KING'S MARK
ENVIRONMENTAL REVIEW TEAM

REPORT FOR

PITCH PINE PARK
NORTH HAVEN, CONNECTICUT

PITCH PINE PARK

NORTH HAVEN, CONNECTICUT

Environmental Review Team Report

Prepared by the King's Mark Environmental Review Team
of the King's Mark Resource Conservation
and Development Area, Inc.

Wallingford, Connecticut

for the

North Haven Conservation Commission

This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. 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 of Southbury. The results of the Team action are oriented toward the development of a better environmental quality and long-term economics of the land use. The opinions contained herein are those of the individual Team members and do not necessarily represent the views of any regulatory agency with which they may be employed.

OCTOBER 1987

ACKNOWLEDGEMENTS

The King's Mark Environmental Review Team Coordinator, Keane Callahan, would like to thank and gratefully acknowledge the following Team members whose professionalism and expertise were invaluable to the completion of this study:

* Kenneth Metzler, Biologist
  Department of Environmental Protection - Natural Resources Center

* Alan Page, Soil Conservationist
  U. S. Department of Agriculture - Soil Conservation Service

* Joseph Hickey, State Park Planner
  Department of Environmental Protection - Parks and Recreation

* Judy Wilson, Wildlife Biologist
  Department of Environmental Protection - Wildlife Bureau

* Jerry Milne, Forester
  Department of Environmental Protection - Forestry Department

I would also like to thank Laverne Mendela, Secretary, and Janet Jerolman, Cartographer of the King's Mark Environmental Review Team for assisting in the completion of this report.

Finally, special thanks to Dag Pfeiffer, Chair of the North Haven Conservation Commission, for his cooperation and assistance during this environmental review.

EXECUTIVE SUMMARY

Introduction

The North Haven Conservation Commission requested that an ERT be done on Pitch Pine Park, a town-owned, undeveloped park. The Park is approximately 15 acres in size and located in the northeastern part of North Haven off of Bradley Street. The Park is primarily forested and has an approximately 0.7-acre pond occupying its western portion. Approximately 10-acres of the property is in Pitch Pine, a rare species in Connecticut. The remainder is a mixed hardwood stand with oak predominating and open space.

The Town is interested in managing the land for Pitch Pine as well as developing the Park into a passive recreational area with nature trails, benches and picnic tables. Therefore, the Town has asked the ERT to: (1) assess the soil resources of the Park to determine suitabilities; (2) assess the vegetation and wildlife characteristics of this unique area; (3) assess the effects of pitch pine management on recreational opportunities; and (4) evaluate the Park for recreational opportunities, including access and design capability. The information generated by the ERT will then be used to develop a management plan for the Park.

Habitat Description

The Bradley Street property is a remnant example of a vegetational community which historically covered much of Wallingford and North Haven. The upper canopy of the forest is dominated by mature Pitch Pine with some interspersed oaks. The sub-canopy is dominated by oaks and Black Cherry. The shrub layer is primarily composed of oaks, Black Cherry and Highbush Blueberry. The herb layer is sporadic and is primarily composed of oak and cherry seedlings with a few patches of Ground Pine, Hair-cap Moss and Pink Lady's Slipper.

Many woodland and brushland bird species may use the site. Several species of reptiles need sandy soil and can be found in pine barrens such as this. The Pitch Pine community is commonly rich in Lepidoptera fauna (moths and butterflies).

In most cases fire will restore the Pitch Pine/Scrub Oak barren plant community. The animal community might not be as resilient. It is unclear whether the plant community can be restored after extensive land clearing.

In order to restore the community to a healthy Pitch Pine community several steps need to be taken including: (1) arrest the succession to oak or mixed forest; (2) prevent complete canopy closure and restore certain microhabitats; and (3) reintroduce certain critical Lepidoptera food plants.

Forestry Considerations

The site is composed of 10.6 acres of pitch pine/oak forest and 4.1 acres of oak/mixed hardwood forest. Pitch pine is intolerant of shade and the seeds do not germinate in leaf litter, only in mineral soil. In order to regenerate a pitch pine stand the thick layer of leaf litter needs to be removed and

deciduous trees cut to allow sunlight to penetrate. Management options available are: (1) do nothing and allow the oaks to dominate; (2) use mechanical means to clear the trees and litter; (3) use mechanical means combined with fire; and (4) wait for the Wharton Brook Natural Area Management Plan.

Wildlife Considerations

This area of pitch pine probably offers poor habitat for wildlife because it is small and subject to human disturbance. Also, it lacks the open spaces often associated with pitch pine forests. Large mammals are relatively indifferent to the specialized habitats of the pitch pine barrens. Smaller mammals and reptiles can be found in sandplains. Certain species of birds are attracted to the pine barrens but the area lacks the diversity and they may not be able to use it.

The retention pond offers little wildlife value. The water quality is questionable. There is little vegetation around the pond to attract a large variety of species.

The options are to let the site naturally succeed into a low quality oak forest type which might offer some wildlife habitat or manage a pitch pine stand which might not support much wildlife because of repeated disturbances.

Soil Considerations

The soils identified in the park include Penwood loamy sand, Manchester gravelly, sandy loam and Deerfield loamy fine sand. The potential for passive recreational development is favorable. Trails and picnic tables around the pond and in the forest should be carefully placed in order to avoid erosion and sedimentation. A trash collector on the pipe leading into the pond is recommended to prevent trash and debris from entering the pond. The grassy area off of Bradley Street is well vegetated and stable enough to withstand low volumes of parking. Close monitoring of this area for signs of erosion is recommended.

Parks and Recreation

The area is small and in close proximity to residential and commercial development. The property should be maintained as open space with little development to protect the pine barrens. Using fire as a management tool for the pitch pine may not be feasible. Mechanical means of controlling deciduous trees might be considered. The grass edge along Bradely Street is a good transition zone between the park environment and the residential area. The fence around the pond seems unnecessary. Trash and debris with in the area needs to be removed.

TABLE OF CONTENTS

LIST OF FIGURES

NATURAL RESOURCE CHARACTERISTICS

INTRODUCTION

The North Haven Conservation Commission requested that an ERT be done on Pitch Pine Park, a town-owned, undeveloped park. The Park is approximately 15 acres in size and located in the northeastern part of North Haven off of Bradley Street.

The Park is primarily forested with an approximately 0.7-acre pond occupying its western portion. The pond is a storm water retention basin for the flow from Bradley Street. Approximately 10-acres of the property is forested in Pitch Pine, a rare species in Connecticut, with a hardwood understory. The remainder is a mixed hardwood stand with oak predominating and open space.

The Town is interested in the possibilities of managing the land for Pitch Pine as well as developing the Park into a passive recreational area with nature trails, benches and picnic tables. Therefore, the Town has asked the ERT to: (1) assess the soil resources of the Park to determine suitabilities; (2) assess the vegetation and wildlife characteristics of this unique area; (3) assess the effects of pitch pine management on recreational opportunities; and (4) evaluate the Park for recreational opportunities, including access and design capability. The information generated by the ERT will then be used to develop a management plan for the Park.

HABITAT DESCRIPTION

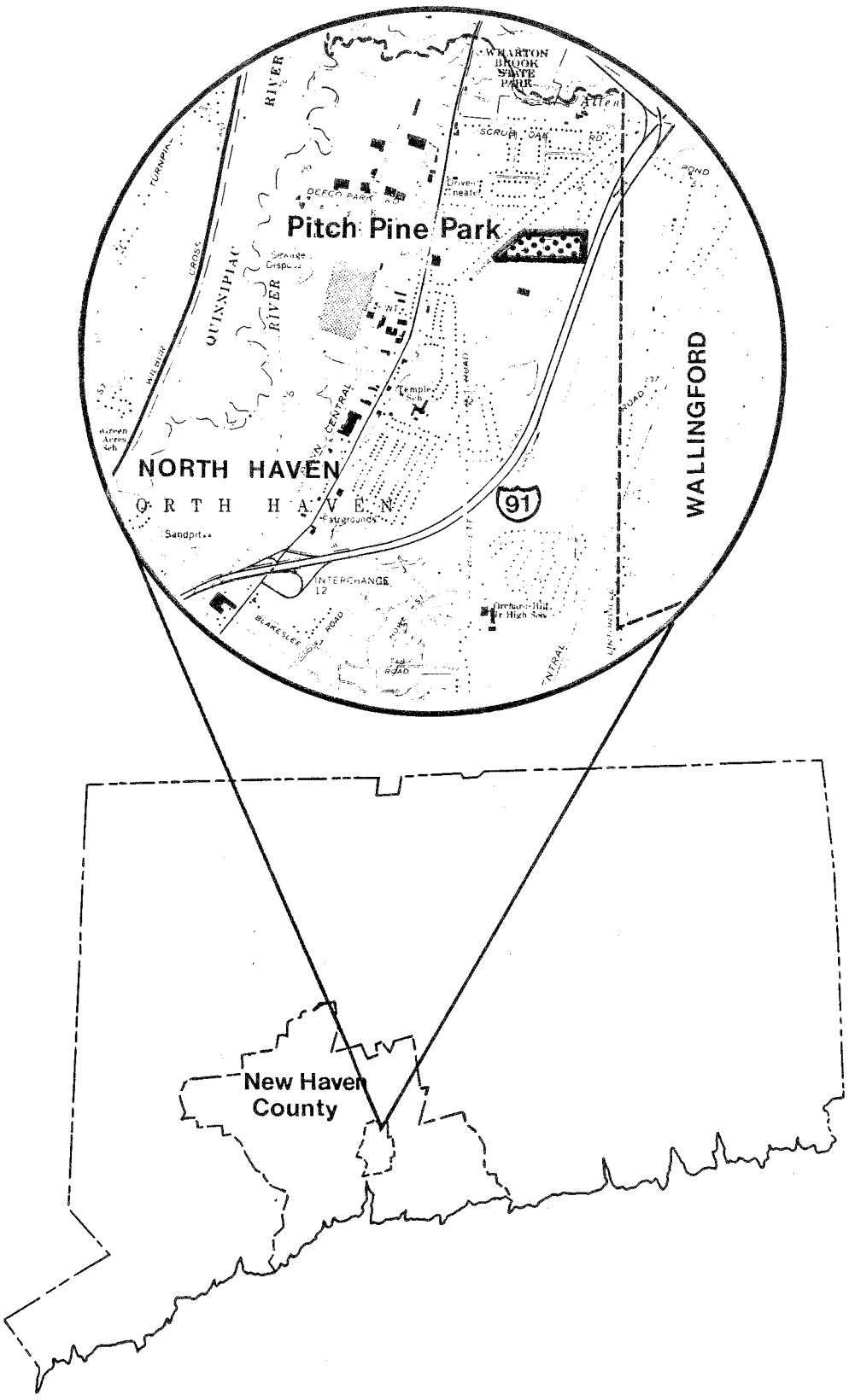
The Bradley Street Property is a 15 acre, town-owned Pitch Pine-Oak-Black Cherry forest which is encircled by high density industrial and residential development. As a natural area it is a remnant example of a vegetational community which historically covered much of the sandplains of Wallingford and North Haven. Soil conditions are chiefly responsible for the area's xeric (adapted to dry conditions) plant community, as well as for the surrounding sprawl of development. The soils have formed on excessively drained, medium-fine grained sands which were deposits during the melting of the last continental glacier. These soils are often nutrient deprived and essentially lacking in available moisture. They are the characteristic substrate of Pitch Pine forests in Connecticut.

The structure of the forest consists of two layers: 1) an upper canopy dominated by mature Pitch Pine and some interspersed oaks, overlying 2) a denser sub-canopy of oaks and Black Cherry. In total, the canopy provides about 60% cover. The lack of recent burning has given the oaks of the sub-canopy a competitive advantage over any Pitch Pine regeneration. Pitch Pine seedlings are virtually non-existent beneath the shade of the forest; but are fairly common along the more open periphery of the stand.

The shrub layer is primarily composed of oaks, Black Cherry, and Highbush Blueberry. The shrub layer is patchy with Scrub Oak, Black Huckleberry, Bayberry, Low Bush Blueberry, and other species characteristic of droughty sites. The herb layer is sporadic and is composed primarily of oak and cherry seedlings. Ground Pine (Lycopodium complanatum) and Hair-cap Moss (Polytrichum spp.) grow in small carpets around the areas of dense Pitch Pine growth. There is a small, but healthy population of Pink Lady's Slipper (Cypripedium acaule) throughout the forest.

Figure 1

LOCATION OF STUDY SITE



A relatively thick organic layer covers the soil and is composed primarily of pine needles, twigs and leaves. At the interface with the mineral soil is a layer of charcoal, indicating that the area has been burned in the past. Along the edge of the Property bordering Connecticut Blue Cross/Blue Shield, a small area has been burned within the last two years. Fire is essential in maintaining the health and vigor of a Pitch Pine forest, and without an occasional burn, the more vigorous oaks will assume dominance of the stand, eventually shading and crowding out the Pitch Pine entirely. Close commercial and residential development is understandably suppressing any occurrence of fire in the small forested area.

In its present state, the Bradley Street Property is an example of a late vegetational stage of a sandplain forest. It is a fleeting stage of a forest that will ultimately, unless it burns, become a Black Oak/Black Cherry forest.

Typical Description of a Pitch Pine Barren

A typical example of this community has a sparse, interrupted canopy composed primarily or exclusively of pitch pine. The canopy height varies greatly from site to site but tends to be about 8-16 meters. There is a dense tail shrub layer, about 2-3 meters high, dominated by Scrub Oak (Quercus ilicifolia), usually with some Dwarf Chestnut Oak (Quercus prinoides) and usually with a few other scattered shrubs. Beneath the scrub oaks and in openings between them grows a low shrub layer, about 0.5 meters or less in height. It is dominated by Low Bush Blueberries (Vaccinium angustifolium and V. vacillans), Black Huckleberry (Gaylussacia baccata) and Sweet Fern (Comptonia peregrina). Sand Willow (Salix humulis), Sand Cherry (Prunus pumila), Black Chokeberry (Aronia melanocarpa) are often common in the low shrub layer or they may grow somewhat higher. Several other plants such as Bearberry (Arctostaphylos uva-ursi), Trailing Arbitus (Epigaea repens) and

Sheep Laurel (Kalmia angustifolia) are common at some occurrences. Herbaceous plants account for very little biomass with Bracken (Pteridium aquilinum), Little Bluestem (Andropogon scoparius) and Pennsylvania Sedge (Carex pensylvanica) among the few herbs common at nearly all sites.

Some northeastern pine barrens contain small grassy openings where xerophytic (adapted for dry conditions) herbs such as Wild Lupine (Lupinus perennis), Milkweeds (Asclepial amplexicaulis and A. tuberosa), Bird Foot Violet (Viola pedata), Rock Rose (Helianthemum canadense), Blue Toadflax (Linaria canadensis), Stiff-leaved Aster (Aster linarifolius), and White-topped Asters (Sericocarpus asteroides and S. linifolius) may be abundant. New Jersey Tea (Ceanothus americanus) is a very characteristic deciduous shrub in such openings. The dominant grass is Little Bluestem (Andropogon scoparius), but others such as Big Bluestem (Andropogon gerardii), Poverty Grass (Danthonia spicata), and Indian Grass (Sorgastrum nutans) are usually present. Such assemblages may also appear on disturbed sites such as along roadsides and under powerlines.

Characteristic birds include pine warbler, prairie warbler, eastern bluebird, towhee, brown thrasher, ruffed grouse and whip-poor-will, but all occur in other habitats within the northeast. Many other woodland and brushland bird species occur. No mammal species are considered particularly characteristic. Several reptiles, such as the hog-nosed snake are more or less restricted to sandy soils and thus often occur in northeastern pine barrens, but they are equally characteristic of several other sandy communities.

This community has an exceptionally rich Lepidoptera fauna (moths and butterflies) which cannot be discussed fully in this document. Perhaps the most characteristic species is the Barrens Buckmoth (Hemileuca maia). Certainly, this species is one of the most conspicuous. Several Elfin

butterflies (Incisalia augustus and I. niphon) can be found in the spring. Edward's Hairstreak (Satyrium edwardsii) is common at most sites in July, as are Skippers (Hesperia metea and Atrytonopsis hianna) in late spring. The Dusky Wing Skippers are nearly always abundant in spring. Most of the other Lepidoptera are nocturnal and are unlikely to be found unless one uses bait or blacklight.

Recovery Potential

In most cases, one or a few hot fires will restore a reasonable facsimile of a Pitch Pine/Scrub Oak barren plant community, but not necessarily the animal community. Most trees and shrubs can persist for several years or decades after fire suppression has stopped successful reproduction. Some plants, e.g., Wild Lupine, can also persist as dormant seeds.

While many vertebrate populations can recover from one or a few years of reproductive failure, they are not as resilient as plants. Most Lepidoptera will be eliminated by one season without successful reproduction, although a few, such as the Barrens Buckmoth, maintain a reservoir of dormant pupae and would therefore require two unsuccessful years for eradication. Lepidoptera populations typically fluctuate from year to year. Minimum suitable habitat for Lepidoptera should be regarded as the minimum area capable of supporting a viable population in the worst possible year. The worst possible year may be the year of a major burn. Recovery potential for Lepidoptera should be extremely high if remnant populations still persist, due to their high fecundity and at least moderate dispersal ability. Assuming the population is not eradicated due to the burn, it might reach its maximum size a few years after such burns.

Whether the plant community can be restored after extensive land clearing is unclear, but if so, the process would take several decades. It is known

that some portions of the Albany, NY and Montague, MA sites were farmed over 100 years ago and they have almost completely recovered.

Management of the Bradley Street Site

If this site is to be restored it to a healthy pitch pine habitat, specific management actions include:

1) arresting total succession to oak or mixed forests;
2) preventing complete closure and restoring certain microhabitats, such as grassy or heathy openings, and;
3) reintroducing certain critical Lepidoptera food plants, such as Wild Lupine and New Jersey Tea.

Fire is the natural factor responsible for maintaining this community and should be used in management regimens, although the value of cutting as a management tool also needs investigation. At the very minimum, the hardwood in the canopy and subcanopy need to be cut and removed and the deep outer layer manipulated to expose open, sandy soil. This however, will have to be done on a semi-annual basis, since oaks will sprout from the stump after cutting. This management, at the very minimum will provide reasonable restoration to a somewhat pure pitch pine forest, with canopy openings hopefully creating some areas for herbaceous and shrubby growth.

FORESTRY CONSIDERATIONS

Forest Cover Types (Figure 2)

1. Pitch pine (10.6 acres). Small sawtimber pitch pine, about 60 years old (from increment borings), with pole size black oak, red oak, and red maple. Understory saplings of oak, black cherry, and red maple.
2. Oak/mixed hardwoods (4.1 acres). Small sawtimber red and black oak. Red maple and oak in understory.

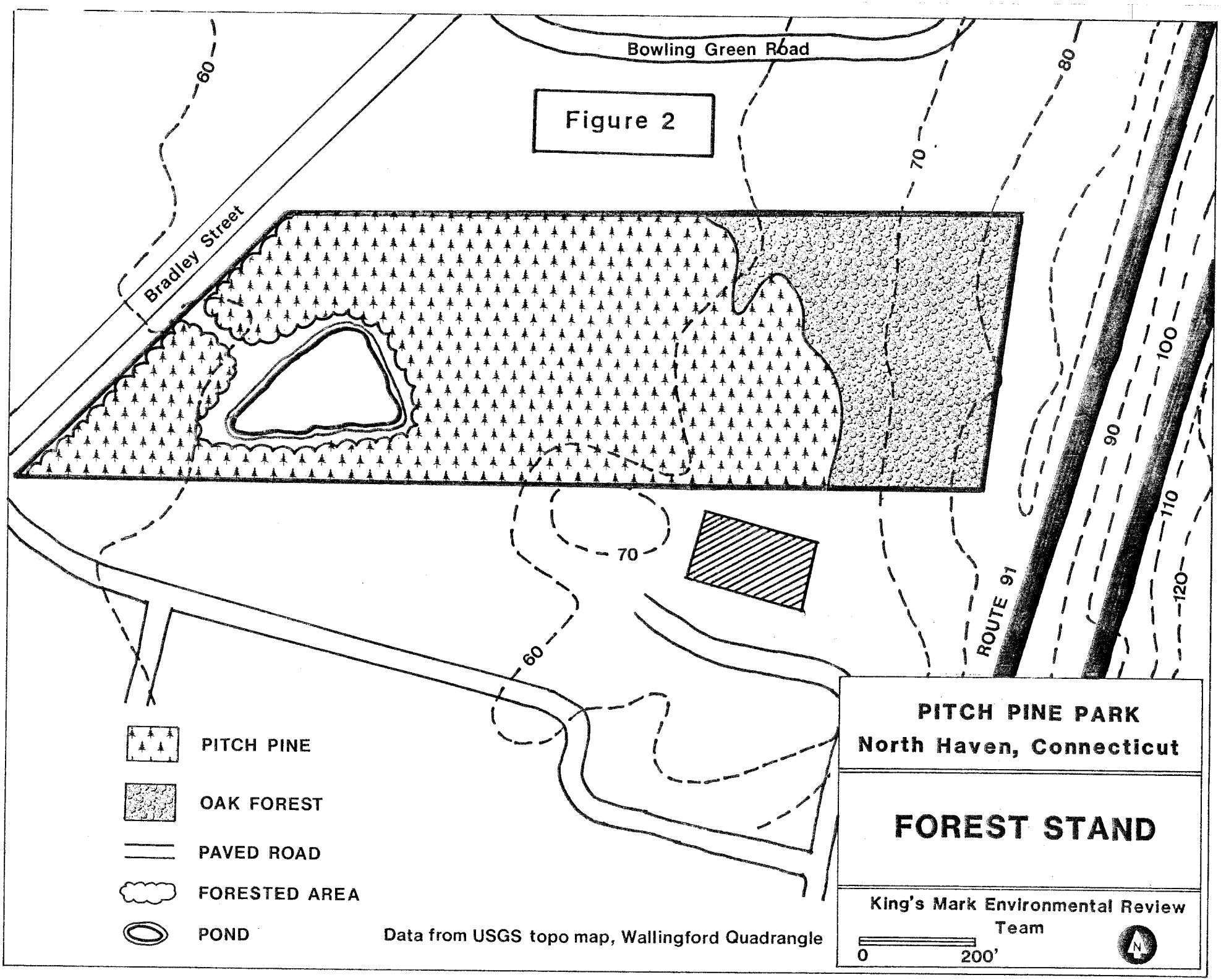


Figure 2
Bowling Green Road
Bradley Street
ROUTE 91
60
70
80
90
100
110
120
PITCH PINE
OAK FOREST
PAVED ROAD
FORESTED AREA
POND
Data from USGS topo map, Wallingford Quadrangle
PITCH PINE PARK
North Haven, Connecticut
FOREST STAND
King's Mark Environmental Review Team
0
200'
N

Limiting Conditions of the Pitch Pine Forest

Pitch pine is intolerant of shade. It needs open sunlight to grow well. The seeds do not germinate in the leaf litter of the forest; they require mineral soil. To perpetuate a pitch pine forest, the thick layer of leaf litter must be removed to allow the pine seedlings to germinate. In addition, many of the deciduous trees must be cut or killed to allow sunlight to reach the seedlings.

Management Alternatives for Pitch Pine.

1. Do nothing

   If nothing is done, the pitch pine will eventually be overtopped by the deciduous trees and will die from lack of sunlight. Oaks and red maples will become the dominant trees.

2. Mechanical means

   Larger, competing deciduous trees could be felled with chainsaws. There would probably be about 50 trees or 5 cords per acre to be cut. Removal of the leaf litter could be done by raking, by bulldozer, or any kind of equipment that could strip off the humus layer without removing the mineral soil. This method would probably be quite expensive and time consuming.

3. Mechanical means combined with fire.

   The parcel would be divided into several 1-2 acre blocks. The first year, in Block 1, the larger deciduous trees would be felled as described above. The following year, in September, Block 1 would be burned, and Block 2 cut. This cycle would continue until the whole area is treated.

When the hardwoods are felled, the remaining pines will receive more sunlight, nutrients, and water, and should produce a larger amount of seed.

The burn one year later will benefit in several ways:

a. The heat of the fire forces the pine cones to open and release their seeds;

b. Fire consumes much of the leaf litter, leaving the mineral soil as a good seedbed;

c. Fire will kill many of the smaller deciduous trees which would be time consuming to fell by hand.

The field inspection of the site discovered that there was a fire on the property, probably in the spring of 1986. It did burn off some of the leaf litter and killed a few hardwood saplings. If it had burned during late summer, more of the saplings probably would have died, benefitting the pitch pine.

4. Wait for Wharton Brook Natural Area Management Plan

A pitch pine stand at Wharton Brook State Park has recently been designated as a Natural Area Preserve. The Department of Environmental Protection is working on a management plan for this property which could serve as a model for North Haven.

The oak/mixed hardwood forest would benefit from a thinning. Undesirable trees, such as those that are diseased or poorly formed, or which could pose a hazard to future hiking trails should be removed.

Technical assistance regarding the marking of trees to be felled and on planning a prescribed burn can be obtained from the Connecticut Bureau of Forestry.

WILDLIFE CONSIDERATIONS

Area/Habitat Description

Approximately 10 acres of the 15 acre park are composed of a pitch pine (*Pinus rigida*) stand. The remaining 5 acres is composed of oak type forest, with some pitch pine in the understory. The 15 acre park is located in downtown North Haven and is surrounded by homes, offices and highways.

Oaks of several varieties are well established in the pitch pine stand and will eventually outcompete the pines if left alone. In the pitch pine stand there is a medium understory composed of various hardwoods such as white, red and black oak (*Quercus alba*, *Q. rubra* and *Q. velutina*), wild cherry (*Prunus serotina*), sugar maple (*Acer saccharinum*), blueberry (*Vaccinium corymbosum*) and boxelder (*Acer negundo*).

The ground has a very heavy layer of litter so there is little ground cover with the exception of ground pine and low bush blueberry in some open places.

The oak forested portion of the park is composed of mature oaks with generally the same type of understory as is found in the pitch pine stand. There are only a few pitch pine in the area because most have been succeeded and replaced by oak forest. Even though this oak stand is not very vigorous mainly due to droughty soils, it does provide food in the form of mast for various animals such as squirrels.

Although pitch pine stands are not a typical habitat type found in Connecticut, it is found in other areas of the state, and sometimes in larger tracts. This particular area of pitch pine would probably only offer poor to fair habitat to most species of animals who specialize in utilizing such habitat because the area is small and subject to human disturbance. Also, the area lacks some of the vegetative components/characteristics such as grassy

savannah-like areas typically associated with pitch pine stands. The site itself lacks diversity. Generally, the greater the diversity of habitat/habitat components the greater the diversity of wildlife, that will be able to utilize the area.

Large mammals are relatively indifferent to the special characteristics of sandplain/pitch pine type habitats. Deer, squirrels, racoons, foxes, and other common woodland mammals can be found in these types of areas, but are equally at home in the moister, richer forest environments.

Birds, reptiles, amphibians, and small mammals, however, frequently respond to differences in soils and vegetation much more than large mammals. Small mammals such as shrews, mice and moles generally prefer moister soils, but a few species also occur in sandplains. Short-tailed shrews, Meadow Jumping Mice, and Woodland Jumping Mice can be found on sandy as well as mesic soils. The same could be said for most amphibians and reptiles except that the majority of amphibians avoid droughty soils like sandplains altogether.

Certain species of birds are attracted to this type of area, but because this area lacks diversity, they may not be able to utilize the area. In general, just as for other animals, most would be at home in an upland type forest or a pitch pine stand of higher quality. Birds like the Prairie and Pine Warbler, sometimes associated with these pitch pine areas, would probably fair far better in a pitch pine stand of higher quality and greater diversity, and one of a larger size and less prone to disturbance.

Within the park is located a small 1 acre drainage retention pond. Water quality in the pond is questionable, because there is no water supply to the pond other than drainage from streets and lawns which enters the pond through a conduit pipe. Although the site was visited during the summer and during a period when very little rain had been received, there was some water in the

pond. There is the possibility though that the pond might completely dry up during extremely dry periods. There is little vegetation around the margin of the pond, it would probably not attract a large variety of wildlife.

The 1 acre retention pond offers little wildlife value. Various amphibians and a few reptiles might make use of it and mammals in the area might make use of it as a limited water and food source.

The area is small and is prone and probably will always be prone to disturbance, (trail bikes, bicycles, dumping of trash, camping and fires) which make it less desirable to many species of wildlife. Because of the area's size and quality it might not now and might not ever support anything that would not be better supported on a larger pitch pine site or in an upland forest site.

Recommendations/Options

1. No Action. The area would continue to naturally succeed into a low quality oak forest type which would offer some wildlife habitat of poor to fair quality.
2. Follow Recommendations of Forester. Undertaking pitch pine management would probably not be of value to wildlife in this case. The repeated disturbance to such a small area would not be conducive to maintaining wildlife. Allowing it to revert to a hardwood understory and stand would at least provide some limited habitat.

The question of the pitch pine stand and how best to manage it is one of aesthetics. Does the aesthetic value of the pitch pine stand alone make it worth keeping?

RECREATIONAL AND PARK PLANNING

CONSIDERATIONS

SOIL CONSIDERATIONS

The soils identified within the park include Penwood loamy sand, Manchester gravelly, sandy loam, and Deerfield loamy fine sand.

Penwood Loamy Sand: Approximately 75 percent of the park contains Penwood soils: 70 percent with slopes ranging from 0 to 3 percent gradient and identified as PnA; 5 percent with slopes from 3 to 8 percent and identified as PnB.

Penwood soil is a nearly level to gently sloping, excessively drained soil on outwash terraces of larger stream valleys. Permeability is rapid, available water capacity is low, and runoff is slow to medium. The soil has good potential for community development because it is easy to excavate. However, the steep slopes of excavations are unstable. There are moderate limitations for recreational development (picnic areas, trails and paths) because of excess sand. Tree species to favor in existing woodlots are eastern white pine, pitch pine and northern red oak.

Manchester Gravelly Sandy Loam: Approximately 15 percent of the park contains Manchester soil which have slopes ranging from 3 to 8 percent and is identified as MgB.

Manchester is a gently sloping, excessively drained soil on outwash terraces of stream valleys. Permeability is rapid, available water capacity is low, and runoff is medium. The potential for community development mentioned for Penwood is also applicable to this soil. There are moderate limitations for recreational development because of the stoniness (small stones less than 3 inches in diameter).

Dearfield Loamy Fine Sand: Approximately 2-5 percent of the park contains Deerfield soil which have slope ranging from 0 to 3 percent and is identified as De.

Deerfield is a nearly level, moderately well drained soil in slight depressions on broad outwash terraces. Permeability is very rapid, the available water capacity is low, runoff is slow and it is droughty in summer. The potential for community development is fair to poor; it is easy to excavate but the steep slopes of excavations are very unstable. There are moderate limitations for recreational development because it is too sandy.

Recreational Development

The potential for recreational development, especially passive recreation, is favorable. Even though development limitations have been identified, this does not preclude planning for development altogether.

Recommendations

Pond Area

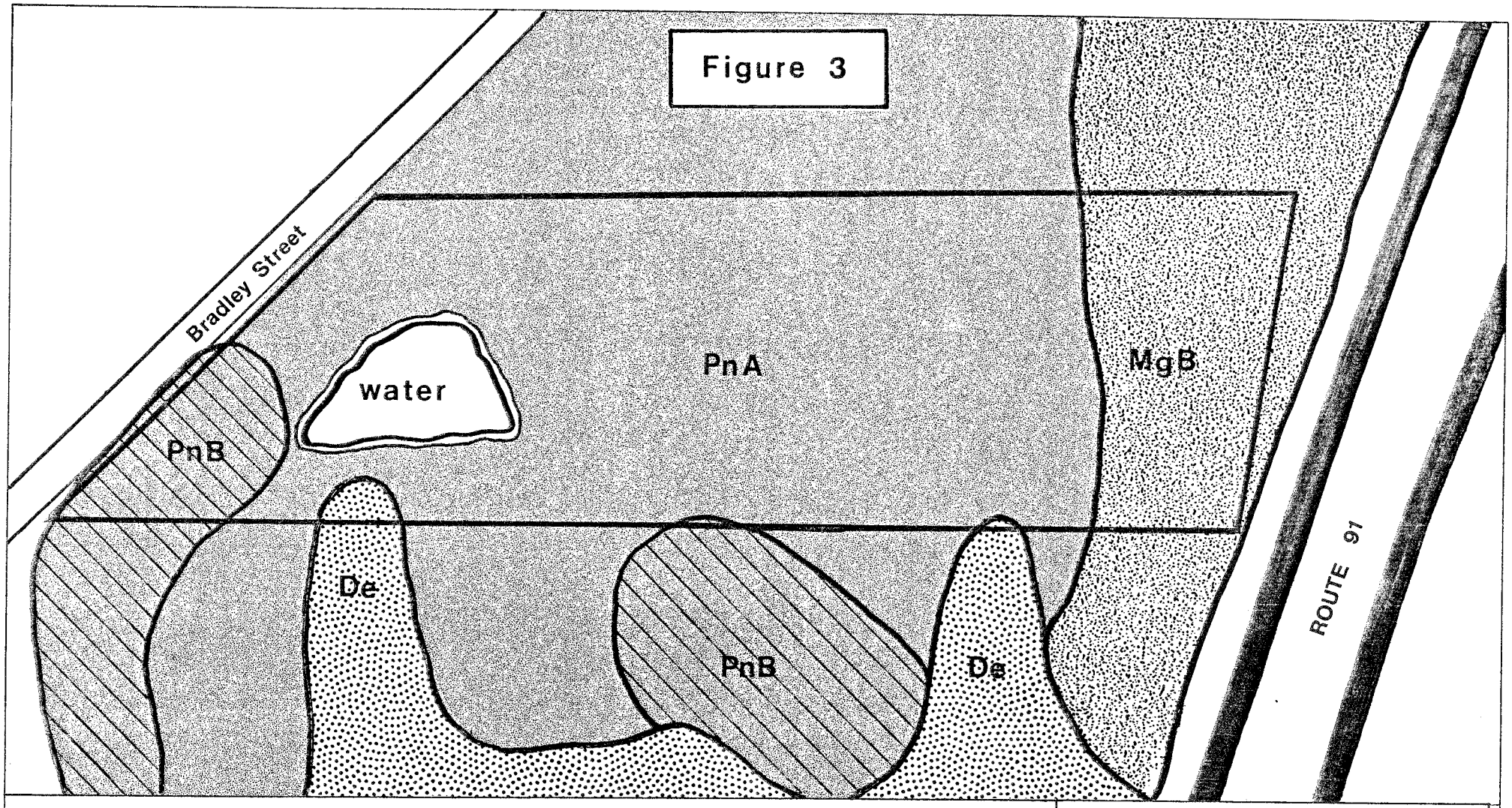
Foot traffic should be limited to existing trails throughout the entire park, and in particular, around the pond. The existing vegetation along the trails appears to be somewhat stable. However, given the potential erodibility associated with sand, traffic outside of the trails could easily establish conditions for future soil erosion and sediment problems.

Picnic tables and benches should be established on flat ground with an adequate vegetative cover to guard against erosion and sedimentation particularity into the pond. Avoid placement of structures on slopes. An area in-between the northeast end of the pond and forest is on existing suitable site for structures; creating additional sites is a possibility.

The pond presently functions somewhat as a stormwater/sediment retention basin from Bradley Street stormwater runoff. There is no freshwater inlet or outlet for the pond. Excavating the pond to improve the depth and aesthetic quality is expensive and short term. The maintenance program which would be necessary to maintain these qualities would not be beneficial compared to the cost. Stormwater runoff contents such as, but not limited to, road salt, automobile fluids, residential lawn care, sediment, and natural debris will contribute to increased maintenance and decreased water quality of this pond. A trash collector is recommended at the pipe inlet from Bradley Street to assist in preventing trash and debris from entering the pond. This is a measure which must be maintained periodically, especially following storm events, to be effective.

Forest

The recommendations for the trails, tables, and benches associated with the pond area are also applicable to the forest.



De - Deerfield loamy fine sand

MgB - Manchester gravelly sandy loam, 3-8% slopes

PnA - Penwood loamy sand, 0-3% slopes

PnB - Penwood loamy sand, 3-8% slopes

PITCH PINE PARK
North Haven, Connecticut

DISTRIBUTION OF SOILS

King's Mark Environmental Review Team

0 200'

N

One area of particular concern is the eastern portion of the park containing Manchester soil. If this area is developed for recreation, careful planning must be addressed for two reasons. First, as previously mentioned, the slopes, when disturbed, are unstable and therefore subject to erosion. Secondly, this area presently serves as a natural sound and visual barrier to traffic on I-91 and the Blue Cross/ Blue Shield facility. A lack of careful planning could substantially reduce the stability and the effectiveness of this area.

Parking Area (Proposed)

The grass area off Bradley Street is proposed for parking. Presently, this area is well vegetated and stable enough to withstand the anticipated low volume of parking. It is recommended to closely monitor this area to determine quantity and quality of use and make any adjustments accordingly, particularly if soil erosion is identified.

Summary

The proposal to manage Pitch Pine Park for pitch pine and passive recreation is a positive management plan. It is recommended to closely monitor the recreational pressure upon the soil resources, in accordance with the management recommendations provided, and make positive adjustments accordingly, particularily if soil erosion and sediment problems are identified.

The basic characteristics of the park include:

1. Small size, limiting the type and range of possible activities.

2. Close proximity to development, bordered by a suburban residential neighborhood to the north and west and by the large and expanding Blue Cross complex on the south, again placing a constraint on possible uses within the park and exposing the park to impact from abutting uses (trashing, off road vehicle use, etc.).

3. A nearly level sand plain character, varied only by several small hillocks and by an increasing slope to the east approaching I-91 which borders it on the east.

4. A mixed pitch-pine - deciduous forest cover including a substantial deciduous component throughout the pine plain section and a wholly deciduous forest cover on the sloping land at the far eastern edge of the property.

5. A man-made storm water retention basin just off Bradley Street, circled by a trailway and then a perimeter fence.

With this as background, the following recommendations for management are offered:

1. The property should be managed as undeveloped open space with little or no development except a nature trail or two, in order to protect this rare example of sand plain habitat.

2. If preservation of the pitch pines is desired, management of the forest cover will be necessary to prevent the oak and other deciduous trees from totally dominating the forest. Because of the proximity of development, use of controlled burning as a regeneration technique may not be feasible. However, girdling or thinning of the deciduous component should be explored. Interestingly, there is indication of pitch pine regeneration around the retention pond, whether because of lack of competition from deciduous vegetation or because of availability of raw, disturbed mineral soil.

3. The mown grass edge of the park along Bradley Street is attractive and forms a good transition between the wild woodland within the park and the manicured suburban landscape outside the park.

4. The retention pond adds visual and ecologic variety to the park and therefore is an asset. However the surrounding perimeter fence seems unnecessary and should be removed.

5. Trash and debris within the park and particularly along the edges should be removed.

NOTES

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, 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 - a 83 town area serving western Connecticut.

As a public service activity, the Team is available to serve towns and/or developers 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 and/or developers in the review of sites proposed for major land use activities. 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 recreational/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 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 purposes of review, and a statement identifying the specific areas of concern the Team should investigate. When this request is approved by the local Soil and Water Conservation District and King's Mark RC & D Executive Committee, the Team will undertake the review. At present, the ERT can undertake two (2) reviews per month.

For additional information regarding the Environmental Review Team, please contact your local Soil and Water Conservation District or Nancy Ferlow, ERT Coordinator, King's Mark Environmental Review Team, King's Mark Resource Conservation and Development Area, 322 North Main Street, Wallingford, Connecticut 06492. King's Mark ERT phone number is 265-6695.