

Yahara CLEAN MOU

Status of Progress on Substantive Commitments

(MOU signing ceremony: February 13, 2008. MOU expiration: December 31, 2009)

December 23, 2008

In the Yahara CLEAN (Capital Lakes Environmental Assessment and Needs) memorandum of understanding (MOU), signed in February 2008, Dane County, the City of Madison, the Wisconsin Department of Natural Resources (DNR), and the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) agreed to a variety of activities to assess the existing nutrient and sediment loading to the Yahara Chain of Lakes and determine needs or activities to decrease the loading to improve water quality. The lettered, italicized paragraphs below are the exact text from the Yahara CLEAN MOU, and are followed by indented status reports.

- A. *Develop a Vision*** – *During 2008, a community vision statement for the Yahara Chain of Lakes will be developed, reflecting extensive input from scientists, residents, agencies, elected officials, businesses, and other stakeholders. This vision statement will guide the goal setting for nutrient limits.*

Status: The Dane County 2008 budget funded the hiring of public engagement consultants, who have worked with the Yahara Lakes Legacy Partnership (YLLP) to design and hold workshops involving a broad cross section of 75 stakeholders thus far (including technical advisors, elected officials, agricultural producers, academics, businesspeople, public and nonprofit agency staff) from June through November 2008. Attachment 1 is a flyer explaining how Yahara CLEAN and YLLP interact. Attachment 2 is a list of those who have participated in workshops or otherwise been directly engaged with this effort.

We took a draft vision statement for the Yahara lakes, reflecting input from the workshops and stakeholders, to the October 10 Yahara lakes conference (“A Clean Future for the Yahara Lakes: Solutions for Tomorrow, Starting Today” www.nelson.wisc.edu/outreach/yahara/index.htm) for broader public input. See Attachment 3 for a list of paid conference registrants. Attachment 4 is a list of speakers, sponsors, program committee members, exhibitors and staff who participated in the conference. The conference program can be found at the link above.

In our November 7 workshop we used the working draft vision statement below to guide initial development of goals, strategies and tactics to accomplish the vision.

“The Yahara River watershed is a beloved asset to our communities. We are proud of the chain of beautiful, clean, and healthy lakes. There is

widespread recognition of the lakes' contributions to our region's economy and quality of life. The lakes provide benefits that outweigh the investment required to keep them clean and healthy. Creative partnerships among urban and rural dwellers, farmers and other business people, and the private and public sectors generate lasting results as we tackle shared challenges across the watershed."

We will continue to gather public input on this vision and complete it by December 2008. In 2009, we will use this vision statement to guide public engagement and workplans.

We are on track to meet the MOU timeline of completion by the end of 2008.

- B. *Model Existing Nutrient and Sediment Loadings*** – *The University of WI-Madison, under the guidance of a technical advisory board, will engage in the assessment of existing lake-loading conditions. The UW-Madison will complete this assessment by 9/2009 but release relevant parts of the data as available.*

Status: YLLP's Nutrients and Sediment Technical Committee is overseeing this work. Professor Ken Potter and his grad student Cory Anderson (funded by Dane County's 2008 budget) are modeling the North Fork Pheasant Branch watershed using the Soil and Nutrients for Agricultural Productivity (SNAP-Plus) model to estimate the Phosphorus Index for all agricultural fields using readily available data, and to develop a suite of potential management practices and evaluate potential benefits of field-level practices to reduce nutrient and sediment runoff. Potter and Anderson will also develop a strategy for identifying critical agricultural fields in the remainder of the Yahara lakes watershed. This work will be completed, under contract to Dane County, by September 2009. The North Fork Pheasant Branch watershed is one of the largest contributors of phosphorus to the entire Yahara watershed, according to Soil and Water Assessment Tool (SWAT) modeling completed for the Rock River in 2000. The SWAT model is designed to estimate watershed runoff loadings of nutrients, sediments, and other pollutants to water bodies.

We are also working with DNR and local engineering and modeling consultants to conduct a watershed-wide SWAT modeling analysis of what improvements we've seen from implementing past practices, and what sediment and phosphorus loading remains to be addressed. This modeling, funded by Dane County's 2009 budget and to be completed by September 2009, will help us prioritize subwatersheds for practice implementation. This regional SWAT model is for the entire Yahara watershed to the Stoughton dam, and one of its inputs will be Source Loading and Management Model (SLAMM) results from the 19 central Dane County communities working together as the Madison Area Municipal Storm Water Partnership to meet

DNR stormwater permit requirements. Attachment 5 is a list of member communities.

To meet the October 2013 40% total suspended solids reduction required by NR 151, the City of Madison will be re-running SLAMM, an urban runoff water quality model, for each specific watershed (over 600) in the City. This work is not expected to begin until late in 2009 and is expected to take roughly one year to complete. It is unlikely that the loadings will be available on a time schedule to provide data for the updated SWAT modeling described above.

Monitoring is important for measuring progress and identifying implementation actions, and to this end Dane County has committed 2009 budget funds for monitoring Six Mile and Dorn Creeks, which have not been monitored for more than 25 years and were determined to be critical. Location of sampling stations is yet to be determined.

UW Madison Water Resources Management (WRM) graduate students have already started work on a project for 2009 completion in Door Creek, a highly agricultural watershed that is the source of nutrient and sediment loadings to Lake Kegonsa. DNR and Dane County have purchased significant wetlands in the area for restoration that should aid in nutrient and sediment runoff reduction. WRM student work is funded by a DNR grant to Dane County, and matched by Dane County 2008 budget funds.

We are on track to meet the MOU timeline of September 2009.

C. Assess Causes of Bacterial Outbreaks at Beaches

Status: YLLP's Beaches Technical Advisory Committee has analyzed existing City of Madison beach data for the beaches that were under consideration by DNR for impairment designation as required by the U.S. Environmental Protection Agency (EPA) under Section 303(d) of the Clean Water Act. The Committee has worked with a UW graduate level class to conduct a statistical analysis of factors that resulted in conditions of concern for public health, and has received the results. Beach Sanitary Surveys (a protocol developed by EPA) have been completed and the Beaches Committee has discussed the results of both efforts. Beach Sanitary Surveys are comprehensive evaluations of the beach area and surrounding watershed for existing and potential pollution sources and safety hazards that might influence the quality of bathing beach water, with a focus on fecal pollution. Several innovative assessments and practices from Great Lakes and inland beaches were presented at the Yahara lakes conference on October 10, and

we will also take advantage of that knowledge and experience in developing an implementation plan for beaches.

We are on track to meet the MOU implied deadline of December 31, 2009.

D. *Develop Achievable Goals* – *During the first year, the parties, consulting with our partners, will determine the necessary nutrient, sediment and bacteria levels to reach the Vision and determine if the needed reductions can be achieved if reduction activities are taken.*

Status: At the October 10 Yahara lakes conference, lake scientists Steve Carpenter and Dick Lathrop presented preliminary goals for Yahara watershed phosphorus reduction.

An analysis has been completed by DNR staff of existing lake data during wet through dry years correlating with measured phosphorus levels to determine possible loading limits. Wet and dry years are thought to be good surrogates of high and low runoff periods, respectively. A companion analysis is also being completed that will predict what in-lake conditions would look like if loading limits were met. This analysis will use past data in the lake and predictive equations to determine expected water clarity, algal bloom frequency, and average phosphorus concentrations. Statistical tools, such as box plots, will be used to display these conditions in a manner that can be presented to the public. Experts such as Carpenter and Lathrop, Dale Robertson from USGS and others will review these analyses, and expert recommendations will be used in setting loading limits.

The November 7 workshop, again involving a broad cross section of stakeholders, drafted goals, strategies and tactics to accomplish the draft community vision described in Section A above, which is much broader than shorter term MOU goals.

We expect to have preliminary goals clarified to meet the MOU timeline (the end of 2008), but expect that those goals will continue to be refined as modeling results and other information becomes available.

E. *Identify Needs* – *The parties will identify the activities necessary to meet the loading and bacterial reductions and estimate the costs of these activities. The needs assessment and cost estimates will be completed by fall, 2009.*

Status: YLLP's Implementation Committee will be convened in spring 2009 to develop a detailed implementation workplan that spells out specific activities, priorities and cost estimates for actions necessary to meet loading reductions. This plan, which will be completed by the end of 2009, will

incorporate the baseline practices referenced above, and all policies and practices in the plan will be assigned predicted loading reductions based on field scale and watershed-wide modeling that will be complete in September 2009 (see Section B above).

MOU parties continue to fund and implement baseline practices to improve the Yahara watershed. For example, Dane County's 2009 adopted budget includes significant increases in funding for a community manure handling facility, stormwater outfall upgrades, and the purchase of wetland and critical habitats for restoration of flood mitigation and water quality benefits that they provide.

The City of Madison is pursuing several new rain garden streets within the 2009 street reconstruction schedule; repairing two severely eroded greenways (one near Glenway Golf Course and another near East Towne); repairing the shoreline along several parks/beaches; completing the second phase of the Wingra Creek shoreline restoration (between Park and Fish Hatchery); and installing inline stormwater treatment devices with appropriate street reconstruction projects.

We are on track to meet the MOU timeline of completion by fall 2009.

F. *Advise and Communicate Progress* - *The Dane County Lakes and Watershed Commission will act as the public advisory body and provide regular updates to Dane County residents.*

Status: Four members of the Lakes and Watershed Commission are directly involved in the YLLP and technical committees, and the Commission has received regular updates and provides guidance.

The Yahara lakes conference on October 10 was a major opportunity for almost 350 members of the public to receive an in-depth description of the MOU issues (nutrients, sediment and beach bacteria) and next steps for implementing innovative solutions that came out of the conference. Videos of conference presentations are available at the UW Nelson Institute website (www.nelson.wisc.edu/outreach/yahara/multimedia.htm), and written summaries of next steps recommended in the concurrent sessions (partnerships, beaches, nutrients and sediments, and manure facilities) are found in Attachment 6. A more detailed description of conference outcomes will soon be posted on YLLP's interim website: www.danewaters.com/YaharaLakesLegacyPartnership.aspx.

Through a DNR grant, with matching money from Gathering Waters Conservancy through the Madison Community Foundation grant to Gathering

Waters and Clean Wisconsin, YLLP will soon have its own independent website.

Attachment 7 is a list of media coverage about the Yahara watershed and YLLP's actions.

Planning for 2010 and beyond – YLLP has also been planning for work beyond the end of the MOU, especially regarding the organization and actions needed to make improvements to the Yahara lakes on issues that were not the focus of that agreement.

Key to YLLP's work has been the project management assistance provided from October 2008 to April 2009, funded by the City of Madison's 2008 budget.

Another key element to our success to date has been the funding provided by the Madison Community Foundation to Gathering Waters Conservancy and Clean Wisconsin, which has allowed staff from those organizations to devote significant time to community engagement and visioning priorities of the MOU and YLLP.

-----prepared by YLLP Coordinating Committee:

Genesis Bichanich, City of Madison Engineering
Mike Carlson, Gathering Waters Conservancy
Sue Jones, Dane County Land and Water Resources Department
Sue Josheff, Wisconsin Department of Natural Resources
Jim Lorman, Dane County Lakes and Watershed Commission
Ezra Meyer, Clean Wisconsin
Dennis Presser, Wisconsin Department of Agriculture, Trade and Consumer Protection
Tommye Schneider, Madison and Dane County Public Health