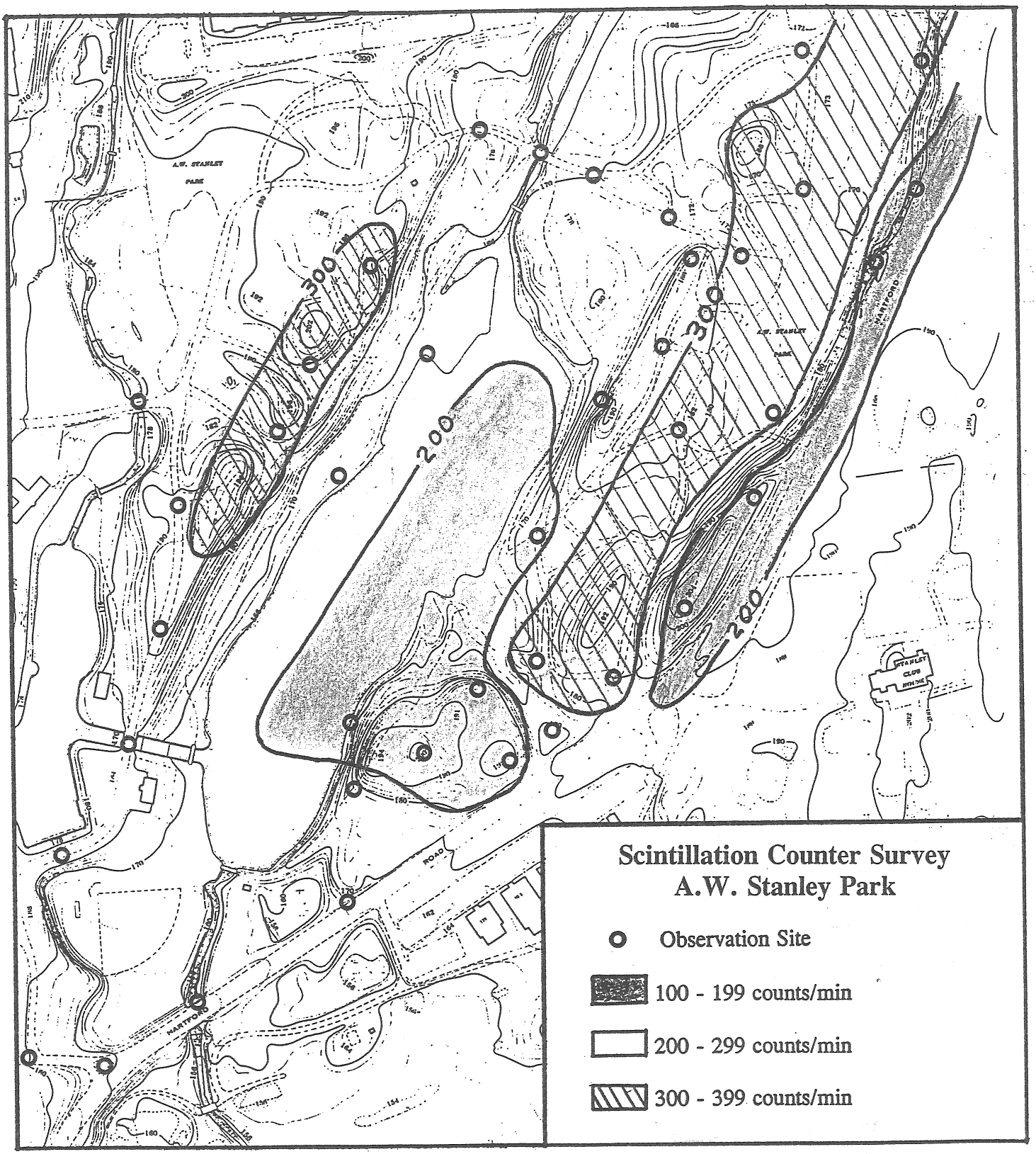


Figure 4

Scintillation Counter Survey

Wetland Resources

This section focuses on identification and assessment of wetland resources as well as the interaction of wetlands with trail development and relationship of wetlands to the watershed and its water quality.

Wetland Description

The majority of wetlands on this site are in the form of the open water habitat of the Lower Pond. Most of the southeastern shore of the pond is steeply sloped not allowing for the formation of emergent aquatic "edge" habitat along this shore. However, the upper half of the northwestern shore of this pond does contain a shallow shelf of this type promoting the growth of emergent plants, which increases the diversity of aquatic wildlife here. Although the emergent aquatic vegetation was not present at the time of the site visit, many painted turtles were observed "sunning" on their perches here.

Most of this pond is surrounded by forest except for the lower quarter of the northwestern shore which is landscaped. Halfway down the southeastern shore there is a half-acre forested wetland associated with the pond. The trees here appeared to be diverse and mature, with a healthy shrub layer. Bird life, including a red-bellied woodpecker, seemed to be particularly abundant here. On the contour map included in the ERT package, a one-acre area of wetlands was indicated on the upper northwestern shore. Field investigation revealed that this area was most-likely not a wetland.

The Lower Pond contains two inlets, one from the cattail pond at the bottom of the pond and one at the northern end. The lower inlet flows from Bass Brook while the northern inlet flows from a once vast forested wetland which, at one time appears to have extended north of what is now Interstate 84. A one-acre wetland associated with this channelized inlet exists at the north central part of the park.

The cattail pond is the other primary wetland system on this parcel. Surrounded by a crumbling stone wall, this was once an open water body (swimming/wading pool) but is now almost entirely a persistent-emergent marsh, with cattails as the dominant vegetation. During wetter periods with higher water elevations, small open water bodies appear to form in the marsh. Bass Brook, which flows through this marshy area, approaches the pond from the north in a channelized fashion where it flows through a

heavy-use area of the park.

Two other small wetland areas are present in the northeastern, forested portion of the park. These are isolated depressional wetlands which appear to fit the description of a "vernal pool." However, vernal pools usually receive their water from the surface runoff of storm and melt water which is retained by a restricting layer of fine silts. The elevations of these pools suggest that their water levels may be influenced by the same watertable which creates Lower Pond.

Relationship of Wetland to Watershed and Water Quality

The wetlands of this parcel exist within heavily urbanized watersheds. Land uses within the watershed include dense residential, commercial, recreational as well as an extensive network of roads and highways. This type of watershed presents many possibilities for pollution to enter watercourses and wetlands. Much of the problem occurs when storm water runs off lawns and impervious surfaces along with such pollutants as excessive sediments, coliform bacteria, heavy metals, fuel, solvents, antifreeze and excessive nutrients like nitrogen and phosphates.

Excessive sedimentation along with increased levels of nutrients entering waterbodies such as Lower Pond contribute towards "eutrophication", a process whereby the waterbody ages prematurely due to excessive plant growth and low oxygen levels. While a moderate amount of floating algae was observed during the site inspection, reports of excessive algae and putrid odors occurring as the growing season advances were heard during the site inspection.

Wetland Restoration Possibilities

A detailed watershed/water quality/pond study will not be possible as part of this review however some general input on how to approach this topic are offered below. Many of these suggestions would require "capital outlays", and should be regarded as long term solutions.

1) Define the watershed boundaries for both the cattail pond and Lower Pond. It may be

necessary to use information more precise than large scale contour maps due to the intricate topography and artificial drainage patterns found in this watershed. Once the watershed is defined, formulate a plan to identify potential and/or actual sources of pollution, especially those involving excess sediment and nutrients. Following this step is the challenge of addressing these pollution sources with a plan of remediation. Crossing municipal boundaries, as these watersheds do, adds to this challenge.

2) Another remedy to reducing nutrient levels in Lower Pond is to modify the inlet area at the northern end of the pond to provide more natural treatment of the incoming water. This may involve redesigning the channelized ditched inlet into more of a natural stream flow pattern which would permit increased uptake of nutrients along the newly created floodplain during flooding conditions.

3) The watershed of the cattail pond is not as urbanized as that of Lower Pond. However, there are several opportunities to improve this system as well. (Also refer to the Fisheries Resources Section for additional comments.) These may include restoring the bank of the inlet stream by removing the crumbling stone wall and introducing a "bio-technical" solution to maintain streambank stability and increase necessary shading here (many options exist which utilize natural fiber substrates in conjunction with appropriate vegetation to stabilize streambanks.) Also, while the cattail marsh in place now in the pond has some environmental merit, modification of waterflow through this area could be accomplished to produce a more diverse wetland ecosystem here.

4) A likely location for wetland restoration is located where the hiking trail runs through the lobe of associated wetland located midway down the southeastern side of Lower Pond. A significant amount of fill was deposited here on top of which the trail crosses this mature forested wetland. This fill could be relocated around the wetland to provide an uninterrupted wetland leading down to the pond.

The Natural Diversity Data Base

The Natural Diversity Base maps and files have been reviewed regarding A.W. Stanley Park. According to our information there are no known populations of Federal or State Endangered, Threatened or Special Concern Species that occur at this site.

Natural Diversity Data Base information includes all information regarding critical biological 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. Consultations with the Data Base should not be substitutes 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. Please be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEP for the proposed site.

Fisheries Resources

Site Description

The cattail pond and Lower Pond are two significant waterbodies within the bounds of the A.W. Stanley Park. Both are artificial, resulting from impounding flows of Bass Brook. Bass Brook flows are initially impounded in the cattail pond with a spillway release to Lower Pond.

A site map provided for review depicted the cattail pond as being approximately 1.4 acres in surface area. However, sediment deposition has accelerated the eutrophicatcn process with much of the pond having reverted to wetland. A well-defined channel of Bass Brook has established through the wetland.

As with the cattail pond, Lower Pond is an impoundment of Bass Brook and an unnamed stream. Lower Pond has a surface area of approximately 8.3 acres. Unlike the cattail pond, Lower Pond remains as open water. Water depths are relatively shallow, appearing to average 4 feet or less; maximum depth could not be determined based upon field review.

Land within the immediate watershed of the cattail pond and Lower Pond has been extensively developed as residential housing and commercial business. Soil erosion/deposition, roadway runoff, and dissolved nutrients originating from developed areas within the watershed has impacted water quality to a reported 1987 classification of Class B/A surface waters and, as previously mentioned, has accelerated the eutrophication process in the cattail pond as evidenced by the transition from pond to wetland.

Aquatic Resources

The fisheries resources of neither cattail pond nor Lower Pond have ever been formally investigated by the DEP Fisheries Division. The Bass Brook channel through the cattail pond is likely to provide habitat for stream dwelling fish of the more tolerant species such as blacknose dace, tessellated darter, common shiner, and white sucker.

Physical characteristics would categorize Lower Pond as being warm-water. Fish species most commonly associated with such waterbodies within Connecticut would include all or a portion of the following: largemouth bass, bluegill sunfish, pumpkinseed sunfish, black crappie, chain pickerel, yellow perch, golden shiner, and brown bullhead. Evidence suggests Lower Pond provides for recreational angling.

Impacts

Development within the immediate watershed has severely impacted water quality and aquatic habitats primarily within the cattail pond. A cursory field review of the immediate watershed revealed that land use practices have produced a number of drainages discharging either directly into Bass Brook or tributary streams. Sediments and nutrients from various point and non-point sources tend to become retained in the cattail pond as it is the only major, and farthest upstream, impoundment within the Bass Brook watershed. As was previously noted the retention of nutrients and deposition of sediments accelerate the eutrophication process altering viable pond habitat which, through succession, ultimately produces wetland or terrestrial habitats. Such a process has prevented similar impacts from occurring in Lower Pond.

Recommendations

Aquatic habitats within the cattail pond are undergoing change due primarily to an influx of sediments and nutrients. Measures to eliminate or limit the amount of sediments and nutrients would slow the eutrophication process however, given the large and extensively developed watershed, such measures would be extremely difficult to establish and enforce. The cattail pond should remain as wetland acting as a "filter" for removal of dissolved nutrients in effort to protect Lower Pond. It would prove beneficial to excavate a some accumulated sediments either at the Bass Brook inlet to the cattail pond or within the vicinity of the dam to create catchment areas for sediments transported by stream flow. These catchment areas are likely to require periodic maintenance.

Lower Pond is currently a viable warmwater pond resource. There are no enhancement measures recommended. Habitats and resources of Lower Pond are best protected by managing the cattail pond as a nutrient and sediment catchment basin.

Wildlife Resources

Urban Wildlife Habitat and Planning

As urban areas become developed, natural areas are divided into smaller, isolated pieces. Land that is in public ownership can be managed for wildlife habitat for the long term. In contrast, private land, which makes up about 88 percent of the land in Connecticut, usually changes ownership and is mostly not managed for wildlife for the long term. Wildlife habitat in urbanized areas can be places for citizens to enjoy wildlife within the city limits. In a survey of urban residents in five metropolitan areas of New York State, 96 percent of the respondents indicated that it was important for their children to learn about nature and 73 percent were interested in wildlife in their backyard or neighborhood area (Brown et al. 1979). The A.W. Stanley Park offers an opportunity to maintain a multiple use recreation area which includes protection and enhancement of wildlife habitat and outdoor resources education.

Value of A.W. Stanley Park as Wildlife Habitat and Outdoor Resources Education

As the forests of New Britain become smaller and more isolated, the value of city-owned forests will increase as wildlife habitat and refugia. Certain species are more adaptable than others. The larger forests will maintain wildlife species that are less adaptable to development. City-owned lands can be strategically managed to conserve habitat for forest wildlife and for the long term enjoyment of wildlife by the urban residents.

Local birders and conservation groups have documented over the years the variety of birds living or visiting the park (see Appendix A). Their species list includes quite a diversity of bird life and includes the adaptable wildlife species and those that are sensitive to human development. The property has the potential to be managed for wildlife and offers excellent opportunity for outdoor resources education.

Currently there are many foot trails and vehicle-access trails on the property. It is recommended that public vehicle traffic which is currently allowed on the western side of Lower Pond (dirt road) be closed. This will reduce habitat destruction and curb illegal

dumping to the benefit of wildlife. The foot trails on the east side of Lower Pond should be limited to a main trail with only a few short paths which lead to specific habitat features. Currently, there are too many trails interconnecting and criss-crossing. Some trails can be replanted with native vegetation or allowed to revegetate naturally.

Habitat Management Needs

With urbanization and development, humans have introduced many non-native (exotic) plants to the landscape which are invasive. Invasiveness of plants is measured by its ability to establish itself outside of its original planting and crowd out native plants through seed dispersal or other natural means. The following invasive non-native plants are found in the park:

Winged Euonymous (*Euonymous alata*)
Autumn Olive (*Eleagnus umbellata*)
Multiflora Rose (*Rosa multiflora*)
Tartarian Honeysuckle (*Lonicera tatarica*)
Japanese Knotweed

An effort to manage these invasive exotics and to restore native plants is recommended. The Japanese Knotweed is currently isolated in one location and should be eradicated before it has the chance to spread to other locations on the property (see Fig. 5). Further technical advice and assistance from the Wildlife Biologist is available upon request. Invasive exotics can reduce the quality of the wildlife habitat by displacing native vegetation and in some cases, dominate particular sites.

The majority of the forest on the property is deciduous, with only a minor component of evergreen. There is an opportunity to increase the conifer habitat in the southeast side. The existing patches of white pine regeneration can be enhanced through silvicultural techniques. It is suggested that the Team forester be consulted on how to enhance the white pine areas (pleasure refer to Forest Resources section). Increasing the conifer component will add additional winter cover and enhance nesting and foraging opportunities for resident and migrating wildlife.

Wildlife Corridor Importance

If one looks at the park property from an aerial view, its importance as a wildlife corridor can be seen (see Fig. 5). Arrows have been drawn to show possible interconnecting corridors that wildlife can use to get to other habitat areas.

Wildlife Habitat Education Potential

The park property offers virtually countless opportunities to educate urban residents about what wildlife habitat is and how it can be managed. Wildlife habitat is represented by the collective summation of all the environmental factors that occur at a given location such as food, water, cover, and their spatial arrangement. The public can be educated as to what the needs of wildlife are and what types of wildlife occur in their surroundings. This can help them understand the **function of habitat** and the **importance of habitat** for the **existence of wildlife.** Interpretive signs and printed trail guides can be utilized to point out various habitat components that provide wildlife the necessities to live and propagate.

The Team wildlife biologist can provide technical advice and assistance with regard to identifying wildlife habitat components and marking them in the field so that they can be incorporated into an educational trail guide. The DEP Wildlife Division's Sessions Woods property in Burlington is also available for touring and gaining some potential ideas and information regarding wildlife habitat and it's management.

Literature Cited

Brown. T.L., C.P. Dawson, and R.L. Miller. 1979. Interests and attitudes of metropolitan New York residents about wildlife. Transactions of North American Wildlife and Natural Resource Conference. 44:289-297.

AREA OF DETAIL

TOWN: NEW BRITAIN

QUADRANGLE: 51 NEW BRITAIN

500 FEET

0 1000 2000

1:24000 Scale or 1" = 2000'

DEP-GIS *Connecticut Land Use and Land Cover (Satellite Imagery)*

LEGEND

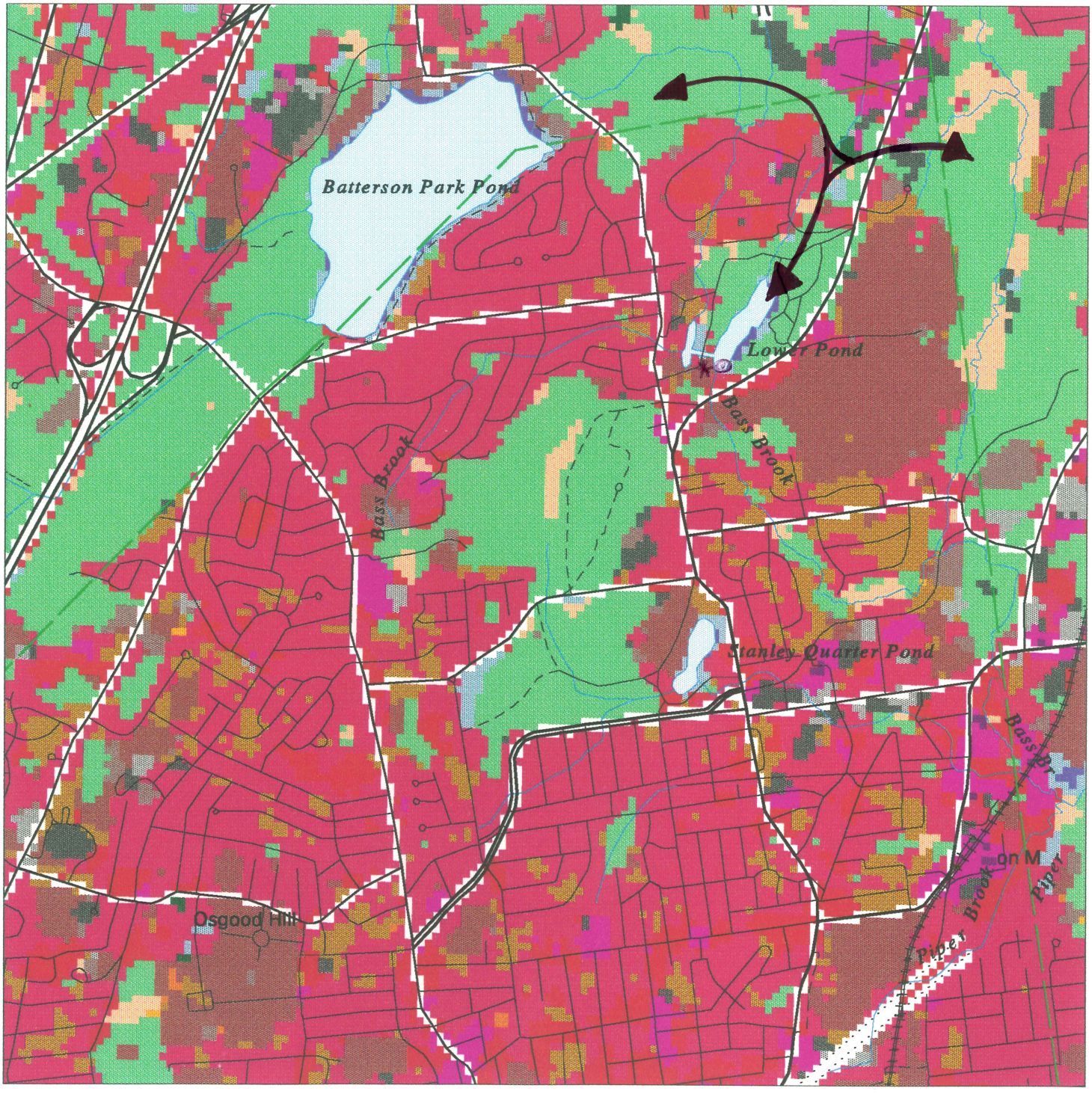
- IMPERV SURFACE
- H DEN RES/COM
- MED DEN RES
- ROOF
- PAVEMENT
- TURF/GRASS
- SOIL/GRASS/HAY
- GRASS/HAY/PAST
- SOIL/CORN
- GRASS/CORN
- SOIL/TOBACCO
- GRASS/TOBACCO
- DECID FOREST
- CONIF FOREST
- DEEP WATER
- SHALLOW WATER
- NON-FOR WETLAND
- FOREST WETLAND
- BARREN LAND
- BARE SOIL
- LOW COAST MARSH
- HI COAST MARSH
- MAJOR ROADS

→ = Wildlife Corridor

*⊙ = Japanese Knotweed location

PLOTTED: 05/10/95 15.07.25 GIS

Natural Resources Center, Connecticut DEP



Forest Resources

The forest surrounding the larger of the two ponds is typical for southern New England. It is a two age deciduous hardwood forest. The older forest is comprised of red, black, white, pin and scarlet oaks, white pine, beech, sycamore, hickory, sugar and red maples, and minor components of other, large mature trees, as well as remnant old field cedar. The older, dominant trees are at least ninety (90) years old, and possibly as old as 125 years of age. The younger forest is comprised of red maple, white ash, sugar maple, black birch, a few oaks and on the west side of the pond, Norway maple, which is an intrusive non-native species. Most of the trees are in the sapling/pole size class, and are probably 20 - 50 years old. There is also an area on the northeast side of the pond in which most, if not all of the older trees were removed in the 1970's. This area contains the greatest concentration of oak regeneration, some from seed but most from stump sprouts of trees removed for firewood. Other than this small area, most of the property has not been harvested in the past 100 years, with the exception of a few hazardous trees that were removed after they had died from various causes.

There is very little evidence of tree regeneration in the understory. Other than along roads and trails or in natural or human-made openings, there is very little herbaceous, shrub or tree seedling growth. The dense canopy has been successful in limiting the growth of bittersweet, honeysuckle and multiflora rose to the openings adjacent to trails and roads. Should the understory be opened up to too much sunlight, these invasive species could become a problem in the interior of the forest.

As these soils are so productive for hardwood growth, there are few patches of conifers on the property. White pine cannot compete against the faster growing hardwoods, and there is a little hemlock on the property. The lack of hemlock will preclude any future problems with the hemlock wooly adelgid. This is one insect which should have no impact on the future of this forest. However, there is no conifer shade tolerant enough to exist in the understory of this forest. Over time, as the oaks die off, this forest will mostly likely convert to a sugar maple, beech, white ash forest in which oak will become a minor component of the forest.

Recommendations

• If a narrative trail guide is to be developed, roadside trees should be checked for hazardous conditions. Large, dead, overhanging limbs should be removed, as well as trees whose structural integrity has been comprised by decay.

•To increase the level of diversity, the white pine stand on the east side of the pond should be perpetuated by periodically thinning out the hardwoods to let the white pine regeneration grow. This will provide winter cover for wildlife, as well as break up the monotony of the hardwood forest. At the northwest corner of Lower Pond, the old field cedar and apple trees should also be released from competition with hardwoods. Again, this will provide for wildlife food and cover and create a distraction from the sameness of the surrounding woodland.

• Road and trail sides should periodically mowed to eliminate invasive shrubs and vines such as multiflora rose, bittersweet and honeysuckle. Elimination of these species along the roadsides will preclude future problems within the interior of the forest. Norway maple seedlings should also be removed, as this is another prolific seeder that can very easily take over an area.

• Existing trails should be upgraded but no new trails should be created. While the soils are very productive for tree growth, they are fragile in that they are easily compacted, are highly erodible, and there is a hard pan layer at about 2 feet in depth. New trails on inclines should definitely be avoided, unless water diversion methods are instituted.

•Along these same lines, there is a severe soil compaction in the picnic area. As suggested during the ERT field review, perhaps wood chips or stone dust could be spread throughout the picnic area to provide for the missing humus (organic layer) which is necessary to protect sensitive feeder roots. A disadvantage of compacted soils is that water runs off, is not absorbed into the ground, and trees become more drought stressed. Large dead limbs should be removed from the mature red oaks to eliminate hazards to people using the picnic area. (Refer to State Plark Planner Comments.)

• Viewing areas for large, mature trees can be constructed by finding the best view from the trail, and then cutting brush or small trees between the trail and the desired tree.

Narrative signs can be posted adjacent to the trail for each "designated" tree.

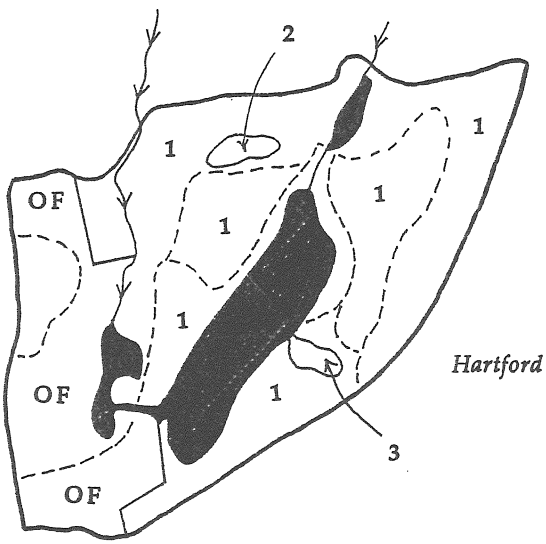
•On the southeast side of Lower Pond there is a promising "sugar bush" developing. This area contains many pole-sized sugar maple trees which in time could be tapped for their sap. This would be an excellent environmental education opportunity, as a small area could be used to demonstrate a forest product used by almost everyone.

•With or without human intervention, eventually the older, mature black oaks, and other older trees will succumb to age, insects and disease, or human folly. Whether forest management is an option or not, some plans will have to be made to answer the question of what should be done to keep the forest healthy and diverse. The older trees are approaching their maximum "average" age. Black oaks in general do not live more than 100 to 125 years. They are especially vulnerable to Gypsy moth defoliation, and as they get older, they, as people do, become more susceptible. If it is the desire of the city and the Friends of Stanley Park to keep oak as major component of the park, than some form of silvicultural (forest management) activity may be an option that should be explored.

Figure 6

General Forest Type Map

OF - Open Field
1 - Mixed Hardwood., 30+ acres
2- Red Cedar/Apple Trees, 2+ acres
3 - White Pine, 2+ acres
Water/Marsh
Type Boundaries
Trail - - - - - - -



Stanley Street

Hartford Road

N

Figure 7

Soils Map

Scale 1" = 1667'

State Park Planner Comments

A.W. Stanley Park is certainly an area worth preserving, the flora and fauna include a wide range of species in a changing landscape.

Listening to the "Friends of Stanley Park" their main concern is to maintain the status quo while projects are undertaken to restore damaged areas and improve interpretation. The specific concerns that will be addressed in this section are the topography with an of assessment of park roads and trails for repairs, marking for self-guided walks and trail accessibility for physically challenged individuals and recreation with suggestions for recreational uses (other than birding, nature studies and photography) that will be the least disruptive to wildlife and other natural resources.

At present, the major deterioration is occurring in areas where vehicular traffic is allowed and in the picnic grove. Access needs to be changed, additional gates and parking added, areas cleaned-up and new materials used in some of the high use areas. Some repair work would need to be done on the trails to have them considered accessible to individuals with handicaps (mobility or sight) and a couple of stretches would need regrading. The width of the trail is adequate.

The only vehicles that should be allowed past the "main loop" are maintenance/city and emergency ones. By stopping vehicles in the more visible areas of the park, less damage (dumping and vandalism) will occur in the interior. Some existing roads can have gates, the others roads should be blocked off, and gates near Stanley Street would close the park at night. Develop one parking area (gravel or stone dust surface) to replace all the turn-arounds presently in situ. The borrow/dump area that exists opposite the north entrance off Stanley Street would be a convenient location. The center aisle and handicapped parking spaces could be bituminous concrete with the remainder being a pervious surface, like gravel. Native materials should be planted in disturbed areas to stabilize the slopes. (Refer to Fig. 8 found in back pocket.)

In the picnic area, the ground surface should be scarified and covered with layer of wood chips. A crushed stone path should be included, thoroughly compacted, at 5% of the sites (to match required number of handicapped parking spaces). The picnic table

should be set on a "pad" of compacted material that leaves 4' clearance. (Please see Fig. 9.)

Handicapped trails must be a minimum of 36" wide and the slope can not exceed 1:20 (1' rise in 20'). If the trail is less than 60" clear width, then passing spaces at least 60" x 60" should be located at reasonable intervals (not to exceed 200'). The surface of path should be stable, firm and slip resistant. Rest areas should be provided at intervals of 200 - 300', out of the travel way and have benches. The trail followed during the ERT field review would need minor modifications, a possible "clearing" for rest and a branch at the end to form a loop. Maintenance-wise, this could be the primary trail (higher degree of upkeep), other trails would be secondary and allowed to have a soft surface, and be "more natural."

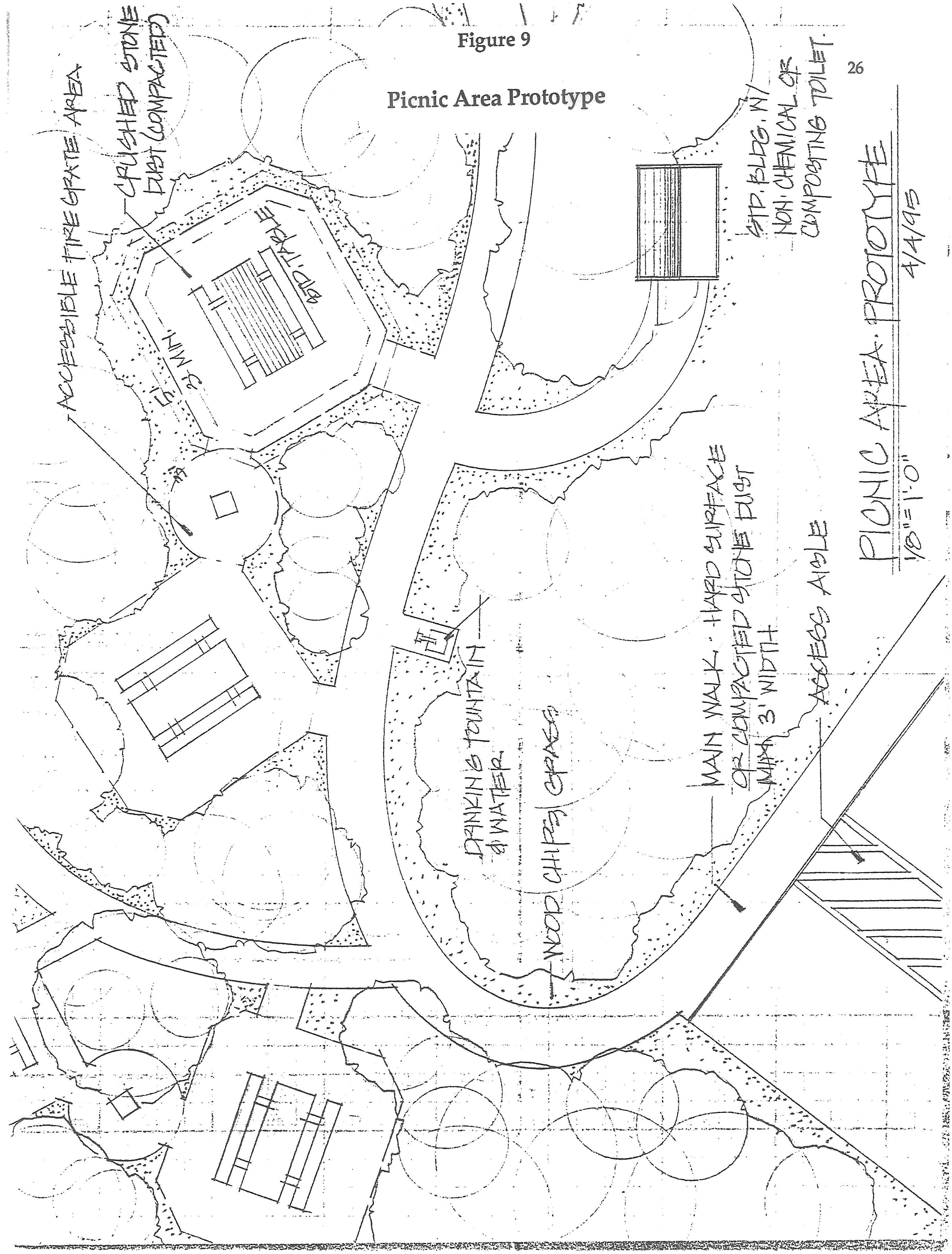
Active recreation should be limited to what is now on site. There is no reason to have more active sports on the east side of the park when a good-sized facility is present along Stanley Street. The only activities that could be added would be interpretive signs along the trails, some viewing decks/blinds around the Lower Pond and handicapped accessible fishing decks (one possible location would be behind the old concession building; parking could be close by and a ramp could be installed).

At several parks, wood posts with a routed letter or number serve as "points of interest"; a leaflet box at the trailhead has the correlating interpretive information. This type of system has worked well and a good portion of the leaflets do find there way back to the box.

Along Hartford Road, plantings of white pines would help absorb the street noise and also provide a needed visual buffer.

Figure 9

Picnic Area Prototype



Outdoor Education/Passive Recreation

Over the last decade, planning studies have indicated that there is a growing need for local outdoor recreation areas. This is especially true for passive recreation activities such as hiking, picnicking, bird watching, and fishing. These types of activities can be enjoyed by families or individuals and do not require much in the way of equipment or skill level.

A.W. Stanley Park already provides opportunities for such activities. Along the west side of the park, the area has been developed for active recreation and supports several ball fields and a swimming area. The remainder of the park provides the greatest opportunity for passive recreation. Urban parks, however, are often subject to vandalism and/or overuse/misuse and A.W. Stanley Park is no exception. This can detract from user satisfaction and cause safety problems in the park. Restricting vehicular traffic to the main loop is a critical first step in managing the park for passive use. Additionally, it has been found that vandalism can be greatly reduced by 1) involving the local community in the planning and physical up-keep of the park; and 2) maintaining a presence at the park through programmed activities. Although there is always a need to balance use so as not to "love a park to death," usually, the more activities/programs that take place at a park, the less opportunity for vandalism.

Outdoor and environmental education programs fit easily into a passive recreation plan. Although they require organized programming, the focus is on creating an awareness of the environment and helping residents learn how to enjoy the outdoors. This fills the need for educational opportunities outside of the classroom for both youth and adult learners.

The City of New Britain utilizes the New Britain Youth Museum at Hungerford Park to provide environmental education to it's schools and citizens. Presently, Hungerford cannot meet the demand for programs. A.W. Stanley Park presents an opportunity to expand Hungerford's activities and serve as a satellite program center. The ponds, open field and paved trail systems could easily be adopted into one of Hungerford's many programs. The Friends of Stanley Park and other local volunteers could work with the professionals at Hungerford to make this happen. This cooperative effort would benefit both A.W. Stanley and the Youth Museum.

The main focus of the Youth Museum is, by definition, youth, although its programming includes family and adult learning. Programming at A.W. Stanley Park may be further expanded to include more adult learning opportunities such as; 1) using natural materials for holiday decorating for seniors, 2) outdoor skills training for scout leaders, 3) watershed and land use planning for local commissioners, 4) nature photography, etc. Youth programming could include a youth park ranger program to help with maintenance and development of the park.

As discussed previously, the local community should be involved in planning and physical up-keep of the park. Plans for trail improvement should include several small areas where groups could congregate for educational activities. Development of a sugar bush could lead to a maple sugaring program. Activities should include park cleanup/fix-up days and other related projects. The stone building located near the pond should be evaluated to determine if it could be renovated for use for such programs. Even without such a facility, programming can take place and expand over time.

In conclusion, the facilities at A.W. Stanley Park are well suited to provide passive recreation opportunities for New Britain residents. Plans to control vehicular traffic and renovate existing trail and picnic areas should be implemented. Modest costs should be involved in this initial effort. Cooperative efforts between existing programs at Hungerford and the Friends of Stanley Park could result in the desired programming that would increase park usage and visibility, and help to discourage vandalism.

The Hartford County Soil and Water Conservation District is available to meet with and provide additional information to the Friends of Stanley Park and the City of New Britain relating to outdoor educational opportunities.

Archaeological and Historic Resources

A review of State of Connecticut Site Files and Maps shows no known prehistoric archaeological site listed for Stanley Park. However, topographic and environmental features of the park suggest a moderate-to-high sensitivity to prehistoric Native American encampments. In addition, an on-going State Historic Preservation Office-sponsored survey of municipal parks lists an inventory of historic resources at the A.W. Stanley Park. These include two historic foundations of residences of the Stanley family and two fieldstone bridges. The inventory form provides historic background information on the establishment of the park, various changes and improvements, and extent of surviving original elements.

The historic significance of the park is a product of several factors: the importance of the donor (Alix W. Stanley, 1872-1953) and of the donation to the City of New Britain, the development of the park as a Depression-era public works project, the evolving major role that the park has played in community life, and the presence of two foundations of historic houses within the park's boundaries. Although of historic interest, the Connecticut Historical Commission staff have not evaluated A.W. Stanley Park vis-a-vis the eligibility criteria for the National Register of Historic Places.

The early 20th century foundations (A.W. Stanley estate house and 1937 children's nature museum) are not significant archaeologically, although perhaps of historic interest. No archaeological investigation and/or site protection measures are warranted to these sites.

Information on the location of prehistoric sites is less certain. Clearly, undisturbed portions of the park adjacent to wetland features have a high probability for early encampments. The enclosed map highlights areas of most concern, unless of course, park landscaping activities have precluded the existence of undisturbed areas. The discovery of an intact prehistoric site would be of great interest because our records show only one site ever recorded for the City of New Britain. This lack of known archaeological sites is a factor of the urban development of the city as opposed to limited Native American utilization of the land. As a result, documentation of an archaeological remnant of Native occupation would be of significance and yield important information on past lifeways that have largely been destroyed.

The Office of State Archaeology recommends an archaeological survey of portions of the park that represent previously undisturbed land that have some proximity to wetland features. This survey would locate any below-ground archaeological resource and should be conducted prior to any landscaping or construction activities. Our office is prepared to offer the City of New Britain any technical assistance in completing the survey. It is further recommended that the city consult with Dr. Kenneth Feder, Anthropology Department, Central CT State University, for data on local Indian sites from his office. In addition, local Indian artifact collectors should be interviewed for information on reported Native American artifacts found at the park. Likewise, the New Britain Historical Society may have sources helpful to this inventory of cultural resources.

In summary, the Municipal Park Inventory Form for A.W. Stanley Park provides historic background information that is useful for preservation efforts. The New Britain Parks and Recreation Department and the Friends of Stanley Park should consider obtaining a copy of the inventory form for their management purposes if they do not already possess it. Prehistoric sites have been undocumented, however, there is a moderate-to-high sensitivity that cultural materials associated with past Indian lifeways still exist. We recommend an archaeological survey for undisturbed areas of the park under consideration for landuse activities. Local contacts and historians may assist in providing information on prehistoric/historic artifacts and sites not recorded at the state level.

Figure 10

Potential Archaeologically Sensitive Area

Scale 1" = 2000'

Appendix A

Birds Living or Visiting A.W. Stanley Park

EXHIBIT A

Species		Species		Species	
Loon, Red-Throated		Hummingbird, Ruby-throated		Parula, Northern	
Grebe, Pied-billed		Kingfisher, Belted	1	Warbler, Yellow	1
Red-necked		Woodpecker, Red-bellied	1,2	Chestnut-sided	
Cormorant, Double-crested		Sapsucker, Yellow-bellied		Magnolia	
Bittern, American		Woodpecker, Downy	1	Cape May	
Heron, Great Blue		Hairy	1,2	Black-throated Blue	
Egret, Great		Flicker, Northern	1	Yellow-rumped	
Heron, Green-backed		Woodpecker, Pileated	1	Black-throated Green	
Night-Heron, Black crowned		Flycatcher, Olive-sided		Blackburnian	
Yellow-crowned		Wood-Pewee, Eastern		Pine	
Swan, Mute		Flycatcher, Yellow-bellied		Prairie	
Goose, Snow		Least		Palm	
Canada		Phoebe, Eastern	1	Bay-breasted	
Duck, Wood	1,2	Flycatcher, Great Crested	1,2	Blackpoll	
Teal, Green-winged		Kingbird, Eastern	1	Black-and-white	
Duck, American Black		Swallow, Tree		Redstart, American	1
Mallard	1	Northern Rough-winged		Warbler, Worm-eating	
Pintail, Northern		Barn	1	Ovenbird	1,2
Teal, Blue-winged		Jay, Blue	1	Waterthrush, Northern	
Shoveler, Northern		Crow, American	1	Louisiana	
Gadwall		Fish		Warbler, Connecticut	
Wigeon, American		Chickadee, Black-capped	1	Yellowthroat, Common	1
Duck, Ring-necked		Carolina		Warbler, Wilson's	
Bufflehead		Titmouse, Tufted	1	Canada	
Merganser, Hooded		Nuthatch, Red-breasted		Tanager, Scarlet	1
Common		White-breasted	1	Cardinal, Northern	1
Vulture, Turkey		Creeper, Brown		Grosbeak, Rose-breasted	
Osprey		Wren, Carolina	1,2	Bunting, Indigo	
Hawk, Sharp-shinned		House	1	Towhee, Rufous-sided	
Hawk, Cooper's		Winter		Sparrow, American Tree	
Goshawk, Northern		Kinglet, Golden-crowned		Chipping	1
Hawk, Red-shouldered	1,2	Ruby-crowned		Field	
Broad-winged	1	Gnatcatcher, Blue-gray		Savannah	
Red-tailed		Veery		Fox	
Kestrel, American		Thrush, Swainson's		Song	1
Merlin		Hermit		Lincoln's	
Rail, Virginia		Wood	1	Swamp	
Coot, American		Robin, American	1	White-throated	
Killdeer		Catbird, Gray	1	White-crowned	
Sandpiper, Solitary		Mockingbird, Northern	1	Junco, Dark-eyed	
Spotted		Thrasher, Brown		Blackbird, Red-winged	1
Least		Waxwing, Cedar	1	Rusty	
Woodcock, American		Starling, European	1	Grackle, Common	1
Gull, Ring-billed		Vireo, White-eyed		Cowbird, Brown-headed	1
Herring		Solitary		Oriole, Northern	1
Great Black-backed		Yellow-throated		Finch, Purple	
Dove, Rock	1	Warbling	1	House	1
Mourning	1	Philadelphia		Siskin, Pine	
Cuckoo, Yellow-billed		Red-eyed	1,2	Goldfinch, American	1
Screech-Owl, Eastern	1,2	Warbler, Blue-winged		Grosbeak, Evening	
Nighthawk, Common		Tennesse		Sparrow, House	1
Swift, Chimney		Nashville			

Legend: 1 Species likely to nest in the park or observed nesting in the park.
2 Species with declining numbers.

Exhibit B

PLANTLIFE FOUND IN A.W. STANLEY PARK

TREES

Red Maple
Sugar Maple
White Oak
Black Oak
Pin Oak
American Hornbeam
Hop Hornbeam
Shagbark Hickory
Mockernut Hickory
Staghorn Sumac
White Pine
Eastern Hemlock
Eastern Red Cedar
Sassafras
Tulip Tree
Dogwood
American Sycamore
Elm
Grey Birch
Black Birch
Black Locust
Bigtooth Aspen
White Ash
American Beech
Black Cherry

SHRUBS

Viburnum
Spicebush
Witch Hazel
Fox Grape
Bittersweet
Barberry
Russian Olive

PARTIAL INVENTORY OF WILDFLOWERS

Alsike Clover
Arrow Arum
Bedstraw
Bloodroot
Bluets
Blue Vervain
Canadian Mayflower
Cattails
Celandine
Chickory
Common Burdock
Common Mullein
Dame's Rocket
Dandelion
Fleabane
Garlic Mustard
Goldenrod
Jack-in-the-Pulpit
Japanese Knotweed
Leafy Spurge
Multiflora Rose
Ox-eye Daisy
Peppergrass
Pokeweed
Raspberry
Queen Anne's Lace
Red Clover
Selfheal
Skunk Cabbage
Spotted Touch-me-not
Spotted Wintergreen
Tartarian Honeysuckle
Trillium
White Campion
White Clover
Wild Geranium
Wild Lettuce
Yellow Hawkweed
Yellow Sweet Clover

ABOUT THE TEAM

The King's Mark Environmental Review Team (ERT) is a group of environmental professionals drawn together from a variety of federal, state and regional agencies. Specialists on the Team include geologists, biologists, soil scientists, foresters, climatologists and landscape architects, recreational specialists, engineers and planners. The ERT operates with state funding under the aegis of the King's Mark Resource Conservation and Development (RC&D) Area - an 83 town area serving western Connecticut.

As a public service activity, the Team is available to serve towns within the King's Mark RC&D Area - **free of charge.**

Purpose of the Environmental Review Team

The Environmental Review Team is available to assist towns in the review of sites proposed for major land use activities or natural resource inventories for critical areas. For example, the ERT has been involved in the review of a wide range of significant land use activities including subdivisions, sanitary landfills, commercial and industrial developments and recreation/open space projects.

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 site and highlighting opportunities and limitations for the proposed land use.

Requesting an Environmental Review

Environmental reviews may be requested by the chief elected official of a municipality or the chairman of an administrative agency such as planning and zoning, conservation or inland wetlands. Environmental Review Request Forms are available at your local Soil and Water Conservation District and through the King's Mark ERT Coordinator. This request form must include a summary of the proposed project, a location map of the project site, written permission from the landowner/developer allowing the Team to enter the property for the purposes of a review and a statement identifying the specific areas of concern the Team members should investigate. When this request is reviewed by the local Soil and Water Conservation District and approved by the King's Mark RC&D Executive Council, the Team will undertake the review. At present, the ERT can undertake approximately two reviews per month depending on scheduling and Team member availability.

For additional information regarding the Environmental Review Team, please contact the King's Mark ERT Coordinator, Connecticut Environmental Review Team, P.O. Box 70, Haddam, CT 06438. The telephone number is 203-345-3977.