Yahara WINS Group Meeting Summary
December 15, 2016 Meeting

Dave Taylor called the meeting to order at 1:30 PM. Copies of the agenda, sign in sheet and the PowerPoint presentations for the meeting are attached.

The meeting summary from the October 10, 2016 Group meeting was approved.

Taylor presented and discussed Yahara WINS financial information, including a detailed list of expenditures for the calendar year 2016 (to date), remaining fund balance ($259,012) and estimated unencumbered carryover to 2017 ($75,012). He stated that 2017 WINS invoices would be sent out shortly. MMSD anticipates setting up a WINS collateralized account and an interest bearing account. Taylor stated that the Yahara WINS IGA calls for annual financial audits. He also indicated that some thought will have to be given to the level of budget control that will be given to the Executive Committee-specifically as it relates to the ability to move funds among cost centers depending on need.

Taylor provided a progress report on various agreements that WINS had either already executed or was working on. These include service agreements with Dane, Rock and Columbia Counties; MOUs with Clean Lakes Alliance, Town of Westport and Town of Dunn; a Joint Funding Agreement between MMSD and USGS; and a Legal Services Agreement with Stafford Rosenbaum.

Kathy Lake gave a progress report on work being conducted to develop a Yahara WINS Grant Program for 2017 and beyond-the successor to the mini-grant program WINS had previously administered. A workgroup has been formed and has proposed two different programs-one focused on encouraging innovative practices and a second focused on more traditional practices. $100,000 was allocated in the 2017 WINS budget for this effort and Lake proposed directing 75% to traditional practices and 25% to innovative practices, with the ability to shift if there were a lack of applications in one category. Additional work is needed to finalize and launch the grant program.

Todd Stuntebeck (USGS) gave a water quality monitoring update. His slides are attached and reference is made to those slides.

Kyle Minks (Dane County) gave a presentation on Dane County efforts related to phosphorus. His slides are attached and reference is made to those slides.

There was no other business and the meeting was adjourned.
NOTICE OF MEETING

PLEASE TAKE NOTICE that there will be a meeting of the Yahara Watershed Improvement Network Group (Yahara WINS Group) at 1:30 p.m., on Thursday, December 15, 2016. The meeting will be held in the Madison Metropolitan Sewerage District Maintenance Facility, located at 1610 Moorland Road, Madison, WI 53713. The Yahara WINS Executive Committee will also meet in the same location immediately following the Yahara WINS Group meeting. The Agenda for the Yahara WINS Group meeting is shown below and action may be taken on any agenda item listed.

Date: December 13, 2016

David Taylor
Executive Committee President

Any person who has a qualifying disability as defined by the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible location or format must contact the Executive Committee President at 608-222-1201, 1610 Moorland Road, Madison, Wisconsin, at least twenty-four hours prior to the commencement of the meeting so that any necessary arrangements can be made to accommodate each request.

Yahara WINS Group Meeting Agenda

1. Opening
   a. Call to Order
   b. Welcome guests and visitors

2. Review and acceptance of October 10, 2016 Meeting Summary

3. Yahara WINS Financial Information
   a. 2016 budget and expenditures update
   b. 2017 WINS invoicing
   c. WINS collateralized account and interest bearing account
   d. Financial audit
   e. Executive Committee level of budget control

4. WINS Service Agreement with Dane County

5. WINS Service Agreements with Columbia and Rock Counties—progress report

6. WINS/CLA Memorandum of Understanding

7. WINS MOUs with Town of Westport and Town of Dunn

8. USGS Joint Funding Agreement

9. Yahara WINS Phosphorus Grant Program—Update and Recommendations

10. USGS Water Quality monitoring

11. Dane County Land and Water Resources Department—Phosphorus Reduction Efforts

12. Adjourn
**YaharaWINS**

**Group Meeting**

**Date:** December 15, 2016

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Business</th>
<th>Reason for Attending</th>
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<tbody>
<tr>
<td>Paul Brown</td>
<td>Watershed Program Dir, Clean Lakes Alliance</td>
<td>Partnership</td>
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<tr>
<td>James Tye</td>
<td>EXECUTIVE DIRECTOR, CLEAN LAKES ALLIANCE</td>
<td>FINANCIAL CONTRIBUTOR</td>
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<tr>
<td>Sue Jones</td>
<td>Dane County</td>
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<tr>
<td>Kyle M.</td>
<td>Dane County, WRP</td>
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<tr>
<td>Amy Callis</td>
<td>Dane County, WRP</td>
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<tr>
<td>J.J. Lauer</td>
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<td>Mike Northouse</td>
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<td>Emily Jones</td>
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<td>Gary Huth</td>
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<tr>
<td>Dave Taylor</td>
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11. Dane County Land and Water Resources Department-Phosphorus Reduction Efforts
12. Adjourn
a) 2016 budget and expenditures update

b) 2017 WINS invoicing

c) WINS collateralized account and interest bearing account

d) Financial audit

e) Executive Committee level of budget control
## 2016 Budget and Expenditures Update

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<td>Expenditures (thru 12/12/16)</td>
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<td>$259,012</td>
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Total: 448,132.05
Yahara WINS Financial Information

a) 2016 budget and expenditures update

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d) Financial audit

e) Executive Committee level of budget control
Other WINS Agreements-Progress Report

- Service agreement with Dane County
- Service agreements with Rock and Columbia Counties
- WINS/CLA Memorandum of Understanding
- MOU's with Town of Westport and Town of Dunn
- USGS Joint Funding Agreement
- Rock River Coalition
- Legal Services Agreement (Stafford Rosenbaum)
- MG&E Foundation
- Yahara Pride Farms
Yahara WINs Grants 2017 and Beyond

- Drafts developed for two programs – currently being reviewed:
  - Innovation Grant & Installation/Traditional Grant

- Comments being generated
  - Two grant system appears desirable
  - Many areas of agreement with details needing refinement

- Funding Split – Solicit comments from the group:
  - Historically, the lower cost projects would now fall in the ‘innovation program’ ($4000-$10,000) – recommend a maximum of $10k per grant for 2017.
  - Historically, the majority of ‘installation’ grants were $15,000 (program max) – there is a desire to increase this to $20 or $25k. Recommend $20k for 2017.
  - Recommend that allocated $100k be split approximately 75% (traditional)/25% (innovation) with flexibility to shift if there are a lack of applications in one category.

- Next Steps: MMSD compiling comments, bringing committee back together to finalize applications with intended launch in early 2017 (applications again due in April).
USGS Water-Quality Monitoring Locations

- Red: Long-term (late 80's)
- Blue: Middleton Study (2011)
- Yellow: Long-term urban (P, Cl in 2015)
“Water-Quality Monitoring”

Compute daily, storm loads and concentrations
Historical Perspective

Vahara River @ Windsor

Streamflow, Inches

2016
2014
2012
2010
2008
2006
2004
2002
2000
1998
1996
1994
1992
1990
1981
1979
1977

GAP

1981
1979
1977
2016 Phosphorus Loads to Lake Mendota

Lake Mendota Tributary Discharge and TP Load
Dorn, Sixmile, P. Branch, Yahara @ Windsor
WY2016 - Preliminary

Cumulative TP Load, Pounds

Daily Discharge, CFS-Days
TP through the years

WY 2013
~77,000 pounds

WY 2014
~63,000 pounds

WY 2015
~25,000 pounds
**P Load Timing**

**Tributary TP Load to Lake Mendota Seasonal Distribution, WY 2016**
- Jan-Mar: 27%
- Apr-Jun: 37%
- Jul-Sep: 4%
- Oct-Dec: 1%

**Yahara River @ Windsor Seasonal TP Loads, 1990-2016**
- Jan-Mar: 17%
- Apr-Jun: 7%
- Jul-Sep: 3%
- Oct-Dec: 45%
P Load Distribution

Contributeing Area

Sixmile: 48.3 sq. mi.
Yahara: 37.0 sq. mi.
Pheasant: 18.3 sq. mi.
Dorn: 12.6 sq. mi.
Stream P Concentrations

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<th>Location</th>
<th>2013</th>
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<th>2015</th>
<th>2016</th>
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<td>0.13</td>
<td>0.11</td>
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<td>Dorn Creek at Hwy M</td>
<td>0.22</td>
<td>0.26</td>
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<td>0.28</td>
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<td>Sixmile Creek at Hwy 19</td>
<td>0.22</td>
<td>0.34</td>
<td>0.13</td>
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<tr>
<td>Sixmile Creek at Hwy M</td>
<td>0.14</td>
<td>0.20</td>
<td>0.18</td>
<td>0.27</td>
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<tr>
<td>Yarara River at Fulton</td>
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<td>0.14</td>
<td>0.19</td>
<td>0.10</td>
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Median TP Concentrations, mg/l
Concentrations from 15th of each May-Oct

Standard: 0.075 mg/L for most sites, 0.10 mg/L for Fulton
Goal: "Mesotrophic," water quality during July-August

Carlson's (1977) Trophic State Index (TSI) for mesotrophy:

- Total P < 0.024 mg/L
- Secchi disc > 2.0 m

Eutrophic

Mesotrophic
Lake Mendota Water Quality

Lake Mendota Phosphorus

TP, mg/L

0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00


Eutrophic

Mesotrophic

Line of Eutrophication (0.024 mg/L)

Lathrop, written communication

Modified with permission from Carpenter and Lathrop, 2014
Lake Mendota Water Quality

Lake Mendota Phosphorus

TP, mg/L

Eutrophication Boundary
Mendota TP
Yahara River TP

Yahara TP Load, Pounds


0 5,000 10,000 15,000 20,000 25,000 30,000 35,000 40,000 45,000

Modified with permission from Carpenter and Lathrop, 2014
Yahara River at Fulton

Lake Mendota Tributary Discharge and TP Load
Dorn, Sixmile, P. Branch, Yahara @ Windsor
WY2016 - Preliminary

- Daily Discharge
- Cumulative TP Load
Comparison of Discharges and TP Loads entering Lake Mendota and at Yahara River at Fulton, WI 2016

Daily Discharge to Lake Mendota
Daily Discharge at Fulton
Cumulative Lake Mendota TP Load
Cumulative Fulton TP Load

Daily Discharge, CF-Days

Cumulative TP Load, Pounds

2016 Year in Review

- Above average precipitation (~48", +40%)
  - Wet Fall, late Summer
  - Below average snowfall (~33", -35%)
- ~45,000 lb. P delivered to Lake Mendota among the 4 major tributaries (preliminary!)
- Lake Mendota water quality was good (via TP TSI)
- TP concentrations at streams tributary to Lake Mendota continue to be well above the 0.075 mg/L standard.
- TP concentrations at Yahara R at Fulton were very near the 0.10 mg/L standard.
- ~120,000 lb. P delivered to Rock R. from Yahara River
Yahara WINs Adaptive Management
Strategic Planning Workgroup Meeting

December 15th 2016

Dane County Land & Water Resources Department

Kyle Minks
Land and Water Resources Scientist
2016 Yahara River Practices

- 42 practices implemented
- Roughly 1,130 pounds of phosphorus reduced
  - Not included are management and fall structural practices
- Majority of practices have 10 year lifespan
- Cost share provided
  - Dane County - $233,000
  - USDA EQIP – $63,000
- Increase in Dane County assistance
  - Farmland Preservation Program
2016 Yahara River Practices
2016 Yahara River Practices
Practices To Date (2008-2016)

- 171 practices implemented
- Roughly 7,440 pounds of phosphorus reduced
- Majority of practices have 10 year lifespan
- Cost share provided
  - Dane County - $1,078,000
  - USDA EQIP – $127,000
  - DATCP LWRM - $69,000
Door Creek Harvestable Buffers

- Over 8 miles of buffer (40 acres)
- 1,900 pounds of phosphorus reduced
- Little Door almost completely buffered
- Growing interest throughout Yahara and State
- Extended previous agreements
Door Creek Water Quality

- Water Samples (5 sites)
  - 35 samples
- Habitat (5 sites)
  - 5 samples
- Fish and Bugs (4 sites)
  - 4 samples

Results

- High Nitrogen levels at some sites
- Phosphorus levels varied throughout the year
- Water temps surprisingly cool
- Common fish of a warm water forage fishery
  - Creek chub, mud minnow, green sunfish
- Streambed composed of soft fines and sand
- Streambanks stable and covered with reed canary grass
Door Creek Outreach and Education

- Aquatic Tour with Friends of Lake Kegonsa
  - 41 participants
- Kiosk at Fish Camp County Park
- Door Creek Web Page
- Publication Series
  - Door Creek
  - Yahara WINs
  - LDMI
  - Harvestable Buffers
- Ag Producer Meeting
Improve water quality in the Yahara

**TOTAL - OVER $21** Million in Dane County Funding to Reduce Phosphorus and

- Fund to update LID data management system
- Additional Urban Staff Position
  - $4 million
- Legacy Sediment Removal
- Partnering with City of Madison on Berries Beach and Warner Park
  - Goodland County Park - $80,000
- Clean Beach Initiative
  - $2.5 million
- Urban Water Quality Grant Program
  - $2.3 million
- Lake Preservation/Land Acquisition
  - $2.1 million
- Community Manure Storage/Feasibility
  - $2.2 million
- Yahara Clean

2017 Dane County Yahara Initiatives
Adjourn