

Rocky Narrows Management Plan

2009



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Rocky Narrows Management Plan

Location: Sherborn, MA

Acreage: 249 acres

Completed by: Vincent Antil, Brian Degasperis, Mark Wilson, Mike Francis.

Date: FOC approved, September 24, 2009

Supporting Reports and Materials: Trustees Property Guide; Plant Communities Report by F. Clark, 1999; NHESP Biomap and Living Waters data; NHESP Priority Habitats of Rare Species GIS data.

I. Introduction

a. Brief description of property:

Rocky Narrows is a 249-acre reservation along the Charles River. The property is broken into three separate tracks of land: an 85-acre southern section, a 130-acre northern section and an extra 13 acres where Forest Street crosses the Charles River. The 150-acre Sherborn Town Forest lies between the northern and southern sections. Together, Rocky Narrows and the Town Forest create a block of over 375 acres, with about 2 miles of frontage on the Charles River.

Access to Rocky Narrows is from two parking areas; one on Forest Street providing access to the northern section and the Town Forest, one on South Main Street providing access to the smaller southern section. Railroad tracks divide the trail networks served by these parking areas, since crossing the tracks is prohibited.

The landscape of the reservation consists of rugged woodlands, low-lying river front, and rocky outcrops. Rocky Narrows is named for the rock cliffs that narrow the river's passage. Two other rock outcrops, King Philip's Overlook (located on Sherborn Town Forest) and the Rocky Narrows Overlook (on Trustees' property) provide open views of the river, and are popular visitor destinations.

There is also a landing on the river, which allows canoes on the Charles to access the property. This landing also has a tenting area which can be used by overnight groups with the permission of The Trustees.

Rocky Narrows and the Sherborn Town Forest are closely connected; they share a common trail network, parking, and a common landscape. In this plan a number recommendations may apply to both properties. For this reason a working relationship with the Town of Sherborn on property management will be very important.

b. Acquisition history:

Original acreage purchased with funds given by Augustus P. Hemenway in 1897. Additional land given by Mr. and Mrs. George Lewis, Sr. in 1942; Mrs. George Lewis, Sr. and Mrs. Dudley H. Willis in 1987; Mr. and Mrs. George Lewis and Mr. and Mrs.

Levin Campbell in 1990; and by George Lewis in 1991. Additional land purchased in 1942 and in 1974 with funds given by Mrs. George B. Conant. Additional land purchased by MLCT in 1994. Additional land purchased in 1994 and 1995. On June 30, 2009 two more parcels were added; George Lewis a gift of 15.8 acres, and Eleanor L. Campbell a gift of 6.5 acres.

c. Donor's wishes or other clear guiding principles: None specified

II. Summary of Preliminary Management Goals

While Rocky Narrows is listed as a "B-type" property, until now it has been viewed as a borderline C-B property, requiring relatively light management. The items outlined in this plan make it clear that Rocky Narrows will need to be considered and managed a full B-type property.

B-type management properties are characterized by moderate visitation, above average resource significance, and can be associated with complex management issues. Typically, these properties have the ability to engage both local and regional visitors and volunteers.

III. Legal and Management Considerations

- A pipeline easement runs across Trustees property in the northern section, near the parking area. Shown as the "Shell Oil Company Easement" on the survey of Lewis property (Cheney Engineering, 1972).
- Currently there is no hunting at Rocky Narrows or the Sherborn Town Forest.

IV. Property Description:

A. Historic and Cultural Resources

Significant Historic Features:

Few historic or cultural features are visible on the reservation. The Charles River Valley is known to have many archeological resources, but more research is needed to confirm their presence on the property.

The rock outcrops (natural features) do have some local traditions associated with them. Metacomet is said to have viewed the destruction of Medfield in 1676 from King Philip's Overlook. In the 19th century, outcrops at Rocky Narrows were given the romantic moniker "The Gates of the Charles".

Threats to Historic Features: None

Opportunities:

- The presence of archeological resources on Trustees properties in the Charles River Valley should be investigated. Information is held at the Mass. Historical Commission.

B. Natural Resources

A botanical inventory was conducted for Rocky Narrows and the Sherborn Town Forest by Frances Clark (Carex Associates) in 1999. This report is on file at the Doyle Conservation Center and can be accessed for additional natural resource information.

Significant Natural Resources:

- Protected Network of Open Space – Rocky Narrows and the Sherborn Town Forest are part of an extensive network of protected land along the Charles River. These lands help protect the ecological integrity of the Charles River Valley, maintain water quality, and provide flood protection for surrounding communities.
- Priority Natural Communities – Fourteen Woodland Vernal Pools have been confirmed as breeding habitat for obligate vernal pool wildlife on the properties, including 11 vernal pools at Rocky Narrows and three vernal pools on the Sherborn Town Forest. The numerous vernal ponds (and other temporary pools) located on the property support a metapopulation of vernal pool-dependent wildlife, including spotted salamander (Watch-listed), that likely provide long-term stability to this important wildlife resource. Approximately 20 acres of Black Oak-Scarlet Oak Forest/Woodland with a history of fire occurs on the town property. This community type may provide habitat for the oak hairstreak butterfly, a state-listed species of Special Concern.
- Priority Rare Species Habitat – Sections of the properties are identified as BioMap Core and Supporting Natural Lands and Living Waters Critical Supporting Watershed. The northern portion of Rocky Narrows is designated as Priority Habitat for Eastern Box Turtle. Areas along the Charles River floodplain are designated as Priority Habitat for Long's bulrush (Threatened) and River Bulrush (Special Concern). Nine species recorded during a 2004 breeding bird survey are identified as Priority Species by the Partners in Flight Landbird Conservation Plan including Eastern pewee, scarlet tanager, Eastern towhee, American woodcock, black and white warbler, Cooper's hawk, Baltimore oriole, wood thrush, and great blue heron.
- Unusual and/or Declining Community Types – A small patch of Dry, Rich Acidic Oak Forest is located on an extremely steep, south-facing slope overlooking the Charles River on the town forest. Although not rare, the Dry, Rich Acidic Oak Forest community is uncommon in eastern Massachusetts. Acidic Rock Outcrops occur on small knolls and along the steep, rocky slope overlooking the Charles River. Although some outcrop communities are located on the northern tract of Rocky Narrows, King Phillip's Overlook on the Sherborn town forest is the largest outcrop with the most species diversity.
- Mature Hemlock Forest – An 18-acre stand of mature hemlocks, including trees up to 100 feet tall, occurs on the steep, east-facing slope of Rocky

Narrows and the Sherborn Town Forest overlooking the Charles River floodplain. Although the stand remains in relatively good condition, the future of this significant forest resource, as well as its associated species (e.g., black-throated green warbler) is currently threatened by Hemlock Woolly Adelgid. The biological control agent (*Laricobius nigrinus*) was released at this site in 2007. Mass.DCR is responsible for monitoring the site and reporting their findings.

Threats to Natural Features:

- Invasive Exotic Plants – Non-native invasive plants are adversely impacting some of the native communities at Rocky Narrows and the Sherborn Town Forest by displacing native plants and reducing species diversity. Ten invasive plant species have been identified on the properties, with the highest infestations occurring in floodplain wetlands, field edges and successional woodlands, and along some trails. Glossy buckthorn is found throughout the property and is especially abundant in wetlands. Other species, including Oriental bittersweet, Morrow's honeysuckle, winged euonymus, Japanese barberry, and multiflora rose form dense understories in successional woodlands. An incipient population of black swallow-wort has been observed along the railroad track between the west tract of Rocky Narrows and the town forest. Small patches of Japanese stiltgrass were discovered and subsequently removed along a trail on the northern tract of Rocky Narrows in 2006. Purple loosestrife threatens floodplain wetlands as well as a colony of Long's bulrush.
- Hemlock Woolly Adelgid – HWA threatens the 18-acre, century-old hemlock forest. Although the presence of HWA has been confirmed at this stand, the stand is currently in good condition and continues to provide habitat for associated species. The effects of adelgid infestation are likely to impact the hemlock in the near future resulting in its gradual conversion to deciduous trees (e.g., black birch, oak, etc.).
- Succession – Early successional communities, including Acidic Rock Outcrop and Oak-Hickory Successional woodland, will, in the absence of management or disturbance, undergo continued succession resulting in the loss of associated plant and wildlife species.
- CSX Railroad Track – The active railroad line provides an avenue for the encroachment of invasive plants, fragments forest habitat, and creates a barrier to the movement of some wildlife species.
- Excessive Visitor Use – Excessive usage of certain scenic attractions, such as King Phillip's Overlook (on Town Forest), is compromising plant species diversity of some outcrop and successional communities through trampling and the introduction of weed species.
- Climate Change – Climate change poses a new type and scale of threat to our natural areas. Research on how we can best adapt to the changes and mitigate the impacts of climate changes is underway. The impacts of global climate change will be felt throughout all of The Trustees' properties, but at varying degrees. Global warming has the potential to significantly alter the ecosystems and natural resources of Massachusetts in future decades

through accelerating rates of sea level rise, increases in storm frequency and intensity and changing floras and faunas due to milder climate. The Trustees can strengthen a natural landscape's resilience to climate-related changes by reducing existing environmental stressors. Specific management techniques to achieve this include invasive species control, reducing negative recreational impacts, or deer population control to prevent over-browsing.

- Deer Browse - Deer browse is likely exacting a toll on plant diversity at Rocky Narrows. Deer browsing also effects tree regeneration and can alter forest composition over the long term through preferential browsing of certain species. The overall loss of plant diversity over time also impacts faunal diversity due to the reliance of many wildlife and insect species on specific plants.

Significant Ecological Opportunities

- Invasive Plant Control – Invasive plant control actions at Rocky Narrows should focus on monitoring purple loosestrife and glossy buckthorn in the vicinity of the Long's bulrush population; limiting further infestations of glossy buckthorn along the two brooks, and removing invasive shrubs along trails and field edges (honeysuckle, bittersweet), and monitoring with aggressive control of incipient populations of black swallow-wort and Japanese stiltgrass.
- Work with private, municipal, state, and federal partners to assess and control invasive species (purple loosestrife, glossy buckthorn, and reed canary grass) on Trustees' properties along the Charles River corridor. Cooperative and holistic invasive plant management will help ensure ecological integrity and long-term habitat viability at a landscape scale.
- Rare Species Surveys – Several habitats on the properties may support rare species including vernal pools (e.g., blue-spotted salamander), floodplain wetland and riparian communities (e.g., river bulrush, other populations of Long's bulrush, wood turtle), and the Black Oak-Scarlet Oak Forest/Woodland (e.g., oak hairstreak). Rare invertebrates (e.g., odonates) may also be present on the properties.
- Acidic Rock Outcrop Management – Controlling encroaching woody vegetation on exposed rock outcrops (or even expanding the size of the opening by thinning adjacent oak-hickory woodland) through periodic management will perpetuate the distinctive character of these successional communities. In addition, controlling visitor impacts to these scenic and ecologically important features by using signage and/or fencing may help prevent trampling of fragile plants and protect overall plant species diversity. The primary site is King Philip's Overlook, located on Town Forest, and will require the participation of the Town of Sherborn.
- Trail Closures – Unneeded trails on the properties should be closed to minimize habitat fragmentation.
- Cooperative Property Management – The Trustees and the Town of Sherborn should manage the property's natural resources cooperatively and holistically. Invasive plant species control, habitat and species management, rare species surveys, etc. will achieve the best results if project objectives are shared by adjacent land owners. In addition, public/private partnerships (i.e.,

Trustees and the Town of Sherborn) will likely increase the chances of success when seeking grant funding.

- Permit bow hunting and coordinate with surrounding landowners where possible to reduce the deer population and the associated negative impacts of over browsing within the Reservation as well as the adjacent landscape. Due to the significant acres it protects, The Trustees is in a unique position to collaborate with towns, state agencies and other private land owners to control deer in the Charles River Valley.
- An ecological assessment should be made of recently acquired lots off of Forest Street.

B. Scenic Resources

Significant Scenic Features:

The rock outcrops adjacent to the Charles River are the main scenic features on the property. They provide scenic overlooks of the river from shore. From the river they form the “narrows” of the river.

Threats to Scenic Features:

- Encroachment by woody vegetation is closing in the more open sections of the outcrops.
- Hemlocks along the narrows are threatened by Hemlock Woolly Adelgid.

Opportunities:

- See Natural Resource section for recommendations regarding outcrops.

C. Structural Resources:

Structure	Size	Current Use	Current Condition
Parking Lot (gravel) on Forest Street	7	Parking	Good.
Parking Lot (gravel) on South Main Street	4	Parking	Good.

Threats to Structural Resources: None

D. Visitor Services and Engagement:

Current Engagement:

- Rocky Narrows is a regular stop on The Trustees' sponsored canoe tours of the Charles River. This stop usually includes a hike to King Philips Overlook. Tours put in at the Route 27 bridge in Medfield and usually end at Bridge St. in Dover.
- The management unit's Hike of the Month Club also takes place at Rocky Narrows at least once a year.
- Rocky Narrows has a tenting area which can be used by overnight groups with the permission of The Trustees. There is space for 8 tents adjacent to the canoe landing on the river. Currently however there is no rest facility on site. This limits the properties usefulness for overnight group and ignores waste issues.
- The Trustees currently have two entrance and parking areas. These both have kiosks and bulletin boards. Parking is at capacity on Spring and Fall weekends and a plan to address this is needed.

Opportunities:

- Installation of a Clivus-type composting toilet is recommended to service overnight groups. Installation of this toilet should be in compliance with Trustees guidelines on ecological and archeological resources.
- Create a plan for addressing the increased need for parking. Investigate level of increase, location and design issues. This may be an opportunity for volunteer or pro-bono landscape architecture work.
- Install a "simple kiosk" near the canoe landing / overnight area. This will provide more information on The Trustees and its mission to overnight groups.
Design of this type of kiosk (primarily for C-level properties) is still in progress. There is currently a Trustees property sign at the canoe landing.

Current Volunteer Engagement:

- The Management Unit holds monthly trail projects with trail stewards on rotating properties. Rocky Narrows is the site of these projects about once a year. Volunteer trail stewards, do visit the property periodically to walk trails and conduct light maintenance in the summer. The frequency and length of visits should be increased to every three weeks; Spring, Summer, Fall.

Service:	Does it Exist?	Specific Description: age, condition, actively updated?
1. Approach signs that lead visitors to the property	N	
2. Entrance and trailhead signs.	Y	
3. Kiosk or Bulletin Board meets standards.	Y	Condition good
4. Up-to-date Map on bulletin board and website.	Y	
5. Trails are clearly marked	Y	
6. Adequate parking area.	N	Lots at capacity on Spring and Fall weekends. Plan for improved parking is recommended.
7. Interpretive Program.	Y	Rocky Narrows is a regular stop on Trustees sponsored canoe tours. Also the unit-wide interpretive program is periodically located at Rocky Narrows.

E. Land Conservation:

Opportunities for land conservation:

Rocky Narrows is located in an area with a long history of Trustees involvement with land conservation. This presents several opportunities for building open space and trail connections between properties.

- The Trustees is working to acquire or establish trail access through a number of parcels along the Charles River. This project will provide linkage to the northern-most section of Rocky Narrows (near Farm St. bridge). It will also allow a trail connection to the Peters Reservation.
- See map in appendix for scope of land conservation efforts.

I. Current Resources Available for Management

a. Staff and Volunteers

Rocky Narrows is part of the Charles River Valley Management Unit (CRVMU), one of five management units in the Greater Boston Region. The unit staff is comprised of three full-time, year-round employees: a Superintendent, Assistant Superintendent, and a Maintenance Technician. Each are involved in the maintenance and management of Chase and Peters, in addition to 14 other properties within the management unit totaling more than 2,600 acres. Several seasonal maintenance assistants supplement the daily maintenance tasks performed unit-wide in the spring, summer and fall. Additional staff positions exist in the management unit (e.g., Rangers, Farm Manager, and Administrative Assistant) but

these individuals do not participate in the stewardship of Rocky Narrows.

The Management Unit holds monthly trail projects with trail stewards on rotating properties. Rocky Narrows is the site of these projects about once a year. Increased use of the overnight camping area and future expansion of the properties trail network will require some increased management of the property in the future. However, this increase should be possible within the Management Unit's available staff and resources. Adding to the frequency of volunteer stewardship visits should be adequate to meet this need.

The current estimate of 4-5% of staff time dedicated to Rocky Narrows should be increased to 8%.

Recommendations in this plan need to be prioritized and scheduled appropriately in order to implement using the management unit's current resources. Additional resources, including funding, staff and volunteer time, will be necessary to implement some of the one-time recommendations in this plan.

b. Equipment

The management unit has several major pieces of equipment which may be used in the stewardship of Chase Woodlands and Peters Reservation: a Ford F-250 pick-up truck to transport staff, haul equipment or trailer small equipment; a Ford F-350 dump truck to haul and empty large loads and tow the regional chipper; and a Kubota M6800 with a front-end bucket used for moving and loading materials. The following implements are also available: disc mower for cutting brush fields; brush mower for mowing trails/carriage paths; post hole auger; York rake for grading dirt roads and parking lots; and an excavator.

c. Operating budget

Rocky Narrows does not have a separate regular operating budget. However, an endowment exists for each property, interest from which is used to support general management at the properties and across the management unit.

d. Other (partners etc.):

Currently no strong partnerships exist. The Trustees must contact the Town of Sherborn, and develop cooperative management with Sherborn Town Forest.

II. Recommended One-time Actions

Rec#	Type	Resource Protection Action	Description/ Rationale	Phase	Rank	1' staff	2' staff	Phase 1	Phase 2	Phase 3	Total	Vol.	Total Phase 1	Total Phase 2	Total Phase 3	Total Plan Costs all Phases	Budget Source	Operating	Supplemental	Capital	Targetted Funding Source	Notes	Status
								Staff	Staff	Staff	Plan	Op?	Costs	Costs	Costs								
								hours	hours	hours	Staff												
											Needs												
1	GM	Establish a working relationship with private, municipal, state and federal partners on regional issues.	Major regional issues: Invasive species, hunting and deer-control, recreational trails connections, and land protection.	1	D	S		8			8	✓	\$0	\$0	\$0	\$0	O					Property sub-committees should be engage with partners.	IP
2	GM	Contact and collaboration with the Town of Sherborn.	Develop a cooperative management approach for Rocky Narrows and the Sherborn Town Forest	1	N	S		24			24		\$0	\$0	\$0	\$0	O					Sherborn Town Forest does not currently allow hunting.	NS
3	GM	Assess current trail network. Identify locations for improvement or trails to be closed.	Trail network can be simplified to reduce maintenace and reduce habitat fragmentation.	1	N	S	EC	12			12	✓	\$0	\$0	\$0	\$0	O					Continued land acquisitions also create new opportunities for trails and access.	IP
4	GM	Trail improvements around eroding or wet locations.	Insttall waterbars and log bridges at a number of locations on both properties.	1	N	S		40	40	40	120	✓	\$500	\$500	\$500	\$1,500	O					Hours and cost will vary based on assessment	NS
5	GM	Create plan addressing parking issues.	Parking is limiting visitor use. Increased frontage on Forest St. may allow for larger parking access.	2	N	S		20			20	✓	\$0	\$0	\$0	\$0	O					Issues include: Need, Siting, Town By-laws, Cons.Comm. Neighbors, Cost.	NS
6	GM	Intsall composting toilet for use by overnight camping groups.	Use of group camping area is limited by lack of facilities.	1	N	S		60			60	✓	\$5,000	\$0	\$0	\$5,000	O					Installation should be in compliance with Trustees' guidelines for ecological and archeological resources.	NS

7	NR	Acidic Rock Outcrop Management.	Control encroaching woody vegetation on rock outcrops. Control visitor impacts.	2	N	EC	S		16	16	\$200	\$0	\$0	\$200	O				Primary site (King Philip's Overlook) on Town Forest. Cooperation with Town of Sherborn necessary.	NS
8	NR	Conduct an additional Natural Resource Inventory.	Focus on amphibians, and invertebrates associated with Vernal Pools, Riparian area, and Dry Oak Forest	2	N	EC			16	16	\$2,000	\$0	\$0	\$2,000	O				Plant communities report already exists.	NS
9	HR	Conduct further research into property history, including archeological resources.	Little is known about property before 1900..	2	D	HR			16	16	\$0	\$0	\$0	\$0	O				The Charles River Valley is known to have many archeological resources but their presence on Rocky Narrows is unknown.	NS
10	LC	Continued work on land conservation projects.	Projects include acquisition or trail access along Charles River.	1	D	LC		24		24	\$0	\$0	\$0	\$0	O				See map in appendix	IP
11	GM	Install a "Simple Kisok" near the canoe landing / overnight area.	This will provide more information on The Trustees and its mission to overnight groups.	2	D	S			8	8			\$500	\$500	O				Design of this type of kiosk (primarily for C-level properties) is still in progress.	NS
12	GM	Approach signs		3	N	S			8	8	\$0	\$0	\$200	\$200	O					NS
TOTAL								188	88	56	332	\$7,700	\$500	\$1,200	\$9,400				\$0	

Key:

Type: GM – General Management, NR – Natural Resource Management, VM - Visitor Management

Phase: 1 – 2009 through 2011, 2 – 2012 through 2014, 3 – 2015 through 2017

Rank: C – Critical, N – Needed, D - Desired

Staff: DSR – Director of Structural Resources, EC – Ecologist, LC – Land Conservation, E&O – Ed. & Outreach Publications, HR – Historic Resources, S - Superintendent

Budget Source: N – Not Applicable, O – Operating

Status: IP – In Progress, NS – Not Started

III. Routine Management

Line #	Task	Action Type	Acceptable Performance Level(APL)	Acceptable Frequency	Less than annual	Season	Who?	Volunteer Opp?	Total hours needed to reach APL	Add'l funds needed to reach APL	Notes
1	Property Visit	GM	Adequate	Every three weeks	no	S, Su, F	S	yes	10	\$100	Inspect signs, stock kiosk, pick-up trash, check trail conditions.
2	Clean up and mowing at canoe landing and camping area	GM	Adequate	4 times a year	no	S, Su, F	S	yes	4	\$0	Include monitor and maintenance of new composting toilets
3	Cleanup at King Philip's and Rocky Narrows Overlooks	GM	Adequate	4 times a year	no	S, Su, F	S	yes	4	\$0	Area occasionally gets trash and bottles from inappropriate use. Also some removal of encroaching vegetation.
4	Mow fields near South Main St. entrance	NR	Adequate	Once a year	no	Su	S		8	\$0	Review current mowing arrangements.
5	Invasive Species Monitoring & Control	NR	Adequate	4 times a year	no	S, Su, F	EC	yes	12	\$0	Can be included in same visit as property visit. Can be done by trained volunteer.
6	Cooperate with MassDCR on HWA monitoring.	NR	Adequate	Once a year	no	F	EC	yes	4	\$0	MassDCR released Bio-control in 2007.
7	Inspect boundaries.	GM	Adequate	Every 5 years	yes	W, S	S	yes	12	\$0	May not possible due to staffing. Trained volunteers may be necessary.
									54	\$100	

Key:

Action Type: GM – General Property Management, NR – Natural Resources Management
 Who?: EC – Ecologist, S - Superintendent
 Performance Level: Adequate - The task is currently completed at a level that does not hinder resource protection or the visitor experience.
 Strong - The task is completed in a manner/at a frequency that represents the ideal.

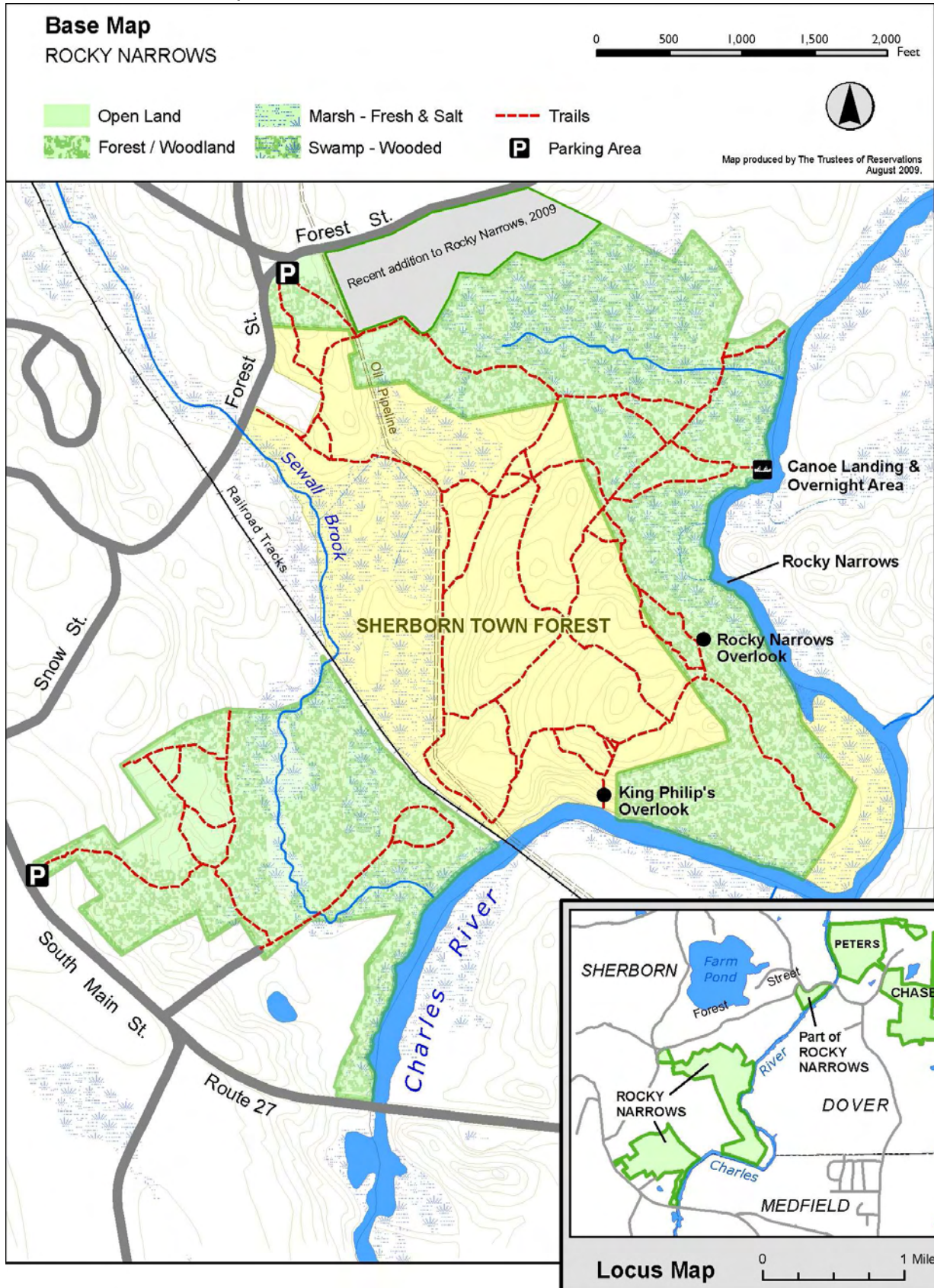
IV. Conclusions

Rocky Narrows is a property with visitor use, engagement, and management complexity of a B-type property. The overnight camping area (with future composting toilet) and the popular overlooks will require some increase in management. Continued land conservation projects are increasing the size of the reservation, and will likely lead to more visitor use in the future. Participation of the Town of Sherborn will be necessary to address many of the recommendations in this plan. This, together with an increase in the level and frequency of volunteer stewardship should be adequate to meet recommended management. However, any expansion of the current parking area or the level of public engagement will require a closer look into the resources needed to manage a higher-profile property.

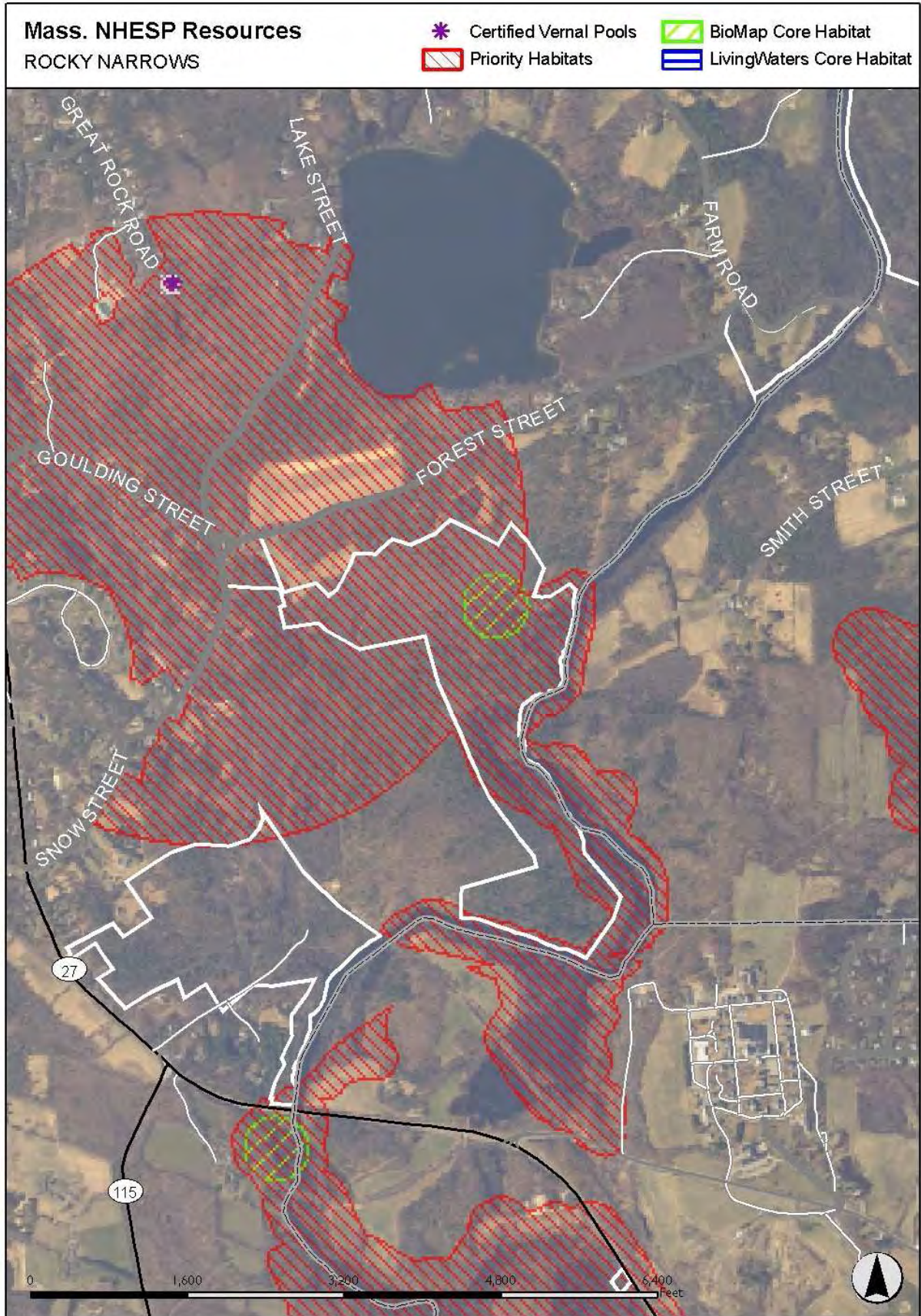
V. Monitoring and Review

Property plan should be reviewed annually by staff to ensure progress is being made to complete the recommendations. Future plan revisions may require additional research and field work.

APPENDIX A. Base Map



APPENDIX B: Natural Heritage & Endangered Species Program (NHESP) Resources Map



APPENDIX C: Open Space Context and Land Conservation

Open Space Context and Land Conservation Projects

ROCKY NARROWS

