1. Agenda

   Documents:

   RTOS-MGT-PLAN-STAKEHOLDERS-AGENDA-12-13-12REV.PDF

2. Meeting Materials

   Documents:

   12.13.12-RTOS-SUPPORTING-DOCUMENTS.PDF
   RTOS-MGT-PLAN-STAKEHOLDERS-MEETING-SUMMARY-12-13-12.PDF

<u>Recreation, Trails and Open Space Management Plan</u>
Stakeholders Meeting

Public Benefit Conveyance property: management and trails connections to community and Brunswick Landing

Meeting Agenda

Thursday, December 13, 2012
2 – 3:30 PM, Brunswick Station, 16 Station Avenue, Municipal Meeting Room, 2nd floor

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Meeting Focus will be on RTOS Management Plan draft

1. Welcome and introductions — 5 minutes
2. Public Benefit Conveyance update — 5 minutes
3. Trails report — 30 minutes
4. Draft RTOS Management Plan Review — 45 minutes
    a. Natural resources
    b. History, cultural resources, interpretation
    c. Management / purpose & vision
    d. Trails design and layout
5. Next steps — 5 minutes
    a. Naming
    b. Next meeting(s)

WORKING DRAFT DOCUMENT

Public Benefit Conveyances

Properties conveyed to the Town of Brunswick from Brunswick Naval Air Station (BNAS)

RECREATION, TRAILS & OPEN SPACE MANAGEMENT PLAN

Town of Brunswick, Maine
RTOS Management Plan_DRAFTv.3template.docx
CONTACT: dclavette@brunswickme.org

December 11, 2012

Executive Summary

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Introduction

Any publicly-owned property will serve the needs and interests of the public best if it is managed according to a clear plan. A management plan inventories the ecological, historical, and recreational resources of a property and then specifically states the purposes and goals for the management of the land, followed by a series of activities that will take place in order to meet those objectives. In essence, the management plan is a "road map" to guide the management of the property.

Acquisition History

Conveyance Process

Outdoor Recreational Resources in the Region

Other Conservation Land in the Region

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Overarching Goals and Management Principles

Purpose of the Management Plan

The primary purpose of the Recreation, Trails and Open Space Management Plan is to guide the management of REC-7 and other public benefit conveyance lands in a manner that protects its natural and cultural resources in perpetuity and provide passive recreational and educational opportunities. These goals and management principles are intended to direct future management of REC-7 and other public benefit conveyance lands. Ecosystem value, traditional land use and stakeholder concerns have been considered.

Management Goals

- Manage and preserve the natural resources of REC-7 and other public benefit conveyance lands in perpetuity;
- Manage and preserve the cultural and historic resources of REC-7 and other public benefit conveyance lands in perpetuity;
- Provide and manage recreational use on the property to enhance the quality of life in the Greater Brunswick area.

Management and Stewardship Vision for the BNAS Conveyances:

The overarching vision of this plan is that REC-7 and other public benefit conveyance lands will be a cherished local and regional asset where people can reap the rewards of permanently conserved, well-managed outdoor areas providing a range of experiences. These lands will serve ecological, recreational, and community functions that enhance the quality of life for local residents and visitors alike. Management activities will be guided by the broad goal of helping retain and celebrate the natural and cultural character of the plan area. Management activities will be shaped by the knowledge that these properties play a vital role in regional habitat functioning and provide extensive outdoor recreational opportunities. Management decisions and activities will seek to minimize environmental impacts, improve wildlife habitat and provide ample and varied public access and outdoor recreational opportunities.

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Overview of Lands Included in Plan

Property Map (of all public benefit conveyance properties)

Zoning and Ordinance Constraints Review

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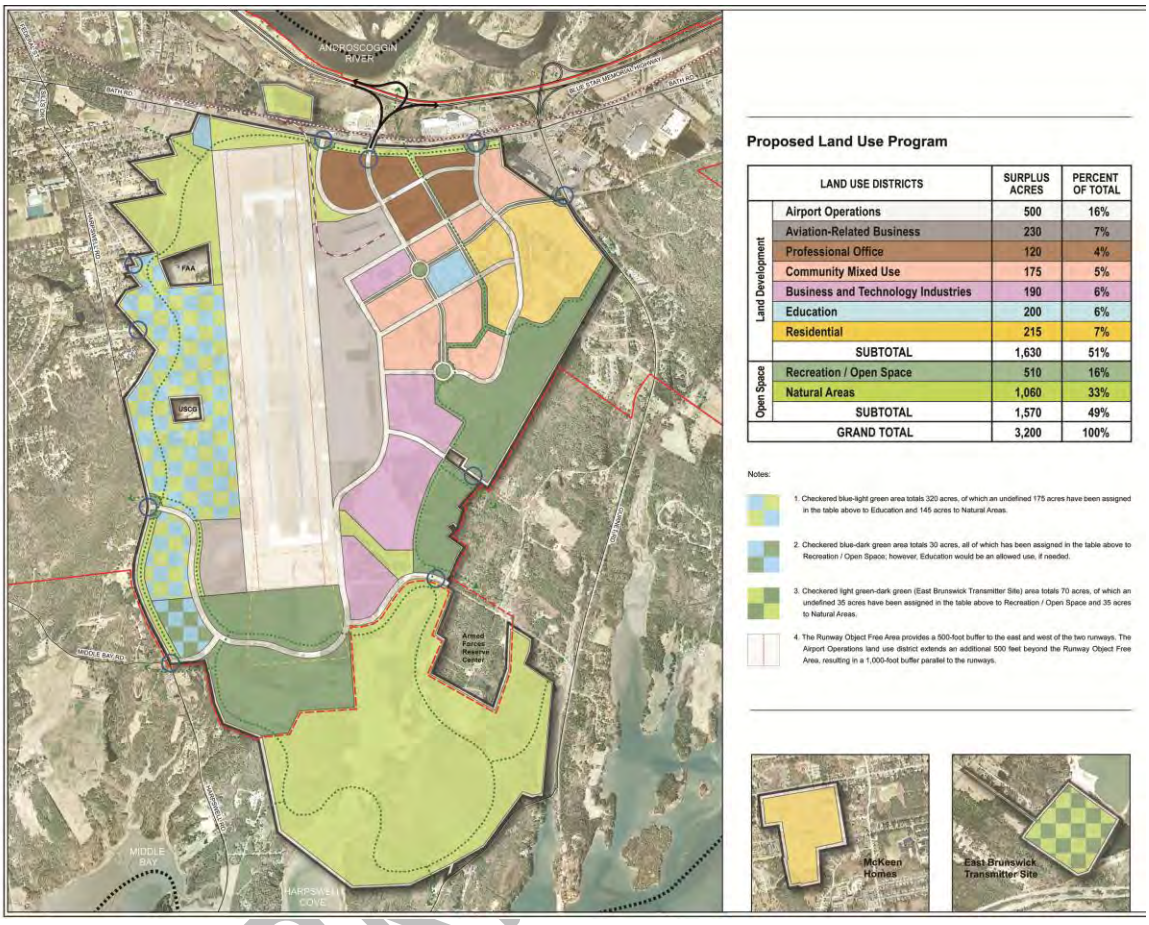
BNAS Master Reuse Plan



Proposed Land Use Program

	LAND USE DISTRICTS	SURPLUS ACRES	PERCENT OF TOTAL
Land Development	Airport Operations	500	16%
	Aviation-Related Business	230	7%
	Professional Office	120	4%
	Community Mixed Use	175	5%
	Business and Technology Industries	190	6%
	Education	200	6%
	Residential	215	7%
	SUBTOTAL	1,630	51%
Open Space	Recreation / Open Space	510	16%
	Natural Areas	1,060	33%
	SUBTOTAL	1,570	49%
	GRAND TOTAL	3,200	100%

Notes:

1. Checkered blue-light green area totals 320 acres, of which an undefined 175 acres have been assigned in the table above to Education and 145 acres to Natural Areas.
2. Checkered blue-dark green area totals 30 acres, all of which has been assigned in the table above to Recreation / Open Space; however, Education would be an allowed use, if needed.
3. Checkered light green-dark green (East Brunswick Transmitter Site) area totals 70 acres, of which an undefined 35 acres have been assigned in the table above to Recreation / Open Space and 35 acres to Natural Areas.
4. The Runway Object Free Area provides a 500-foot buffer to the east and west of the two runways. The Airport Operations land use district extends an additional 500 feet beyond the Runway Object Free Area, resulting in a 1,000-foot buffer parallel to the runways.

The BNAS Reuse Plan was a culmination of four years of intense study and collaboration regarding the eventual redevelopment of the Brunswick Naval Air Station. In 2006, the Brunswick Local Redevelopment Authority (BLRA) selected a consulting firm to prepare the reuse master plan. The 18-month planning study followed a 3-phased process that included the formulation and implementation of a public engagement program and the homeless state and local screening program; inventory and analysis of physical, market, economic and facility data; and the formulation of conceptual master plans. Nine planning areas were identified with recommendations for two different conceptual scenarios – non-airport and airport based. In August 2007, the airport-based scenario, Plan Alternative "A" above was selected. The Reuse Master Plan was later accepted by the Brunswick Town Council.

Relationship to the Brunswick Comprehensive Plan and Zoning Ordinance

The 2008 Update of the Brunswick Comprehensive Plan incorporates the former Brunswick Naval Air Station property as one of nine planning areas within the Town's designated growth area. In summary, the reuse of the BNAS planning area will:

- Be guided by the community-influenced and accepted reuse master plan of mixed community uses, an airport with supporting businesses and facilities and lands for recreation, conservation and natural areas/habitat preservation. Redevelopment will promote a strong sense of place and connectivity returned to abutting neighborhoods, commercial areas, and natural areas, including the Town Commons.
- Allow redevelopment within the growth area to develop into a mixed use planning community. Those lands located outside the growth area (REC-7) shall remain as conservation areas.
- Provide for flexible development standards, consistent with smart growth guiding principles and the stated goals of the Comprehensive Plan Update. With regard to REC-7 area, buffering of natural areas and habitats as identified in the approved Environmental Impact Statement for BNAS, shall be required.

Zoning Ordinance amendments based on the guiding principles of the Comprehensive Plan and Reuse Master Plan were drafted by a committee representing the Town, MRRA and Bowdoin with assistance from a planning consultant. Three zoning districts were developed:

- BNAS Reuse District providing for the reuse and redevelopment of the area designated for development ad active use in the Reuse Master Plan. The District is further divided into 6 land use sub districts reflecting the intent of the master plan.
- BNAS Conservation District providing for the preservation, maintenance and enhancement of existing natural areas in the northwest (REC-1)and southeast (REC-7) areas of Brunswick Landing.
- College Use/Town Conservation District providing for reuse and redevelopment of the west side of the former BNAS with the developable lands conveyed to Bowdoin College and the remaining area conveyed to the Town for the purpose of preserving, maintaining and enhance the existing natural areas, in accordance with the standards of the BNAS Conservation District.

BNAS Conservation District permitted uses and development standards applicable to REC-7 as well as the West Side conveyances to the Town (REC-1, REC-2, REC-3, REC-4) are consistent with the intent of the Public Benefit Conveyances and the Reuse Master Plan and include non-intensive recreational uses, hiking and pedestrian trails, forest and wildlife management, soil and water conservation and buildings/parking accessory to related uses. Development standards for buildings and structures limit the area of project disturbance to no more than 2,500 square feet and designed to minimize their impact on the natural environment.

Will include zoning map here

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Cultural & Historical Significance

History of the Land: Naval Air Station Brunswick

In the recent past the town of Brunswick's legacy has been greatly defined by a military relationship. Naval Air Station Brunswick (NASB), indelibly shaped the community through the second half of the Twentieth Century, occupying large tracts of land, relocating military families to town, and conducting extensive air operations. Three parcels of land, NASB, McKeen Street Housing Annex, and East Brunswick Radio Transmitter Site, totaling nearly 3,300 acres, were dedicated to military functions. The rapid growth of the base required extensive relocation of homes, businesses, roads, and people thereby altering long established communities.

Neighborhoods have been described as geographic clusters that form a town, bound politically and territorially, yet each in possession of unique heritages and with distinctive social bonds. What grew from 1740 until the middle of the 20th century into the hub of an important community that stretched from the shores of Gurnet to Middle Bay, today rests under a forested carpet. Brunswick's Middle Bay/Merriconeag district served as a functioning rural community as well as a vital transit region for two towns.

Evidence suggests that prior to European settlement, early native people infrequently inhabited the area that was later occupied by this community. There is little indication of prehistoric human activity within the shore lands abutting the marshes of what later became the Middle Bay/Merriconeag community. Archaeological surveys have found limited traces of debris from stone tool making process. It is likely that the use of the area by indigenous people was limited to hunting and other food gathering activities.

There is no documentation to support habitation by Europeans during earliest phases of settlement within the Pejepscot region. However, by 1715 pioneers to this region of the Maine coast were establishing permanent communities. A 1739 map indicates that there were four homesteads around the marshland at the head of Harpswell Cove, three of them on Prince Point. (Need to discuss further, Brunswick was first settled by Purchase in 1628 then known as Pejepscot).

Despite thin soils, a vibrant agriculture community slowly developed around the headwaters of Harpswell Cove and the shore lands that abut the salt marsh bisecting the area. A web of streams emanating from springs provided farms year round with an ample supply of fresh water. Spartina from the marshes nourished livestock. The relative level topography of the area made tilling the land manageable.

The community that developed over the next two hundred years grew to support two rural one-room schoolhouses, a grange, a church, and cemeteries. A dam site on Mair Brook generated power for grist, saw and woolen carding mills. Here active commerce continued into the 1930's. A brickyard operated on the shore of the marsh where workers dug marine clay and maintained the kilns producing bricks for construction of buildings in town.

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The Middle Bay/Merriconeag area also served as a critical transit zone. To pass from the heart of Brunswick to the Harpswell Islands, the Gurnet Road cut through the center of the community. Because West Harpswell and Harpswell Islands are noncontiguous, the shortest overland route was to travel the Merriconeag and the Gurnet Road that passed through this agricultural setting.

To the north a municipal airport was opened in 1930 on level barren lands. The little facility did not encroach on the Middle Bay/Merriconeag community. The airstrip was pressed into military use during World War II. Planes shepherding naval supply convoys headed to Europe were based in Brunswick. Full military control of the base was assumed in 1943 when the station was expanded to train Canadian and British pilots. At war's end the military deactivated its operations. From 1946 to 1951 an independent contractor managed the airport.

A reversal of priorities brought the military back to Brunswick. The Navy selected the air station for upgrades in order to accommodate the largest aircraft of the time. This meant extending the runways to the south and into the Middle Bay/Merriconeag community. The timing for this expansion was opportune.

By the middle of the 20th century, an increasing mobile population and a national trend towards urbanization left farms throughout Maine and the country in the midst of a great change where family farms were replaced by large agribusinesses. The hardscrabble agriculture that could be managed within the Middle Bay/Merriconeag community became less viable.

During the height of military expansion, from 1952-53, this was a community in decline. From the beginning of the 19th century, a drop in local agriculture steadily eroded the traditional economic reliance on farming of families living in the Merriconeag/ Middle Bay community. As increasing acres of fields lay fallow, farmsteads turned to homesteads where a growing number of residents turned from earning an income from their land and took jobs in shoe factories, Bath Ironworks, or stores and shops in town.

Any public opposition to military acquisition of the land was belayed by Cold War politics. Fear of a growing communist threat that was spurred on by a Red Scare, McCarthyism, and the Rosenberg Trial convinced townspeople that sacrificing land for the security of a naval air station was a necessary decision.

Throughout the first military occupation of the base (1943-1946) there were a number of aircraft accidents that occurred as pilots were being trained. During World War II a plane destroyed a house at the corner of the Merriconeag and Middle Bay Roads. It was rebuilt and nearly hit again when a P2V Neptune aircraft crashed in 1952. The Navy indicated that the 8,000-foot runways might be extended to 10,000 feet and thereby required a greater encroachment on the lands at the head of Harpswell Cove. With concerns for public safety, issues of national security, and the power of eminent domain in the hands of the federal government, the area was purchased and private structures were torn down or moved. Roads were closed, fences erected.

Many of the displaced families relocated to other parts of the Brunswick. The Gurnet Road (Route 24), from in town Brunswick to Harpswell Islands was replaced by a new road from

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Cook's Corner. Residents of Harpswell had to travel to downtown Brunswick, then Cook's Corner and finally the new Route 24 to get from one part of their town to the other.

During the Navy's tenure, changes to the land included the construction of a security perimeter road along the eastern and western fence. A survival school was located on the shoreline of the marsh. Other projects included the building of a munitions storage complex, installation of a radar tower and creating a golf course. The most intrusive military project was a pipeline that ran through the area, bringing aviation fuel from a deep water depot in Harpswell to the base. Beyond these undertakings the area was left to evolve under a process of natural selection. Forest replaced fields. Sites where barns and homesteads stood were lost to an undergrowth of vegetation. Abandoned roads faded to paths before disappearing altogether. Today there is little evidence of the vibrant community that stood for nearly three hundred years and provided a vital connection between Brunswick and the two Harpswells. (Can a digital version of the existing map be placed in the report as an illustration?)

Recommendations: (from subcommittee, to be discussed by stakeholders)

A) Add an addendum to the Navy's archaeological survey reports that notes the coordinates of the sites found by Brunswick High School student researchers.

B) House a copy of the archaeological survey reports done by the Navy in the Planning Office, Pejepscot Historical Society, and Curtis Memorial Library.

C) Develop protocols and procedures for any future ground disturbance within the area of the proposed preserve.

D) Encourage the Brunswick Town Council to pass an ordinance restricting ground disturbance on the land where the preserve will be established.

E) Consider creating a Historic Overlay District on the proposed preserve using Maine Historic Preservation Guidelines.

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Natural and Ecological Resources

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Trails and Recreation Opportunities

As previously mentioned, in July 2009, the Town of Brunswick adopted the BNAS-related zoning districts including the BNAS Conservation District. The District's purpose is to preserve, maintain and enhance existing natural areas and to provide for the long- term benefit of the natural environment in accordance with the accepted BNAS Reuse Master Plan and 2008 Update of the Town's Comprehensive Plan. As shown on Map _____, the Conservation District includes the large, undeveloped area at the southeast end of the former base and areas to the west of the runways that having natural resource value or are unsuitable for development.

As noted the BNAS Conservation District allows for a number of examples of permitted uses commonly characterized as 'passive recreation' defined by the Brunswick Zoning Ordinance as recreation "walking, hiking, and biking and other similar activities...specifically excluding motorized vehicles and equipment." In contract, 'active recreation' can be described as that which requires intensive development and often involves cooperative or team activity, including playgrounds, ball fields and skate parks.

An improved trail network is planned for the public to access REC-7 and other public benefit conveyance lands for passive and active recreation purposes. In addition to the generic term 'trail', the following terms will be used for further describing trails within this area. Rather than replicate detailed design guidelines in this plan, established reference documents will be used. See the appendix for more detailed trail specifications.

- Shared-use path: smooth surface either paved or gravel (e.g. wheelchairs, cross-country skiing, etc.) *The Maine Trails Manual* and the *Federal Highway Administration (FHWA) Trail Guide* are the recommended design guideline references for shared-use paths.
- Footpath: natural surface (e.g. hiking single file). *The Maine Trails Manual* and the *Appalachian Trail Design, Construction and Maintenance* handbook are the recommended design guideline references for footpaths.

Universal Access

The shared-use paths and all new structures are to be designed for universal access.

Access Roads

Sections of the roads currently used within the Conservation District, are to be retained for general public motor vehicle use to provide better access to the trail network.

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Trail Layout Principles (need to discuss at stakeholder meeting)

The Principles below are derived from these design guideline references and other management plans and are meant to be more general for purposes of initial trail layout on plan maps. The specific location of trails will be marked on the ground (flagged) in consultation with the design guideline references.

- Reuse and rehabilitate existing and abandoned trails as much as possible, versus new construction, for cost and impact on natural resources considerations.
- New trail construction will be considered for short side trails, for connecting trail segments together or for creating loops.
- Trails within the Town's Natural Resource Protection Zone (shoreland zone) will follow vegetation clearing guidelines contained in the Brunswick Zoning Ordinance. Trails will avoid vernal pools and other sensitive natural areas. Potential exception for short trail segments could be for interpretive purposes, viewpoints or overlooks.
- Minimize trail development in environmentally sensitive areas and areas with environmental contamination.
- Give preference to loops, connections to trailheads and access to the community. Utilize 'out-and-back' trails to access natural and scenic views.
- Shared-use paths should be focused on the perimeter of the property or to connect to trailheads.
- Phase the development of trails and plan for a low trail density initially. Let the public use influence plans for additional and fill-in trails.

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Individual Property Management Plans

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REC-7 Management Plan

Introduction

REC-7 Goals and Management Principles

Management and Stewardship Vision

REC-7 land will serve ecological, passive outdoor recreational, and cultural functions that enhance the quality of life for local residents and visitors alike. The property will be managed to provide passive recreational and trail-based uses and consumptive (i.e., hunting, fishing) recreational activities as well as to attain ecological and wildlife management goals.

Signs and structures will impart a sense of appreciation for the resources shared and stewarded. Staff, signs, publications, or any other forms of communication will welcome users and advocate low-impact recreation practices. Site improvements will be designed to meet evolving outdoor recreation demand and will be in line with park character. The REC-7 land will be a trail destination, with desirable, diverse, and sustainable trails. Trail enthusiasts will have access to well-managed trails during all seasons. Continual efforts will be made to ensure that evolving trail demand and patterns of use are understood and addressed to the extent possible with existing resources. Furthermore, ongoing communication will keep open the possibility of forging landowner and user groups' partnerships to establish new conservation and trail linkages expanding connectivity in the region.

Non-trail recreation experiences will continue to be valued and managed on all properties. Hunting will be allowed in areas appropriate for hunting (without significant safety concerns due to proximity to neighborhoods, businesses or trails) and will be deliberately considered during all planning and development activities. The scenic importance of undeveloped areas and culturally important sites experienced from Harpswell Cove, local roads and from trails, will be managed to ensure quality of place and community heritage is not compromised.

Management decisions and activities will minimize environmental impacts while looking for opportunities to improve wildlife habitat and protect environmental quality. As with most aspects of management, wildlife habitat and ecological management considerations will be explored with appropriate governmental and non-governmental partners.

The overarching vision of this plan is that the REC-7 land will be a cherished local and regional asset where people can reap the rewards of permanently conserved, well-managed outdoor areas providing a range of experiences. This property will continue to be a close-to-home outdoor recreation resource for residents of southern Midcoast Maine as well as a destination for visitors from away.

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Purpose

The primary purpose of the REC-7 Recreation, Trails and Open Space Management Plan is to guide the management of the property in a manner that protects its natural and cultural resources in perpetuity and provides passive recreational and educational opportunities. These REC-7 goals and management principles are intended to direct future management of REC-7.

Management Goals

- Manage and preserve the natural resources of the REC-7 property in perpetuity;
- Manage and preserve the cultural resources of the REC-7 property in perpetuity;
- Provide and manage passive recreation use and trail resources on the REC-7 property, for their aesthetic and passive recreational values to enhance the quality of life in the Greater Brunswick area.

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REC-7 Maps

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Cultural and Historical Significance

The challenging geographic setting of area REC-7 has dictated its historic use.

This hillock region has a moderate to steep sloping topography. Shallow tidal waters and coastal marshes border the shoreline. Glacial till as well as marine silt and clay underlay soils that are generally thin with limited pockets of arable land. Granite outcroppings can be found running southwest to northeast throughout the area.

Here agriculture was difficult. Marginal grain and seed crops along with limited grazing were the means to maintain the family farms that dotted the area. This was one of the last regions of the community to be settled and was never extensively developed. Farms were large and dispersed. They retained that distinctive quality well into the twentieth century. In other parts of the town agricultural efficiency and generational needs reduced farm size over time. Within the REC-7 area, landholdings remained sizable necessitated by the difficulty in maintaining a sustainable farm operation.

The shoreline provided little opportunity for agriculture or development. Steep sloping banks, marsh, and shallow draining tides attracted little commercial or recreationally interests.

Forest stands within REC-7 have historically provided local farmsteads with cordwood and later were commercially harvested for pulpwood. There is no evidence of long term sustainable lumber operations.

During the tenure of NASB occupation, 1953-2011, the few farms in the area were torn down. A survival school with minimal intrusion on the land was run on the western shore of the salt march at the head of Harpswell Cove. Later a series of large bunkers were built to house weapons and the area tightly secured.

Without viable mineral assets and limited agricultural opportunities, the REC-7 area was an isolated region in the fringes of the Middle Bay/Merriconeag community. Compared to other parts of Brunswick, it is a portion of town where the natural setting has had limited environmental alterations.

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Trails

The southern conservation area is 591 acres (at conveyance) within the BNAS Conservation District. The area is bisected by the tidal outlet of Mere Brook and its associated saltwater marsh into a west (Golf Course) and east (Prince's Point) side. With the exception of weapons storage and ordinance disposal, this area was little used by the Navy and served as a natural area buffer to the more developed portions of the base. REC-7 is currently accessed by motor vehicle via the golf course entrance on Merriconeag Rd. Future access points could include the front gate at Bath Road, to the gate on Purinton Rd.; Coombs/Purinton Rd. (currently gated) and a location off of Prince's Point Rd.

In 2011, about 5 miles of abandoned roads, unimproved woods roads & 'Jeep' tracks were inventoried within the area and served as the 'base map' for trail survey work. In the Spring 2012, these old roads were visited as well as other man-made and wildlife tracks. The trails group of the Management Plan Stakeholder committee conducted over 25 trail-related field visits in 2012.

In April 2012, a draft trail network was mapped. Subsequent site visits and on-the-ground checks refined the trail layout over the summer. This trail network was transcribed to a digital map (see attached "REC-7 Trails – Proposed Trail System"). Some sections of proposed trail utilize engineered (well-drained) and Navy-maintained perimeter roads while other sections are to be newly constructed or require significant remedial work. The proposed trails are either shared use (wide, flat surface, multiple users) or footpaths (narrow, natural surface hiking trails). Additionally, some proposed trail lies in areas that will not be immediately conveyed to the Town by the Navy.

Natural and Ecological Resources

Soils

Much of the land formerly occupied by the Naval Air Station Brunswick is located on a regressive marine delta formed during the Pleistocene as glacial melt carried coarse sands southward roughly aligned with the orientation of the Kennebec River. During this period the land was also rebounding as the glaciers retreated. Correspondingly, soils in the area are dominated by silts and fine sands often over marine clays. Dominant soil types are dominated by Belgrade, Hollis, and Swanton fine sandy loams; and Buxton, Gouldsboro, and Lamoine silt loams.

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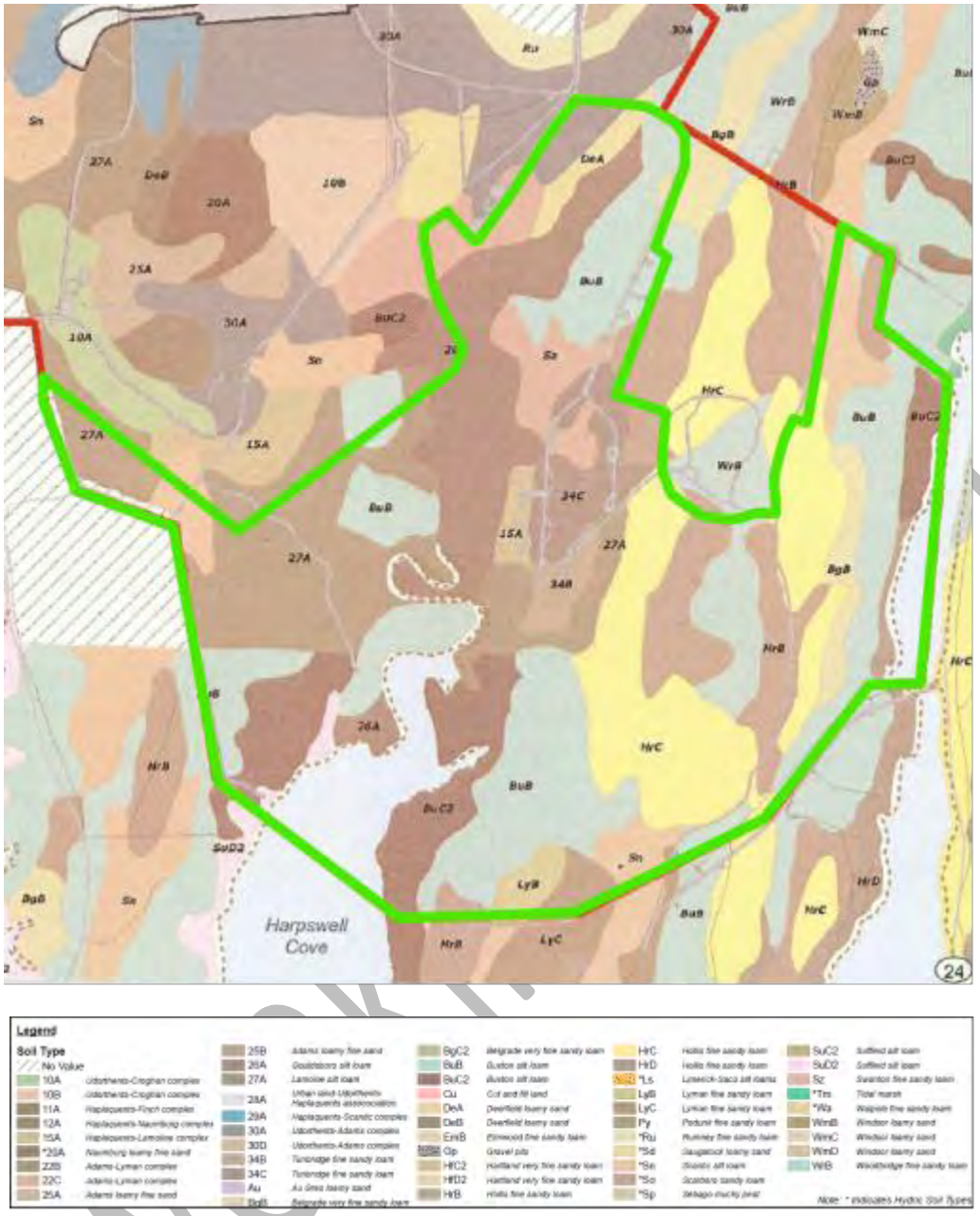

Figure 1 Soil Mapping as Completed for November 2010 EIS

Natural Communities

The Naval Air Station Brunswick and its outlying facilities are located in the Central Maine Coastal and Interior Ecoregion as designated by the Maine Natural Areas Program. The ecoregion comprises a glacially scoured and dissected low-relief plain that slopes toward the coast and exhibits glacial features such as sandy plains, eskers, and terraces. The topography is generally flat to gently rolling, with elevations ranging from sea level to 1,000 feet above mean sea level (AMSL). The elevation of the airfield at Brunswick Landing is approximately 75 feet

above mean sea level. Upland forests dominate the subject area and consist of Oak-Pine Forest with some inclusions of Oak-Northern Hardwood Forest, and White Pine – Mixed Conifer Forest. Each natural community type occurs commonly throughout the region. The Environmental Impact Statement (EIS) prepared for Naval Air Station reuse makes attempts to further refine natural community classifications, however, much of this work appears to incorrectly split forest types based on localized variation in species dominance rather than focusing on the landscape scale ecological units. For instance, the EIS characterizes much of the area as Maritime Spruce-Fir Forest, a commonly occurring forest type on coastal islands and throughout downeast Maine, however stand condition and species represented are more characteristic of White Pine – Mixed Conifer Forest. Additionally, the EIS reports broad areas of Oak-Pine Woodland. This community type is found on mid-elevation ridgelines where shallow-to-bedrock conditions and exposure result in open canopy, often stunted forest conditions. Red oak and white pine dominated stands in the subject area are more likely to fit Oak-Pine Forest classification.

Forested wetlands within the subject area include Red Maple-Sensitive Fern Swamp, and Spruce-Fir-Cinnamon Fern Swamp. Both types occur regularly throughout the region. Open, non-forested, freshwater wetlands within the subject area include small inclusions of palustrine shrub swamps not classified to the natural community level and wet meadow communities dominated by herbaceous plant species. Consultants contracted for completion of the EIS completed an initial vernal pool assessment of NASB lands. Based on reported results, vernal pool habitat of varying functional significance occurs in most community types, both upland and wetland, reported (see maps included in this narrative).

Tidal wetlands within the subject area include narrow bands of Freshwater Tidal Marsh, a rare natural community type in Maine, at the upper end of the Mere Brook drainage, transitioning to Brackish Tidal Marsh, also an uncommon community type, before developing full Salt Hay–Saltmarsh characteristics at the head of Harpswell Cove. The

saltmarsh community is relatively pristine in that there is little evidence of former ditching and few occurrences of invasive plant species such as Phragmites. Riparian buffers, however, have been previously compromised both at the weapons storage facility and existing golf course. Where possible, these areas should be allowed to re-establish with woody vegetation to better able to protect water quality and shelter wildlife uses.

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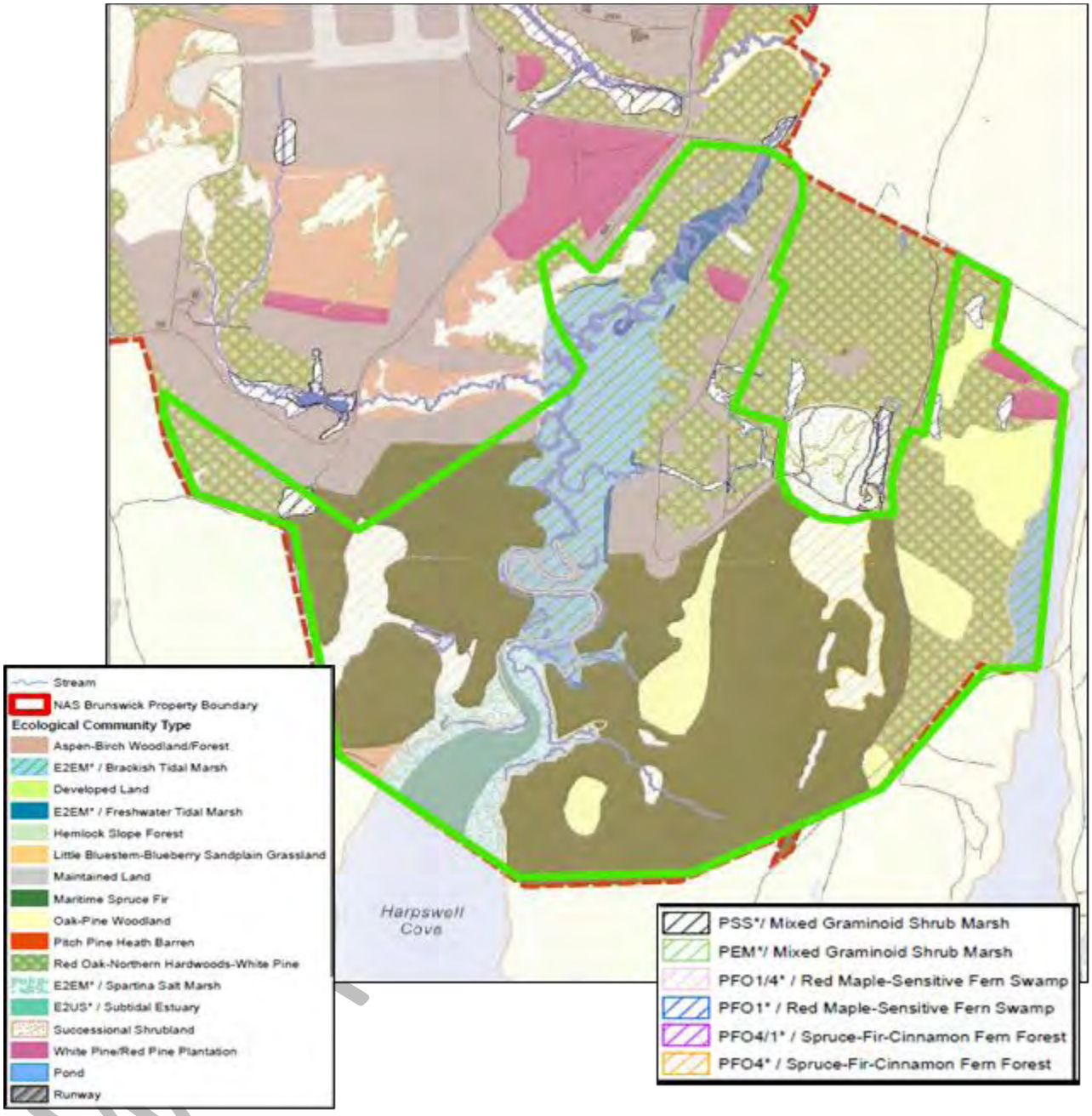

Figure 2: Natural Community Mapping as Completed for November 2010 EIS

Mapped Significant Wildlife Habitats

The entire extent of the tidal marsh complex within the subject area has been mapped as a high value Tidal Waterfowl Wadingbird Habitat, a Significant Wildlife habitat regulated by the Maine Department of Environmental Protection under the Natural Resources Protection Act. Tidal Waterfowl and Wading Bird habitats are critical for several species of declining ducks, herons, egrets, ibis, shorebird, and passerine species. This marsh specifically is known to support

populations of both Nelson's and Saltmarsh Sparrow. These saltmarsh specific species are both designated as Special Concern species under Maine's Endangered Species Act.

Although vernal pool assessments completed as part of the EIS preparation have not been reviewed, or officially accepted by the Maine Department of Inland Fisheries and Wildlife, the work indicates multiple vernal pools that meet MDIF&W criteria for Significant Vernal Pool designation. Upon property conveyance, the town should verify the presence of these pools and submit data to MDIF&W for verification.

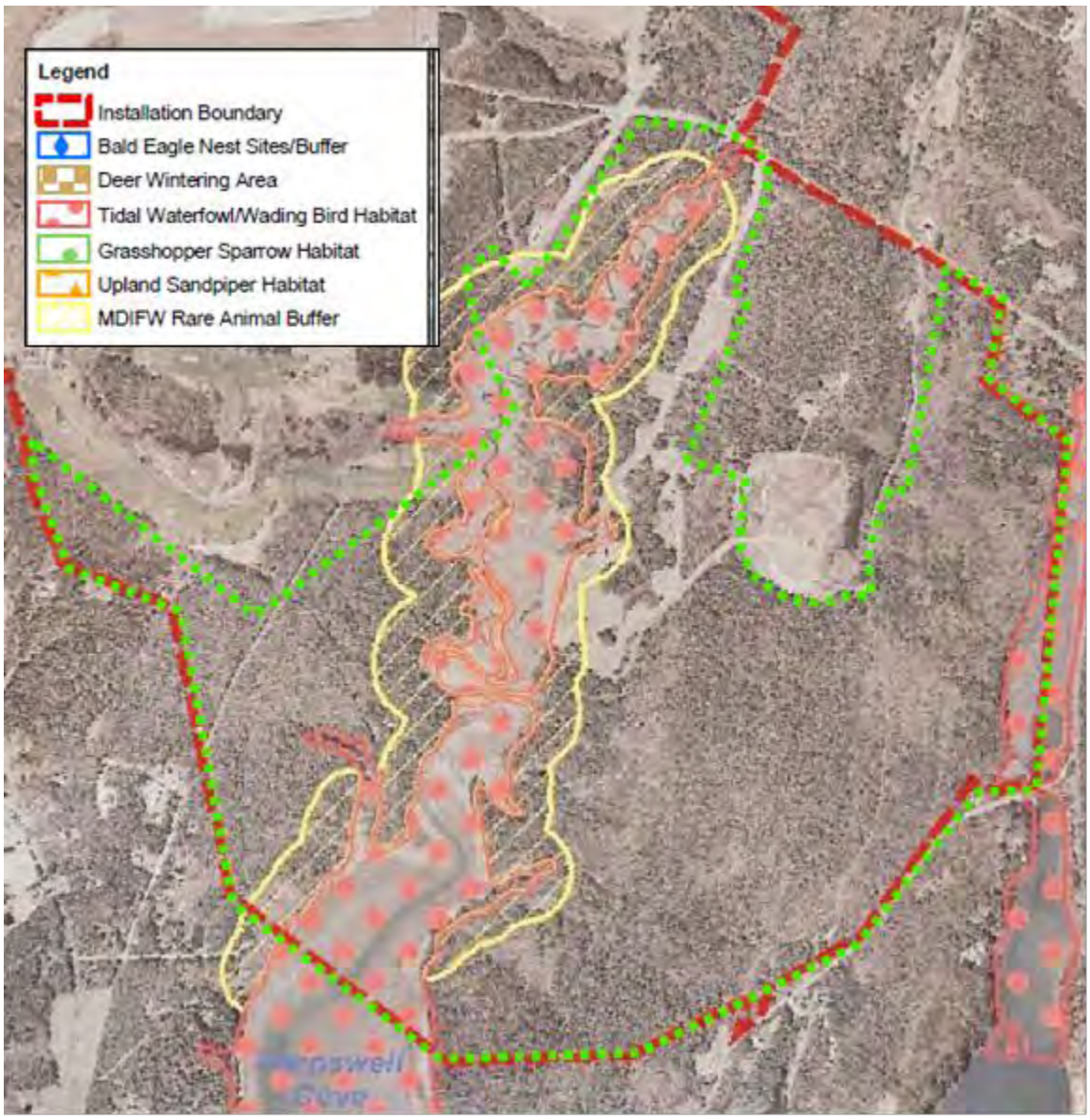

Figure 3: Significant Habitats and Rare Species Locations

Rare Plant Occurrences

Limited plant and animal surveys have been conducted in the subject area to date. The most comprehensive efforts were undertaken during the EIS process, but even these were limited by seasonality and level of effort given that this southern portion of the base was consistently planned as a conservation area and thus reuse would not likely impact significant resources.

During a resource agency site walk conducted May 2010, Mountain Honeysuckle (Lonicera dioica) was identified at the top of the bluffs overlooking Harpswell Cove (see map above and Appendix ??). Although listed as State Endangered by the Maine Natural Areas program, this species is known to occur regularly on Presumpscot formation bluffs in Brunswick from Middle Bay eastward. Future efforts to designate trails and other user amenities within the subject area should be proceeded by additional surveys to more comprehensively map this plant resource as well as others that may occur on-site.

Landscape Context

Eastern portions of the project site lie within the Maquoit and Middle Bay Focus Area of Statewide Ecological Significance and are therefore a conservation priority identified in Maine's Wildlife Action Plan. Additionally, the project area is included within the Freeport-Brunswick Important Bird Area (IBA) designation. The IBA program is a collaborative prioritization effort to identify key bird conservation areas undertaken by Birdlife International, the National Audubon Society and local partners Maine Audubon and Maine Department of Inland Fisheries and Wildlife. Both of these designations are due, in part, to the relatively unfragmented and intact local conditions of key habitat types. Connectivity to adjacent natural areas is a key characteristic of lands that are capable of supporting long-term ecological functions. In 2003 the Town of Brunswick initiated an effort to identify locally significant unfragmented forest blocks and habitat connections between these blocks in response to recommended comprehensive plan actions for conserving rural resources. A result of this effort was the creation of "wildlife habitat block" and "wildlife corridor" overlay districts intended to inform both town growth and conservation decisions (see map below).

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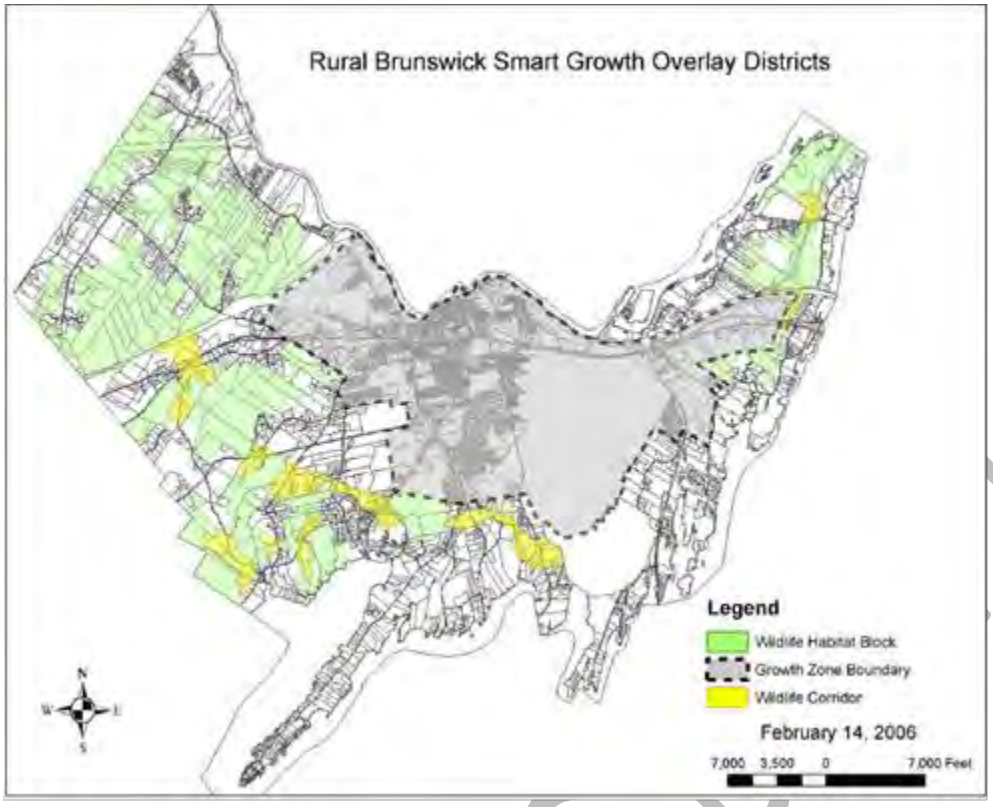

During the development of the Rural Brunswick Smart Growth process that lead to these habitat identifications, the naval air station lands were not considered formally given a lack of municipal jurisdiction. However, landscape analysis and subsequent field work indicated a functional habitat connection leading from the head of Maquoit Bay eastward to the naval air station lands. This corridor was intentionally included in habitat mapping efforts to help conserve habitat linkage should base status, or management potential change in the future. The conveyance now provides an opportunity not only to depict a more comprehensive "emerald necklace" of connected habitats on local planning maps, but an opportunity to augment habitat connectivity by identifying strategic areas for security fence removal should the opportunity present itself. It is not expected that passive recreational use of the conveyance lands will impact landscape level habitat functioning, but any future activities that would result in significant clearing of natural vegetation should reference Rural Brunswick Smart Growth guidelines to minimize unnecessary habitat fragmentation.

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Pertinent Natural Resource Regulations

Aside from Significant Wildlife Habitat rules as administered by the Maine Department of Environmental Protection that address activities within the tidal marsh, and within 250-feet of Significant Vernal Pools, several other regulations may potentially be triggered by the development of passive recreation amenities on this property:

- Natural Resources Protection Act- Applies to any activity that disturbs soil in any freshwater wetland regardless of size. Currently there is a permitting exemption for minor activities (e.g. wetland disturbance under a cumulative total of 4,300 square feet) not within Wetlands of Special Significance. This rule also applies to any activity within 75-feet of coastal wetlands and streams.

- US Army Corps of Engineers - Under the Clean Water Act, the Corps also has jurisdiction for activities within freshwater and coastal wetlands, and streams. Although administration of Corps permit procedures somewhat piggyback on state administered NRPA procedures, there are differences in project requirements. For instance, the Corps can require greater setbacks from vernal pools, even those considered non-significant by MDEP.

- Natural Resources Protection Zone - This is the Town of Brunswick's town-wide application of state Shoreland Zoning laws. The NRPZ standards apply to all activities within 250-feet of tidal water and 75-feet from streams.

Figure 4: Vernal Pool Mapping as Completed for November 2010 EIS

(need to rotate photos)

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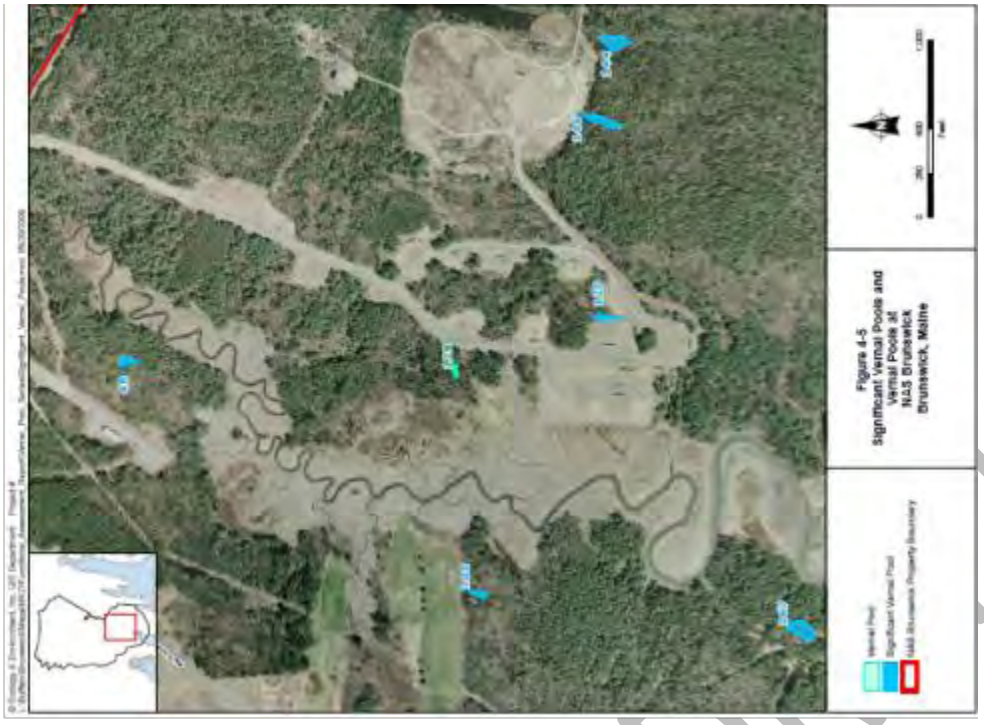
Vernal Pool
Significant Vernal Pool
NAS Brunswick Property Boundary
Figure 4-5
Significant Vernal Pools and Vernal Pools at NAS Brunswick, Brunswick, Maine

Vernal Pool
Significant Vernal Pool
NAS Brunswick Property Boundary
Figure 4-8
Significant Vernal Pools and Vernal Pools at NAS Brunswick, Brunswick, Maine

Figure 4: Vernal Pool Mapping as Completed for November 2010 EIS

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Management Priorities and Recommendations

Natural Resources

Cultural and Historical

Recreation Trails Layout and Use

Depending on staff and financial resources, proposed trail system development will be phased:

- ***Trail Use Now:*** trail that is currently used or can be used with vegetative clearing and some signage. (pink on map)
- ***Near-term Expansion:*** trail that requires construction and/or surface improvement. (yellow on map)
- ***Expansion:*** trail that will require future funding and construction. (orange on the map)
- ***Future Possible Trails:*** trail that requires neighboring landowner permission or significant design & engineering work. (red on map)

The west-side of Harpswell Cove trail system is best accessed near the Mere Brook Golf Course clubhouse (near the intersection of Middle Bay and Harpswell Rds.). For the past several seasons, the Town has been permitted by the Navy to use the golf course and woodland (perimeter) roads as groomed cross country ski trails. Approximately the first 500-feet of the perimeter road is on MRRA-owned land (behind the First Hole of the Golf Course). The Town will need an access easement to allow trail use. The perimeter road splits into two branches which end at the saltwater marsh with views south to Harpswell Sound. In the past, skiers have skied through the rather open woodland to connect the two branches to form a loop. It is proposed to layout a 0.5-mile footpath to complete the loop. Although not to the standard of the 1.5-miles of proposed shared-use path, this footpath will allow 4-season use as a loop. Another footpath north along the shore and then along the southern edge of the golf course is proposed as a 'Near-term Expansion'.

The east-side trail system is best accessed from within Brunswick Landing (Front gate to Purinton Rd. to Major Pope Ave. to Ordinance Rd.) at the 'bunkers' area or from the southern property boundary off Prince's Point Rd. The Navy has not used the perimeter road on this side for over 15 years and allowed the road to grow over. Initially, the 1.1-miles of shared-use path would be cleared as a footpath. An additional 1.4-miles of newly constructed footpath, requiring only vegetative clearing, is proposed for 'Use Now' which will provide scenic loop or 1-

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way walks. As additional parcels are conveyed to the Town, another 1.1-miles of shared use path is proposed as a 'Near-term Expansion' providing a nice loop. A loop trail to Buttermilk Cove could be developed as a single-track Mountain Bike loop.

In September 2012, Trail Services, Inc. was hired by the Town to check the final trail alignment with GPS tracks and to develop initial cost estimates for opening to the public the approximately 4½-miles of 'Use Now' trail.

Public Access

Uses and Management Issues

Motorized Recreation

Motorized recreation vehicles are ONLY allowed on the property for management or maintenance activities. Access is not allowed for ATV's, snowmobiles and golf carts.

Bicycles

Shared use paths will accommodate bicycles. There will also be designated footpaths that will not allow bicycles. Bicycles paths will be clearly marked in designated areas.

Dogs

Dogs will be allowed on leash only as per town and state laws and ordinances. Dogs may be restricted from areas designated sensitive ecological habitat. Staff and volunteer stewards need to educate dog owners about the importance of picking up after their dogs in the Preserve. Removing dog waste will make the Preserve more enjoyable for other recreational users, and minimize the potential for pollution.

Horses

Horses may be allowed in some areas. Need to further assess locations that are appropriate for equestrian use, and address maintenance issues.

Hunting and Trapping

All hunting and trapping shall take place in accordance with the laws of the State of Maine, the laws and rules of the Maine Department of Inland Fisheries and Wildlife, and local ordinances. No permanent tree stands or other hunting structures can be erected. Temporary tree stands that are carried in and carried out in the same day and will be allowed.

I. All hunting and trapping shall take place in accordance with the laws of the State of Maine, the laws and rules of the Maine Department of Inland Fisheries and Wildlife, and local

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ordinances. In REC-7, hunting will be allowed with restriction to shotgun, black powder and bow hunting only. Trapping will be allowed only with a permit from the Town.

II. The possession and / or use of firearms or weapons is prohibited, except in accordance with State hunting laws and in designated areas.

III. The discharging of any weapon is prohibited from or within 300 feet of any picnic area, parking area, building, shelter, boat launch site, posted trail or other developed area.

IV. Work areas and areas with significant public use may be temporarily posted as closed to hunting by park management in the interest of public safety.

V. Baiting of wildlife for the purpose of hunting is prohibited.

Fishing

Allowed in accordance with the laws of the State of Maine, the laws and rules of the Maine Department of Inland Fisheries and Wildlife, and local ordinances from shore or as available from hand carry boat access sites.

Camping

Camping is prohibited on the preserve.

Campfires are not allowed due to the danger they pose to the natural forest habitat. Any fire rings found on the preserve will be dismantled and "Kindle No Fires" signs will be posted. "No Camping" signs will be posted if illegal camping becomes a problem.

Actions: Post "No Camping/No Campfires" sign at proposed parking lot

Hours of Operation

The preserve is open from a half hour before dawn to a half hour after dusk. Parking will be allowed only when the preserve is open.

Action: Post signs clearly stating park rules and hours of operation at all public access sites

Fencing Needs

Most of the fences should be removed over time. As sections of fence are removed, the abutters / neighbors could erect a fence on their own property. Where necessary and helpful signs could be erected asking the public to respect private property.

Action:

- Communicate to the public that over time, the fences will be removed.
- Remove all barbed wire fence (except barbed wire attached to top of chain link).
- Remove all fencing 300 feet or more from a residence.

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- With any fencing not removed, develop a policy that when fencing deteriorates beyond its useful life, there will be no replacement. The Town has no obligation to maintain the fences, however, the Town will have liability for any fence remaining.

Signage

Ensuring proper signage for directing and instructing users, displaying park rules and to clearly mark trail locations is critical to REC-7 management objectives.

Action: Develop Signage Plan for REC-7 that clearly outlines locations and content of signs

Hand Carry Boat access

Would like to provide at least one hand carry site within the REC-7 property, best location has not yet been identified.

Action: Research viable options for location of hand carry water access site, make recommendation to Department of Parks and Recreation

Access for clammers/wormers

Walk in access allowed

Trash

Trash will be managed with the "carry-in, carry-out" practice. All trash brought into REC-7 or created by use in REC-7 must be carried out. Trash receptacles will be provided at parking areas.

Native trees and vegetation

Support and maintenance of natural processes is a primary goal of REC-7 property. Staff and volunteer stewards should not cut trees in REC-7 simply because they are dead. Dead snags support multiple species of wildlife and birds and should be left standing. Dead snags should only be cut if there is a compelling reason related to the safety of visitors.

Similarly, fallen trees should generally be left intact on the ground to support decomposition processes and replenish the soil. Only sections of fallen trees or vegetation blocking trails should be cut. Removed sections should be carried to a location not readily apparent to recreational trail users. In general, vegetation should not be removed to create vistas or unencumbered views. The views are already outstanding. Additional clearing of vegetation could degrade the natural environment of REC-7 and the biological integrity of the shorefront.

Invasive plants and animals

Some plant and animal invasions may not be particularly disruptive. However, others can be very serious, threatening the biological integrity of the Preserve. Plants such as Japanese knotweed, purple loosestrife and non-native honeysuckles have been documented to out-compete native vegetation in southern Maine and should therefore be considered a serious

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threat if located on the REC-7 lands. Routine monitoring should be conducted to identify and remove infestations of new invasive plants before they become a major concern. Methods of controlling invasive plants should be researched. Those methods demonstrated to be effective with minimal negative ecological consequences should be used in the Preserve. In general, best management practices should be used in order to minimize pesticide or herbicide applications. However, for some invasive species, herbicides may be the most effective and appropriate method of control.

Structures

Unauthorized temporary or permanent structures are not permitted in REC-7. Memorials, unauthorized signs and posters, treehouses and forts are examples of structures not permitted. Stewards should remove any unauthorized structures. If warranted, portable toilets and potentially permanent toilets may be placed in the parking area. Structure may also be necessary for trail needs and for communicating park rules, etc. These structures could include kiosks, bridges, benches, picnic tables, signs, etc. Structures should only be constructed after being approved in a comprehensive structures and amenities plan for the property.

Action: Develop a plan for amenities and structures on the REC-7 land.

Vandalism

Minimize vandalism by using staff and volunteer stewards to conduct routine patrols, report problems to the Police Department, the Department of Parks and Recreation or volunteer stewards. Evidence of vandalism should be promptly eliminated. Parks and Recreation staff and volunteer stewards will make a concerted effort to educate the public about respectful use of the Preserve.

Baseline inventories

REC-7 stewards may conduct baseline inventories to understand the natural resource values of the REC-7 property and maintain data collected in a format readily viewable by interested staff and volunteers.

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Monitoring and Evaluation

Annual inspections and reporting requirements

Properties will be inspected annually for indication of trespass, natural damage, safety hazards, environmental impacts, boundary infringements, and other issues. A written record of the inspection will be kept on file. If management problems are identified, the Department of Parks and Recreation will develop a plan for addressing these problems in a timely manner.

Boundary Marking

Nearly all of the boundaries on REC-7 have been posted by the Navy. The boundary of the property should be monitored yearly to check for violations and to make sure the boundary signs are intact. The boundary should be brushed and re-signed every five years as necessary.

Actions:

- Walk boundary annually to check boundary signs and look for boundary incursions
- Brush and re-sign the boundary every five years as needed

Updating and Amending the Recreation, Trails and Open Space Management Plan

The Management Plan is a living document that will need to be amended to ensure proper management of the lands over the long-term. The Department of Parks and Recreation with input from the Conservation and Recreations Commissions will be responsible for making recommendations for amendments to the plan. Amendments to the plan should be vetted through a public process with final approval on amendments to be made by the Town Council.

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REC-1, 2, 3 Management Plan (placeholder)

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REC-4 Management Plan (placeholder)

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REC-5 Management Plan (placeholder)

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REC-11 Management Plan (placeholder)

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66-Acre Parcel Management Plan (placeholder)

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Conceptual Plan of Perimeter Trail

Background

Throughout the Base Reuse Planning process there was a call for a "perimeter trail". This shows conceptually on Reuse Master Plan documents and maps as a trail or trails all the way around the edges of the property, often coinciding with the Navy's perimeter road. Use by bicyclists, walkers and joggers has been envisioned.

In November 2011 the Town of Brunswick convened a Stakeholder Committee charged with creating a "Recreation, Trails and Open Space Management Plan" for lands to be turned over to the Town. Their work has included consideration of a perimeter trail. The Stakeholder Committee acknowledges that a perimeter trail involves multiple landowners, including: Town of Brunswick, Bowdoin College, Midcoast Redevelopment and Reuse Authority (MRRA), Schott Management, and the US Military (Navy, Armed Forces, Maine Army National Guard). As a result, creation and maintenance of a perimeter trail will have to be a coordinated effort amongst all affected landowners.

The conceptual illustration of a perimeter trail in the Reuse Master Plan showed a meandering trail all the way around the entire base property, including crossing the estuary created by Mere Brook. Field observations reveal a very broad and substantial estuary with a channel in the middle and many acres of salt marsh grasses. At the southern boundary the marsh is approximately 1/3 mile wide. The width decreases steadily in a northerly direction but is still quite substantial at the south end of the bunkers (approximately 1000 feet). Crossing the estuary with a perimeter trail bridge is not out of the question, but will require significant environmental and economic consideration. Another significant factor in creating a continuous loop perimeter trail in the southern part of the property (Rec 7) is that about one third of the former perimeter road on the east side (off of Coombs Road) is now part of a Marine Reserve Center and if off limits to public use. Therefore the current conceptual plan for the perimeter Trail is to use the road to the bunkers and then construct a new trail (along an old jeep track) that would intersect with the old perimeter road at the property's southern boundary.

Near-Term Opportunity

A nearly traffic-free trail exists on the ground today and can be opened to non-motorized use with little expense or effort. Connecting the Town Commons/Quebec Gate on the west side to Merriconeag Road on the east side is a continuous perimeter trail around the northern half of Brunswick Landing. Although not a completely traffic-free perimeter trail loop as envisioned in the Reuse Master Plan, this proposal provides a low-cost, near-term step to better integrate the former Naval Air Station with the Town and build support for the improvement and expansion of the perimeter trail. With a few signs and the opening of several 'people gates' in the existing fencing, bicyclists and pedestrians can be using the trail almost immediately. The proposed

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management framework would provide the basis for completing and improving the perimeter trail loop.

Description (This section to be discussed at stakeholder meeting)

The Trails Group of the Stakeholder Committee visited the former base over 20 times to carefully look at the existing situation, with a focus on REC-7 (the 591 acres south of the airport which will be Town open space land). In addition to walking the REC-7 land, the Trails Group also drove, biked and walked potential locations for a perimeter trail. These field investigations resulted in a recommended perimeter trail - see attached map.

Ideally the entire perimeter trail would be free of vehicular use. For the most part, the proposed perimeter trail from is traffic-free! Some sections are paved and some are not. A few sections are "public roads" (regular use by vehicular traffic) while many sections are "shared-use roads" (infrequent vehicular traffic such as maintenance). In the future, wherever possible, the perimeter trail should be moved to a trail-only location, separate from vehicular traffic.

The following describes the recommended perimeter trail location, in a clockwise direction, starting at the main gate at Fitch Avenue. There are two connected loops, one entirely north of REC-7 and the other mostly within REC-7. Sections which are currently on-road are considered an off-road "gap" with a suggestion for how to move to an off-road trail.

This recommendation is made with full awareness that the landowners may want or need to move the trail in the future, depending on future development, provided that connectivity and design standards are retained. Specifically, at the time of the preparation of this plan, Bowdoin College has not yet undertaken their own planning process for the property that they will own west of the airport so the route described below assumes use of existing roads even though it is very possible that will change.

Perimeter Trail System (should this be placed here, or in the appendix?)

- From the corner of Allagash & Fitch Avenue follow Fitch Avenue to the rail trail (old RR bed that has been paved). This section is paved.
- Rail trail south to Forestal. This section is paved.
- East on Forestal to south on public access easement along Neptune. This section is paved. Gap: an off-road trail needs to be constructed parallel to Neptune, in the access easement.
- Neptune trail easement to Anchor/First.
- East on Anchor/First to old perimeter road. This section is paved.
- Old perimeter road south to just north of Purinton (at picnic area).
- Around picnic area on dirt road to Purinton.
- South along Major Pope to Liberty. This section is paved. Gap: move route off road to parallel dirt road or create new sidepath along Major Pope.
- Major Pope 'sidepath' south to Liberty.

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- At Liberty, there are two options: 1=shorter loop, all north of Rec 7. 2=Rec 7 loop.
- OPTION 1: North of REC-7
  - Follow Liberty west to Merriconeag. This section is paved. Gap: move route off road to dirt road through MRRA property or create a new sidepath along Liberty
  - Follow Merriconeag south and then west to west edge of golf course. This section is paved. Gap: create new sidepath along Merriconeag.
- OPTION 2: REC-7
  - At Liberty turn east to Ordinance Road. This section is paved. Gap: create side path along Liberty.
  - Follow Ordinance Road south to bunkers. This section is paved.
  - Along the eastern side of the Ordinance Road loop, leave Ordinance Road to travel south on a new trail. Gap: build a new trail that intersects the old perimeter road along the south boundary. Follow the perimeter trail along the boundary to the marsh, or turn west off of the new trail to head towards the marsh where a crossing/bridge might be built to join with an existing trail on the west side of the marsh.
  - At the west side of the marsh, turn north along an old road bed, which briefly crosses golf course property and then intersects with the old perimeter road along the western boundary.
  - At the intersection of the perimeter road with the trail described above, the perimeter trail turns north to join Merriconeag Road or south following the old perimeter road that ends at the marsh.
- Turn north at the intersection of Merriconeag Road and the western property boundary. Gap: a new trail will have to be constructed on Town land to Bowdoin land. Until that is possible, use Harpswell Road to fill the gap.
- Follow existing dirt perimeter road north through Bowdoin land. At one point this road crosses airport property (may need Federal Aviation Administration sign-off). The road continues north, following the western property line for awhile and continues north through Town land (near "zig-zag" boundary) and into Bowdoin land again at northwest corner.
- At north boundary, follow old perimeter road (Allagash) parallel to Bath Road and then back to rail trail along Fitch Road. This section is paved.
- The loop north of REC-7 is approximately 8 miles.

Shorter Loops for Walkers and Families

Since the perimeter trail north of REC-7 is approximately 8 miles, two other shorter loops are recommended for those who are looking for a shorter trail. This will appeal to walkers and family bicyclists providing both a hard and soft-surface experience. One suggested loop is paved and utilizes the old railroad bed which is now a paved trail paralleling Fitch Avenue from near the main gate to Pegasus. The loop then includes Pegasus to Katahdin to Allagash (the perimeter trail) and back to the beginning. The second loop is largely unpaved and takes advantage of the

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par course trail (and/or pipeline trail which is adjacent and parallel) and the old perimeter road along the northeast boundary, with First/Anchor Street connecting the two.

In REC-7, there are several loops that include the perimeter trail as well as footpaths that connect segments of the perimeter trail.

Bicycle / Pedestrian Gates

There are several gates/fences along the recommended route which will need to be opened/removed or 'set ajar' to accommodate bicycle and pedestrian access.

Access Points

In the Base Reuse Master Plan, a number of neighborhood bicycle/pedestrian access points were envisioned. These would be places where local people could walk or ride a bike onto the perimeter trail. No parking would be accommodated in these locations. In many cases, allowing access will require creation of openings in fences and/or opening of gates.

Parking

While neighboring users of the perimeter trail will walk or bike from home, others will drive in order to access the trail. Small parking areas (2-10 cars), most already existing, are recommended for several locations including: near main gate at Fitch Avenue where gatehouse used to stand, ball field off of Fitch, in vicinity of Quebec Gate, golf course lot (winter only), Town land near Middle Bay and Harpswell Road, south end of road to bunkers (dispersed along the road), Picnic Pond, Princes Point Road (create new parking where Town property abuts the road).

Cooperative Management

The Stakeholders Committee recommends development of a memorandum of understanding (MOU) amongst the trail landowners for cooperative management of the perimeter trail. Elements of the MOU might include:

- Location
- Allowed users
- Minimum use is walking/jogging and hybrid bicycles
- Design standards (These already exist for Brunswick Landing – may have to modify)
- Sign design and guidelines (These already exist for Brunswick Landing – may have to modify)
- Rules for use
- Parking
- Neighborhood access
- Maintenance standards and responsibilities

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- Policing
- Minimize 'out-and-back' trails. Give preference to loops and connection trails to trailheads and to access the outside community.
- Shared-use paths should be focused on the perimeter of the property or to connect to trailheads.
- Phase the development of trails and plan for a low trail density initially. Let public use determine need for additional and fill-in trails.

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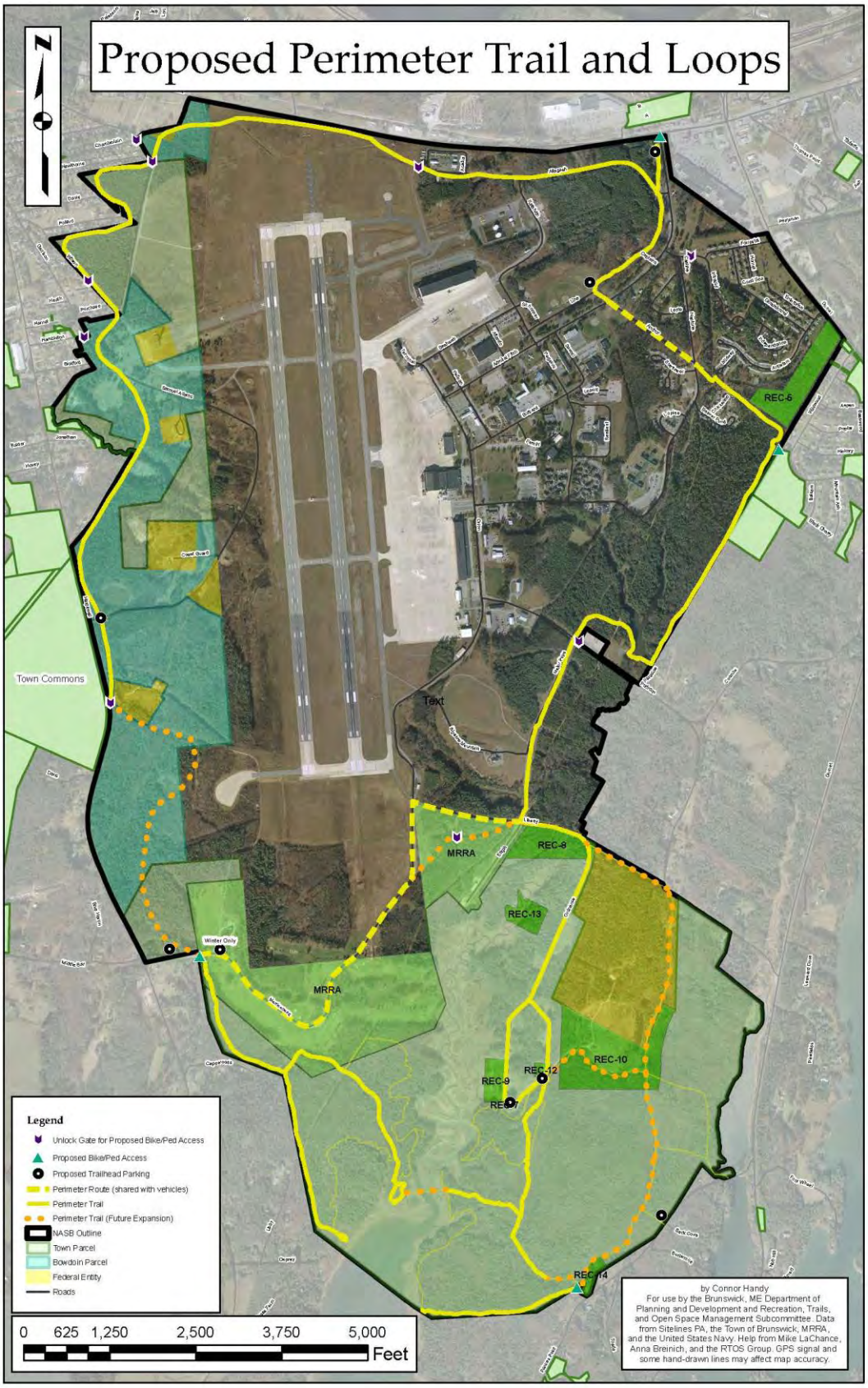
Proposed Perimeter Trail and Loops
N
Town Commons
Text
REC-6
REC-8
REC-13
REC-10
REC-12
REC-9
REC-7
REC-14
MRRA
MRRA
Winter Only
Legend
Unlock Gate for Proposed Bike/Ped Access
Proposed Bike/Ped Access
Proposed Trailhead Parking
Perimeter Route (shared with vehicles)
Perimeter Trail
Perimeter Trail (Future Expansion)
NASB Outline
Town Parcel
Bowdoin Parcel
Federal Entity
Roads
0 625 1,250 2,500 3,750 5,000
Feet
by Connor Handy
For use by the Brunswick, ME Department of Planning and Development and Recreation, Trails, and Open Space Management Subcommittee. Data from Sitelines PA, the Town of Brunswick, MRRA, and the United States Navy. Help from Mike LaChance, Anna Breinich, and the RTOS Group. GPS signal and some hand-drawn lines may affect map accuracy.

On-going Management, Stewardship and Funding

Oversight

The Town of Brunswick Department or Parks and Recreation is responsible the ongoing management of the Former BNAS Lands. Input and assistance from the Recreation and Conservation Commissions will be important to the success of the management of these properties.

Outreach and education

Staff and volunteer stewards can encourage public understanding, appreciation and support for long-term protection and management of the REC-7 Land by:

- providing opportunities for community volunteers and students to engage in resource management activities,
- providing opportunities for community volunteers and students to participate in educational activities,
- conducting targeted outreach to neighbors adjacent to the Preserve to prevent infractions of preserve rules, boundary infringements or unauthorized trail building,
- installing selected informational signs and wayside exhibits,
- providing educational brochures such as self-guiding nature trail booklets, and/or talking informally with recreational users met on the Preserve trails.
- Interpretive messages should focus on the importance of protecting this special property.

Budget and Funding

Currently no dedicated fund exists for maintenance and improvement costs at the Former BNAS Lands properties. The Parks and Recreation Department, Conservation and Recreation Commissions annual operating budgets will be used as necessary and available. The Department will continue to rely on volunteer labor for small projects such as trail construction, but will need to pursue grants for larger budget items

Actions:

- Develop costs estimates for the implementation of actions identified in this management plan;
- Develop a fundraising plan and timeline for identified actions. Funding sources will include annual town budget requests, grant funding, and private donations.

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Appendices

- Trails Design Guidelines
- Acquisition History
- Acronym Page

References

- Public Participation and the Planning Process
- Conveyance Obligations
- BNAS Zoning Districts, BNAS Reuse Master Plan, Town Comprehensive Plan
- Public Input Guidance from MRRA planning process
- Acquisition History
- Environmental Impact Statement
- Acronym Page
- Site visit and analysis reports
- Environmental Impact Statement

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Add a caption here

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Acronyms

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Trail Design Guidelines for BNAS Conservation District

Facility Type	Reuse/New	Surface	Dimensions
Access Road[1]	Utilize existing roads	paved or gravel	existing
Shared-Use Path[2],[3]	Utilize existing & abandoned roads. Some new construction where needed.	paved or gravel	12' x 12' cleared
Footpath[4]	Utilize existing roads, abandoned roads, utility corridors & footpaths. Some new construction where needed.	natural	4' x 8' cleared

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[1] Town of Brunswick road Ordinances and/or MRRA Community Design Guidelines for roads

[2] FHWA Trail Guide – Design guidelines for shared-use paths

[3] Maine Trails Manual – Guidelines for Recreational Trail Construction in Maine. 2002 (or latest edition) – Design guidelines for shared-use paths and footpaths.

[4] Appalachian Trail Design, Construction and Maintenance, 2nd edition 2000 (or latest edition) --- Design guidelines for footpaths.

Reference Guidelines
Facility Design Guidelines for BNAS Conservation District

Facility Type	Description	Comments
Parking	Up to two parking areas within the District utilizing existing roads and/or altered, leveled ground near existing roads.	Encourage non-motorized transportation to the District. Provide bicycle racks. Encourage dispersed, small (2-3 cars) roadside parking along the perimeter trailheads outside the District.
Bridges	Longer than 20 feet and more than five feet above water.	The National Park Service requires bridges longer than 20 feet and more than five feet above water are professionally engineered. Shorter and lower bridges will use natural materials and be considered trail elements.
Kiosks, benches, toilets & shelters	To be determined	Natural materials/rustic design vs. more urban contemporary designs in the MRRA guidelines.
Signage	Roads[1] Shared-use paths [3,5] Footpaths [3,4]	Consistent 'look' with other similar trails in Brunswick or the region
Docks	Viewing platforms and docking of small boats.	May need to look outside the District for suitable location with close road access needed for launching of small boats.

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Reference Guidelines

[1] Town of Brunswick road Ordinances & MRRA Design Guidelines for signage

[2] FHWA Trail Guide – Design guidelines for shared-use paths

[3] Maine Trails Manual – Guidelines for Recreational Trail Construction in Maine. 2002 (or latest edition)– Design guidelines for shared-use paths and footpaths.

[4] Appalachian Trail Design, Construction and Maintenance, 2nd edition 2000 (or latest edition) --- Design guidelines for footpaths.

[5] Manual on Uniform Traffic Control Devices (MUTCD), FHWA, 2009 (or latest edition)

Trail Services

Lester C. Kenway
15 Westwood Road
Bangor ME 04401

Telephone: 207-947-2723
Fax: 207-945-6050
trailser@myfairpoint.net

November 8, 2012

Thomas M. Farrell, Director
Parks and Recreation Department
30 Federal Street
Brunswick, Maine 04011

Dear Tom:

Thank you for inviting me to review some of the proposed trails in the BNAS Rec7 area.

I have enclosed the following:

- A general description of the Trail Sections I reviewed.
- A map of all of my GPS tracks – red shows all tracks, blue shows the proposed Trail Sections.
- A spreadsheet that itemizes work to be done and estimated costs.
- A file of all Western GPS Waypoints (Red Line)
- A file of all Eastern GPS Waypoints (Red Line)
- A file of all GPS tracks – Red Lines
- Files for 3 proposed trail locations (Blue Line)

All Trail Sections are flagged at eye level with blue flagging.

Notes and Observations:

Section 1 – Southwest Boundary Road – 4947 Ft.
This Road follows the boundary fence along the Southwest edge of the BNAS property from the golf course to Harpswell Cove. The road surface is grassed over and very firm – It is possible to drive the entire section with a passenger car. I would suggest that we mow the road and use it as is. Clearing would be of 3 types:

- Bush Hog mow the entire road – 2 passes – once or twice each year
- Mow the edges with a Ditch and Bank Mower – once every 3 years
- Clear the edges and overhead (arborist or similar) – once every 10 years

This section of road is most appropriate for a shared use trail without extensive surface treatments.

There is at least one rusted out culvert – maybe more
There is a concrete culvert that needs to have the inlet cleared out.

There is a patch of “knotweed” that needs to be removed.

There is one wet area that could be upgraded by spreading 6” of screenings (3” stones) to fill in the low area that would then be covered with 2” screen gravel

There are two homes visible to the south of the trail. If a major development should occur, rendering the location less desirable for a trail, we would have made a minor investment in the trail, making it easier to close or abandon the route. While development may reduce the quality of the hiking trail, usually a trail close to residential areas increases recreational opportunity and home values.

The end of the road at Harpswell Cove offers nice views of the water. This could be enhanced by extending a 4 ft wide natural surface trail closer to the waters edge. Modest clearing of hardwood limbs would improve the view.

Section 2 – Southwest Boundary Rd to Golf Course to (Harpswell Cove) – 3515 ft.
This Road is more overgrown than the SW Boundary Road. The entrance from the Golf Course is so overgrown that it is not obvious to be a road. We can restore this road to be used as a shared use trail with similar mowing work:

- Bush Hog mow the entire road – 2 passes – once or twice each year
- Mow the edges with a Ditch and Bank Mower – once every 3 years
- Clear the edges and overhead (arborist or similar) – once every 10 years

The Road surface is softer than the SW Boundary Road. There is a set of wheel tracks – 8” deep the full length of the road. This would be a hazard for bikes, and inconvenient for hikers. I suggest that both of these tracks be packed full with gravel, and the road be closed during the wet times of the year. This road could be good for a shared use trail if traffic is limited to the dry times of the year.

The shore line area was the nicest part of the property that I got to visit. There is a large level area shaded by big pine trees. Aside from clearing a 4 foot wide natural surface trail (cul-de-sac) very little clearing would be required to offer views of the Cove. It would be attractive to think of linking the two roads to form a larger shared use trail. This would require major and costly construction of a new road between the two.

This trail intersects the Petroleum Pipeline. To the north, it leads 850 feet to the Golf Course. The route is partially grown over with trees and is quite rough terrain. The lower 100 feet is hydric, or wet soils that would require ditch and drain construction for a trail. I would recommend a 4 ft wide, natural surface trail in this area. Note that the Pipeline South becomes very wet, with the character of a winter logging road.

Section 3 – The Road Goes through the woods from the Southwest Boundary Road to the Golf Course to Waterfront Road – 2397 Ft.
Most of this trail route is through Balsam Fir trees with larger Pine, Birch and Spruce. Extensive channels are avoided to create a reasonable route. Final route is good quality with few or small wet areas. It is deflected west by long channels that flow into the ocean water.

This route will be best as a 4 ft wide natural surface trail.

During part of my exploration I flagged a route that goes closer to the water. This route parallels the Golf Course to Waterfront trail along an interesting series of marshes and gulleys and has a view of the Cove. I am not sure it is of sufficient interest, but I have left the flagging up.

Section 4 – Southern Boundary Road from Princess Point Road – 2468 Ft.
This road follows the southern fence of the BNAS

This road appears to have a firm base, but is very grown over with young conifers, 1 to 3 inches in diameter and up to 12 feet tall. These small trees can be cleared with a chainsaw or with a Bush Hog mower. In any case, this will leave stumps or shattered stumps across the road way. Machine work would include:

- Bush Hog mow the entire road.
- Mow the edges with a Ditch and Bank Mower – once every 3 years
- Clear the edges and overhead (arborist or similar) – once every 10 years

The surface could be restored by spreading and shaping 2” screen gravel across the roadway.

Some drainage should be improved. 1 culvert needs to be replaced (maybe more) and 1 more drainage dip should be added. This road could make a shared use or multi use trail, with the reservation that it has several steeper areas that will be more difficult to maintain.

There is a view of the Cove at the end of the road. There is also a view of one of the homes that is visible from the Southwest Boundary Road. This might be too short a ride for bicycles. It may best serve as a hiking trail.

Section 5 – The Road goes north from Princess Point Road to a Fence – 3522 Ft. Orange not Yellow.

I surveyed this road after not finding the middle road on this peninsula. It was good walking, and I did not spend a lot of time on this road that was not included in phase 1. The road would make a good location for a shared or multi use trail. It also provides an additional comparison of what it will take to convert an old road to a shared use trail.

The road has a firm base except for a 700 ft section near the beginning and another 200 section near the north end. These areas could be improved with new culverts, and could also be improved by spreading 6" of screen gravel over woven geotextile.

This road is also overgrown with young conifers, 1 to 3 inches in diameter and up to 12 feet tall. These small trees can be cleared with a chainsaw or with a Bush Hog mower. In any case, this will leave stumps or shattered stumps across the road way. Machine work would include:

- Bush Hog mow the entire road.
- Mow the edges with a Ditch and Bank Mower – once every 3 years
- Clear the edges and overhead (arborist or similar) – once every 10 years

The surface could be restored by spreading and shaping 2" screen gravel across the roadway.

The road is bordered by ledges on both sides for long distances. There may be historic interest in the building of the road, either with the use of explosives, or by building the road bed over ledge sections.

This trail presently has no access from the North. This would be a good opportunity if there was access through the fence and people could ride through the old base on gravel and paved roads. It may not have enough "time in the saddle" for a shared use trail.

Section 6 – The Middle Trail

This trail branches off the two perimeter Roads near Princess Point Road and heads north through the property. It is not a constructed road. I relocated several hundred feet to avoid a flooded area at the southern terminus. Much of the road is deeply rutted with puddles. The northern third is only through the woods with little evidence of a trail. I would not consider it for a shared use trail. The wet ruts are problematic since they tend to draw water into the trail even if it were to be filled. I think it would be more successful to develop this as a 4 foot hiking trail offset and parallel to the original route. Cost to clear would be $2296 which would be a fraction of the road building cost.

The Ledges Trail
This trail has been previously flagged. It goes up and down across a ledge shelf. It becomes concurrent with the Middle Trail. It could serve as the northern route of the Middle trail. It requires very little work. I would suggest that a more interesting hiking trail could be located up on the ledges of Buttermilk Mountain.

Section 7
There is a very interesting series of headlands along the eastern edge of the Estuary in the middle of the BNAS property I have given them temporary names north to south:

Shoreline Grove	**2048 Ft**
Freshwater Pond	**998 Ft**
Point near Water	**1029 Ft**
T-Point	**2613 Ft**
Deep Cove	**831 Ft**
Southern Shoreline and Woods	**1117 Ft**

This area offers some of the best scenery and destinations for visitors. Shore land birds can be viewed in many areas. Each feature is separated by an inland channel. This geography limits the trail interaction with the riparian areas. Trail manuals and trail designers have long practiced intermittent trail locations in riparian zones to minimize negative impacts on wildlife and their habitats. Riparian areas have more diversity of wildlife than most other areas. This trail layout is very favorable for wildlife.

A valuable resource for wildlife work is:
Planning Trails with Wildlife in Mind
http://www.fs.fed.us/outdoors/naturewatch/start/planning/Trails-for-Wildlife-Handbk.pdf

The Southern Shoreline has limited coastal trail location for the following reasons:
There is a very fine view of the water where the boundary road meets the shore.
The brush is very thick along 1000 feet of the coastline.
Game trails and other openings were available to make a nice trail inland.

I have assembled a lot of information for you. It is likely that there have been some minor omissions. Please let me know if you need any clarifications.

Sincerely,

Lester C. Kenway
Trail Services

Recreation, Trails and Open Space Management Plan
Stakeholders Meeting

Public Benefit Conveyance property: management and trails connections to community and Brunswick Landing

Meeting NOTES

Thursday, December 13, 2012
2 – 3:30 PM, Brunswick Station, 16 Station Avenue, Municipal Meeting Room, 2nd floor

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Present: Suzan Wilson, Charlie Frizzle, Kurt Stinson, Amanda Bunker, Angela Twitchell, Jeff Ward, Benet Pols, Denise Clavette, Tom Farrell, Anna Breinich, Catherine Ferdinand, Bob Rocheleau, Kristi Hatrick, Bruce Kidman, Tony Barrett, Fred Koerber, Steve Walker, several members of the public

Public Benefit Conveyance update
The Department of the Interior, National Park Service, communicated with the Town of Brunswick that the Town will be receiving a letter soon requesting the Town to accept the rights and responsibilities for several parcels, including REC-7. This agreement would be in place until the final deeds for the parcels are transferred to the Town (timeline can extend to a year). The Town Council will need to formally accept the rights and responsibilities for the parcels. The Town anticipates that Building 211 will be in the upcoming FOST (Finding of Suitability to Transfer) and that the Town will begin to manage the building at some point in 2013.

Trails report
Lester Kenway of Trail Services, Inc. finished his field review of REC-7 and submitted his report to the Town. Lester walked all trails recommended by the Trails Group, flagged them (blue), and suggested modifications. On the east side of the estuary, Lester recommends the trail going up the middle, be located off existing jeep tracks. The jeep route is too rutted and wet to develop a good trail.

In addition to flagging the trails, Lester submitted a report showing a work plan for trail development, in specific segments along with associated labor and materials cost estimates. The total trail system in REC-7 will be about 7 miles, with an estimated cost of $45,000. This would be for a hiking-only system on the east side (with possible upgrades to shared use trails in the future), shared use trails on the former perimeter road and its branch, and a hiking trail connecting the two on the west side.

Draft RTOS Management Plan Review
The stakeholders group reviewed most sections of the draft plan, with special attention to the highlighted discussion points:

- In management principles, there was discussion about "preserve" vs. "conserve". Preference was for "conserve" since most of the land will include trails and other management. Language will be corrected to reflect change.
- P 6 Delete zoning ordinance section, it is already addressed in another section/
- P 7 Clarify "growth area" since the 66 acres is outside of the growth area
- P 8 Clarify that the Town was settled earlier than Rec 7
    - Tell the history of Mair/Mere/Mare as a footnote
- P 10 Need to look into whether or not the Town is allowed to house archaeological records
    - If land disturbance protocols are called for, how would the Town enforce? Define "ground disturbance". The Town has some standards related to development review.

    - Some areas should be identified for preservation but the rest is not a preserve.
    - Reframe B, C and D (State has laws about ground disturbance). Anna and Fred will work on this.
    - Add actions for interpreting the history.
- P 13 Add universal access to principles
    - In some cases the existing trails are not as good a choice as creating a new trail
    - Add "where practical" to the goal of universal access
    - 3rd bullet not necessary. Question: why do we have to say that we'll follow local zoning rules? But if we keep this, add state and federal. (Foot trails are allowed in the Shoreland Zone.)
    - We cannot grant ourselves an exception for structures
- P 30 Add emergency vehicles
    - Simplify dog waste section – simply say "it is required that all dog waste be picked up and disposed of properly."
    - It is unreasonable to ask for no hunting 300 feet either side of all trails. We saw a map showing those corridors and it left very little other land. The Management Group will reconsider a hunting recommendation, in consultation with Mark Latti. Possibly hunting by permission only, a required hunter safety course, and signs posted for hunters and non-hunters during hunting season.
    - A public comment: There need to be signs warning the public about the possibility of unexploded ordinance.
- P 31 What about elver and smelt fishing? This should be addressed in the plan.
    - A public comment: abutters should have some input on signs related to fences.
    - We should look at how the proposed trails relate to the fences and be mindful of property owner privacy when deciding which fences to remove and when. How can we help maintain privacy for adjacent landowners?

Next Steps

Next meeting will be scheduled for late January, confirmation of the date, time and room availability will be sent out.