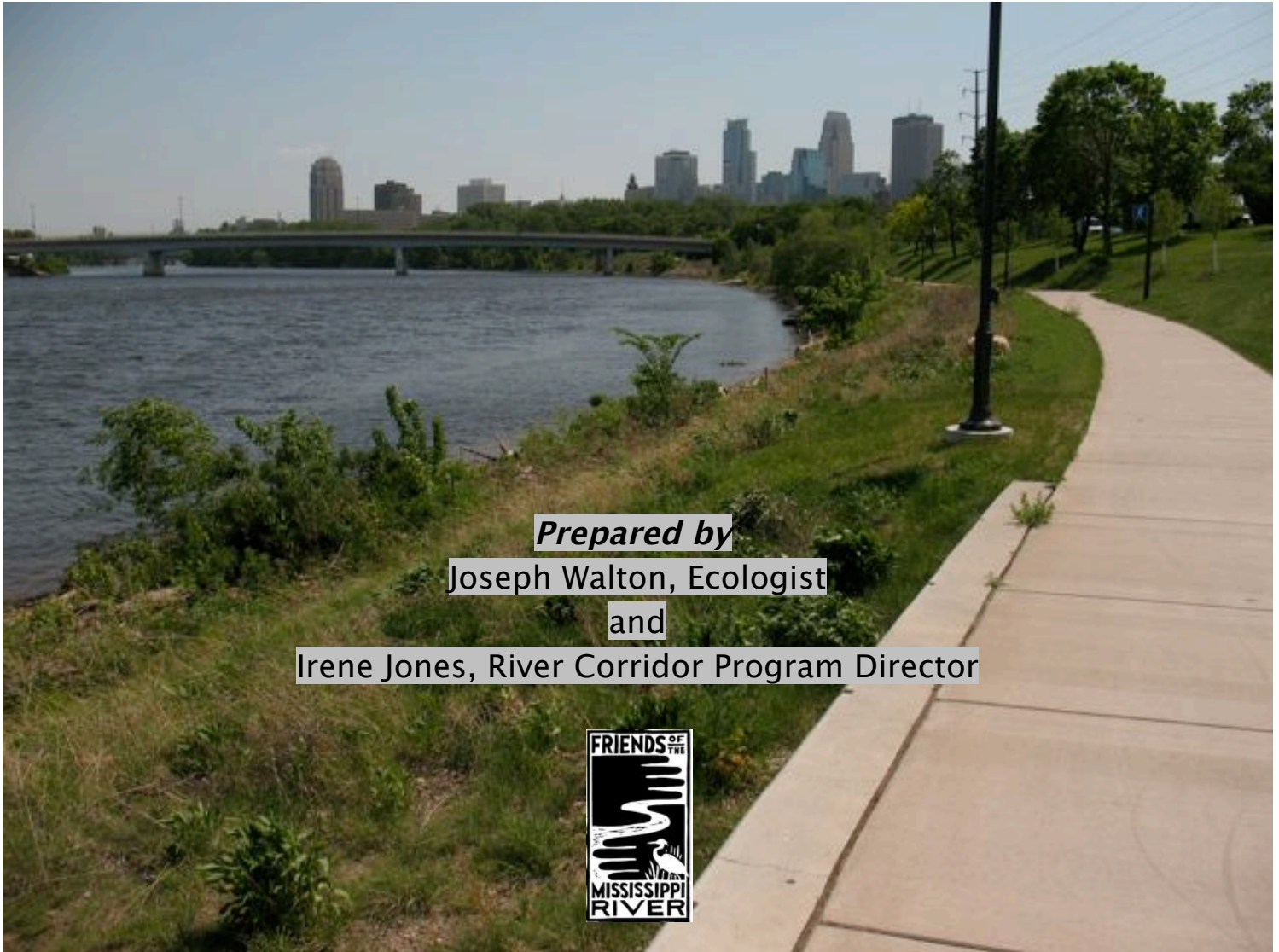


# Above The Falls: Natural Areas Scoping



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## Introduction

For more than a decade, Friends of the Mississippi River (FMR) has been engaged in planning for redevelopment along the river in north and northeast Minneapolis. FMR participated in development of the award winning Minneapolis Above the Falls Master Plan, and we have served as a leader and facilitator of the Above the Falls Citizen Advisory Committee (AFCAC) since its inception in 2002. Although progress has been slow, several new or renovated parks have come on line recently and there is significant momentum for that trend to continue. Already, new raingardens, prairie plantings, and shoreline restoration are in need of ongoing monitoring and care by volunteers and the need for local stewardship will only continue as more parks are added and improved.

## Goals of the Above the Falls Stewardship Project

Although restoration of the natural communities along the river is the main goal of this report, many other related social and community goals are involved in the Above the Falls Stewardship Project, including:

- Engaging residents of north and northeast Minneapolis in hands-on activities to improve the Mississippi River above the St. Anthony Fall.
- Building healthier neighborhoods with strong river connections through community building, outreach and education.
- Facilitating a sustainable model for long term stewardship of riverfront park amenities designed to improve the river environment (such as native plantings, raingardens, etc.)
- Cultivating advocates to support park and river improvements in north and northeast Minneapolis.

## Above the Falls Stewardship Project Scope

The scope of the Above the Falls project is described below. There are both temporal and geographic components of the project scope.

1. Project Scoping
  - a. Work with MPRB and other natural resources partners to scope prospective projects, their timing, and estimate cost.
2. River Neighborhood Meetings
  - a. Meet with river neighborhoods in north and northeast Minneapolis to provide an overview of river stewardship, review the ecological scoping results and identify potential locations, volunteers, and community partners for park projects.

3. Community Outreach
4. Conduct outreach, network and develop partnerships with community organizations in north and northeast Minneapolis to plan for stewardship activities in 2013 and 2014.
5. Project Selection
  - a. Select two or three projects to begin in 2013 and 2014.
  - b. Prepare Natural Resource Management Plans (NRMPs) for each selected project by the end of 2013.
6. Project Implementation
  - a. Begin implementation of the selected projects.
  - b. Coordinate volunteer activities.
7. Monitoring and Maintenance
  - a. Following implementation, monitor and maintain the projects.
  - b. Work and coordinate with MPRB and other partners.
  - c. Engage local residents to volunteer in project maintenance activities.

## Project Scoping Component

This document summarizes the results of the Above the Falls project scoping. A list of potential sites was generated by FMR and MPRB staff at the inception of the project (Table 1). Fifteen sites were visited, documented, and evaluated. Sites ranged from those that had already been installed by MPRB, to those that were yet to be even started. All sites were located on public land. Sites also had an area that was either natural or that contained a created naturalized component such as a native garden or raingarden. Table 1 lists the sites that were evaluated and their initial description.

**TABLE 1. Project Sites Evaluated.**

<b>Park Name</b>	<b>Initial Description</b>
Gluek Park	Garden beds. Recent soil cleanup--restored.
Marshall Terrace Park	Shoreline restoration and access.
Mississippi River Park	Buffer zone for River.
Plymouth Ave Bridge	Gateway garden.
Broadway Street Bridge	Gateway garden.
22nd Ave N Raingarden	Raingarden. Treats stormwater for Coloplast and other businesses.
Sheridan Memorial Park	Gardens planned.
Edgewater Park	Recently developed with BMPs. Prairie planting (mowed 2x year); raingarden.
St. Anthony Pkwy	Shoreline restoration/access. Natural, accessible shoreline.
Scherer Park	Restoration. Park planning 2012. Development 2013.
No. Miss Reg Pk--Shingle Creek Confluence	Boat launch and neighborhood access.
Islands near Xcel	Heron rookery relocated here; ownership uncertain.
UHT south - wetland	City of Mpls land -- leased to independent user.
Ole Olson Park	Forested near railroad bridge and river.
17th Ave N Raingarden	Treats stormwater for MPRB property.



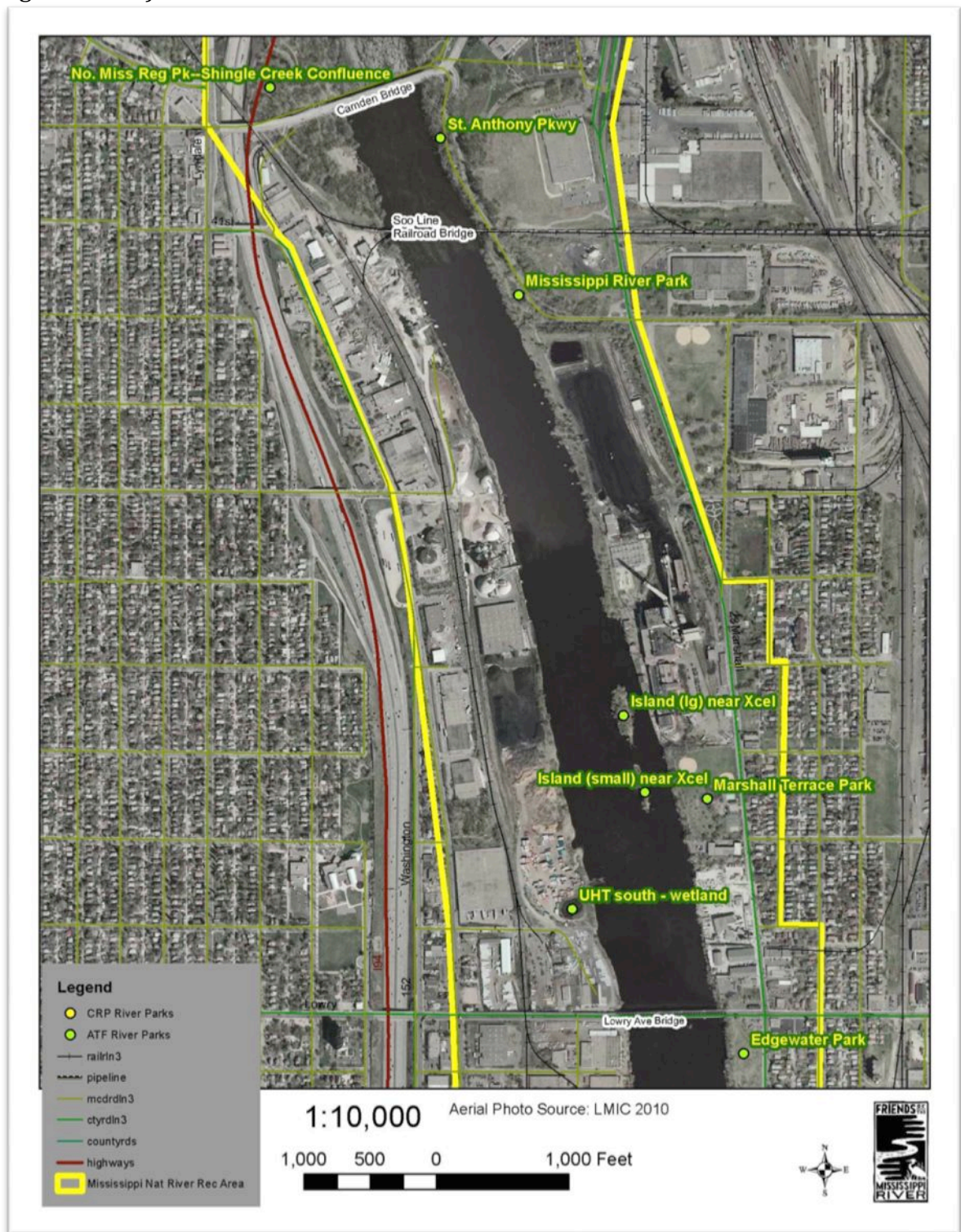
**FIGURES 1-4. Maps of Candidate Sites.**

**Figure 1.** Map from Northern City Limits to Camden Bridge (North Mississippi Regional Park).



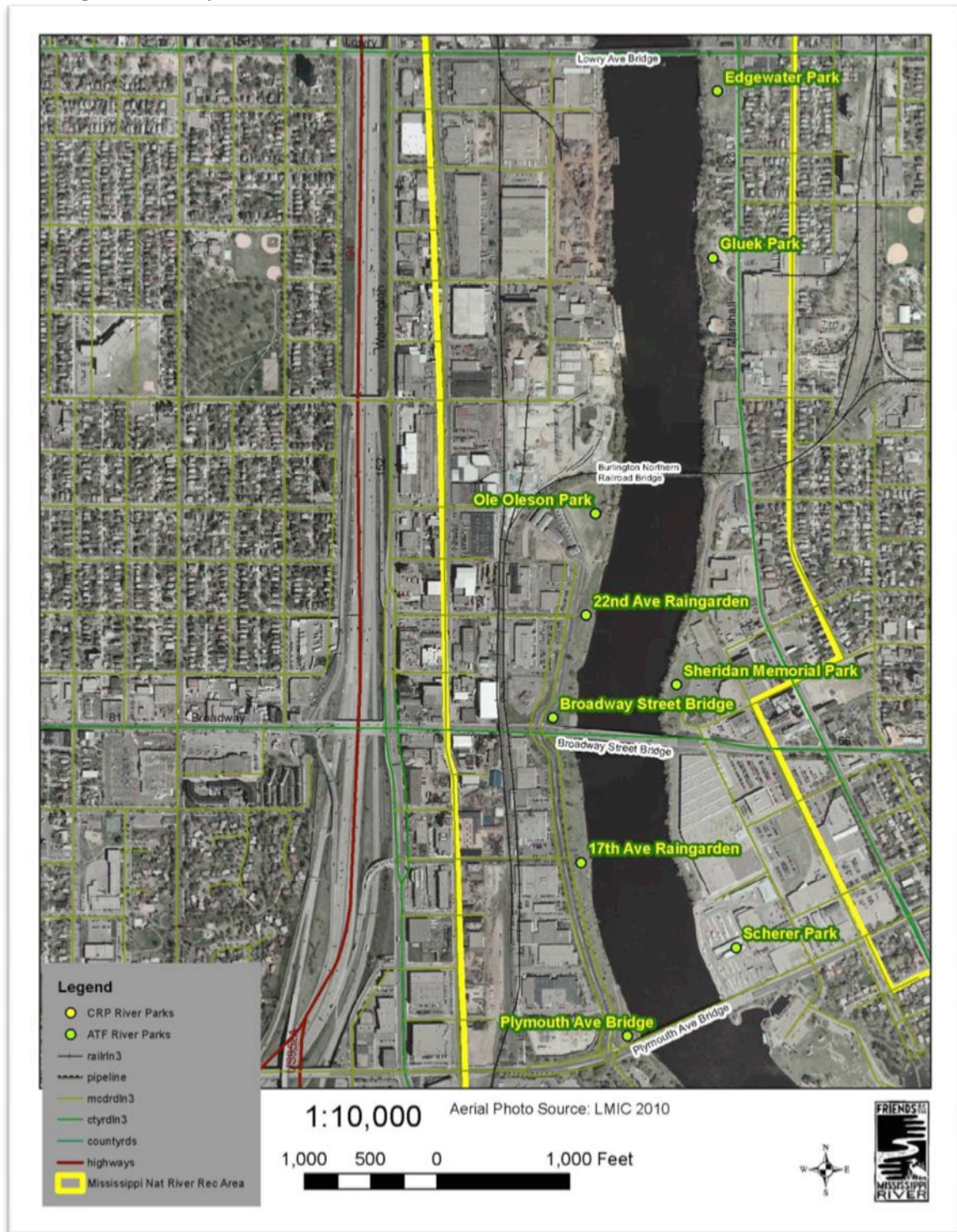


**Figure 2.** Map from Camden Bridge to Lowry Avenue Bridge (Above the Falls Regional Park).



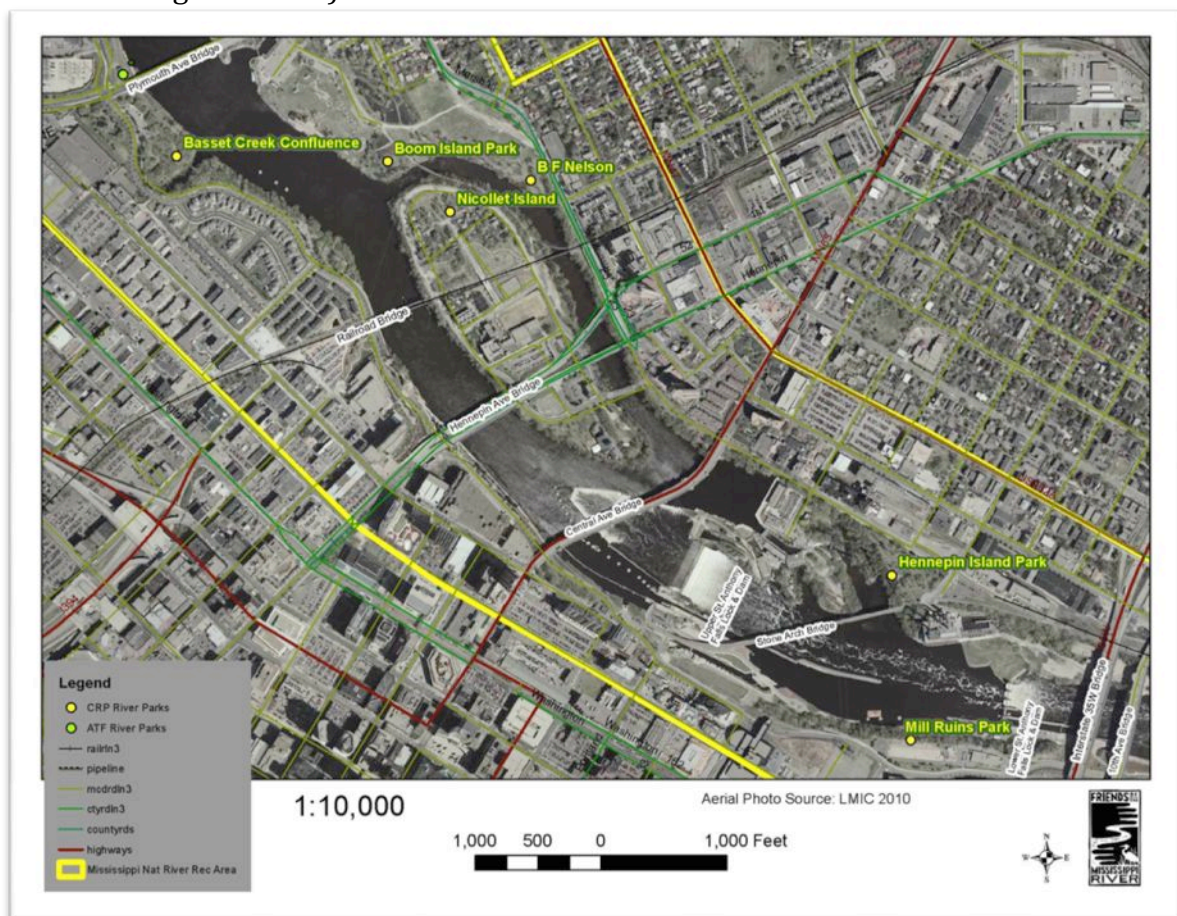


**Figure 3.** Map from Lowry Avenue Bridge to Plymouth Avenue Bridge (Above the Falls Regional Park).





**Figure 4.** Map from St. Anthony Falls to Plymouth Avenue Bridge (Central Riverfront Regional Park).



Potential sites were visited by the FMR Ecologist in April and May of 2012. For each site, photographs were taken, existing conditions were documented, and recommendations were made. Based on these findings, sites can be prioritized or ranked for future consideration.

## Results

Results from each of the site visits are given here. Sites are not listed in any particular order or ranked in any way.

### ST. ANTHONY PARKWAY NORTH: CAMDEN BRIDGE to SOO LINE RAILROAD

This area was significant in that it appeared to still have had the landscape shape and contours of its pre-settlement condition, without appearing to have been too severely altered (Photo 1). The soils had not been altered, at least not obviously. It

did not appear that any additions or subtractions of soil had occurred throughout this stretch. No evidence of rubble or debris was observed. It is also quite a bit wider than many of the buffers along this stretch of river, including the one just to the north, at Mississippi River Regional Park. This site therefore has much potential to be restored with native plant communities. The vegetation, although not a high-quality plant community, was in fair condition. The canopy layer existed in the form of scattered large cottonwoods and medium-sized green ash and hackberry. The shrub layer, however, consisted almost exclusively of the introduced species, Tartarian Honeysuckle and Common Buckthorn. The forb (ground) layer was not diverse.



Photo 1. Broad river buffer at St. Anthony Pkwy.

Interestingly, the features that provided the most protection to the shoreline and riverbanks were the really large trees, especially the cottonwoods that were still



Photo 2. Cottonwood clinging to bank provides a refuge for a native plant community on this bank.

clinging on the lower banks (Photo 2). A few root wads were also left holding, too. Gathered around each root wad or cottonwood tree were remnant communities consisting of a few natives: prairie cord grass, sedges (short sp.), geranium, dogbane, milkweed, poison ivy, goldenrod, Solomon's seal, stonecrop, wild rye, etc. Where the sedges occurred, the undercut toe formed a ledge, due to the fibrous roots of the plants—beneficial for fish habitat. Otherwise, the



bank was eroding fast. Prairie cordgrass patches seemed to provide the best protection from erosion—there was less “erosion front” where prairie cordgrass patches were present (Photo 3).

A small, flat ledge existed, located about mid-way between the bridges, where natives still clung to life—another small remnant.

There was a large patch of garlic mustard up by the road under hackberry overstory—in a bowl-like landform. A crown vetch patch existed down by the cut bank, approximately 200 feet north of Camden Bridge.

Some really steep steps located 300 feet north of the Soo Line Bridge contained a patch of daylily. Also, note that exotic shrubs screen the unsightly and degraded, industrial reach of the river across from the park—if removed, perhaps people would demand change.

**RECOMMENDATION:** We recommend removing buckthorn, honeysuckle, and caragana shrubs. Look for the fallen cottonwood/root wad that protrudes into water. And look for last pullout before Camden Bridge—down from there, by the big cottonwoods—just north of the benches—that is where the best communities exist. There was abundant poison ivy, so take care



Photo 3. Prairie cordgrass, native sedges, and false indigo bush provide stability to the bank near the base of a large cottonwood tree.

when traversing this area. Also, attempt to restore cottonwoods to any and all stretches of the river above the falls.



Photo 4. Mississippi River Park, just south of the Soo Line RR Bridge. Note the abundant Tartarian honeysuckle shrubs.

#### **ST. ANTHONY PARKWAY SOUTH: SOUTH OF SOO LINE BRIDGE**

This was a very narrow strip of shoreline; very degraded. Few natives were left in the understory, which was



dominated by Tartarian Honeysuckle, but not very much Buckthorn, interestingly.

**RECOMMENDATION:** This park could be reconstructed, but should be a lower priority. We would advise to do this only if the St. Anthony Parkway stretch, north of the Soo Line RR Bridge, were restored first.

### ORVIN “OLE” OLSON PARK

This park was bounded by railroad tracks to north, the Mississippi River to east, street and condominiums to west; it grades into the 22<sup>nd</sup> Ave Raingarden to the south. Relief was moderate—a steeper slope exists on the north end of the site, by the river. It appeared that rubble and debris had been dumped on and pushed over the bank here. There existed a plant community typical of highly disturbed sites, on the slope, dominated by exotic plants. A pylon was located at base of slope, on a river terrace near a sandy beach (Photo 6). A small foot trail wound its way up and down the slope, from the beach area to the ridge top (Photo 5). Several cottonwoods, a few silver maples and willows lined the upper beach area. Many Siberian elms have become established



Photo 5. Flat ridge top of riverbank, looking northward towards Railroad Bridge.



Photo 6. River terrace at base of pylon.



Photo 7. View of long, upper riverbank, looking southward.

on the slope of the bank and on the uplands. The ground layer was dominated by

exotics and aggressive natives: spotted knapweed, garlic mustard, common burdock, Russian sage, Canada thistle, ground ivy, smooth brome, evening primrose, grapevine, Canada goldenrod, giant goldenrod, and red clover. A large (10' x 5') metal structure was found lying in the grass at the top of the ridge. There was a gully that has eroded its way onto the slope, on the south end of the upper bank. The slope gets shallower as one moves towards the south.

**RECOMMENDATION:** Although disturbed, this area has the potential to be restored to a diversity of habitats. We recommend removing all Siberian elms on the slope and the grasslands, leave the boxelder, and then plant bur oaks to eventually replace them and the Siberian elms (Photo 7). We also recommend controlling the non-native herbaceous plant species and performing controlled burns on the property in general. Fire would control Sib elm seedlings and other woody plants on this site. Spotted Knapweed would have to be hand-pulled and spot treated with chemicals. We also recommend stabilizing the steep upper bank.



Photo 8. Root wads installed previously on shoreline. Compare the green vegetation behind the protection with the brown bare soil in front of it.

Some erosion control practices have been installed at the shoreline of this site in the near past (Photo 8). A soil-lift revetment was located south of the gully, which was a 40 feet long. Approximately five rows of soil lifts on this “wall” made it fairly steep. South of the revetment, the vegetation was dominated by smooth brome and spotted knapweed. Also, a line of five root wads had been installed at the beach area, midway in the park shoreline (perhaps 10 years ago?)

These root wads appear to be working—they are still intact, and behind them were a few native plants (sand bar willow, milkweeds, etc.) that were surviving. Based on the success of this practice, we recommend installing more root wads along the shoreline here and perhaps throughout the entire Above the Falls zone.

The high upland terrace was currently occupied by turf grass



Photo 9. Flat “parkland” area on upland near road. This area could readily be reconstructed to native prairie.



that was short in stature and appeared to be mowed short (Photo 9). Perhaps it was no-mow turf, though. The open turf area was planted on its periphery with crabapple trees at approximately 45' spacing. A cement sidewalk surrounded the area.

**RECOMMENDATION:** We recommend that this area be reconstructed to a mixed short-/long-grass prairie. South of the street was a large condominium development. Perhaps the residents could be engaged to become stewards of this park?



Photo 10. Short grass slope on upper bank. Note the condominiums in the background of the photo, at the top of the slope.



Photo 11. Newly vegetated slope. This could readily be restored to native prairie.

The area on the bank, to the south, between Ole Olson Park and the 22<sup>nd</sup> Ave Raingarden, was basically an open, grassy field (Photo 10, 11). It appeared that a prairie restoration was attempted here (a few little bluestems persist), but the area was dominated by non-natives including fescue, bluegrass, and gumweed. It is



Photo 12. Riverbank across sidewalk from 22<sup>nd</sup> Ave Raingarden. Note the many Siberian elm trees—they serve as a prolific seed source that contaminates the surrounding landscape.

possible this was a no-mow turf, but not sure. There were scattered medium-to-large Siberian elm trees on this slope. Also, a plethora of Siberian elm seedlings were scattered across this bank, seeding in from the mature trees on site. The newly vegetated area stretched on for about 600 feet, and then south of that was located an approximately 450-foot length of a smooth brome-dominated area on the bank, which preceded the raingarden area. At the raingarden, the bank side had been planted with native prairie species that are surviving well. Many Siberian elm seedlings are popping up,



though (Photo 12). It needs to be burned!

**RECOMMENDATION:** Remove Siberian elms, spot-treat herbaceous weeds, burn, and seed with native prairie species. Basically, restore in the same manner as the adjacent bank to the south, which is across from the raingarden. Continue to burn periodically for several years to control woody seedlings.

## 22<sup>ND</sup> AVENUE RAINGARDEN

This raingarden was located outside of the Minneapolis Park and Recreation Board (MPRB) building, in a depression of the ground, between a cement sidewalk and the MPRB parking lot. During the site visit, this raingarden looked good, with many native species flourishing here (Photo 13). There were patches of non-native plants and several scattered Siberian elm seedlings present here also.

**RECOMMENDATION:** We recommend that the raingarden be burned. Burning would control the woody seedlings that are volunteering into the infiltration basin. Burning should be done either in the spring or the fall. Hybrid cattails could also be controlled—by hand wicking with an aquatic herbicide mixed with a non-ionic surfactant.



Photo 13. Center of the 22<sup>nd</sup> Ave Raingarden. Note the nice mix of sedges, rushes, and grasses.

## SHERIDAN MEMORIAL PARK

The impression we got was that this must be located on site of an old industrial



Photo 14. View of Sheridan Park, looking south.



Photo 15. Boundary of parking lot and park; stormwater runoff pools here—note the darker gray water stains. Opportunity for infiltration.

complex, which has recently been turned into a City park. Soil was very compact here. It had been recently seeded to turf grass and planted with scattered trees or groups/rows of trees: hawthorn, crab apple, pines, maples, cottonwoods, etc. The terrain was very flat and level (Photo 14). Pylons and high power lines towered over the park. The site was located between a railroad track (to east) and the river (to west). Across the river was Ole Olson Park. This site was also north of the old Grain Belt “Case Beer Warehouse.” A foot trail continued on the north side of park, to a railroad bridge and beyond. Apartments, Dog Daycare, and other businesses are located adjacent to this trail to the east. The railroad tracks appeared to be abandoned. Nearby, a homeless occupation site was observed.

There was a very large parking lot, associated with the warehouse that sloped away from warehouse, towards the river (Photo 15). Stormwater would be carried away from the parking lot, into the river or left to sit in a poorly drained area near the parking lot.

**RECOMMENDATION:** Perhaps make a raingarden to catch the runoff at the bottom of the parking lot. Grading created a fairly high berm at the edge of the park which blocks runoff from entering infiltration areas. Currently, runoff has nowhere to spread out and infiltrate. If possible, remove a strip of the paved parking lot for an extension of pervious surface. Communicate with the MPRB and the Watershed District regarding this.

**RECCOMENDATION:** The rest of the field could be potentially restored to prairie, which would act as a significant buffer for the river. Perhaps the best use for this site, though, is to continue its present usage. There may be plans for a potential war memorial or monument for this site, however. If so, incorporating native plantings and infiltration areas would be recommended, as opposed to a full-blown prairie restoration.

## GLUEK PARK

This was a typical community park. It was fairly small, with turf and scattered large (existing) and planted trees. There was a huge white mulberry (exotic species) on the southern end of the grounds. A picnic shelter was present in the middle of the park, near the parking lot. Two linear gardens were present with planted cultivars. Paved trails traverse the area.

The riverbank was considerably riprapped at the toe (Photo 17),



Photo 16. Moderately steep riverbank slope. Vegetation dominated by crown vetch and non-native cool season grasses. Planting native shrubs is recommended here.

and turfed up-slope. Presently, there was abundant growth of crown vetch on the slope (Photo 16). Restoration of this slope to natives, although it would be a benefit, would be very labor intensive. Consider planting with shrubs, which would be easier and simpler to maintain. The vista across the river was less than desirable:

metal salvage yard, sand stockpiling yard, sea walls, etc.



Photo 17. Heavily riprapped toe of riverbank. Little to no vegetation currently exists. Could try planting willow stakes into riprap.

**RECOMMENDATION:** Perhaps build a couple of raingardens or bio-infiltration swales. Remove curb to allow stormwater to flow into infiltration areas. There were many missed opportunities for infiltration at this park. Park design evidently did not consider stormwater runoff capture. Plant native shrubs on the bank slope and willow stakes into the riprapped toe.

## EDGEWATER PARK

This park was located just south of the Lowry Bridge, which, coincidentally, was being actively constructed at the time of this site visit. A prairie restoration (“prairie garden”) at the site was quite nice, but unfortunately had been taken over considerably by spotted knapweed (Photo 18). Also, Russian sage was very abundant. Some natives were doing well here, in particular: prairie cinquefoil and grey-headed coneflower. The prairie could really stand to be burned. It also needs to have the knapweed pulled and/or treated. This park provides an attractive use of sandstone slabs, which ring the prairie. A single bur oak inside the prairie was doing fine. One other tree inside the prairie, a mountain ash, was not in good health; it had fire blight. Perhaps this was the wrong place for it, since it really should not be growing in a prairie. A



Photo 18. Restored prairie at Edgewater Park. Note the large patch of spotted knapweed that has invaded and become established (the gray, tall vegetation in the center of photo).



Kentucky Coffeetree, however, outside of the prairie garden, looked great. Also, perhaps too many trees had been planted surrounding the prairie—this number of trees could cast prodigious amounts of shade onto the prairie garden in the future.

**RECOMMENDATION:** Release Knapweed beetles as soon as possible. Pull/treat the knapweed and the Russian sage. Remove the mountain ash tree. Burn the prairie. Re-seed/Inter-seed following burns into the black/burned areas; plant plugs into the open areas. Communicate with MPRB and FMR on the details of coordination.



Photo 19. Marshall Terrace Park riverbank. Note the exotics: Russian olive, Tartarian honeysuckle, smooth brome grass.

#### MARSHALL TERRACE PARK

This was primarily a recreational park with basketball hoops, a swimming pool, ball fields, swing sets, and a jungle gym. Again, there were several missed opportunities for stormwater infiltration here, especially at the driveway.



Photo 20. View of heron nests in tops of large cottonwood trees on an island across from the park and from Xcel Energy. Note that some of the nests are occupied by birds.

There was a long length of bank/shoreline located within the park. It has the potential to be restored, vegetatively, but would be a huge project and lots of work. Currently, the bank was dominated by large- to medium-sized cottonwoods, and also exotics including buckthorn, honeysuckle, Russian olive, caragana, and smooth brome (Photo 19). This would be a major effort, and probably not a top priority. There would be a temporary loss of habitat and vegetative cover for birds, and a loss of erosion control, which are short-term negative results. Long term, however, it would be positive, since plant

diversity and root structure would be superior to what currently exists.

There were two islands in the channel on the north side of the park (property changes to Xcel Energy at some point here). These islands had several large cottonwoods growing on them. The larger, more northward island contained many blue heron nests, high up in the branches of the large cottonwoods—a heron rookery. I counted at least 15 nests, and five adult birds sitting on nests. There are probably many more nests that I couldn't see, as there have been upwards of 40 nests documented by National Park Service and Department of Natural Resources staff. This is a new rookery that was established by herons after a tornado destroyed their old one, two years ago, at Mississippi Regional Park, just upstream from here.

The two islands were undergoing some pretty severe and steady erosion. At each islands' leeward end, cottonwood trees had fallen into the water. Also, there was mostly bare soil on the banks, and abundant bare soil on the uplands, too (Photo



Photo 21. Close up of eroding heron rookery island. Note the large areas of bare soil and prominent bare roots of the large nesting tree on the island's shore.

21). The most common shrub was, by far, common buckthorn—an erosion prone species. There were many exposed roots on some of the large cottonwoods—the very ones that held the heron nests. The trees that were located higher up on the banks, or upland, appeared stable, at least for now, but eventually they will most likely succumb also (2, 5, 10, 15 years?).

#### **RECOMMENDATION:**

Stabilize the banks of the islands. Do so in such a way as to conserve the most natural elements of the island, and by using

current bioengineering techniques: lots of native plants, rock vanes, root wads, etc. Work would need to proceed during a time when no disturbance to herons would occur—after nesting season, at least. A complex project such as restoring these islands would require coordination with Minneapolis Park & Recreation Board (MPRB), Minnesota Department of Natural Resources (MN DNR), the Mississippi Watershed Management Organization (MWMO), the National Park Service (NPS), and Friends of the Mississippi River (FMR).



## BASSETT CREEK CONFLUENCE

Just south of the Plymouth Avenue Bridge, on the west bank of the Mississippi River, was the confluence with Bassett Creek, which enters the Mississippi through a manmade tunnel. The gorge of the mouth of the Bassett Creek Confluence with the Mississippi River was spanned by two footbridges. At the time of the survey, one of the footbridges was blocked from use; the other was still being used. There was a foot trail extending around the perimeter of the creek mouth, on both sides, that joined up with the trail that followed the Mississippi, on the western bank, in directions, north and south.



Photo 22. "North Corner" of Bassett Creek confluence with the Mississippi River. Note the extensive bare and loose soil near the wall. Also note the wide bare soil shores on each "corner" of the mouth of the creek, indicating that significant erosive forces must be at work here.

The condition of the confluence area was degraded, in terms of plant diversity. There were many exotic, invasive shrubs and herbaceous species that occupy and dominate the site. There were several large cottonwoods scattered along the creek mouth and at the corners of the larger river, which is beneficial for bank stability and for bird habitat. Interestingly, however, although the local cottonwood trees produced plenty of seed, there was little to no sign of cottonwood seedlings. Perhaps planting of cottonwoods on the bank is the only way of assuring the survival of the population on the shoreline.

**RECOMMENDATION:** Remove some of the larger buckthorn and T. honeysuckle and replace with a diversity of native shrubs. Also plant cottonwoods along the creek shore and the Mississippi River shore. Eliminating buckthorn and honeysuckle would be very labor intensive here, and it would involve exposing bare soil on steep banks along the creek mouth. The best practice would be to improve diversity for habitat and aesthetics by planting trees and shrubs. Ground layer restoration is not recommended, since it would too difficult and expensive.

The "corners" of the river shoreline, where the Mississippi meets with Bassett Creek were in poor condition, especially the northern one (Photo 22). The northern corner had very little established vegetation, and almost 95% exposed, bare soil, which was rapidly eroding. The south corner was not eroding too much, but did have many invasive species that had invaded.

**RECOMMENDATION:** Remove large, exotic shrubs and replace with a diversity of native shrubs. Stabilize the north corner with both hard and soft armoring

practices. Perhaps consider installing rock vanes to direct the thalweg to the middle of the channel. Plant cottonwoods.



Photo 23. Broad expanse of turf that would be a good site for a raingarden or native landscape.

**RECOMMENDATION:** Install a large, broad, shallow raingarden or perhaps a native prairie garden, on the upper side of the walkway, to capture stormwater runoff. Between 17<sup>th</sup> Avenue North and



Photo 25. Candidate slope for native landscape or no-mow turf. Probably no need to continue mowing this slope.

### 17<sup>th</sup> AVENUE NORTH OVERLOOK

Although there are there are plans that call for a raingarden in this area, not yet existed at the time of the survey (Photo 23). There was a very nice shoreline restoration, though, located on the riverside of the walk and on the slope/bank of the river (Photo 24). Between the sidewalk and the upper areas (sloped), was currently being maintained in mowed turf-grass, which is a lost opportunity for infiltration (Photo 25).



Photo 24. Riverbank restored to prairie.

the Bassett Creek Confluence, the riverbank transitions from restored prairie to a non-diverse community of invasives (crown vetch, Siberian elm, boxelder, reed canary grass, Russian sage), which gets especially dense closer to the Plymouth Bridge. Remove Siberian elms from the area, and restore to native prairie, consistent with the area to the north. Stabilize the shoreline

(Photo 26). Shrub willows were doing well in many spots along the shoreline, so including them in the planting list is recommended. Currently, lines of silver maple



seedlings extend along the toe of the shoreline, but their long-term survival is tenuous.

Since this may be the site for the “River Rats” boat shows, restoring prairie on the bank may be more difficult. With this in mind, plant selection should include short, hardy, durable species that can take more of a beating. Some species to include would be shorter grasses like little blue, Scribner’s panic grass, hairy grama, side oats grama, prairie dropseed, *Carex muhlenbergii*, sand dropseed, june grass, purple lovegrass. Some short forbs to consider would be pussy toes, alumroot, and prairie smoke. Another option may be, instead of using native prairie plants, to use a no-mow turf in areas where people are known to be congregating.



Photo 26. Existing logs can serve as good wavebreaks for new shoreline plantings. Anchoring them with cables is recommended, though.

#### NICOLLET ISLAND: Riverbank on North End of Island



Photo 27. View of the north shore of Nicollet Island from across the channel.

The north end and the channel areas of Nicollet Island (Photo 27) represent very good opportunities for restoration. The bank on the far north end of the island was very high, and quite steep. It was highly disturbed. There were large areas of bare soil (Photos 28, 29). At one time some steps must have been constructed here, as evidenced by scattered pieces of treated railroad ties and the remnants of a steps at the bottom of the bank. It appeared that this was at one time a landing, but that it has long since

been abandoned and fallen into disrepair. There was also a large amount of loose

rock, stone, and slag-type debris on the slope, adding to the degradation and making footing treacherous (Photo 28).

The vegetation here consisted of a combination of native and non-native plants. Typical of the area are large cottonwoods on the lower bank. On the slope were scattered small trees including: green ash, elm, silver maple, boxelder, basswood



Photo 28. North tip of Nicollet Island. Note the large area of bare soil, exposed roots, and active erosion. Also note the loose rock.



Photo 29. Another shot of the erosion at the north tip of the island. Note the extensive amount of bare roots. Also note the mantle of grass holding onto soil at the top of the photo.

and hackberry. Also present were white mulberry trees (an exotic species). The shrub layer consisted primarily of buckthorn and Tartarian honeysuckle, with a smattering of natives like chokecherry, red-berried elder, smooth sumac and



Photo 30. Figworts in bloom on a flat shelf located on the channel side of the island. These were growing near the base of a large cottonwood tree.

Juneberry. The ground layer was mostly absent, presumably due to the high degree of soil instability. The ridge top had a mantle of reed canary grass that helped hold onto some soil on top of the slope (Photo 29). As one goes around in either direction from the old steps at the northern tip, the ground layer gets gradually and continually denser. The channel side has more potential for restoration, due to the presence of City parks across the channel (namely, Boom Island Park and B. F. Nelson Park) and it has a wider buffer, than the south and west sides do.

The north shore of the Island, although



low in diversity, still had a few native forbs including zigzag goldenrod, clearweed, Virginia creeper, heart-leaved aster, and figwort (Photo 30). Prickly ash became abundant near the cave and then beyond to the bridge—it's presence indicates that a more open woodland community most likely existed here at one time. A couple of very large cottonwoods persisted at the low bank on the channel side, which helped stabilize the slope there. Near the base of one of these old giants, near the foot bridge to B.F. Nelson Park, there was a small, flat shelf of land that contained many native forbs, as well as morel mushrooms.

**RECOMMENDATION:** Stabilize the soil on the banks of this northern tip of the island. First re-contour as necessary. Then install water bars, erosion control fabric, check dams, etc., to absorb energy of water runoff. Volunteers could hand-pull buckthorn and honeysuckle seedlings. A professional crew could cut larger ones and treat the stumps. Then plant and/or seed with a diversity of native graminoids and forbs. In time, a matrix will be formed of

interconnected fibrous roots, which will provide excellent erosion control. There was a lack of grasses and sedges on this side of the island, so planting them would be important. Given the fact that reed canary grass was holding some soil on the top



Photo 31. Bedrock outcrop with small cave.



Photo 32. Foot trail on northeast bank of Nicollet Island, east of Bridge to B F Nelson Park. Garlic mustard has invaded this area.

of the slope, just imagine how much deeper a layer that native grasses and sedges like big bluestem, Indian grass, and Sprengel's sedge, would be able to hold onto. Also, we recommend to plant native shrubs in large numbers, since they are easy to establish, provide good erosion control, and do not require much maintenance.

Once established, this site should be monitored annually for invasive exotics like garlic mustard, buckthorn, and Tartarian honeysuckle. Volunteers from the neighborhood could be engaged to perform yearly monitoring. If invasives are found, they should be promptly hand pulled or spot treated.

There was a small cave in a bedrock outcrop of sedimentary limestone on the north side of the Island (Photo 31). People must frequent this spot, since the remnants of

a fire was found, as well as a couple of beer cans. The shoreline here had a couple of very large slabs of cement. A narrow footpath (Photo 32) traversed the entire northern bank, skirted in front of the cave, and ended at the BF Nelson Bridge.

At the intersection of the steps leading to the BF Nelson Bridge and the trail that extends on the north side of the island, there was an area of abundant burdock, just near the footings of the bridge. There was some pretty steady erosion of the toe of the bank, on the upstream side of the bridge footings, also. Some large cottonwoods were doing a great job of holding onto soil here.

**RECOMMENDATION:** Restore cottonwoods to the shoreline of the island. Plant larger cottonwood trees in areas where they will receive adequate light to survive. Cottonwoods appear to be crucial to the long-term stability of the river shore. There is a marked lack of cottonwood regeneration, also. Thus, without their restoration, the future of shoreline stability may be bleak.

Perhaps install rock vanes at the shoreline of the channel to direct the thalweg to the middle of the channel. This would reduce scouring of the toe of the banks in the channel area.



Photo 33. Vista upstream the Mississippi River from the north end of Nicollet Island. Boom Island is on the right side shoreline of this photo.

Southeastward, on the north side of the island at the channel, there existed a forested strip of land on the slope. Between the street and the waters edge is a wide foot trail. On either side of the foot trail, there was garlic mustard, sometimes in great density. This bank shows signs of much disturbance to the plant community here. Restoration would be difficult. Garlic mustard would be nearly impossible to control here. An important component of the restoration of the north tip of the island would be to monitor and hand pull garlic mustard as it invades, since currently there is none on the far northern tip.

To be noted are the spectacular views from the northern part of the island (Photo 33) , as well as from the channel side. If the bank were to be restored, the views would be an important part of the aesthetic quality of the project.

#### **NICOLLET ISLAND: Upland Old Field on North End of Island**

On the upland side of the north end of the island there was a large, flat, grassy field, approximately 0.7 acres. This was an old field that is dominated by smooth brome grass (Photo 34). There were also a few scattered small cottonwoods and hackberries. Two huge hackberries were growing by the sidewalk at the north end.

A double-stem birch was present also. A large patch of Canada goldenrod was present in the middle of the open field  
At the southeast end of this open field, across a paved path, the grassland gave way to approximately 0.9 acres of fairly densely wooded trees and shrubs (Photo 35).



Photo 34. Old field on upland flat. Field is dominated by smooth brome grass and could be readily restored to native prairie.

Another area by De Lasalle High School that had been recently restored to prairie, was in need of maintenance. Many exotic weeds had grown into the restored area, especially Kentucky bluegrass. This little prairie restoration could really benefit from being burned and spot treated.

**RECOMMENDATION:** Restore the open brome field (0.7 acres) to native prairie and the wooded portion (0.9 acres) to oak savanna. Only do this, though, if there is a commitment to managing it

properly, which means burning it periodically, spot treating, spot seeding, inter-seeding if necessary, and monitoring. If not, then we do not recommend restoration, since it will likely fail. If restored, though, this would be a nice addition of habitat and it would add to the beauty of the island. It also is located close to the north bank and channel area of the island, and would thus enhance the restoration those areas also.



Photo 35. Woodlot that is located adjacent to the south of the brome field. Perhaps this could be restored to oak savanna.



## B. F. NELSON PARK

There was a nice little prairie restoration here (Photo 36). Present were blue vervain, Indian grass, bergamot, wild rye, little bluestem, milk vetch, coneflower, etc.



Photo 36. Restored prairie (in midground), spillway (in foreground), and retaining wall (in midground).

This prairie would benefit from an addition of more early-flowering species, which would provide food for early pollinators and visual interest for park visitors in the spring. Black alders were planted here—an interesting selection. The head of a small gully was eroding, and could be stabilized. There was nice use of sandstone slabs for a retaining wall (Photo 36). Near the retaining wall was an area of abundant exotic plants, dominated by spotted knapweed. Upland from the retaining wall was found a newly installed parkland area with turf and scattered planted trees, including Kentucky Coffeetree. Nice tree selection, but perhaps a no-mow turf

would be a better option than conventional turfgrass.

**RECOMMENDATION:** Spot treat spotted knapweed and other exotics in the restored prairie. Burn the prairie periodically (every 2-5 years) to control woody seedlings and promote prairie species.

The opposite shore of Nicollet Island was recently stabilized. It appeared to be stable, which is great, but the vegetation was disturbed and consisted primarily of weeds including garlic mustard, Canada thistle, Siberian elm, reed canary grass, Canada goldenrod, Russian sage, crown vetch, and leafy spurge. There were a few native shrubs present here, which is beneficial. The erosion control blanket was still visible.

**RECOMMENDATION:** pull garlic mustard. Spot treat other herbaceous weeds. Replant with native plugs and



Photo 37. B.F. Nelson park, looking southeast. Channel is on the right. Riverbank stabilization has occurred, but improvements to the plant community could be made. All of the trees in the photo are Siberian elm. Weeds dominate the banks (not shown here).

more native shrubs; mulch the area. Monitor and treat as necessary in the future. Remove Siberian elms in upland and near trail. Replant with native trees from oak woodland community (bur oaks, red oaks, black cherry, hackberry, are examples).

### BOOM ISLAND PARK

This park was dominated by vast expanses of turf grass (Photo 38). At the time of this field survey, there were large areas of new sod. At a time when the trend is to reduce turf not to increase it, this park seems out of sorts. Perhaps ball fields are planned for the site? The shoreline buffer is rather thin and narrow, with some exposed bedrock. Scattered large cottonwoods abound—basically, the same plant community as on the Island, with the addition of grey dogwood. Seemingly, more erosion was happening on this shoreline as compared to the island, but that was because the water, being closer to the observer, gave a false impression of increased erosion.



Photo 38. Traditional urban park landscape of turf grass and scattered ornamental or shade trees.

**RECOMMENDATION:** No restoration recommended here.

### Sites Not Evaluated

The following sites were not evaluated: Plymouth Bridge Gateway, Broadway Bridge Gateway, Scherer Park, Shingle Creek Confluence, Upper Mississippi Regional Park, UHT South—Wetland. Plymouth and Broadway Bridge Gateways were not evaluated because they would be simple gardens located at the head of each bridge, and therefore they are not really natural areas. Scherer Park is a newly acquired space that was formerly industrial and is too early on in the process to evaluate. Upper Mississippi Regional Park was not evaluated because it was too large of an area for the scope and budget of this project. We would like to include it in future

phases, if possible. Shingle Creek Confluence, although we wanted to evaluate it, we did not have the time and it was sort of part of the larger area of the Upper Mississippi Regional Park. We would like to include this in a future phase also.

## Ranking of Sites

Sites were not ranked, as part of this project. However we have provided a potential set of criteria for ranking sites.

- Proximity to water (refer to maps)
- Size
- Types of Usage
  - Active
  - Passive
- Natural Area Condition
  - Quality
  - Significance
  - Potential for Restoration
- Impacts and Threats
- Accessibility
  - To natural area
  - To park itself
- Proximity to target neighborhoods or communities
- Other

## Sites Selected

The sites selected for further management in 2013 were:

1. Ole Olson Park
2. Edgewater Park

Other sites that ranked high were:

- St. Anthony Parkway
- Nicollet Island

## Next Steps

- Meet with neighborhood groups for each selected site
- Develop a Natural Resource Management Plan (NRMP) brief for Ole Olson and Edgewater Parks
- Seek additional funding (National Fish and Wildlife, for example)
- Coordinate with Minneapolis Park & Recreation Board on the implementation of the natural resource plans
- Begin to implement the NRMPs for each selected site over next two years
- Begin stewardship outreach and activities for each selected site in 2012 and 2013.



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