KING'S MARK ENVIRONMENTAL REVIEW TEAM

REPORT FOR

BRETT WOODS OPEN SPACE AREA

FAIRFIELD,
CONNECTICUT

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

BRETT WOODS OPEN SPACE AREA

FAIRFIELD, 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

Fairfield 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 Conservation Commission and the Town. 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.

MAY 1989

ACKNOWLEDGMENTS

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

* Donald Mysling, Fishery Biologist
  Department of Environmental Protection - Western District
  485-0226

* Joseph Hickey, Recreational Planner
  Department of Environmental Protection, Parks and Recreation
  566-2304

I would also like to thank Susan Anderson, Secretary of the King's Mark Environmental Review Team for assisting in the completion of this report.

Finally, special thanks to Ken Placko, Open Space Manager for his cooperation and assistance during this environmental review.

EXECUTIVE SUMMARY

Introduction

The Fairfield Conservation Commission has requested that an environmental review be conducted on Brett Woods, a 186.9-acre open space area. The site is located in northwest Fairfield, near the Weston border. The site contains second growth hardwood forest with some open areas. A few small brooks and several large areas of wetlands run through the property. A 2-acre pond lies near the western border. Much of the information needed for a management plan is contained in an existing report. The Commission requested further information on the site's potential to support a fishery and possible ways to increase the site's recreational potential through educational trails, etc.

The review process consisted of 4 phases: (1) inventory of the site's natural resources; (2) assessment of these resources; (3) identification of resource problem areas; and (4) presentation of planning and land use guidelines. Based on the review process, specific resources, areas of concern, development limitations and development opportunities were identified. The major findings of the ERT are presented below:

Fishery Resources

The open space area contains a small pond and several intermittent streams. The streams are less than 10 feet wide and serve as drainage ways from the wetlands to the Aspetuck River. The pond is approximately 2 acres in size, with an average depth of 4 feet and a maximum depth of 8 feet. The pond is probably artificial in origin, possibly the result of sand and gravel excavation. The water quality is classified as AA. The pond is considered a warmwater fishery and may contain largemouth bass, bluegill sunfish, common (pumpkinseed) sunfish, yellow perch, chain pickerel, golden shiner and brown bullhead. The fish population appears to be in balance. In order to provide an adequate fishery, the population needs to remain in balance. Periodically checking the balance and adjusting the species angled from the pond will keep the proper balance. The pond is best suited for a warmwater fishery. Trout may not survive year-round in the pond, but may be stocked for a put and take fishery if desired.

Interest was expressed in creating 1 or 2 new ponds. The new ponds should be carefully constructed and stocked with warmwater fish such as largemouth bass, bluegill sunfish and brown bullheads.

Threatened and Endangered Plant and Animal Species

According to the DEP - Natural Diversity Database, there are no Federally listed Endangered Species or Connecticut "Species of Special Concern" on the site.

Recreational Planning

Because the open space area is surrounded be development, it is subject to considerable use. Effective management can control use by channeling it to the appropriate access points and trails. Limiting vehicular access and providing parking at North Street East and Fallow Field Road is suggested. Service entrances are suggested from North Street East and North Street West. Service access may not be needed from Treasure Road. An internal trail system should be developed and blazed. Except for equestrian trails, the hiking and cross-country trails should be self-contained. Suggestions include retaining the youth camping area, using the existing pond and any future ponds as fisheries and building a boardwalk in the southern wetlands as a trail loop and an educational tool.

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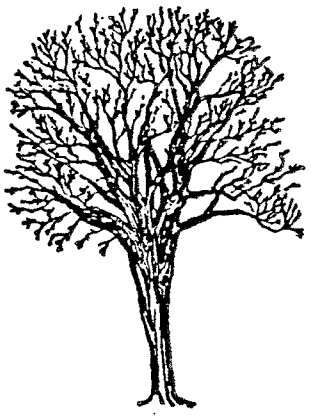


INTRODUCTION

The Fairfield Conservation Commission has requested that an environmental review be conducted on Brett Woods, a 186.9-acre open space area. The site is located in northwest Fairfield, near the Weston border. Access is provided by Catamount Road to the south, North Street West and Treasure Road from Route 136 and North Street East and Fallow Field Road to the east.

The site contains second growth hardwood forest with some open areas. A few small brooks and several large areas of wetlands run through the property. A 1.2-acre pond lies near the western border. An existing Natural Resources Inventory was completed for the Commission by Sarah Hasted and Thomas Rochovansky. Much of the information needed for a management plan is contained in that report. The Commission requested further information on the site's potential to support a fishery and possible ways to increase the site's recreational potential through educational trails, etc. Specific objectives include:

1) Assess the potential of the pond and streams to support fish populations and

2) Assess the potential of the site to support trails and educational walks and provide planning information.

THE ERT PROCESS

Through the efforts of the Fairfield Conservation Commission and the King's Mark ERT, this environmental review and report was prepared for the Town. This report primarily provides a description of fishery and recreational resources and presents planning 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 problem areas; and

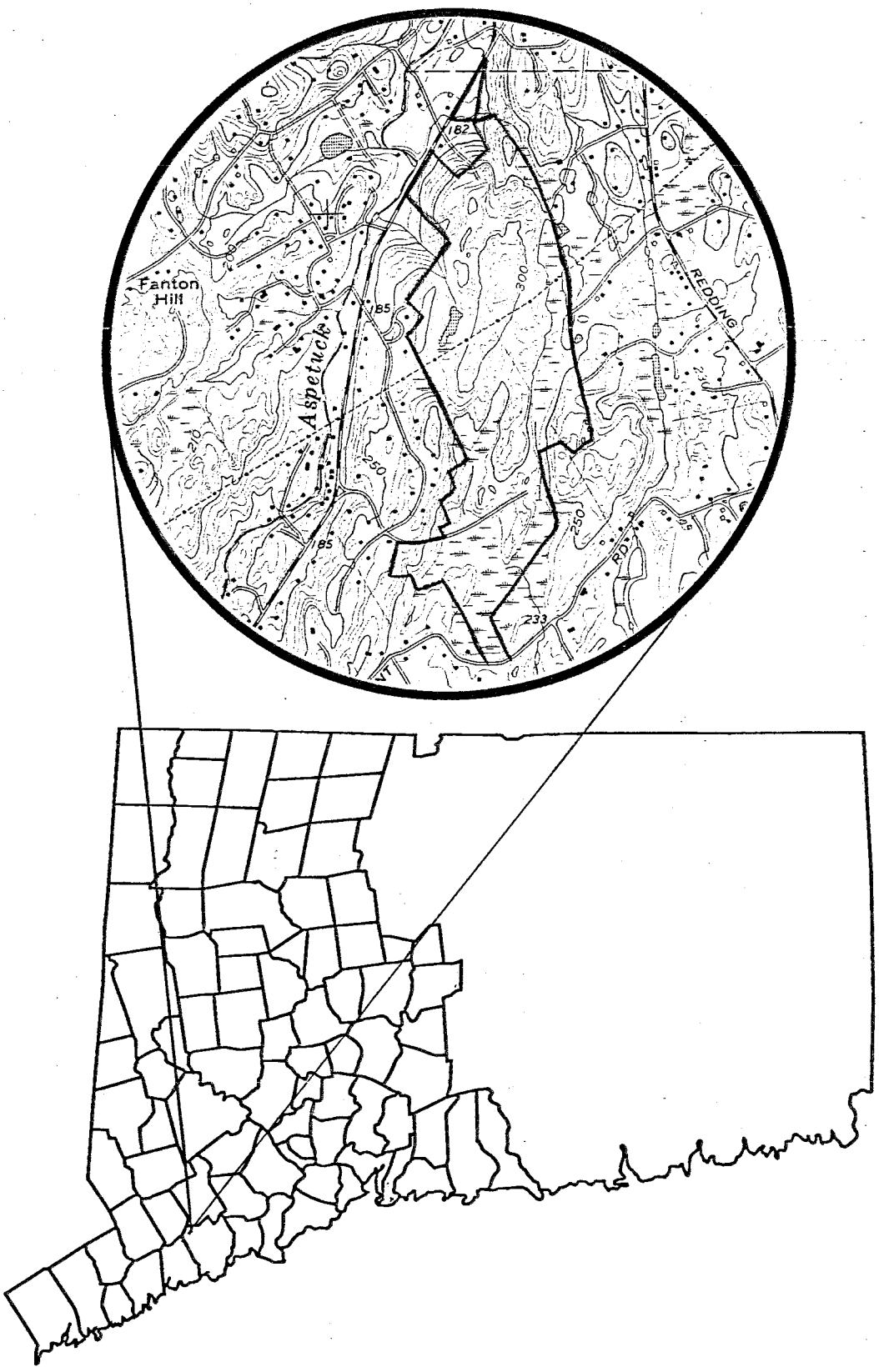
4) Presentation of planning and land use guidelines.

The data collection phase involved both literature and field research. The ERT field review took place on April 19, 1989. Field review and inspection of the area proved to be a most valuable component of this phase. The emphasis of the field review was on the exchange of ideas, concerns or alternatives. Mapped data or technical reports were also perused, and specific information concerning the site was collected. Being on-site also allowed Team members to check and confirm mapped information and identify other resources.

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

Figure 1

LOCATION OF STUDY SITE



FISHERY RESOURCES

Existing Waterbodies

Site Description: The Brett Woods Open Space contains several small streams as well as a body of standing water approximately 2 acres in surface area. The streams average less than 10 feet in width and serve as drainages connecting wetland areas. The streams may have intermittent flows (becoming dry or extremely low during periods of little precipitation). The streams are eventual tributaries to the Aspetuck River. Given the uncertainty of year-round flows, the ability of these streams to contain a viable fishery population is unlikely.

The open space area also contains a pond of moderate size which, for purpose of simplicity, will be referred to as Brett Woods Pond. Brett Woods Pond has a surface area of approximately 2 acres, a reported maximum depth of 8 feet, and an average depth of 4 feet. Because the pond bottom is extremely steep sided and considering, the slope of the surrounding terrain, the pond is probably an artificial waterbody, possibly the result of sand/gravel excavations. Water clarity is slightly reduced having taken on a "tea color," the probable result of tannins released from leaf litter decomposition. The steeply sloping bottom contour along with the reduction in water transparency have limited aquatic plant growth to all but the shallowest of areas. The pond is classified as warm water.

The surface waters of the Brett Woods Open Space are Class AA according to the Department of Environmental Protection (DEP). Designated uses for this classification are existing or proposed drinking water supply, fish and wildlife habitat, recreational use (recreational use may be restricted), agricultural and industrial supply and other purposes.

Aquatic Resources: The Bureau of Fisheries does not have a recorded fisheries investigation of Brett Woods Pond nor a record of previous fish liberation. Because

the pond is classified as warmwater, anticipated fish species include: largemouth bass, bluegill sunfish, common (pumpkinseed) sunfish, yellow perch, chain pickerel, golden shiner and brown bullhead. Yearling largemouth bass and unidentified sunfish species were observed during the field review.

The presence of yearling fish is an indication that the fish population is in "balance." A balance is the relationship between fish species and the available food supply. Fish populations are said to be balanced if they produce catchable sized fish on a yearly basis. In a pond such as Brett Woods, a balance must be reached between the sunfish species and largemouth bass. Both of these species will reproduce in the pond. The sunfish will feed upon invertebrates, while the largemouth bass, which are picavorous (fish feeding), will feed on the sunfish. The bass will control the sunfish numbers and will allow a certain percentage of sunfish to grow to a larger size and reproduce and be "catchable." The largemouth bass will then have an ample food supply to enable growth to maturity and also be harvestable. An unbalanced fish population will result in species overcrowding and will not annually produce catchable sized individuals.

The simplest method of determining balance is to pull a minnow seine along the pond shoreline, capturing a portion of the existing fishery population. The sample will give a representative species size and composition. Seining should be during the mid- to late-summer, when the spawning of warmwater species is completed and the newly hatched young are evident.

The following can be determined from shoreline seining:

Proper balance: one or more largemouth bass fingerlings and many newly hatched sunfish along with intermediate sized sunfish.

Unbalance: many newly hatched sunfish, many intermediate sized sunfish and no fingerling bass, which indicates an overcrowding of sunfish.

Unbalance: few newly hatched sunfish, no or few intermediate sized sunfish, along with fingerling and small largemouth bass, which indicates an overcrowding of largemouth bass.

Recommendations: The most effective method of maintaining the balance of warmwater sportfish in Brett Woods Pond is angling. Angling will remove a portion of the fish population while assuring the continued growth of the remaining individuals and reducing the likelihood of overcrowding. If an overcrowding of sunfish has occurs, additional largemouth bass may be stocked or angling for bass be curtailed for a period of time. If there is an over abundance of largemouth bass, shelter must be provided for the escape of young sunfish and/or additional forage provided such as the introduction of golden shiners. Additional sunfish should not be stocked as overcrowding can easily occur. The DEP Bureau of Fisheries can advise on methods to maintain balance.

Brett Woods Pond is best suited for warmwater species. Information provided by the Town of Fairfield indicates a condition of oxygen depletion at the deepest water levels had occurred during periods of extended warm temperatures. Thus it can be concluded that coldwater species, such as trout, would not adapt well for over-summer survival in this pond. Trout may be stocked in the spring or late fall to provide a put-and-take sportfishery. This means trout are stocked for angling with the intention of removing all or most prior to the onset of warmer temperatures.

Establishment of Additional Pond

Construction Recommendations: The Town of Fairfield has expressed interest in the development of an additional pond within the Brett Woods Open Space to provide for active recreation such as fishing. It is recommended that any new pond also be created to provide habitat for warmwater species. Therefore, the pond should be constructed to have the following characteristics:

1) Be constructed in an area of abundant high quality water supply;

2) Have an impervious bottom and sides;

3) Have an surface area of 1 to 3 acres (it is more difficult to manage ponds less than 1 acre as the potential for population unbalance readily occurs, and ponds greater than 3 acres are extremely costly to construct);

4) Have a maximum depth of 10 feet throughout 1/4 of the surface area;

5) The pond shoreline should have a 3:1 slope (a vertical drop of 1 foot for every 3 feet horizontal) extending out to a depth of 5 feet, limiting areas available for excessive aquatic plant growth; and

6) Have an outlet control structure capable of regulating the water volume with the ability to completely drain the pond.

Additional construction information can be provided the Town of Fairfield upon request from the DEP Bureau of Fisheries. The USDA Soil Conservation Service may also provide assistance.

Fish Stocking Recommendations: The new pond should be created for warmwater species, and one of the following stocking scenarios should be followed:

1) A combination of largemouth bass and bluegill sunfish at a ratio of 1 largemouth bass fingerling to 10 sunfish fingerlings not to exceed 100 bass per surface acre of water. The fingerling bass should be at least 2 inches in length, and the fingerling sunfish around 1 inch. Both species should be stocked during the summer.

2) Stock fingerling bluegill sunfish in the fall and at a rate of 400 per surface acre of water. The following spring stock largemouth bass fry at a rate of 120 per surface acre of water.

3) Stock 100 adult bluegill sunfish per surface acre of water during the late-summer with 100 fingerling largemouth bass per surface acre of water the following summer.

Brown bullhead may be stocked to provide for an additional sportfish species. Brown bullheads can be stocked at a rate of 100 fish per surface acre of water. They should be stocked as fingerlings early- to mid-summer.

No warmwater species, other than those listed above, are recommended or should be stocked. The fish can be obtained from commercial fish hatcheries.

Additional information, including a list of hatcheries and required permits, is available from the DEP Bureau of Fisheries.

THREATENED AND ENDANGERED PLANT AND ANIMAL SPECIES

According to the Natural Diversity Data Base, there are no Federal Endangered and Threatened Species or Connecticut "Species of Special Concern" that occur at the site.

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

RECREATIONAL PLANNING

Brett Woods Open Space is a tract of wooded, rather rocky upland, interspersed with wetland and streambelt areas. This area is an extensive parcel of municipal open space, best suited to low intensity or passive recreational uses. As such, it adds valuable environmental dimension to the densely-settled Town of Fairfield. It is strongly recommended that this basic management philosophy be continued.

Because it is surrounded by development, Brett Woods is subject to considerable casual use and abuse. Nevertheless effective management can control and channel recreational usage to a considerable degree and limit usage which may aggravate park neighbors. These management techniques involve development of an appropriate access plan including control of access and the related development of an internal trails system tied to the designated points of access into the park.

Good park management generally favors a limited number of vehicular access points. In the case of Brett Woods, physical constraints or proximity of neighbors rule out parking lots at most of the road access points. Strong gates should be installed and maintained at all access points to prevent all vehicular access (except for service vehicles) into the park. The small informal parking area on North Street East seems satisfactory as is, with the town retaining the option of moving the gate easterly to the end of the cul-de-sac which also provides some limited parking. The best location for the major park access point is just west of Fallow Field Road, where a small 6-10 car gravelled lot could be developed.

Best access for service vehicles can be provided off North Street West and North Street East, with acceptable 4-wheel-drive trail access to most key parts of the park available from this point. Service access off Treasure Road is not necessary, and control of illegal vehicular access from this direction should be sought through trenching the causeway across the wetland, letting the wetland serve as a moat or natural barrier.

Internally, a recreational trail system featuring hiking, cross-country skiing, and equestrian use where physical conditions permit, should be developed and blazed. Although the equestrian trails may lead out of the park onto private property, the hiking and cross-country trails should be self-contained systems, accessed via the park entry points with a minimum of connectors leading out of the park. Also, trails in proximity to abutting residences should be avoided wherever possible.

Comments on other potential uses or facilities include:

1) **Camping**: The existing youth group camping site is in a very attractive location and should be retained. No day-user trail should lead to the site, segregating day use from overnight group. The adjoining woods road should not be blazed as part of the regular trails system. Perhaps a simple sign designating the woods road at either end as providing access to the youth group campsite would suffice.

2) **Existing Pond**: The pond adds a water dimension to the park, with the potential for fishing, especially for youth group campers and neighborhood children. It probably could support trout on a spring put-and-take basis, which would encourage adult as well as youth use.

3) **Potential Ponds**: A pond or ponds are proposed in 2 wetland locations. These would further add to the potential use and diversity of Brett Woods, but would involve a substantial investment. Also any pond construction should be sized to the ability of the host watershed to support it.

4) **Potential Boardwalk**: Placing a boardwalk trail system through the south side of the park would add another amenity to the park, as well as a possible trail loop. Considerations should include the initial capital cost, cost of maintenance and the possibility of opening up a "back door" entry for trailbikes off Treasure Road, an entry now blocked by a wetland buffer.

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 - an 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 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 land owner/ 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 approximately 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 RC&D Area, 322 North Main Street, Wallingford, Connecticut 06492. King's Mark ERT phone number is 265-6695.