

Fox Hill Management Plan

**Prepared by the
Land Stewardship Planning Committee [Draft]
and the
Land Stewardship Committee [Final]
Both being Subcommittees of the
Carlisle Conservation Commission**

Final Plan, July 2006



Land Stewardship Planning Committee

(November 2004 – October 2005)

Steve Hinton
Paul Kress
Lynn Knight
Marc Lamere
Warren Lyman, chair
Greg Peterson
Roy J. Watson, Jr.
Sylvia Willard

Land Stewardship Committee

(January 2006 -)

Judy Asarkof
Liz Carpenter
Lynn Knight, co-chair
Warren Lyman, co-chair
Timothy Donohue
Tim Fohl
Debby Geltner
Bonnie Jacobellis
Elizabeth Loutrel
David Smith
Tom Woodward
Sylvia Willard, Conservation Administrator

Fox Hill Management Plan

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SUMMARY

Fox Hill Management Plan

Acquisition History

- Town voted to purchase the site at Special Town Meeting on June 24, 1980
- Site was then agricultural land under Massachusetts General Laws, Chapter 61A
- Title to land taken on February 18, 1981
- Purchase price: \$90,000 (Request for State Self-Help funds was denied.)
- Land uses stated during purchase: (1) Warrant Article voted that land was "...for open space and conservation purposes, including outdoor recreation..." (2) Deed for conveyance to Town said the land was "...for the promotion and development of the natural resources and for the protection of the watershed resources of said Town."

Property Description

- Size: ~ 11.22 acres
- Location: ~ 2/3 of a mile east of Town center at intersection of Bedford Rd. and Stearns St.
- Entrances: Two: one off Bedford Rd. and one off Stearns St.
- Parking lot: No parking lot, but limited space available for parking at each entrance
- Signs: One "Fox Hill" sign at Bedford Rd. entrance
- Fields: ~ 8 acres (2 fields), which have been hayed for many years by licensees
- Soils: Four major types; two (covering 53% of property) are rated as Prime agricultural soils; another 20% rated Locally Important
- Current Licensee for Hay Fields: Tricia Smith (43 Indian Hill Rd., Carlisle) (until Dec. 2007)
- Forests: ~ 3 acres, which includes a seasonal stream, wetlands, and areas of seasonal ponding
- Trails: None maintained by Trails Committee. Nearby resident mows a walking path across fields from Stearns St. entrance to western border of site
- Perimeter stone walls: The site is bound on all sides by stone walls.

Site Uses

- Hay production by licensee on both fields
- Limited passive recreation (walking, horseback riding, etc.) by nearby residents

Stewards

The following agreed to be Stewards at ConsCom's March 23, 2006 Public Hearing on the Draft Management Plan for Fox Hill:

Warren Lyman, Land Stewardship Committee

Tricia Smith, Licensee farmer

Dan Mosley, nearby resident

Other Stewards may be added in the future.

Overall Management Objectives

1. To preserve the two fields: (a) for agricultural use (preferred); (b) for habitat for flora and fauna; and (c) for the vistas afforded (especially from Bedford Rd.)
2. To preserve the woodlands (excluding those encroaching on the fields) and wetlands in their natural state for wildlife habitat protection and watershed protection.
3. To allow for limited passive recreation such as walking and horseback riding.

Management Plan (by Management Unit)

- Fields: Haying and associated maintenance – including control of forest encroachment along edges of fields – to be undertaken by licensee (until December 2007). Field edges to be monitored & assessed for forest encroachment by stewards. Consider perimeter trail (mowed path) around both fields.
- Forests and wetlands: Preserved for wildlife habitat and watershed protection. But prevent (and possibly reverse) encroachment into fields. Also, consider trail along Bedford Rd. from point across from Kimball's Ice Cream Stand to eastern field. Areas of seasonal ponding will be evaluated for possible vernal pool certification.
- Two entrances: To be kept clear and protected from erosion. Portions encroaching on fields, or limiting vista from Bedford Rd., should be cut back.
- Mowed path across field: Consider formalizing this unofficial trail by agreement with licensee farmer, CCC and/or Trails Committee.
- Perimeter stone walls: Monitor perimeter for human encroachment.

Frequency of Inspection by Stewards

Recommend at least three inspections per year: (a) at least once to follow haying operations by licensee; (b) at least once to check on encroachment of fields by forest; and (c) at least once to inspect site boundaries and associated stone walls. Entrances to be checked each time. Photographs to be taken as deemed necessary. Stewards are to submit a Site Inspection Form to the Land Stewardship Committee following each inspection.

Other Recommended Actions

Seek means to engage qualified individuals to conduct selected surveys of flora and fauna on the site. An initial survey of invasive plant species would be valuable. As noted above, seasonal ponding in woods near Bedford Rd. will be evaluated for possible vernal pools certification. Consider placing bluebird houses around the fields.

Funding Available

No funds have been specifically authorized for any maintenance or management activities on Fox Hill.

1. Introduction

This document presents a management plan for Fox Hill, an 11.22-acre conservation parcel owned by Carlisle and managed through its Carlisle Conservation Commission (CCC). The plan was prepared in draft (in August 2005) by the Land Stewardship Planning Committee (LSPC), an *ad hoc* sub-committee of the CCC. The primary goal of the LSPC was to assist the CCC in the development of a stewardship (oversight and maintenance) program for Town-owned conservation land. This program is now being undertaken by a Land Stewardship Committee (LSC) which was appointed by the CCC in November 2005 and sworn in by the Town Clerk at the first LSC meeting in January 2006. A key element of the new stewardship program is the preparation of a management plan for each conservation parcel. To better understand the process of preparing a management plan, the LSPC chose to prepare one plan itself, and chose Fox Hill for this trial effort. The LSPC completed its work in October 2005 with the publication of a Final Report entitled *Establishment of a Land Stewardship Program in Carlisle* (October 2005).

The CCC, at the request of the LSC, held a Public Hearing on the draft Fox Hill Management Plan on March 23, 2006. This final Management Plan incorporates changes suggested at the Public Hearing. Details are provided in Section 7 below.

Prior to undertaking the preparation of this plan, the LSPC had prepared a series of core task guidance documents that were designed to assist the future LSC in its work. The documents produced included, in part, the following:

- Core Task 1: Conduct Baseline Assessment for Each Property
- Core Task 2: Establish and Maintain Files for Each Property
- Core Task 3: Develop or Update Management Plan for Each Property
- Core Task 4: Periodic Monitoring and Reporting on Each Property

The guidance in the above-mentioned documents was used in the preparation of this management plan for Fox Hill. Specifically, a baseline assessment was undertaken to supplement the information that already existed in the files maintained by the CCC in Town Office. The supplemental assessment included the following:

- Inspections of the property (by individual members of the LSPC and the committee as a whole), with photos being taken during one inspection
- Conversations with several persons who were either abutters, near-by residents, or other interested parties (including one who had hayed the Fox Hill fields for over 10 years).
- Review of the *Carlisle Gazette* articles relating to the purchase of the land
- Review of the CCC meeting minutes related to the purchase of the land
- Obtaining an aerial photo (taken in April 2001) of the property

The additional information gathered has been placed in the Fox Hill files maintained by the CCC.

The next section of this report (Section 2 – Description and History of Site) is a summary of the information – from the baseline assessment – currently available on Fox Hill. Section 3 presents the overall management objectives for Fox Hill. Section 4 suggests specific management units for the property, and then Section 5 presents a management plan for each of these units. An estimate of the annual costs of implementing this plan is provided in Section 6. Section 7 contains a brief summary of: (1) the comments received at the Public Hearing on March 23, 2006; and (2) changes made to the draft.

2. Description and History of Site

2.1 Description of Site

Fox Hill is an 11.22-acre conservation parcel located to the southwest of the intersection of Bedford Road and Stearns Street, approximately 2/3 of a mile east of the Town center (**Figure 1 [Locus Map]**). It has about 814 feet of frontage on Bedford Rd. - with one entrance through the surrounding stone wall - and a single point of frontage on Stearns St. – also with an entrance (**Figure 2 [Plot Plan]**). While no official parking lot exists, there is room for one or two cars at each of the entrances. Limited additional parking is possible on Bedford Rd. and Stearns St. A “Fox Hill” sign has been placed at the Bedford Rd. entrance. Other than the frontage on Bedford Rd. and Stearns St., the property is surrounded by private property (4 lots) that contain single family dwellings (3 lots) and one carriage house (1 lot). A stone wall appears to completely surround the property on all borders.

The land in the area of Fox Hill slopes down gently to the north (**Figure 3 [Topo Map]**). Based on the USGS topographic map, there is about a 3 meter difference in elevation between the southern and northern borders of the property. Surface water drainage from the property flows to a seasonally ponded wetland just south of Bedford Rd. This ponded area drains seasonally – through a stone wall - to Lot 21 (at the northern end of its border with Fox Hill) which then drains to a culvert under Bedford Rd. and into the Pages Brook watershed.

The major feature of the parcel is its two connected fields which have been used as hay fields for many years (see Section 1.3). The locations of the two fields, which comprise about ¾ of the property, are shown in **Figure 4 [Aerial Photo]**, an aerial photo taken in April 2001. (Note that an earlier aerial photo from 1971 [available in Town Office] clearly shows the fields to be larger in area than in the 2001 photo. Forest encroachment has reduced the field’s size.) The remaining portion of the land is forested, with some shrubs at the forest edge. A significant portion of the forested land is shown as wetland on the Town maps* (see Figure 2). A seasonal stream flows through this wetland and commonly creates some seasonal ponding in the woods south of Bedford Rd. Near the

* In fact, based on site walkovers, the extent of wetlands in the northwestern corner of the site is larger than shown in Figure 2. Specifically, the wetlands in the northwestern corner extend – with the seasonal stream – westward over to the border with Lot 21 and then northward under Bedford Road.

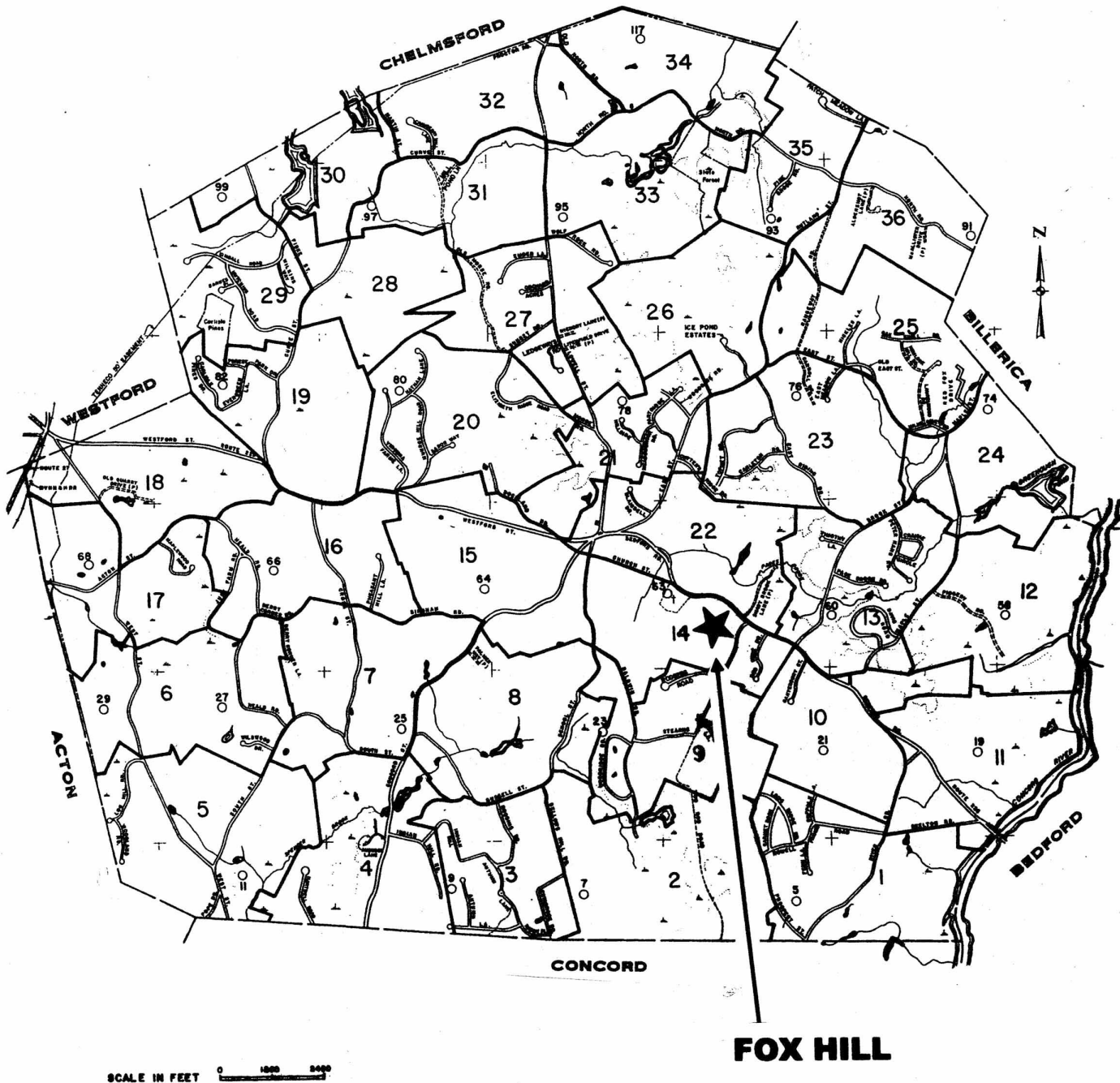


Figure 1. Locus Map for Fox Hill

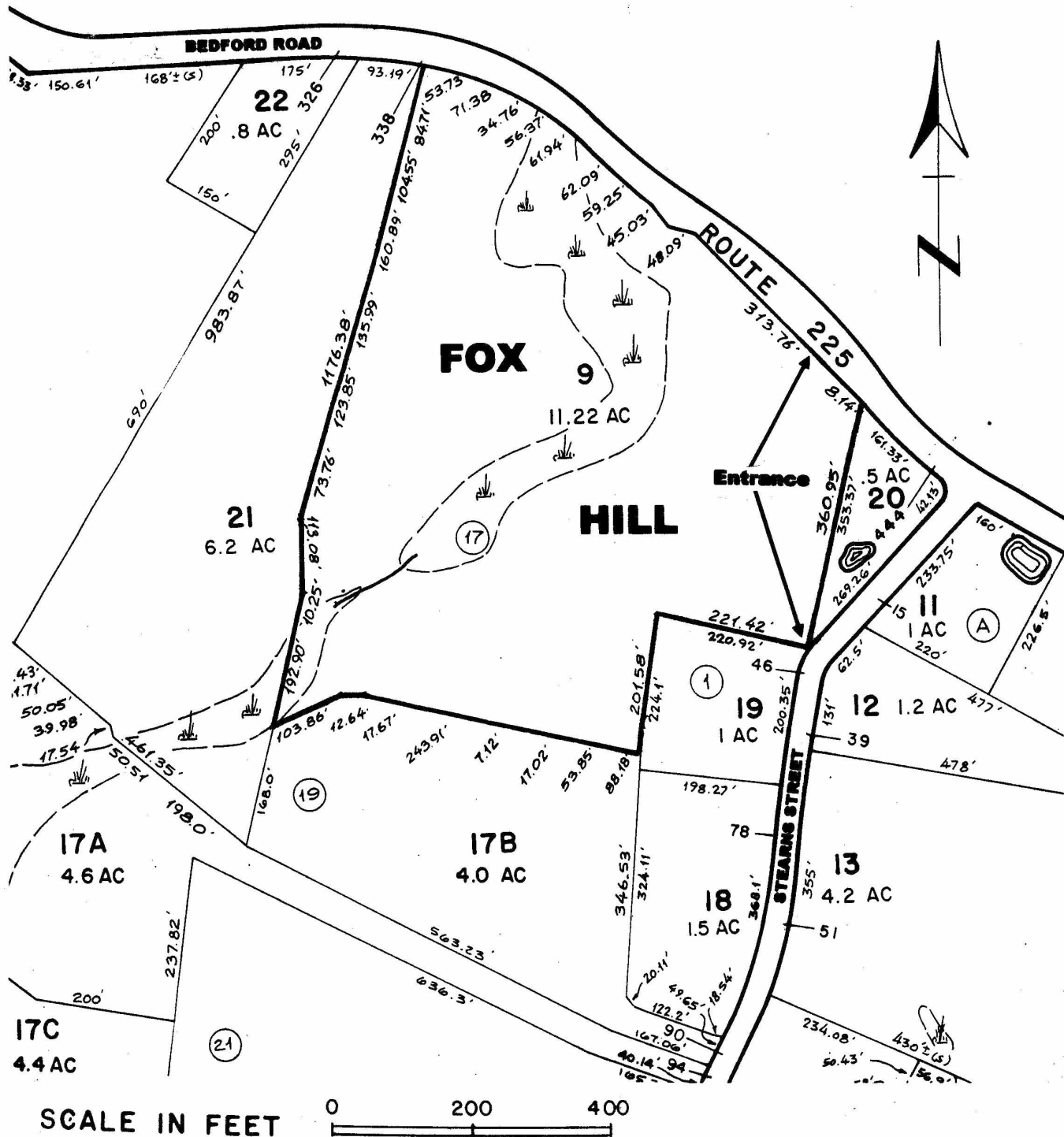
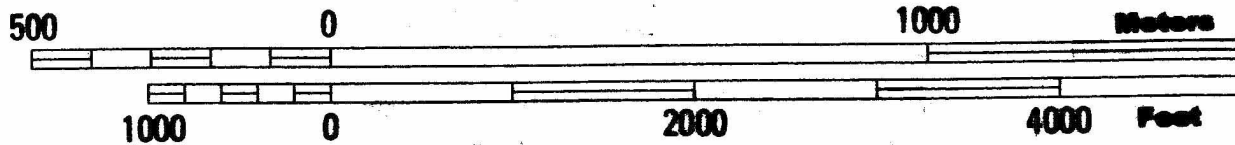
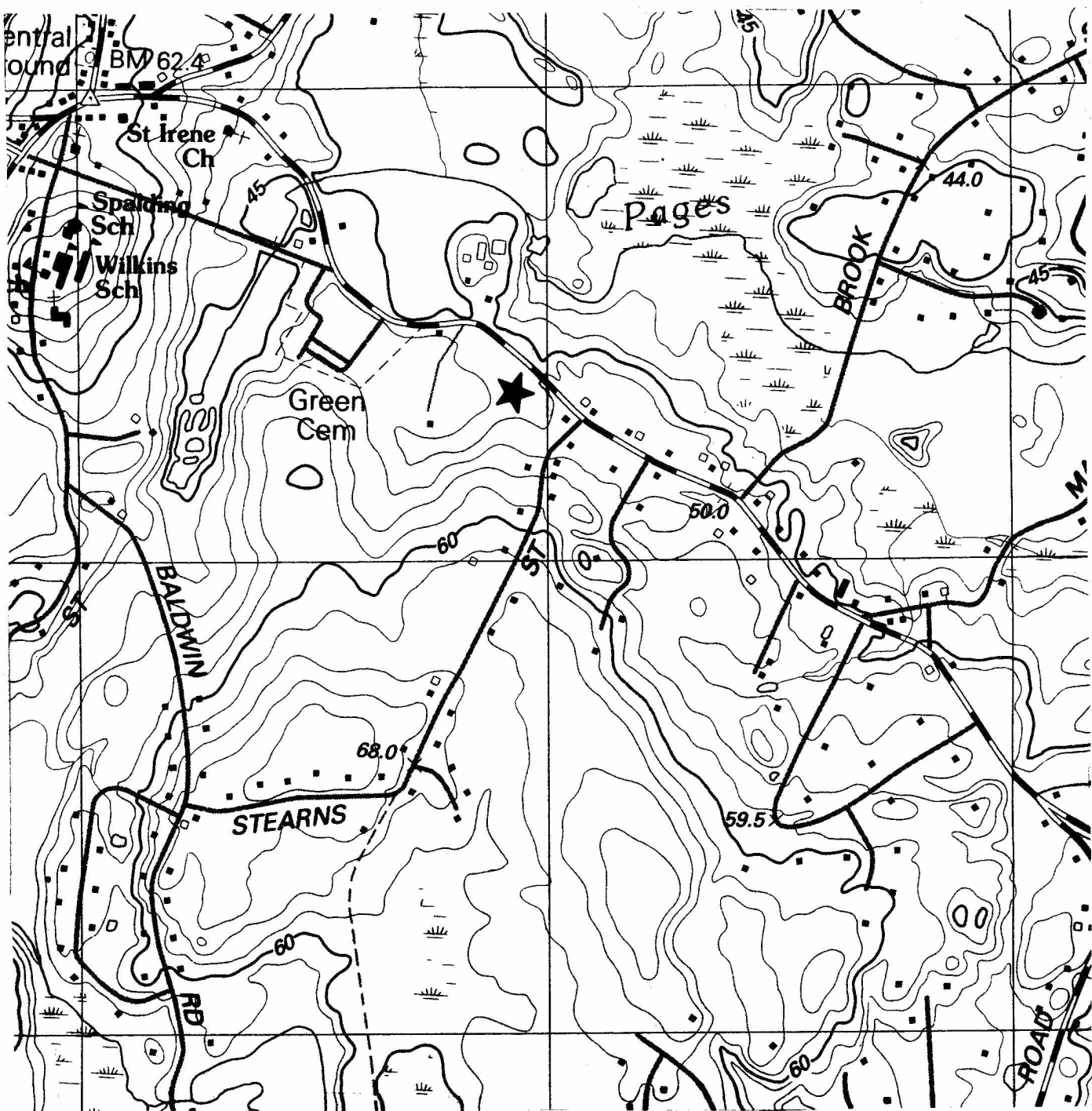


Figure 2. Fox Hill Plot Plan



Contour Interval 3 meters

Fox Hill Location ★

Source: USGS 7.5 x 15 minute quadrangle map for Billerica, MA (1967)

Figure 3. Topography in the Fox Hill Area

Fox Hill



Figure 4. Aerial Photograph of Fox Hill

**Note: Property boundaries shown in red.
Photograph taken in April 2001.**

0 25 50 100 Meters



Legend

- par_032905_me
- 217918.sid
- RGB**
- Red: Band_1
- Green: Band_2
- Blue: Band_3
- oxmainp1

center of the property, there is a wide connecting path between the two fields (wide enough for a tractor) which provides a dry crossing of the wetlands and seasonal stream. (A culvert carries water under the connecting path.)

Based on observations in May, 2005, as well as conversations with abutters and other near-by residents, the fields are in quite good shape and provide a good hay crop (more in Section 1.3 below). There has been some encroachment of the forest into the fields on many sides of the property. (Daniel Mosley, a near-by resident, mentioned a historic photo his family has which shows a much more open site. See also the comment above regarding evidence from historic aerial photos.) Also, the southern (high) end of the larger (eastern) field apparently contains some large rocks and holes which are a hindrance to farm equipment and horses. At the northern end of this same field, near Bedford Rd., is a high-water monitoring well (with an orange cone marker) that is monitored by the Board of Health.

The Carlisle Trails Committee does not maintain any trails on Fox Hill. However, a near-by resident commonly mows a walking path across the hay fields each summer. The path starts at the Stearns St. entrance and heads west; it crosses the wetlands at the above-mentioned crossing, and then continues west to the private property (Lot 21) on the western border of Fox Hill.

No assessment or inventory has been made of the flora and fauna on the Fox Hill site. As indicated by the property name, foxes have been seen on the site. Because of the diversity of habitats on the site (fields, forests, wetlands) and the diversity of plant life that is obvious, this site is excellent wildlife habitat. As expected, it contains a number of plant species considered as invasive (e.g., Norway maple, Multiflora rose, Glossy buckthorn). It is considered a very attractive site by Carlisle residents familiar with it. A patch of wild asparagus exists on the property.

A few human encroachments were noted during inspections of the property in May and June, 2005. First is the above-mentioned mowed path which connects the Stearns St. entrance with the Mosley property on the west. This has apparently been present in past years also. Second, a significant portion of the trees and brush along the western border of Lot 19 that abuts Fox Hill (see Figure 2 for lot locations) has been cleared, apparently to give the residents of lot 19 a better view of the Fox Hill fields. Third, three small areas of brush (approximately 10 ft by 15 ft each) along the western border of Lot 20 were cleared and apparently planted with garden vegetables. Also, the stone wall along this border was apparently improved by the abutter at some point in the recent past. Finally, a very small amount of brush has been cleared to provide a path between Lot 17B and Fox Hill. None of these encroachments are having any major impact on the Fox Hill property. In fact, the mowed path is considered a desired feature and will be encouraged in the future.

2.2 Soils

Based on a Natural Resources Conservation Service (NRCS) study*, there are four types of soils on Fox Hill. These soils are listed in **Table 1** along with the approximate acreage covered and certain soil characteristics. The locations of the soils are shown in **Figure 5**. The approximate outline of the two fields on Fox Hill is shown by the yellow lines. A full definition of each soil is provided in **Appendix A**.

The Land Capability Classification of each soil (listed and explained in Table 1) shows, in a general way, the suitability of soils for most kinds of field crops. The four types of soils present at the site (codes 6A, 253B, 254B and 310B) are listed as capability class II-e, II-s, III-s or IV-w. Capability class II-e would, for example, be defined (per the notes in Table 1) as:

“Soils have moderate limitations that reduce the choice of plants that require moderate conservation practices. Soil is mainly limited by risk of erosion unless close-growing plant cover is maintained.”

The NRCS study also gives a farmland rating to soils of generally high quality. The rating is either “Prime” or “Locally Important”. As shown in Table 1, two of the soils at Fox Hill are rated as Prime and one is rated Locally Important. (The fourth, the Scarborough mucky fine sandy loam, is not rated.) Prime and Locally Important farmland is defined by the NRCS, in part, as follows:

Prime Farmland: Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, forest land, of other land, but not urban built-up or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to accepted farming methods.

Locally Important: Farmland that fails to meet the requirements of Prime farmland, but is of statewide importance for the production of food, feed, fiber, or forage crops. Also included are nearly Prime farmlands that economically produce high yields of crops when managed according to acceptable farming methods.

*Middlesex County Massachusetts Interim Soil Survey Report, 4th Edition, July 1995. Prepared by the US Department of Agriculture, Natural Resources Conservation Service. Published by the Middlesex Conservation District.

Table 1. Fox Hill Soils and their Characteristics

Map #	Name & Definition	Acres	Percent of Total	Land Capability Classification¹	Farmland Rating²
6A	Scarboro mucky fine sandy loam, 0 - 3% slopes	3.3	27%	IV-w	NR
253B	Hinckley loamy sand, 3-8% slopes	2.4	20%	III-s	Important
254B	Merrimac fine sandy loam, 3 - 8% slopes	3.3	27%	II-s	Prime
310B	Woodbridge fine sandy loam, 3 - 8% slopes	3.1	26%	II-e	Prime
	Total	12.1	100%		

1. **Class Definitions**
 - II. Soils have moderate limitations that reduce the choice of plants that require moderate conservation practices.
 - III. Soils have severe limitations that reduce the choice of plants or that require moderate conservation practices.
 - IV. Soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.
2. Farmland rated as either Prime or Locally Important ("Important"). See text for definitions.
NR = No rating.

Subclass Definitions

- e Soil is mainly limited by risk of erosion unless close-growing plant cover is maintained.
- s Soil is limited mainly because it is shallow, droughty, or stony.
- w Water in or on the soil interferes with plant growth or cultivation.

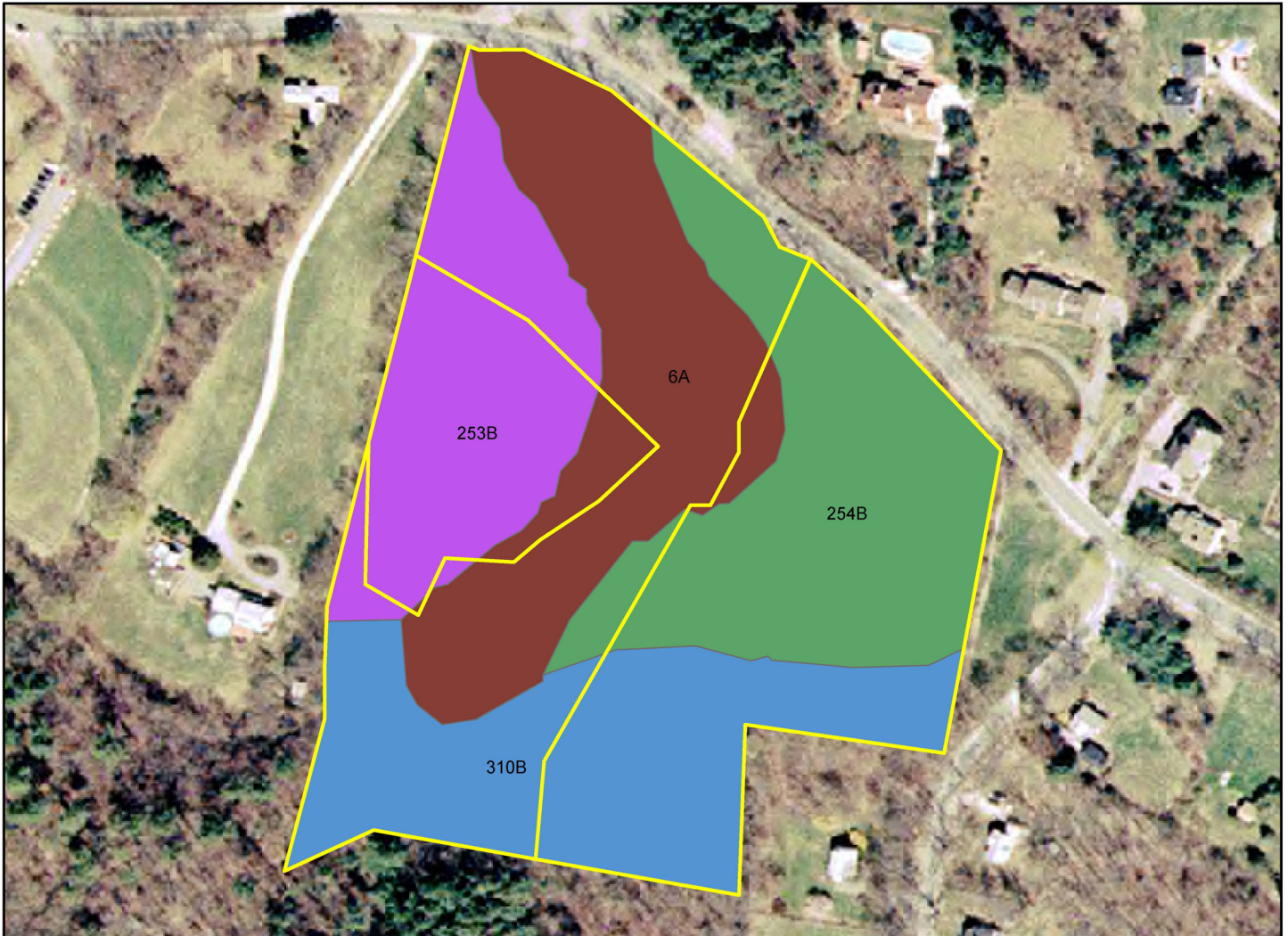
Source: Middlesex Conservation District, **Soil Survey Report** (1995), and Massachusetts Association of Conservation Districts GIS system (Westford, MA)

Figure 5

Fox Hill Soil Map

Customer(s): TOWN OF CARLISLE
District: MIDDLESEX CONSERVATION DISTRICT
Approximate Acres: 12.2

Field Office: WESTFORD SERVICE CENTER
Agency: MA Assoc. of Conservation Districts
Assisted By: Elizabeth McGuire 6/14/2006



Legend

-  Fox Hill Consplan
-  253B Hinckley loamy sand, 3-8% slopes
-  254B Merrimac fine sandy loam, 3-8% slopes
-  310B Woodbridge fine sandy loam, 3-8% slopes
-  6A Scarboro mucky fine sandy loam, 0-3% slopes



120 0 120 240 360 480 Feet



2.3 Coverage in Town's Open Space & Recreation Report

Carlisle's first *Open Space and Recreation [OS&R] Report* (March 1979) evaluated and ranked the "Mannis/Anderson" property on Bedford Rd. and Stearns St. (This property is assumed to be, or be equivalent to, the purchased Fox Hill property.) The property's score from the ranking was 99. Other ranked parcels (all > 20 acres) had scores ranging from 32 to 157; the median score was ~ 85. Although not recorded, the parcel likely received most of its ranking points by adding to the following goals and objectives listed in the OS&R report:

- Protects or delineates Town Center
- Preserves rural and/or attractive views
- Promotes agriculture
- Keeps entrance to Town rural
- Protects water resources
- Located in residential areas short of open spaces
- Cleared, thus open to conspicuous development [at that time]

2.4 Site History and Use

Site Purchase

Carlisle voted to purchase Fox Hill at a Special Town Meeting on June 24, 1980. The land - which was then agricultural land under Massachusetts General Laws, Chapter 61A - had been offered by the owners, Arie Anderson (of Westford [previously Carlisle]) and Arvid Leelman (of Lexington [previously Carlisle]), to a private developer for a price of \$90,000. The owners had an approved plan from the Carlisle Planning Board for four house lots on the property. While arranging financing, the buyer's bank uncovered the 61A requirements, which give the Town first option on land offered to a developer. The Town selectmen were notified of the 61A restrictions, and its purchase options, on May 7. The selectmen then notified the Conservation Commission who, after some internal discussion (meeting of May 19, 1980), held a public hearing (June 3, 1980) to gain further input. The public was invited to join walking inspections of the land on June 21 and 22, 1980. Positive responses at these events led to the purchase recommendation and the subsequent Special Town Meeting on June 24th.

The specific motion (Article 1) made by David Land at the Special Town Meeting included the following language:

"I move that the Conservation Commission be authorized to purchase in the name and on behalf of the Town for open space and conservation purposes, including outdoor recreation, under the provision of Chapter 40, Section 8C of the General Laws, as amended, the fee in a certain parcel of registered land ...[property description follows]." (Emphasis added.)

According to the *Carlisle Gazette* (June 27, 1980): “The motion to purchase the land and to pay, if necessary, the full \$90,000 price by means of bonding passed by a comfortable margin on a show of hands.” At this meeting, the Town also voted to apply to the State for partial reimbursement of the purchase price (up to 50% allowed under the Self-Help program).

Carlisle was not able to immediately complete the purchase of Fox Hill as the prior owners – in early July – brought suit in the Massachusetts Superior Court asking the court to determine the rightful purchaser of the land. The question was if the Town had adequately met the terms of the 1979 purchase and sales agreement the owners had with the developer. The suit was eventually settled in the Town’s favor, and title to the land was taken on February 18, 1981, for the original purchase price of \$90,000. The deed under which the property was conveyed to the Town on February 18 contains the following paragraph:

“The premises are conveyed under the provision of Chapter 40, Section 8C of the General Laws, as amended, to be managed and controlled by the Conservation Commission of said Town of Carlisle for the promotion and development of the natural resources and for the protection of the watershed resources of said Town.” (Emphasis added.)

Immediately after purchase, the land was commonly referred to as the “Anderson-Leelman property.” This designation was considered unsuitable, and the name was subsequently changed to Fox Hill.

In March 1981, the Town learned that it would not receive any of the State’s Self-Help funds for the purchase of Fox Hill.

Haying and Mowing of Fields

Dick Shohet (299 Bedford Rd., Carlisle) hayed the field for about a 12 – 15 year period ending in 2004. Due to new insurance requirements in the license the Town asked him to sign for 2005, he declined to continue the haying. Prior to his term, the field was hayed by Guy Clark. It appears likely that the majority of the property (perhaps a larger fraction than at present) has been used as a hay field for a very long time. Typically, if haying, Mr. Shohet did one cutting a year in the mid-May to mid-June period. While cutting, he would also try to keep the borders of the field free from further encroachment. A typical haying operation took several steps, including cutting, turning, raking, and collection and bailing. If haying, he would also fertilize the fields with an organic fertilizer at the rate of about 300 pounds/acre per year. Mr. Shohet estimated he obtained about three hundred 50-pound bales per year from the site. In a few years, he would only mow the field (leaving the cuttings as mulch) using a rotary mower. He occasionally replanted the field, which then required liming.

Mr. Shohet found it easiest and safest to enter the property (with the farming equipment) at the Bedford Rd. entrance, and leave via the Stearns St. entrance. Prior to mowing, he commonly flagged the large rocks in the upper, eastern field.

As of June, 2005, a new licensee, Tricia Smith (Indian Hill Rd., Carlisle) had been selected by the CCC for haying on the Fox Hill fields. Details over insurance requirements are responsible for some delay in the final implementation of the license. The licensee's proposal for Fox Hill includes the following:

- Fields to be used for hay production to feed her dairy goat herd. Excess bales are to be sold.
- Vegetation management to be limited to edge of fields to remove excess woody vegetation
- Tent structures may be used to store equipment or hay temporarily

Summer 2005

- Three soil samples to be taken for testing; fields to be limed in fall if test results indicate a need
- Will pay Town to have fields mowed twice. Hay left in place as mulch.
- Will start cutting back on shrub grown and putting brush in areas for removal by the Department of Public Works (DPW)

Early Spring 2006

- May seed fields to augment existing growth

Summers 2006 & 2007

- Soil samples to be taken from same locations each year
- Two hay cuttings per year.

The licensee's use of the land will require conformance with CCC's *Agricultural License Agreement* and the associated rules contained in CCC's *Required Agricultural Practices and Special Restrictions*. The following is a summary of key elements and restrictions in these documents:

CCC's Agricultural License Agreement

- Term of lease (non-transferable) is until December 1, 2007
- Not a grant for exclusive use
- License fee = \$1.00
- Indemnification of Town
- Minimum insurance requirements stipulated
- Activities subject to review by Town
- 30-Day termination clause
- No change to land without Town approval

CCC's Required Agricultural Practices and Special Restrictions

1. Town preference for Best Management Practices whenever possible
2. Soil samples to be tested spring of 1st year

3. CCC to be informed one week before any pesticide or herbicide use
4. All pesticides must be approved by EPA and State
5. Vegetated filter strip may be required in some circumstances
6. Cover crop required in tilled areas after tilling
7. Maintain the condition of the soil to limit soil erosion
8. Clearing and maintaining of field edges required
9. Written report required by December 1st of each year; at that time, tenant and CCC will fill out land use planning form for next year
10. Must allow public use of trails (passive recreational use) outside growing season as may be approved by CCC

Other Uses

Conversations with abutters and near-by residents indicated that the Fox Hill is a much admired site, although relatively little used beyond the haying operations. There is some walking by local residents across the site; to facilitate this, a near-by resident mows a path across the fields. One person mentioned that this path might also be used by walkers that follow a Stearns-Baldwin-Rt. 225 [walking] loop, or to get from Stearns St. to the ice cream stand on Bedford Rd. Dog walking and horseback riding also occasionally take place on the property.

It was clear from interviews with near-by residents, that they have a very protective feeling for Fox Hill, and are very appreciative of the good mowing that Mr. Shohet (and the Town) have provided in recent years.

Alternative Uses Proposed for Fox Hill Conservation Land

In 1993 there was a proposal to swap Fox Hill Conservation Land, owned by the Town of Carlisle, with the Malcolm land, owned by the Carlisle Congregational Church. The purpose of the swap would be to allow the church to build a new church on a portion of Fox Hill, a more visible site than the Malcolm parcel. There were several meetings on the topic. The Commission was aware of the importance of preserving Two Rod Road and areas proximate to the Estabrook Woods, as the Malcolm land was. In the end the swap did not occur and an area of the Malcolm land near Stearns Street was developed as a senior housing complex with remaining acreage preserved land, to be preserved with Conservation Restrictions.

In 2001 Fox Hill was proposed as a site for a proposed Waste-Water Treatment Facility which would serve the Town schools. At a meeting held on July 26 and August 2, the commission heard a proposal by members of the Board of Selectmen to conduct soil testing on the property. This request was withdrawn.

In both cases, Fox Hill neighbors and other Carlisle citizens attended the meetings and vigorously defended the property against any alternative use. Additionally, current and former members of the Conservation Commission held a debate relative to the negative precedent of removing land from conservation use.

3. Overall Management Objectives

At a minimum, the management of Fox Hill must preserve the land for the uses approved by the Town during the purchase of the property. These uses included (see Section 2.3):

From the Special Town Meeting vote (June 24, 1980): “...for open space and conservation purposes, including outdoor recreation, under the provision of Chapter 40, Section 8C of the General Laws....”

From the deed which conveyed the property to the Town (February 18, 1981): “...for the promotion and development of the natural resources and for the protection of the watershed resources of said Town.”

Based on the above, and on the current uses of the land, the overall management objectives for Fox Hill are:

4. To preserve the two fields: (a) for agricultural use (preferred); (b) for habitat for flora and fauna; and (c) for the vistas afforded (especially from Bedford Rd.)
5. To preserve the woodlands (excluding those encroaching on the fields) and wetlands in their natural state for wildlife habitat protection and watershed protection.
6. To allow for limited passive recreation such as walking and horseback riding.

With regard to the first objective, maintaining the fields as open spaces, it is preferable to continue to seek individuals willing to hay the field, or to use it for other appropriate agricultural purposes. Such uses, which commonly involve periodic fertilization of the soil, help Carlisle retain valuable agricultural land. If agricultural uses are not feasible, then the fields should be kept open for the other two reasons mentioned. The abutters and near-by residents of Fox Hill clearly support the agricultural use of the fields as it provides an open space for walking and horseback riding, and also open space vistas.

The major maintenance activities on Fox Hill will be associated with objective #1: preserving the fields. If, as at present (pending agreement on insurance issues), a farmer has a license to mow the fields (for hay) on a regular basis, then the objective is mostly achieved. The licensee will also be required to maintain cleared edges of the fields to restrict further encroachment by the forest. However, it will require careful oversight to make sure that further encroachment does not take place. In addition, an assessment of the existing encroachment (and vista restrictions) should be undertaken with an eye to future efforts to cut back the trees and brush along the edge of the fields, at least along Bedford Rd. To preserve the vista from Bedford Rd., clearing will have to take place along both sides of the stone wall that lies between the road and the eastern field. To an extent consistent with the overall management goal of maintaining the current open-space characteristics of the parcel, clearing (removing encroaching trees and shrubs) on other

sides of Fox Hill fields may take into consideration the desires of the abutters who might prefer the privacy afforded by the woods.

Because Fox Hill supports limited passive recreation – primarily by abutters and near-by residents – there is little need to put in a formal parking lot or kiosk at this time.

To allow for objective #3 – limited passive recreation (e.g., walking and horseback riding) – it would seem appropriate for CCC to formally approve the current practice – by one near-by resident – of mowing a walkway across the site.* This activity could be taken over by the Trails Committee if they so desired. Two additional trails could be considered:

1. The Trails Committee or the licensee farmer might consider mowing a walking path that goes completely around both fields. This would form a “figure 8” trail of about $\frac{3}{4}$ mile in length. The path should not significantly diminish the area being mowed by the licensee.
2. A short woodland trail could be constructed that started directly across Bedford Rd. from Kimball’s Ice Cream Stand, and then headed east parallel to Bedford Rd. (staying north of the wetlands) until it reached the eastern field. This would work best if the above-mentioned (“figure 8”) field trail was also maintained.

This management plan reflects current uses of the Fox Hill property. There are, clearly, many other activities which might take place in the future which would be consistent with the overall management objectives listed above, and even further latitude is possible if only the general restrictions of the warrant article and deed are considered (see Section 2.4). For example, agricultural activities might include crops requiring tilling and irrigation. And special recreational or educational programs might take advantage of the diversity of wildlife habitat on the site. Town residents, stewards and the LSC are encouraged to consider other such uses that are consistent with the general restrictions listed above.

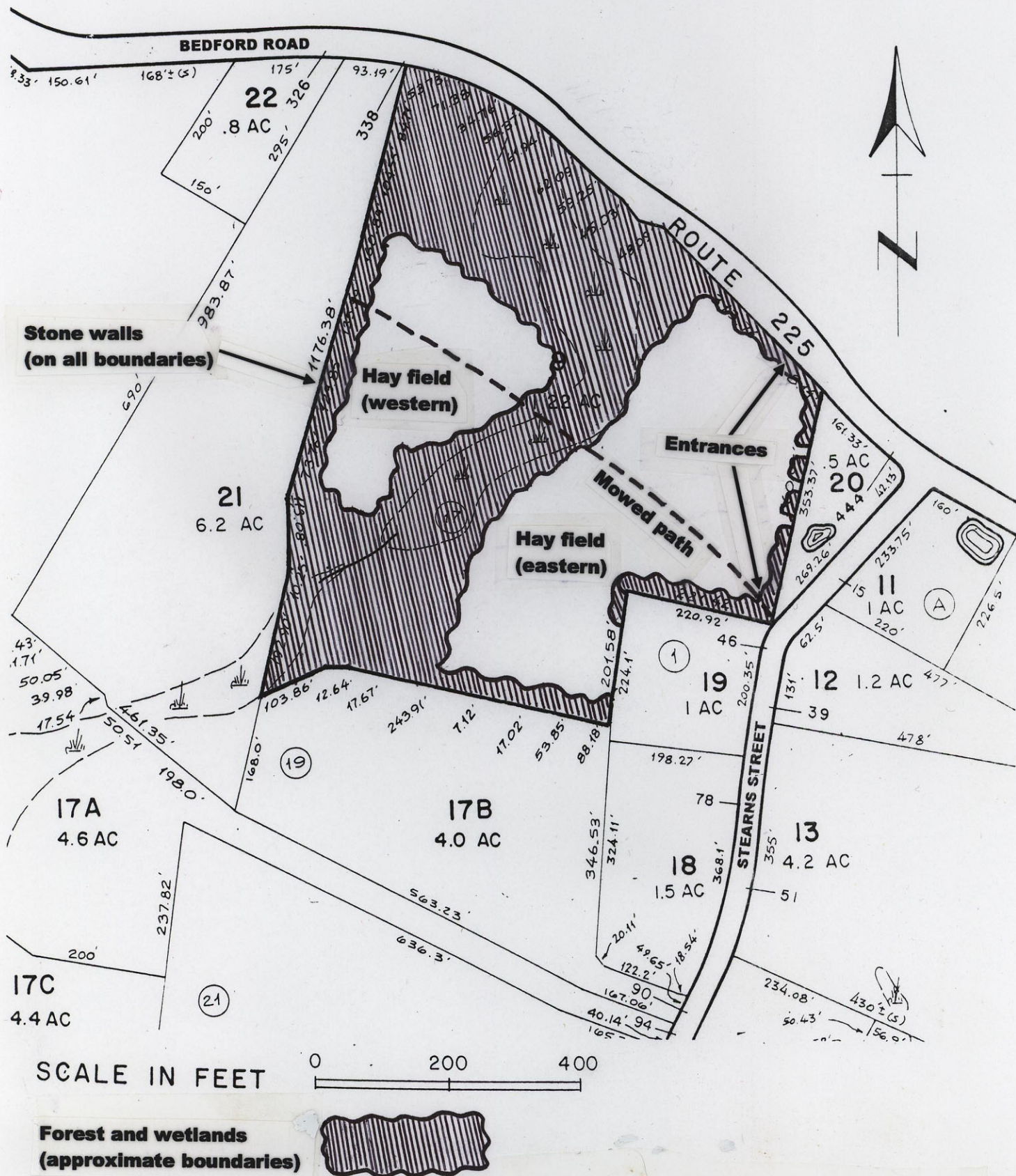
4. Management Units for Fox Hill

For purposes of this management plan, the Fox Hill property is considered to contain the following management units:

- The two hay fields (currently under license – see Section 2.4)
- The remainder of the property that is forested, portions of which contain wetlands
- The two entrances (off Bedford Rd. and Stearns St.)
- The mowed path across the fields
- The stone walls which surround the property

Figure 6 [Management Units] shows these units on the plot plan for the parcel.

* In fact, during the Public Hearing on the draft Management Plan (3-23-06) the ConsCom did give tacit approval to the path, and the licensee (farmer) gave explicit approval.



Because there has been some encroachment of the forest into the fields (taking place over many years), there is no clear delineation of the field and forest management units. The CCC and LSC will have to decide, for each Fox Hill border, just where the field/forest divide should be.

5. Management Plan

5.1 Plans for Specific Management Units

Fields

Pending resolution of particulars regarding insurance, the two fields will have been licensed to a Carlisle farmer, Tricia Smith (Indian Hill Rd., Carlisle), until December 1, 2007. (See Section 2.4 for details.) The licensee's haying/mowing activity is expected to achieve Objective 1(a) as listed in Section 3.

A means should be found to: (1) mark the existing limits of the fields by use of stakes, tape, or other method; and (2) to estimate the historic limits of the fields from historic aerial photos, old photographs by Town residents, or other means. If possible, this information should be recorded on maps of the property. This information can then be used to maintain the existing field lines, and/or to remove trees and brush to regain some of the historic field lost to forest encroachment.

Consideration should be given to creating and maintaining the perimeter ("figure 8") trail around both fields that was described in Section 3 above.

Forest and Wetlands

Except as noted below, the existing forest and included wetlands are to be left as is for wildlife habitat and watershed protection. One exception is that some trees and brush along the edges of the field may be removed: (1) to reduce forest encroachment (current or historic); (2) to open up space around a few selected trees that provide special appeal (e.g., some old apple trees); and (3) to maintain the vista from Bedford Rd. Tree and brush clearing along a border with a private residence should take into consideration the abutter's preference for privacy or vistas to the extent doing so does not compromise the property management goals. Tree and brush clearing along Bedford Rd. – on the road side of the stone wall - may be done with some assistance from the DPW who should be contacted first. Each year the Land Stewardship Committee (LSC) should propose which border, if any, should undergo tree or brush clearing, and put this proposal into the Land Stewardship Action Plan (LSAP) which will be reviewed by the Carlisle Conservation Commission (CCC). The LSC should contact the CCC office to see whether a Wetlands Protection Act application should be filed for vegetation management near any wetlands.

A second exception to be considered would be the construction of a short woodland trail (described above in Section 3) that ran parallel to Bedford Rd., and that connected the eastern field with a point directly across from Kimball's Ice Cream Stand.

The wetlands near Bedford Rd often contain seasonally ponded water. These areas are (spring 2006) being evaluated to see if they can be classified and certified as vernal pools.

The culvert that carries water under the path connecting the two fields should be maintained to prevent water flowing over the connecting trail. Because of the age of the culvert and site conditions, this may be difficult.

Bedford Rd. and Stearns St. Entrances

Both entrances need to be kept clear not only for the farmer (bringing farm equipment onto the site), but also for the public. The Stearns St. entrance has suffered a small amount of erosion which, in the past, was addressed by a request to the Carlisle DPW to add some gravel to the area. This needs to be monitored every year.

The "Fox Hill" sign at the Bedford Rd. entrance should be regularly checked, and brush cleared from in front of it as necessary. If land abuses become apparent, the LSC should consider adding – at one or both entrances – a sign with CCC's standard list of "not allowed" activities.

Mowed Path across Fields

The LSC should consider formalizing an agreement with the near-by resident who has been mowing a path across the fields for several years. If this is not possible, the Trails Committee should be approached to see if they would want to maintain such a path. A third alternative would be to request mowing by the DPW.

In addition, the LSC – in conjunction with the Trails Committee or the licensee farmer - should consider the possibility of mowing a perimeter trail around both fields.

Stone Walls

No action is required unless an abutter takes action, or requests permission for action, that involves alteration of any of the stone walls surrounding the property. For now, only monitoring is required.

5.2 Fox Hill Stewards

During the Public Hearing on the draft Management Plan (3-23-06), the following individuals agreed to be Stewards for the Fox Hill site:

Warren Lyman – Land Stewardship Committee

Tricia Smith – Licensee farmer on the site

Dan Mosley – Near-by resident

The LSC may appoint other Stewards in the future.

5.3 Frequency of Inspection by Steward(s)

Fox Hill should be inspected by a Steward at least three times a year. One of these inspections should be timed to allow evaluation of the licensee's activities such as mowing, raking, baling and fertilizing. At least one inspection a year should include a complete check of the site's boundary and stone walls, looking especially for stone wall alterations or abutter encroachments onto the conservation land. At least one evaluation a year should include a focus on assessing the extent of forest encroachment into the fields. The entrances should be inspected each time.

Note that general guidance for monitoring and reporting on each conservation property has been provided by the Land Stewardship Planning Committee (LSPC) under LSC Core Task 4. The guidance includes a suggested form to be filled out after each inspection.

5.4 Other Management Issues

It is recommended that the LSC engage qualified individuals to conduct selected surveys of flora and fauna on the site. The initial assessment might focus on the flora of the fields, forests and wetlands. The survey should include some information on the distribution (number) of identified species, and note those that are considered invasive or problematic. This information will add significantly to the baseline description of the site. If the desired individuals require payment for their time, the LSC may be able to identify grant sources to assist in the payments.

The LSC should consider the value of placing bluebird houses on the site. (Note: Currently, a local Boy Scout – with LSC's blessing - is evaluating the possibility of putting bluebird houses on the site.)

5.5 Potential Volunteer Tasks

Occasionally a Town resident, for example a Boy Scout seeking to fulfill a community service requirement, inquires with the Conservation Administrator regarding volunteer opportunities on Town conservation lands. The following is a list that may be offered and assigned at the discretion of the Conservation Administrator or any of the Stewards for the parcel. Other tasks may be also considered.

1. Installation, maintenance or repair of bluebird houses;
2. Clearing of brush around the perimeter of the two fields to reduce the encroachment of the forests into the fields and to maintain the vista from Route 225. Every small segment a volunteer can do is a big help. Must stay 100 ft from wetlands unless have CCC's approval. Brush will be removed by the Department of Public Works.
3. Find a means to mark and/or map the current extent of forest encroachment onto the agricultural fields;

4. Repair of the stone walls surrounding the property, especially the portion along Route 225. Fallen stones need to be placed back on the wall. This would require two strong individuals.
5. Conduct an inventory of any of the following: (1) invasive plants; (2) wildflowers (by season); (3) native trees and shrubs; (4) other plant life; (5) fauna in the seasonal pools in the northwest corner of the property (may be vernal pools).

6. Financial Plan

No maintenance costs are necessary in the immediate future for Fox Hill. While many future “costs” may be eliminated by use of stewards, other volunteers, the Trails Committee, or Town employees (e.g., Conservation Administrator, DPW), some future costs may be associated with the following:

- Replacement of the “Fox Hill” sign if it becomes damaged
- Additions of signs – at both entrances – listing “not allowed” activities
- Removal of brush along the Bedford Road border to maintain the view from the road (removal required on both sides of stone wall)
- Removal of brush and trees along the edges of the fields where encroachment is considered excessive
- Mowing of the walking path across the site
- Conducting an inventory of flora and fauna
- Assessment of ponding in wetlands for vernal pool certification

Aside from maintenance costs, the CCC should assume about \$70 in (non-labor) office costs related to Fox Hill over the next year. This will include costs for photocopying, printing and distribution of the final Management Plan, and printing of photographs. Some assistance will also be requested from the Conservation Administrator.

7. Review and Approval Process

On March 23, 2006, the Carlisle Conservation Commission (CCC) held a Public Hearing on the August 2005 draft Management Plan for Fox Hill. Several members of the Land Stewardship Committee as well as interested citizens were in attendance. LSC co-chair Warren Lyman gave a summary of the plan and listed a number of edits to be made relating to new information on such items as: (1) the extent of the wetlands in the northwest corner; (2) the seasonal outlet from these wetlands; and (3) plans to evaluate the seasonal ponding in this area for possible certification as vernal pools.

Comments from the public or CCC during the Public Hearing included the following:

- Tricia Smith (licensee farmer) agreed to the mowed path across the site and indicated she might undertake to mow a perimeter path around the two fields.

- CCC requested that the final Management Plan properly refer to the current role of the new Land Stewardship Committee in the preparation of the Plan.
- The Conservation Administrator asked that the Plan include a list of modest sized tasks that might be assigned to individuals (e.g., Boy Scouts) who inquire about volunteer opportunities on Town conservation lands.

During the Public Hearing, Warren Lyman (LSC), Tricia Smith (licensee farmer), and Dan Mosley (near-by resident) agreed to be Stewards for Fox Hill.

As recommended in guidance for Core Task 3, management plans should be reviewed and updated approximately every five years.

Appendix A

Description of Soil Types Found on Fox Hill Site

Source: Middlesex County Massachusetts (Interim) Soil Survey Report, 4th edition, published by the Middlesex Conservation District, July 1995.

See Section 2.2 for a soils map, table of soils characteristics, and associated text.

Soils are listed in numeric order using the assigned soils code.

6A Scarboro mucky fine sandy loam, 0-3% slopes: SCARBORO series consists of nearly level, deep (5+ ft.), very poorly drained soils in depressions of glacial outwash plains and terraces. They formed in sandy glacial outwash. Scarboro soils have muck, mucky sandy loam or mucky loamy sand surface soil, over stratified sand and gravel at 3 to 16 inches. Permeability is rapid or very rapid. They have a high water table which is at or near the surface most of the year. Major limitations are related to wetness.

253B Hinckley loamy sand, 3-8% slopes: HINCKLEY series consists of nearly level to very steep, deep (5+ ft.), excessively drained soils on glacial outwash plain, terraces, kames, and eskers. They formed in gravelly and cobbly coarse textured glacial outwash. Hinckley soils have friable or loose, gravelly and very gravelly sandy loam to loamy coarse sand surface soil and subsoil with rapid permeability, with loose stratified sands and gravels in the substratum at 12 to 30 inches which have very rapid permeability. Major limitations are related to slope and droughtiness.

254B Merrimac fine sandy loam, 3-8% slopes: MERRIMAC series consists of nearly level to steep, deep (5+ ft.), somewhat excessively drained soils on glacial outwash plains, terraces and kames. They formed in water-sorted, sandy glacial material. Merrimac soils have friable fine sandy loam and sandy loam surface soil and subsoil with moderately rapid permeability over a loose stratified sand and gravel substrata at 18 to 30 inches with rapid permeability. They have few limitations for most uses.

310B Woodbridge fine sandy loam, 3-8% slopes: WOODBRIDGE series consist of nearly level to steep, deep (5+ ft.), moderately well drained soils on drumlins. They formed in compact glacial till. Woodbridge soils have friable fine sandy loam or sandy loam surface soil and subsoil with moderate permeability over a firm, fine sandy loam or sandy loam substratum at 15 to 38 inches which has slow or very slow permeability. Woodbridge soils have a very stony or extremely stony surface except where stones have been removed, and have stones below the surface. They have a perched, seasonal high water table at 18 to 24 inches. Major limitations are related to wetness, slow permeability in the substratum, stoniness and slope.