



Upper Yahara River User Analysis, Future Opportunities & Priority Projects

**Prepared for Friends of The Yahara River Headwaters, Inc.
June 11, 2008**

(Also recommended for Later Inclusion in Village's Downtown Redevelopment Concept & Implementation Strategy and next update of Park and Open Space Plan)

INTRODUCTION

A group of volunteer citizens are working to restore and improve access to the Upper Yahara River in the DeForest-Windsor area. They formed a non-profit group in 2006—the Friends of the Yahara River Headwaters, Inc.—with a mission “to enhance and protect the quality of the Yahara River headwaters while educating the community and providing sustainable recreational opportunities.” The group meets monthly, and organizes volunteer efforts to clean-up the river, remove fallen trees, clear brush along river banks, and remove litter.

The Friends are also interested in understanding, communicating, and advancing future opportunities and additional uses and activities associated with the Yahara River. To this end, the Friends completed a successful application to the DNR River Protection Grant program. That application calls for an analysis of potential river users, current use, and access; it also calls for identifying and advancing river health and activities. This includes potential projects in downtown DeForest, which is traversed by the River. Improved visibility and awareness of the River and its amenities will also help increase interest in downtown for visitors, and help stimulate potential redevelopment sites.

RIVER PROTECTION PROGRAM ELEMENTS

To satisfy the requirements of the DNR River Protection Grant, Vandewalle & Associates assembled a series of deliverables and project ideas that advance the goals and strategies of the grant application. These include:

- Identification of public users and land use around the River: This report includes a “users analysis” and a map describing current conditions and potential future opportunities around the Yahara River.
- Identify 3-4 projects to serve as initial goals for the Friends: This report describes two main physical improvements and enhancements that are proposed for later implementation—enhancements to Veteran’s Park and completion of a downtown trail system. Through separate decisions, the Friends have also proposed other priority projects, not covered in this report.
- Prepare a written plan for activities downtown that will promote river use and protection: This report serves as this document, along with the Village’s already-completed (in draft form) *Downtown Redevelopment Concept & Implementation Strategy*.

USERS ANALYSIS & OPPORTUNITIES MAP

The DeForest area is becoming well-positioned to serve the health and recreational needs of the community through numerous existing parks, open space areas, and a growing trail network. The

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Shaping places, shaping change

communities' strong vision for future open space will enhance both water and land trails, interpretive areas, and linkages to other community services.

Existing Facilities and Destinations

Most aspects of the area's existing conditions including major public facilities, existing parks, open space and trails, environmental corridors, transportation facilities, housing density, and Spring 2007 aerial imagery are documented on the *Yahara River Opportunities Map*. Focus areas within the Village include the DeForest Business Park, downtown DeForest, Conservancy Place, the Lake Windsor Golf Course, and various parks, schools, and other public buildings close to the River.

Existing Demographics

The lifestyle and consumer characteristics of the DeForest area's population is included below. The demographic information is adapted from the ESRI Business Information's "Community Tapestry" analysis, as well as a combination of aerial photography interpretation and current parcel information from the Dane County Land Information Office.

Pedestrian Area Analysis (within ¼ mile of the Yahara River)

- *Age.* Almost 30 percent of the population within ¼ mile is younger than 18. As this large group is mainly dependant upon adults for transportation, youth- and family-oriented destinations within walking or biking distance would be appropriate. Additionally, about one-fifth of the population in this area is considered "middle-aged" (35 to 45 years old). It is likely that these adults are parents as related children are present in three-quarters of households.
- *Housing Units.* The estimated number of single family homes within ¼ mile of the River is 1,550, and the number of units within multi-family housing is 285.
- *Income.* The estimated median household income in 2006 is \$71,103, with 66 percent of household earning between \$50,000 and \$149,999 per year. After taxes, households in this area have a median disposable income of \$51,465. These figures indicate that this area's earnings are slightly below that of the Village as a whole.
- *Education.* Almost one-third of the population age 25 and older has attained a high school level education and nearly 20 percent of the same population had earned a bachelor's degree.

Village Area Analysis (within 1 mile of the Yahara River)

- *Age.* Age distribution in the Village Area is similar to that of the Pedestrian Area, with nearly 30 percent of the population in the Village Area younger than 18 years old. Similarly, this suggests opportunities for youth- and family-oriented activities. Additionally, about 17 percent of the population in this area is considered "middle-aged" (35 to 45 years old). Married-couple families are the predominant household type.
- *Income.* The estimated median household income in 2006 is \$74,069, with over 66 percent of household earning between \$50,000 and \$149,999 per year. After taxes, households in this area have a median disposable income of \$52,744. Both the median household income and median disposable income are slightly higher than that of the Pedestrian Area and suggest significant spending power.
- *Housing Units.* The estimated number of single family homes within one mile of the river is 4,214 and the number of units within multi-family housing is 1,051.
- *Education.* Similar to that of the Pedestrian Area, almost one-third of the population age 25 and older has attained a high school level education and over 20 percent of the same population had earned a bachelor's degree.

Future Opportunities

As partially depicted on the *Yahara River Opportunities Map*, and described below, an analysis of existing conditions suggests several opportunities for future activities and improvements associated with the Upper Yahara River in the area:

- *Downtown and Vicinity*
 - ◆ Business Park Expansion – manage impervious surfaces through progressive stormwater management
 - ◆ Bridge replacement on Main Street and (in the future) North Street – opens opportunities for land and water trails
 - ◆ Land trail connection through Downtown – link Western Green Trail to Delkamp Trail
 - ◆ Veteran’s Park Enhancements - land and water trailheads and interpretive site options

- *Conservancy Place Area*
 - ◆ Overall plan for land and water trails through this area, in conjunction with relatively few current property owners
 - ◆ Nature/river oriented community park and preserve
 - ◆ Floodplain, wetland, and prairie restoration
 - ◆ Collaboration with new elementary school proposed for siting in this area -- outdoor education opportunities, signage in regards to historical use of river and environmental benefits

- *Lake Windsor Golf Course Area*
 - ◆ Developer of potential new subdivision may enhance degraded River condition
 - ◆ Opportunity to influence design, water trails, and stewardship
 - ◆ Community education opportunity

- *Trail Opportunities*
 - ◆ Enhancing trail connections between River, schools and library – “Safe Routes to School” as potential funding source
 - ◆ Land and water trailhead opportunities with launches, signage, informational kiosks, rest areas, parking, etc.

DOWNTOWN RIVER ACTIVITIES

Following the process that created the *Yahara River Opportunities Map* and the above users/analysis, ideas for downtown projects were studied in more depth. A site visit was made to study potential project sites. Ideas included a potential rain garden at the DeForest Community Center site (north of North Street), various enhancements along the riverfront at Veterans Park, a potential trail connection at the end of West Holum Street, and detailed river trail and walking routes that connect downtown to the River and to existing trails in the area.

Potential Rain Garden at Community Center

The idea of designing a rain garden at the Community Center site was initially supported as a project to pursue. The specific site was at the northeast corner of the Community Center parking lot, between the lot and the River. The idea was that parking lot stormwater runoff could be directed to a small shallow basin, which would be planted with moisture-loving native plants. This site is public, hosting many community gatherings, and interpretive signage could also be added to increase Yahara River awareness and the purpose of the rain garden.

Unfortunately, closer study revealed that this site is not feasible for a rain garden due to insufficient stormwater runoff. There is a rip-rap spillway at the corner of the lot, where water is directed through a gap in the curbing towards an older narrow concrete channel that leads directly to the River. This is a confusing situation in that a portion of the concrete channel has clearly been removed to place the rip rap. There is also a drain inlet in the parking lot at this location with no obvious outlet. Coincidentally a heavy rainfall occurred later in the day of the visit, and a large volume of water was moving towards the spillway, and ponding around the drain inlet. Curiously, none of the water was going down the concrete channel towards the River.



Further study revealed that the rip-rap spillway is the opening to a large underground stormwater storage reservoir. The Community Center was renovated a few years ago, and part of that work included enhanced treatment of runoff from the parking lot and rooftop downspouts. The reservoir does such an effective job that there is no particular advantage in creating a rain garden in the area, short of deconstructing the reservoir and replacing it with the rain garden.

Other sites around the Community Center were looked into, and none found to be viable. The Friends of community as a whole may, in the future, wish to construct a rain garden in another location. The optional sites on the *Yahara River Opportunities Map* may be investigated.

Downtown Path Connections

Currently there are two path segments leading to downtown along the River corridor, but they do not connect. An asphalt recreational path leads from the Bakke Conservancy Area near the Firestone facility on the west side of Stevenson Street, terminating at North Street (Delkamp Trail). Another recreational path leads from Western Green Park, along the river terminating on the west side of Main Street at the Yahara River bridge crossing. Plans are also underway to construct an asphalt recreational path from the Main Street river bridge to North Street, along the east side of Main Street.



Potential connection of these existing/planned pathways was studied, via the River corridor, and other connections were studied to better connect downtown to the River. Recently a large sewer line was installed that parallels the river on its south bank from Veterans Park to the rail line, and then north. The sewer easement may also provide a feasible trail route. An underpass of the rail line also appears feasible—there would be adequate headroom at the rail bridge. From there, the pathway could head north to the Delkamp Trail following the west edge

of the River. A pedestrian bridge would be needed get from the east bank to the west bank of the River.

This northern segment of the proposed path is a long-term project as private lands would need to be crossed, with permission granted for a pathway easement. Much of the route crosses land that appears to be fallow agriculture use. No interviews with land owners were conducted. The *Downtown River Activities* map on the next page shows other options that would take the path further from the River.

Another path segment could lead from the rail bridge south to connect to the Market Street pathway in front of the library that in turn connects to Fireman's Park. This segment could parallel the rail line on the west side following a sewer easement, crossing open space land, and one private parcel that has been identified for potential redevelopment. This parcel could potentially incorporate the path as a benefit for redevelopment, and the actual alignment could certainly shift from that shown on the map.

All these potential path routes are shown on the *Downtown River Activities* map. Potential sign and kiosk locations are also shown. These elements can increase awareness of the River, and possibly be combined with other themed downtown signage. These signs might be titled "Yahara River Trail," with directional arrows leading visitors to the river path, Veterans Park, and downtown institutions such as the library. A design concept for a kiosk /interpretive structure follows later in this report. The directional signs should match the style, possibly a scaled-down and simplified version of the kiosk, without the large roof and bench that is shown on the concept design.



Veterans Park Improvements and Activities

Proposed projects for Veterans Park, located right along the River downtown, include a canoe launch with a gravel access road, a segment of the new pathway system described above, vegetative shoreline restoration, native/meadow plantings, a picnicking site, and a Yahara River interpretive kiosk/shade structure. These are illustrated on the following *Veterans Park Activities* map.



The site was visited and a location for the canoe launch proposed. A replacement river bridge on Main Street will be constructed in 2008, and this will include an enhanced pedestrian crosswalk where the Western Green path currently terminates at the street. The launch site is close to Main Street on the opposite side, allowing visibility from the street and located in an opening on the wooded river bank. The launch itself is intended to be surfaced with crushed gravel, suitable for small boats, and designed to accommodate a car turnaround and drop-off of canoes and kayaks. A crushed gravel driveway leading from the parking lot would allow single-file car access to the launch. “No parking” signs would prohibit users from leaving cars along the driveway or launch area, and

large boulders would be placed as needed to limit cars from entering landscaped areas.

An interpretative kiosk would be strategically placed along the sidewalk near the bridge and launch, with a view of the launch area and River. This kiosk would prominently advertise the River and canoe launch; there is presently no signage downtown highlighting the Yahara River. A suggested design for the kiosk structure follows later in this report.



The launch area could be planted with native short-grass prairie species to highlight good environmental practices, help define car access restrictions, and separate the area from the existing “Walk of Heroes” amenity. These plantings should be maintained at a height that will allow views into the launch area to provide security.

Another aspect of this project is the enhancement of the plant community along the shoreline within the park. The Friends have already conducted clean-up and brush removal in this area. An experimental program of planting native wetland plants along the river bank could enhance the shoreline environmental quality and reduce erosion. As plantings take hold, and knowledge of successful methods are learned, this program could be expanded to include other shoreline restoration work along the Yahara River.

An extension of the Western Green Park path across the Veterans Park property is also shown on the following plan map, and described more fully in the “Downtown Path Connections” section above. A picnic area adjacent to the launch site would serve all park users, with new tree plantings to provide shade.



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FRIENDS OF YAHARA RIVER HEADWATERS
River Protection Program Elements
Veterans Park Activities
DeForest, Wisconsin

Holum Street Trailhead and Path Connector

Community members have expressed an interest in providing a better pedestrian connection from the West Holum Street dead-end to the Western Green Park path. Currently many pedestrians, especially school children, short cut from the area of the existing pedestrian bridge in Western Green Park across private backyards to get to Holum Street. This situation causes concern with several residential land owners. A chain-link fence was installed just to the east of the bridge in an attempt to restrict this circulation, but has only marginally improved the situation. The owner of the office building property along the north side of Holum Street has offered to assist in providing a better path connection that would improve circulation.



The concept depicted in the *Holum Street Trailhead* map that follows shows a proposed path segment to better direct pedestrian traffic and an idea for a parking area/trailhead amenity at the west end of Holum Street. The proposal would involve the Village or office building property owner acquiring a vacant triangular parcel currently owned by the residential owner to the south. The Village already owns the other triangular half that would provide the necessary land area. This area could then be used as a trailhead parking area, offering stalls for path users and for visitors to surrounding downtown uses. The existing sidewalk on the north side of the street could also be extended to the west in this area.

After transitioning to a wider path, this route would cross a mapped wetland, which would likely require state and/or federal approvals. The *Holum Street Trailhead* map proposes an elevated boardwalk that would keep disturbance to the wetland to a minimum, while still allowing a more gradual slope heading down the steep bank that exists in this location.

To separate path traffic from the office building parcel, a split-rail fence is proposed on the north side of the trail and sidewalk extension, adjacent to a picnic area currently used by office employees. Trailhead signage could be placed in the parking area in a planted island that incorporates a path system map and interpretive information about the River, wetland, and watershed.

This project, if pursued, should be completed in conjunction with Village utility projects that are anticipated for this same area.



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Project: Friends of Yahara River
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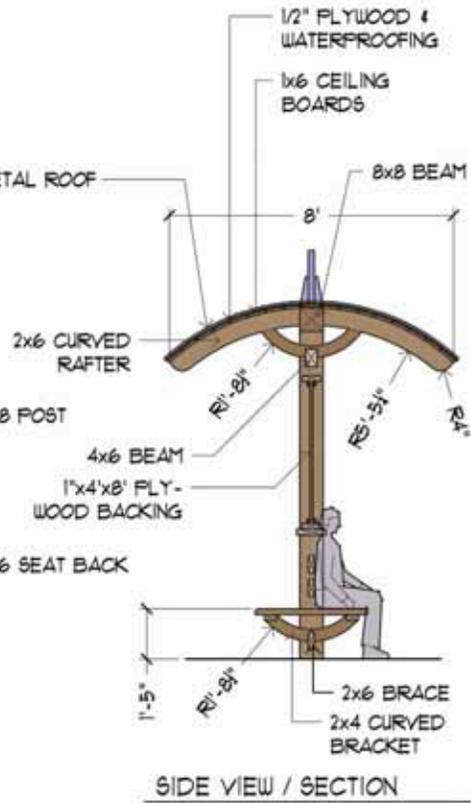
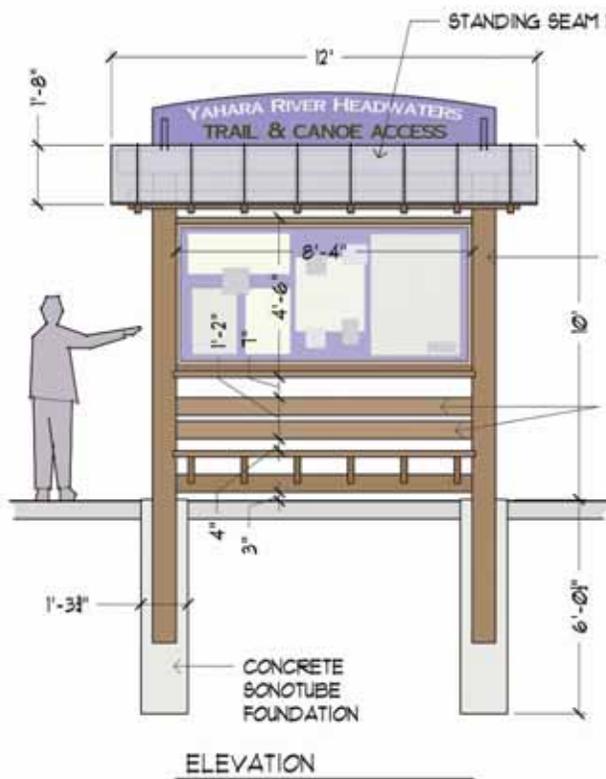
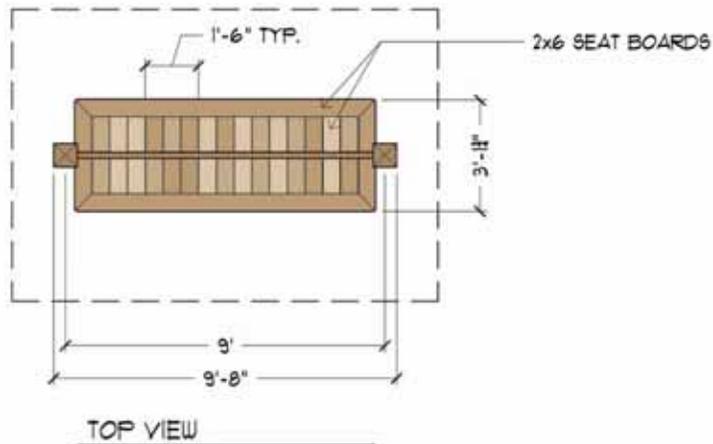


FRIENDS OF YAHARA RIVER HEADWATERS
River Protection Program Elements
Holm Street Trailhead
DeForest, Wisconsin

Kiosk / Interpretive Structure

Either Veterans Park, the Holum Street Trailhead area, or both could be home to a larger informational kiosk and interpretive structure focused on path/waterway directions and River information. The conceptual *Kiosk/Interpretive Structure* graphic on the following page shows a wood shade structure with sign panels that are roughly 32 square feet in area. This kiosk would exhibit community pride and should be constructed by a professional finish carpenter or cabinetry maker, made like a piece of furniture. The graphic panels could include watershed maps, trail route maps, nature interpretation information on plants and animals found in the watershed, River photos, and/or information about the Friends group. Information about the downtown, its businesses, and community highlights should also be included.

The following concept design includes enough detail to convey what is desired and to estimate cost, but needs to be reviewed by a contractor to insure its buildability and to reflect any unique skills that a local craftsman might employ. A similar structure could alternatively be created by a steel fabricator if a more modern look is desired, if maintenance of a wood structure is a concern, or if DeForest happens to have a metal worker that would be willing to donate time and/or materials.



THIS DETAIL IS CONCEPTUAL.
CONTRACTOR SHALL VERIFY ALL MATERIALS
AND DIMENSIONS WITH OWNER PRIOR TO
FABRICATION.

FRIENDS OF YAHARA RIVER HEADWATERS
River Protection Program Elements
Kiosk/Interpretive Structure
DeForest, Wisconsin

Created: June 2, 2008

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Preliminary Downtown River Activities Budgets

The following budgets for key components of the above proposed projects are for planning purposes only; actual construction costs will vary. Costs are based on materials and labor typical from contractors. Donations of materials and services have not been factored, except for assistance on potential land acquisition.

Veterans Park Canoe Launch and Access Drive

Item	Qty.	Units	Cost per unit	Totals
Remove curb & gutter, for drive access	15	lf	20.00	300
Site grading, for drive and launch	150	cy	20.00	3,000
Utility connections for sign/kiosk	75	lf	40.00	3,000
New mountable curb/gutter, drive access	15	lf	30.00	450
Crushed stone surfacing, launch, 12" depth	25	cy	40.00	1,000
Crushed stone surfacing, drive, 8" depth	100	cy	40.00	4,000
Boulders, limestone, for drive edges	4	ton	500.00	2,000
Traffic signs, 'no parking in launch area'	2	ea	300.00	600
Turf, seeded, repair	4,000	sf	0.25	1,000
Subtotal				\$15,350
15% Contingency				2,303
Total				\$17,653

Veterans Park Shoreline Restoration & Natural Landscaping

Item	Qty.	Units	Cost per unit	Totals
Site preparation, shoreline & meadow	13,000	sf	0.10	1,300
Shade tree	5	ea	500.00	2,500
Ornamental tree	6	ea	250.00	1,500
Shrub/ perennial plantings	50	ea	40.00	2,000
Shoreline plantings, seeded	3,800	sf	0.50	1,900
Upland meadow plantings, seeded	8,900	sf	0.50	4,450
Subtotal				\$13,650
15% Contingency				2,048
Total				\$15,698

Each Kiosk / Interpretive Structure

Item	Qty.	Units	Cost per unit	Total
Kiosk structure, wood post & beam	1	ea	8,000.00	8,000
Map / info panel	2	ea	1,500.00	3,000
Concrete paving, around kiosk	100	sf	6.00	600
Accent plantings	200	sf	7.00	1,400
Subtotal				\$13,000
15% Contingency				1,950

Total | **\$14,950**

Holum Street Trailhead

Item	Qty.	Units	Cost per unit	Totals
Property acquisition (assumes donation)	1	ea	0.00	0
Site grading	200	cy	10.00	2,000
Utility work, electric, stomwater	1	ea	10,000.00	10,000
Roadway pavement, asphalt	4,300	sf	4.00	17,200
Curb & gutter	480	lf	22.00	10,560
Concrete sidewalk	660	sf	5.00	3,300
Crushed stone paving	3	cy	40.00	120
Boardwalk, wood, 6' width	1,000	sf	15.00	15,000
Split-rail fence, 3' Ht.	100	lf	12.00	1,200
Shade tree	5	ea	500.00	2,500
Plantings, shrubs & perennials	1,200	sf	4.00	4,800
Interpretive signage	1	ea	1,500.00	1,500
Turf, seeded, repair	1	ea	500.00	500
			Subtotal	\$68,680
			15% Contingency	10,302
			Total	\$78,982