

CHAPTER IV: ONGOING OPERATIONS

Maintenance

Regular and routine maintenance is an essential tool when creating and protecting conservation areas, open space, and parklands along the Neponset River. The daily impacts from routine public use, storm and flooding conditions, and vandalism can quickly degrade an area. Regular maintenance will improve the conditions and enhance the experience of visitors to the Reservation.

The approach to maintenance that DCR currently employs along the Neponset Greenway should be implemented along the new recreational areas along the Neponset River, such as the trails and overlooks. Through an integrated maintenance approach and the use of sustainable environmentally friendly methods to control nuisance species, stabilize the banks of the River, and construct park infrastructure, the goal of a long term maintenance program should ultimately be to generate a sustainable system within the natural areas and minimize work within park and landscaped areas.

The integrated maintenance and management approach should utilize the following strategies:

- Routine/general maintenance involving weekly, monthly, seasonal and yearly activities.
- Education and outreach programs to the surrounding community members, specifically targeting neighborhood and individual abutters to the Neponset River.
- Nuisance/invasive species control monitoring and management program.
- Vista pruning methodology and schedule
- Habitat enhancement
- Bank stabilization monitoring and repairing of unstable banks

Routine/General Maintenance

Routine maintenance ranges from the daily activities required to manage the conservation areas and park system along the Neponset River to the yearly activities that need to occur in order to maintain a safe, healthy, and clean system of parks and natural areas. The establishment of trails and recreational areas will require increased maintenance at specific locations.

Pruning

Dead and dying trees and trees that hang over roadways and the trail should be pruned at least once a year.

Trash Removal

Maintaining a clean, trash-free park system is a routine problem that burdens most park and conservation areas surrounded by heavily populated urban neighborhoods. Involving the surrounding communities and neighborhoods, and instilling in them a sense of ownership of and pride in the park system and the Neponset River, will bring the community together and help keep the parks clean.

Educational signs informing people to “carry in/carry out” and signs depicting fines for littering should be placed in parking areas and near trail entrances. The number of trash receptacles placed around parks and natural areas should be kept to a minimum and placed only in interior locations along the trail or at parks. Limiting the total amount of receptacles will minimize the time spent collecting trash and minimize the maintenance effort.

Yard Waste

Yard waste and organic material that is illegally dumped or has collected in publicly accessible areas should be gathered and brought to a less accessible area on site and composted. This compost can be used to repair damaged lawn areas within the park, as compost around new plantings and in flowerbeds, and along the banks when soil and seed is required for stabilization. Abutters should be educated regarding the negative impacts of dumping yard waste on DCR property.

Clean-Up Days

Bi-annual clean up of large debris and trash should be completed in the early spring and late fall when possible. Many sections of the River have shopping carts, tires, and other large objects. The large debris should be removed and sent for appropriate recycling or disposal. Additional support for DCR for organizing and performing clean up days would certainly be useful, possibly through the Neponset River Watershed Association, the Boston Natural Areas Network, or other neighborhood/advocacy groups.

Invasive Species Control

Invasive plant species should be monitored in the parks and natural areas, as well as areas up River from Area 1. Monitoring can be completed either through professional organizations or through educational signage posted in areas that have been identified as susceptible to invasive

species, or in areas where ongoing restoration is occurring. If invading plants are limited, they are easily managed through physical hand removal (including the rootstock). As the population of invasive species grows within an area it may be necessary to utilize other methods. Refer to **Appendix C** for more information on invasive species controls.

Nuisance Species Control

Poison ivy is one of the most dominant species found along the middle reaches of the Neponset River. It poses a potential health risk to people as they use the parks and natural areas along the River, especially in areas where primary and secondary paths are proposed. The need to control and manage the spread of poison ivy is an essential part of creating a welcoming and user-friendly park and natural environment for the public.

Poison ivy can be controlled in three ways:

- The first method involves the application of systemic herbicides such as glyphosate, commonly know as Roundup, Eraser and other brands, or triclopyr, commonly know as Brush-B-Gone, Brush Killer and other brands. It is important to only apply these herbicides directly to the poison ivy because these herbicides will also kill any other green leaf plants with which they come in contact. Herbicides are a very cost and time effective method and should be considered along the pathways.
- The second method applies to the larger vines of poison ivy typically found growing up trees. In order to protect the tree the vine should be cut near the ground and immediately treated with undiluted triclopyr (Greenlight Cut Vine and Stump Killer). It is important to apply the chemical to the freshly cut vine in order for it to be effective.
- The third method involves hand pulling. Only persons who can tolerate contact with the poison ivy oils should use this method and long gauntlet gloves should be worn to minimize the exposure to the plant. Pulling should be completed when the soils are soft and wet; it is important to pull the entire root system. This method may not be effective on large poison ivy plants.

Currently, DCR maintenance staff includes a limited number of licensed herbicide applicators. The applicators have primarily used spraying of glycosophate as the treatment for poison ivy, and have been successful in controlling the encroachment of poison ivy into existing areas that have high human contact. This method can be expanded to remove the plant from areas proposed for new or increased human contact.

Controlling and managing the spread of poison ivy will require ongoing maintenance. Different poison ivy control methods should be applied throughout the year to help manage either the particularly large patches of poison ivy or high contact areas.

Pruning

Trees and shrubs along primary and secondary paths should be pruned annually to remove dead and dying branches and trees. Most pruning should be conducted in the fall and winter. However, vegetation that poses a safety concern should be removed immediately. Examples of trees and vegetation that should be removed include dead trees overhanging roadways, parking lots, paths, and recreation areas. Pruning occurring in areas identified for view corridors along the banks of the River should be done in a manner sensitive to the environment to ensure that the stream bank remains stable after vegetation is removed.

Primary Trails and Secondary Paths

Primary and secondary paths will require differing levels of maintenance. Primary trails should be inspected and repaired whenever a problem or potential problem arises. While any trail design should limit the need for regular grass or brush mowing, mowing two to three times per year alongside the primary trails might be required.

Some issues to consider are erosion and stability of soils along the sides of the path and stability of informal paths that branch off the primary trail and have been created by the public. Vegetation should be reestablished in areas requiring soil stabilization. There may be a need to discontinue the use of informal paths to preserve natural areas and maintain suitable ground cover to stabilize soils. In particular, informal paths that are established closer to the River and directly on top of the bank may pose a safety risk to the public, and a risk to the stability of the bank.

Bank Stabilization

The stability of the bank should be monitored, especially in areas where the proposed primary and secondary paths follow relatively close to the edge of the River. It is important to be proactive and stabilize the banks as soon as there are signs of pending bank failure. Taking a proactive approach can be a long-term cost savings benefit to protect infrastructure and maintain the quality of parks and natural areas.

Areas requiring stabilization should be studied to determine the appropriate method of stabilization. Typically a combination of hard and soft methods will achieve both a natural looking and functioning bank while providing the protection necessary to stabilize the bank. Stabilization

methods may consist of vegetated riprap, willow stakes, rock gabions, or coconut fiber logs (for additional information and methods refer to **Appendix D**).

Snow Removal

Snow removal should only occur along paved sections of the trail. Special attention should be given to those sections that are regularly used by commuters.

Specific Maintenance Plans for Individual Conservation Areas

Section 1: Paul’s Bridge to the Martini Shell

Area 1: Paul’s Bridge and Areas 2 and 2B: Near the Stop & Shop and J. G. Grant Co. Parcels

The proposed improvements to Area 1: Paul’s Bridge include leaving the southern side of the River to grow naturally, creating a secondary path and overlook/seating area on the north side of the River, removing vegetation that is either invasive or a nuisance, planting vegetation to improve habitat and buffer the wetland area from high use public areas, and controlling mosquito populations.

The proposed improvements to Areas 2 and 2B include constructing a secondary path along the north side of the River, bank stabilization along the north side of the River, bank restoration along the south side of the River, wetland improvements along the inner bank behind Stop and Shop, invasive species control, and vegetation plantings.

<u>Regular Maintenance Tasks</u>	<u>Monitoring</u>	<u>Work Required Times/Year</u>
Trash removal and clean up		2
Stabilization of Banks	Annually	When required
Pruning		1
Trail Maintenance		1
Sign and information Board		Monthly
Mosquito Control		Spring
Invasive Species Management	4 Times per Year	As required
Infrastructure Maintenance	Monthly for Vandalism	As required

Section 2: Fairmount Avenue and Section 3: Bay State Paper Company/Tileston and Hollingsworth Dam

Area 3: West Street Area and Area 4: Upstream of the Tileston and Hollingsworth Dam

Area 3 will remain a natural conservation area. The goal is for this area to develop into a self-sustaining area that will require minimal maintenance and upkeep.

Proposed improvements to the western portion of Area 4 include the construction of a secondary path, invasive and undesirable species control, and vegetation planting to improve wildlife habitat and compete with invasive species. Work within Area 4 would also include canoe landings along the River and improvements to Doyle Playground.

<u>Regular Maintenance Tasks</u>	<u>Monitoring</u>	<u>Work Required Times/Year</u>
Trash removal and clean up		2
Stabilization of Banks	Annually	When required
Pruning		1
Trail Maintenance		1
Sign and information Board		Monthly
Mosquito Control		Spring for Area 3, 0 for Area 4
Invasive Species Management	4 Times per Year	As required
Infrastructure Maintenance	Monthly for Area 3	As required

Section 4: Belnel Neighborhood to Mattapan Square

Area 5: Truman Parkway and Area 5A: Belnel Road & Edgewater Drive

Area 5 is a wooded and grassed section. The proposed primary trail would extend along the south side of the River along Truman Parkway. This area is currently wooded and grassed. The proposed trail would be constructed along the River bank. Maintenance of any engineered structure supporting the path within Area 5 should be completed in accordance with the recommendations of the project engineer or manufacturer of the materials used.

Area 5A includes a narrow wooded strip, and Kennedy Playground and the canoe landing located on the eastern portion of the site. An overlook and seating area are proposed along the Boston side of the River between Area 5A and Area 4. A secondary path would connect Kennedy Playground and the existing canoe landing to the proposed canoe landing and River crossing.

<u>Regular Maintenance Tasks</u>	<u>Monitoring</u>	<u>Work Required Times/Year</u>
Trash Removal and Clean Up		2
Stabilization of Banks	Annually	When required
Pruning		1
Trail Maintenance		1
Signs and Information Board		Monthly
Mosquito Control		Spring
Invasive Species Management	4 Times per Year	As required
Infrastructure Maintenance	Monthly (for Area 5, as specified by engineer or manufacturers)	As required
Landscape and Park Maintenance		Monthly

Section 5: Mattapan Square to Central Avenue

Area 6: River Side of Mattapan MBTA Station; Area 7: Between Mattapan Square and Ryan Playground; Area 8: Ryan Playground and Capen Street and Area 9: "Rice Islands"

Lack of access to Area 6 (unless restrictions are resolved to create a trail) leave little opportunity to monitor or provide maintenance work. Trash removal could be accomplished through riverside (i.e. canoe) access if necessary. It is recommended that monitoring for trash and bank stabilization occur annually. However, should the access be resolved, the primary trail would cross this parcel.

Improvements within Area 7 include the construction of the primary trail, clearing for a view corridor, control of invasive and undesirable plant species, planting competitive and desirable plant species to improve habitat values, and if necessary, bank stabilization. In order to control vegetation growth within the view corridor, the area should be cleared enough to be mowed with a brush hog.

The primary trail is proposed through a portion of Area 8. Maintenance should include routine trash and debris clean up and management of invasive and undesirable plant species.

The proposed activities and improvements to the "Rice Islands" area involve the construction of the primary trail and the potential restoration of the Islands. Maintenance of the primary trail should include routine trash and debris removal and management of nuisance plant species. In addition, bank stabilization may be required near in the vicinity of the trail or pedestrian crossing. Restoration activities associated with the islands could include the removal of invasive species and planting of native vegetation.

<u>Regular Maintenance Tasks</u>	<u>Monitoring</u>	<u>Work Required Times/Year</u>
Trash Removal and Clean Up		2 times per year for Areas 6, 7 and 9; weekly for Area 8 during the summer season, monthly during other seasons
Stabilization of Banks	Annually	When required
Pruning		1 time per year, or as needed
Trail Maintenance		1
Signs and Information Board		Monthly
Mosquito Control		Spring
Invasive Species Management	4 Times per Year	As required
Infrastructure Maintenance	Monthly for Vandalism (and as specified by the bridge engineer or manufacturer)*	As required
Landscape and Park Maintenance		Monthly, or as needed (park areas require more frequent maintenance).

** when the crossing is constructed, it is recommended that a structural engineer evaluate the structure every two years.*

Staffing

DCR’s Division of Urban Parks and Recreation manages a large percentage of property along the Neponset River Reservation. The Reservation is split between two of the Division’s Regions. The area north and east of Mattapan Square is managed by the Harbor Region. This area includes Ryan and Kennedy Parks. The South Region manages the areas south of Mattapan Square along Brush Hill Rd. and Truman Parkway. This area includes a DCR field office, Martini Shell and Paul’s Bridge.

DCR staff in the South Region maintain properties along the River, including mowing, brush removal and trash pick-up, as well as snow removal along Brush Hill Road and Truman Parkway. There are four rangers that are assigned to the Blue Hills District and on occasion rangers patrol the Reservation, including Martini Shell and Moynihan Playground. There are currently five

operations staff, that among other responsibilities also are responsible for the Brush Hill Road and Truman Parkway Corridor. In the past there has been limited programming at Paul's Bridge.

South Region staff time spent in the Neponset Reservation is the equivalent of 20% of one full-time ranger and 2.5 full time operations personnel. The Harbor Region has five full time rangers with two assigned to the Shore District which includes the Neponset Reservation. In the summer of 2006, the District had an additional seven seasonal rangers. The District also has 23 full-time operations staff and 34 seasonal staff (not including lifeguards). Personnel assigned to the Neponset Reservation includes the equivalent of approximately 3.5 full time operations staff, 5 seasonal operations staff, one full-time ranger and 2.5 additional seasonal rangers.

Safety and Security Plan

Assuring the public's safety has been among the major concerns of the community throughout the planning effort for the Phase I and Phase II Master Plans. Studies of multi-use trails around the country find that the regular use of parks and trails is the best form of security. These same studies show that parks and multi-use trails in urban settings require good management and patrolling as well. Rangers, DCR personnel, police and citizens must work together to enhance security along the trail.

As part of the development of the *Master Plan for the Lower Neponset River Reservation*, a plan was prepared for public security/safety on the Lower Neponset River Trail. The *Neponset River Trail Security/Safety Plan*, dated December 9, 1997 and revised in 2006 (see **Appendix E**) led to agreement by the Town of Milton and the City of Boston and approval of the first phase of the project. In response to public concerns about trail safety and to support the Security/Safety Plan of 1997, the state legislature provided a line item in the State Police budget for Fiscal Year 1999. This line item provided for directed security patrols along the trail. This line item funding has to be sustained from year to year in the budget.

The Neponset River Trail Security/Safety Plan of 1997 needs to be updated. The Plan will be revised in the next phase of planning to reflect the changes that have occurred along the trail since the Lower Neponset River Trail opened in 2003. With the continued interest and cooperation from the police and the community, the Neponset River Trail and Reservation will be a safe and well-used recreational resource for the many communities which the Neponset River serves.

