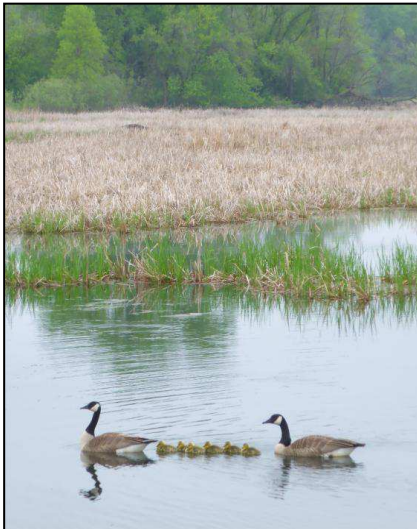


La Crosse River Marsh Strategic Plan
Prepared by *Friends of the La Crosse River Marsh*



March 2016

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2016 - 2020

Introduction

The people of Wisconsin have drained, ditched, and filled half of all wetland acres in the state since 1848, when we became a state. In the city of La Crosse, the La Crosse River Marsh has been reduced by roughly half since the mid-twentieth century, always in the name of progress, necessity, or inevitability.

The La Crosse River Marsh (see Map 1) will continue to suffer serious environmental degradation if we continue along this path. There are city house lots platted – under water – in the southwest corner of the marsh. The railroad recently asserted its right of ownership to fill and develop a new line. The state is drawing multiple lines representing highways across the marsh. A gas line easement crosses the marsh. An electricity sub-station, recently expanded, and power lines inhabit the marsh and serve the city and its environs. Within La Crosse city government, Planning, Public Works, Parks & Recreation, Engineering, and Traffic share some responsibility for the marsh. The marsh is owned by state, local, and private entities, which makes coordinated management very difficult.

While single-agency ownership and management of the marsh was the ideal expressed in the *La Crosse River Valley Land Use Plan* (1987), that objective has not been, and in the foreseeable future, likely will not be achieved. The *Friends of the La Crosse River Marsh*, with this plan, propose at least a partial remedy to this situation. The *Friends* will facilitate a coordinated plan for the marsh. This plan brings habitat protection, restoration, and enhancement to the forefront, as a sound approach for the marsh and for community health and well-being.

The *Friends* will partner on a case-by-case basis with individuals, organizations, agencies, and civic entities that share our interest in protecting, preserving, restoring, and enhancing the La Crosse River Marsh.

This is a five-year plan (2016-2020), to be reviewed annually by the *Friends of the La Crosse River Marsh* board of directors. (Current board members: Chuck Lee, President, John Sullivan, treasurer, Nancy Heerens-Knudson, secretary, Karen Acker, Pat Wilson, Richard Frost, Ralph Knudson. Contact the board at: friendsofthemarsh@gmail.com)

The Value of the La Crosse River Marsh

1. **Wetland Functions:** Wetland functions are defined as a process or series of processes that take place within a wetland. These include the storage of water, transformation of nutrients, growth of living matter, and diversity of wetland plants, and they have value for the wetland itself, for surrounding ecosystems, and for people. Wetland functions are local, but in addition to local they have regional, national, and global significance. While wetland functions do not change dramatically over time, the value ascribed to these functions can change as conditions change. The highest valued functions of the La Crosse River marsh include:

- Floral diversity
- Fish and wildlife habitat
- Flood protection

- Water quality protection
- Shoreline protection
- Groundwater recharge and discharge
- Aesthetics, recreation, education and science

2. Key Points

- In a region noted for its rich environment, the La Crosse River Marsh is among the most diverse and productive biological landscapes in the region.
- To birds, fish, mammals, and reptiles the marsh is a “biological supermarket:” a stopping point in the annual international bird migration; a nesting ground for threatened and endangered species (black tern, great egret, Bell’s Vireo, long eared bat); a regionally significant spawning ground for northern pike; a home to monarch butterflies and bees.
- La Crosse’s tourism generated \$214 million for the area in 2013, and provided 4,000 full time equivalent jobs. La Crosse county tourism is growing: now ranked number 12 in the state, up from 17th, seven years ago. The marsh is a key part of La Crosse’s park system and local ecology; linking the Mississippi to bluffslands, and providing unique and extensive walking, bicycling, picnic and family recreation. Bird watching is a significant part of tourism attracted to La Crosse, and the marsh has been a destination birding site for visitors and residents alike over the years.
- Six thousand K – 12 students per year from within a 50 mile radius and 900 graduate and undergraduate college students per year use the marsh as classroom and laboratory.
- Lost wetland acres reduce flood storage. Twelve inches of water spread over one-acre equals 325,000 gallons. In 2015 BNSF Railway filled 7.23 acres of the La Crosse River Marsh. During a flood of twelve inches, that amounts to a loss of 2,349,750 gallons of storage capacity. Lost storage capacity forces floodwater to go elsewhere, such as nearby homes and property. The year 2014 had continuous high water at or near 12-foot flood stage (the Mississippi River at La Crosse) for three months. Climate predictions anticipate more, if not worse periods of heavy rainfall and flooding.
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Protection and Coordination

Goal – To protect the La Crosse River Marsh and its riparian boundaries.

1. **Coordination** – Multiple partner coordination is necessary. The *Friends of the Marsh* will:
 - help direct and guide habitat management where that is desirable
 - facilitate and partner with the city of La Crosse, La Crosse County, the Mississippi Valley Conservancy, and others to protect and preserve the marsh
 - annually organize a meeting of public and private stakeholders for strategic planning purposes and report on activities undertaken in the previous year

2. **Expansion** – The *Friends of the La Crosse River Marsh* recommends expanding wetland acres to enhance wetland functions.
 - For example, consider wetland expansion as remedies for the high cost of high risk flood insurance, as remedies for some structures currently in the floodplain, to reclaim potentially restorable wetlands, and urban redevelopment. These are some of the factors that may provide opportunities for expansion

3. **Protection** -- The *Friends of the La Crosse River Marsh* recommend the highest available level of protection for the marsh.
 - Currently, the highest level of protection is available through the use of conservation easements placed on City and private properties.
 - Other protection options include land purchase by a conservation organization or dedicated individual, rezoning City property as City parkland and, or other City ordinances concerning zoning, land division and storm water.
 - Review the model wetland ordinance prepared by the *Wisconsin Wetlands Association* and consider local adoption.

4. **Development** – The *Friends of the La Crosse River Marsh* opposes further development on riparian boundaries and additional wetland loss within the marsh. We will work to prevent adverse land use changes, including but not limited to, those due to additional transportation and utility corridors, utility installations, residential development, commercial development, dikes, levees, fill, and other infrastructure that would negatively impact the hydrology, functionality, and/or habitat values of the La Crosse River Marsh.

5. **Trails** -- Future development of public trails in the marsh must proceed with the full agreement of the City, DNR, and other impacted stakeholders. In cooperation with these agencies, develop a public use plan. Unofficial trails are discouraged. (Also see the Safety section below.)

6. **La Crosse River Watershed Priorities** – in partnership with the City of La Crosse, La Crosse County, Wisconsin DNR, and the Mississippi Valley Conservancy, we have agreed upon the following wetland priorities for the La Crosse River Watershed.
 - First Priority: Net Wetland Gain – Restoration
 - Second Priority: Protection of unprotected wetlands through purchase or other means
 - Third Priority: Enhancement of wetland services and functions

Vegetation Restoration and Management

Goal – To protect, enhance and restore native vegetation in the La Crosse River Marsh and riparian boundaries to ensure a healthy marsh ecosystem.

1. **Plantings** – Develop a list of desirable native plant species and identify suitable planting locations that will be conducive to their growth and development, and add to the habitat value of the La Crosse Marsh. Identify site preparation methods, planting techniques, protective measures and related plant management activities necessary for planting survival and persistence. Work with property owners in carrying out and coordinating native vegetation plantings. Track planting locations and monitor their health and survival through photographs and general plant surveys. Document the use of plantings by wildlife and any positive or negative impacts on marsh users.

- Conduct a formal species inventory (both flora and fauna) and site evaluation and compare the findings to past reports. Utilize the inventory to prioritize efforts, with a focus on maintenance and invasive plant prevention in high quality areas, on restoration and management in degraded areas, and on preservation and enhancement of habitat, especially for endangered, threatened, or critical species.
 - Prepare a list of native plant species for upland and floodplain habitats that would be used for selecting plants for vegetation enhancements and habitat rehabilitation along the La Crosse Marsh system (see Table 1).
 - Prepare maps of the La Crosse Marsh trail system and identify the desired or planned riparian vegetation types (shrub, herbaceous, trees) for all trail corridor segments. The first focus area for this effort will be along the Marsh Loop trail (see Maps 2 and 3).
 - Work with property owners and others to purchase plants. Coordinate and conduct plantings and solicit participation from members, school groups and the general public.
 - Conduct a small pilot study to see if it is possible to increase the abundance of wild rice (*Z. aquatic*) in the La Crosse Marsh. Seek approval from property owners and document planting locations and the seeding response through the use of photographs and simple plant surveys. (This recommendation was initiated in the fall of 2015)
2. **Grass cutting and brushing** – Work with the City of La Crosse to develop trail mowing and brushing methods, and cutting schedule that will benefit trail users while protecting native riparian vegetation and associated wildlife uses.
- Lay out the desirable and planned surface trail system for the La Crosse Marsh Loop trail as the first focus area. Identify the recommended trail surface type (dirt, sand/gravel, asphalt) and maximum trail surfacing width (see Map 3).
 - Limit mowing along the trail margins to a width of 24 inches. Confine mowing to monthly intervals or longer. Eliminate the mowing of flowering milkweed plants and other desirable herbaceous plants growing at the trail margins until mid- to late October. The City will be responsible for mowing the trail margins.
 - Perform trail brushing on the Marsh Loop trail twice a year (Spring and Fall) and following major wind storms. Confine woody brush removal to trees and shrubs that are growing within 30 inches of the edge of the trail's surface (asphalt, sand/gravel, exposed dirt) or within 9 ft above the surface of the trail. The City will be responsible for removing large woody debris that has fallen on the trail's surface or tree or branch removal requiring the use of a chain saw and high water debris. The *Friends of the La Crosse River Marsh* will coordinate brushing activities using hand tools during April or May and during a weekend in October. The use of powered brushing equipment that does not produce a “clean” cut along the trail system is strongly discouraged. Clearing or brushing of desirable native plants, especially those planted for habitat improvement must be avoided unless they are clearly interfering with trail access, passage or safety.
3. **Invasive plant management** – Identify species-specific plant control techniques that are effective in eliminating or controlling the spread of invasive or undesirable plants in the La Crosse Marsh or riparian areas. Work with property owners in suggesting, coordinating and supporting invasive plant control work and document the success and cost of plant management techniques.

- Identify and map critical areas with invasive plant species growing in the La Crosse Marsh and work with resource agencies in the identification of control methods for controlling the spread of invasive species: for example phragmites, purple loosestrife, buckthorn, garlic mustard, and reed canary grass.
 - Solicit funding for control of invasive plants and coordinate and carry out invasive plant control work in cooperation and participation with the property owners and others in critical areas of the La Crosse River Marsh.
4. **Habitat modification** – Identify, suggest and coordinate habitat modification techniques with property owners that are intended to benefit desirable plant growth, native plant establishment or over-all habitat improvement in the La Crosse Marsh and riparian boundary. Document the success of habitat projects and lessons learned, and apply that knowledge to future habitat modifications.
- Maintain and improve the floodplain forest by planting desirable floodplain trees along the La Crosse River riparian corridor within the La Crosse Marsh. Protect planted trees with appropriate structures until established and monitor the planting success.
 - Identify areas where wetland scrapes may enhance the habitat quality of the La Crosse Marsh. Work with resource agencies in identifying locations and methods and seek funding to carry out habitat modification proposals. Monitor the response of habitat modification practices through photographs and general surveys.
 - Identify opportunities to breach/lower/remove sections of dikes or fill ditches to promote more hydraulic connectivity within the marsh and promote more sheet water flow rather than constant impoundment (impounded areas may be promoting the spread and growth of Reed Canary Grass over native wet meadow plants, for example.)
 - Perform trail edge scrapes and seeding, or planting, along the Marsh Loop trail (see Maps 2 and 3) to establish milkweed and other desirable plants.
 - Evaluate areas for prairie or native plant restoration work (including native, habitat quality shrubs) work along the southern boundary of the La Crosse Marsh Loop trail.

Hydraulic and Water Quality Management

Goal: To maintain and enhance the La Crosse River's connectivity with the La Crosse Marsh to ensure a healthy functioning floodplain. To reduce nutrient, sediment and other pollutant loads into the La Crosse Marsh through watershed level and local pollutant control measures.

1. **Hydraulic connectivity improvements** – Working with USFWS, Corps of Engineers, WDNR, and others (hydrology engineers) to develop a plan to conduct hydraulic evaluations of the marsh based on a review of existing studies and additional information, and identify measures that will maintain and enhance the connectivity of the La Crosse River with its floodplain for flood mitigation and improved wildlife, fish and aquatic life habitat within the La Crosse Marsh.
 - Evaluate the mitigation site constructed north of River Valley Drive by Wisconsin DOT in the early 1990s. Work with property owners and resource agencies to determine if it is feasible and desirable to re-establish La Crosse River flow into this area through the use of the existing culvert or recommend alternative measures to improve the hydraulic connection of the mitigation site with the La Crosse River.

- Improve the hydraulic connection of the La Crosse River to the isolated wetland located just north and east of Three Rivers Plaza on Copeland Ave. Work with the City of La Crosse in the design of larger culverts or bridges in the existing bike trail that will allow the La Crosse River to flow into and through the area during periods of high river stages.
2. **Water level management** – Work with local, state and federal agencies in evaluating opportunities for water level management within portions of the La Crosse Marsh to improve or enhance wetland habitat for wildlife, fish and aquatic life.
- Install and monitor staff gauges in the La Crosse Marsh to evaluate how water surface elevations in the marsh are influenced by the La Crosse River and Mississippi River stage/flow fluctuations and local precipitation. Conduct flow gauging in critical areas to evaluate and identify major break-out flows into the La Crosse Marsh from the La Crosse River. Evaluate water surface elevations of impounded portions of the marsh during periods of low water and low river flow conditions to determine how existing trails, roads and culverts, and wildlife are influencing water surface elevations.
 - Use the results of the water level monitoring study to recommend changes in the sizing, location and operation of existing culverts or spillways in trail or road embankments in the La Crosse Marsh to improve the hydraulic connectivity of the marsh with the La Crosse River. Evaluate the use of water level control structures in portions of the La Crosse Marsh that will enhance the habitat value of the marsh during critical periods such as fish spawning or waterfowl migratory periods.
3. **Stormwater management** – Evaluate local stormwater management plans and their impact on the hydrology, water quality and wetland ecology of the La Crosse Marsh.
- Identify the location and size of all stormwater discharge points into the La Crosse Marsh. Record the latitude and longitude of all stormwater culverts and prepare a map for future planning purposes or studies.
4. **Watershed management** – Support local and watershed-level water quality management activities that reduce nutrient, sediment and other pollutant loads through point and nonpoint source pollutant control programs. Support and participate with watershed level planning efforts that are designed to restore, enhance and rehabilitate wetlands.
- See La Crosse River Watershed Priorities, above, under “Protection and Coordination,” item #5.
 - Advocate a “One Watershed-One Plan” approach to watershed level planning as is being done in the Root River watershed in Minnesota
 - Support La Crosse County Conservationists efforts to reduce upstream sediment loads through tributary restoration.
 - Evaluate the DNR’s and County’s water quality monitoring data and impairment listings for the La Crosse River basin.
 - Review the lead contaminant studies conducted in the marsh near the former trap shooting range by the University and DNR and evaluate the need for remediation.

Safety

Goal: To develop a healthy, safe recreation environment.

1. **Trail Safety** – Identify locations along the trails where railings or other secure installations may improve safe use of the trail system. Monitor trail surfaces for holes and edge erosion. Install warning signs at critical locations.
2. **Bicycles and Hikers** – Through education and, potentially, signage, promote the considerate use of trails by all. For example, bicyclists should slow down and make their approach known to walkers.

Education

Goal: To offer educational programs about the value of wetlands, the history, the hydrology, and the flora and fauna of the La Crosse River Marsh, and to emphasize the unique place this marsh holds in the life of our community. We wish to be a catalyst for continuing and expanding educational programming in the marsh, and we wish to promote the La Crosse River Marsh as one of the finest urban wetlands in Wisconsin.

1. The *Friends of the La Crosse River Marsh* will continue to support:
 - **EnviroWednesdays** -- first Wednesday of every month, in partnership with WisCorps.
 - **Aldo Leopold Day** -- annual celebration of the work of Aldo Leopold, in partnership with MVC, Fish and Wildlife Service, Viterbo University, and WisCorps.
 - **Earth Day Fair**
 - **Marsh trail cleanup**
2. The *Friends of the La Crosse River Marsh* will explore and develop new educational opportunities for the La Crosse River Marsh, such as:
 - QR Coded Tours in La Crosse River Marsh
 - “The Value of Wetlands” Program
 - Canoe/Kayak Trips on the La Crosse River or Marsh
 - Art Classes in the La Crosse River Marsh
 - Nature Hike/Storytime with young children and parents

Table 1 . A brief list of desirable, native upland and floodplain plants for the La Crosse River Marsh upland riparian areas to consider for plant restoration work. Plants or seeds utilized for restoration and land management activities will be limited to those species historically native to La Crosse County and appropriate for the moisture level of the soils.

Upland habitat (sites not expected to be inundated by water)

Trees: basswood (*Tilia americana*) red oak (*Quercus rubra*), white oak (*Quercus alba*), bur oak (*Quercus macrocarpa*), American elm (*Ulmus americana*), hackberry, (*Celtis occidentalis*), red maple (*Acer rubrum*), black walnut (*Juglans nigra*) chokecherry (*Prunus virginiana*), black cherry (*Prunus serotina*) wild plum (*Prunus americana*), downy serviceberry (*Amelanchier arborea*), smooth serviceberry (*Amelanchier laevis*)

Shrubs: nannyberry (*Viburnum lentago*), arrowwood (*Viburnum dentatum*), gray dogwood (*Cornus racemosa*), alternate-leaved dogwood (*Cornus alternifolia*)

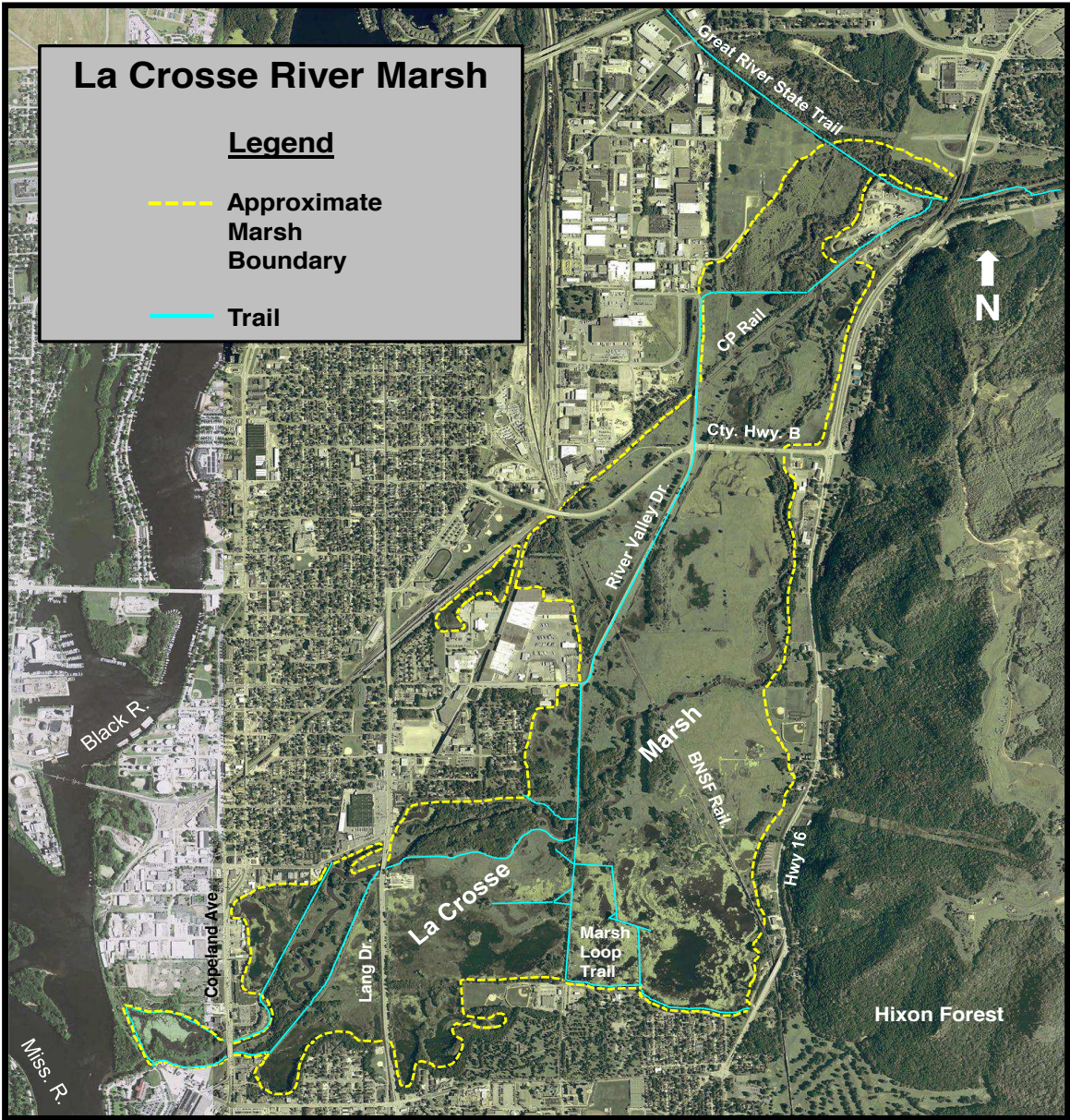
Herbaceous plants: common milkweed (*Asclepias syriaca*), showy milkweed (*Asclepias speciosa*) butterfly weed (*Asclepias tuberosa*), Virgin's-bower clematis (*Clematis virginiana*)

Floodplain habitat (wet soils or where periodic inundation by water is expected)

Trees: swamp white oak (*Quercus bicolor*), eastern cottonwood (*Populus deltoids*), silver maple (*Acer saccharinum*), American elm (*Ulmus americana*), river birch (*Betula nigra*), willow (*Salix* sp.), hackberry, (*Celtis occidentalis*), red maple (*Acer rubrum*)

Shrubs: buttonbush (*Cephalanthus occidentalis*) red osier dogwood (*Cornus sericea*) alternate-leaved dogwood (*Cornus alternifolia*), high bush cranberry (*Viburnum trilobum*), elderberry (*Sambucus canadensis*), nannyberry (*Viburnum lentago*)

Herbaceous plants: swamp milkweed (*Asclepias incarnata*), blue flag (*Iris versicolor*) blue vervain (*Verbena hastata*), cardinal flower (*Lobelia cardinalis*), common sneezeweed (*Helenium autumnale*)



JFS 1/7/16

Map 2
La Crosse River Marsh Loop
Trails & Segment Names (draft)



