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**Yahara Lake Level Advisory Group 2 (YLAG2)
 Minutes
 August 25, 2011
 3 - 5 pm with Public Comment beginning at 5:00 pm
 Location: Lyman F. Anderson Agriculture and Conservation Center
 1 Fen Oak Court, Madison**

Participants in attendance

Scott Reiersen	Jack Von Rutenberg	Mike Kakuska
Melissa Malott	Rob Phillips	Anita Weier
Richard Gullickson	Thomas Wilson	Erica Schultz
Tom McGinnis	Richard Lathrop	Bill Fitzpatrick
Dean Hein	Susan Tesarik	Kurt Welke
Sue Josheff	Lloyd Eagan	Mindy Habecker

Participants absent:

Bill Mazanet	Chuck Rolfsmeyer	Kevin Connors
Sue Jones	Melissa Sargent	Dan Stephany
Don Peterson	Ken Potter	Chin-Hsien Wu
Mike Amstadt		

1. **Introductions** – All
2. **Approval of Minutes** – July 28, 2011 meeting minutes were approved.
3. **Check-in** –
4. **Consideration of Additional Questions Concerning Hydraulics, Dams and Constrictions** – The INFOS model was discussed. The model isn't finished. It isn't far enough along to simulate alternatives. There are numerous gages in the river downstream of the Waubesa Dam. They have collected low flow data. High flows are needed so that data can be gathered. John Reimer is creating the INFOS model partially on his own time. When the model is finished, we need to be respectful of John's time.

It was pointed out we have other tools and programs .that can be used right now. Those tools were not explained.

5. Fish and Wildlife Habitat and Wetlands

Russ Hefty, Conservation Supervisor, Madison Parks Department, (608)267-4918,
Russ.hefty@cityofmadison.com

PowerPoint on the YLAG website.

Russ pointed out that 270 acres have been lost in Cherokee Marsh since 1937. In 1834, the open water channel immediately above Lake Cherokee was 50 feet wide. Today it is 1500 feet wide. Further downstream, the open water channel was 200 feet wide in 1834 and it is now 800 feet wide. This widening through time is at the expense of diverse sedge meadows, wet prairies and fens. The widest open area is through Lake Cherokee,

formally a wetland that was dredged. Lake Cherokee dredging started in 1962 and took several seasons. In 1849, the first dam was built to raise Lake Mendota about 4.5 feet. When the water rose, the marsh vegetation separated from the bed and floated and continues to float today. There are less common wetland types in Cherokee Marsh including sedge meadow and fens. Portions of the wetlands break off the marsh and break up and 'dissolve' as they move downstream. There are threatened and endangered species in the Marsh. The marsh has lost diverse sedge meadow and gained lotus that Mr. Hefty has tried to establish. Emergent vegetation like lotus provides structure in the water and on the bed that buffers waves (June to September but after the frost kills the vegetation, only the stems remain which greatly diminishes the wave dampening affect.

In 1970, a sewer interceptor crossed the Marsh. The 'scar' is still visible because it is difficult to restore wetlands, especially emergent wetlands. A significant amount of sediment comes down the Yahara River. The sediment blocks sunlight from reaching the marsh bed to grow the plants. Large fetch distances causing wind driven waves are the major driver in causing turbidity in the water column which inhibits submergent plant growth. At locations where plantings/structures have reduced wave action native aquatics e.g. (sago, coontail) have colonized those sites. Also, planting on the 'goo' and the carp activity in the area makes wetland regeneration difficult.

The Yahara River used to be called the Catfish River. Before the Tenney Park Dam was built, Six Mile Creek used to outlet into the Catfish River. Now Six Mile Creek empties directly into Lake Mendota.

Mr. Hefty watches the water level gage and also uses his kayak paddle to determine depth. Lower water levels in summer achieve two important goals. First in shallow areas that would become exposed mudflats (with the water 6 inches lower) the sediments would consolidate. This would allow plant regeneration of emergent plants from the seed bank. Second, existing emergent plants would expand their populations vegetatively with lower water levels. The increased growth of emergent plants the water is important because they provide more permanent residual vegetation during the dormant season to help buffer the fragile floating shorelines. A winter draw down won't help. It has to be during the growing season.

Research funded by a DNR lake grant is underway to track carp similar to what was done in Lake Wingra. The study is to determine if, when and where carp congregate in marsh so that activities might be designed to reduce their population. For instance, is there seasonal spawning in the marsh and if so, can the carp be either trapped and removed from the marsh at that time or prevented from entering the marsh in the first place.

Additional research is being conducted on sediment transport. Transects in the marsh have been defined and repeatedly measure to determine how sediment moves through the marsh. The results may be a design to collect the sediment to grow the marsh and reduce the open water. Possibly structures in a chevrons layout, with carp barriers could create still areas with clearer water to regrow the marsh. Madison is plugging several hundred feet of ditches this year. The ditches were dug to dry out the land for agriculture but the ditching wasn't very successful. Letting the ditches remain allows for concentrated flow that can erode the marsh.

On June 9, 2008, after record setting rainfall, the marsh was 2-foot higher than Lake Mendota when comparing the difference between the gage on Lake Mendota and the one at the downstream end of the marsh at Hwy 113. The three bridges cause a rapid fluctuation in water levels. The YLAG participants thought that the rocks under the bridges should be removed. Others pointed out that runoff upstream needs to be reduced and it would be good if development had rain gardens and farms with flooding shouldn't able to drain.

Mr. Hefty stated the Railroad Commission in 1931 set the summer maximum of 849.4 (0.7' lower than the current water level order) for Lake Mendota. It also stated that under normal rainfall conditions between April-October the average level for Lake Mendota should be 849.0. Currently, Dane County tries to operate the Mendota Dam to maintain water levels at mid range in the current order which is 849.85.

Cami Peterson, Water Management Specialist, Wisconsin DNR, (608)275-3208,
cam.peterson@wisconsin.gov

PowerPoint is on the YLAG website.

There are several major wetland systems that are part of the Yahara River.

On Lake Mendota, beside Cherokee Marsh, there are wetland systems along:

- Six Mile Creek (north side of Lake)
- Pheasant Branch (Middleton area)
- West UW Campus
- Warner Park in Madison

On Lake Monona

- Squaw Bay (Monona area)

Between Lakes Monona and Waubesa

- Upper Mud Lake area

On Lake Waubesa

- Waubesa Natural Area – SW end of Lake

Between Lakes Waubesa and Kegonsa

- Lower Mud Lake

On Lake Kegonsa

- Door Creek wetlands

On Stoughton Pond

- north of Stoughton

Ms. Peterson showed a map of the area. Yellow is mapped wetland. Orange is hydric soils not currently mapped as wetland. Some of the orange areas would be restorable. Others are already developed. Most are on the tributary streams to the Yahara Lakes. Restorable potential may be dependent on the goals. If the goal is to reduce flooding, wetlands would only attenuate the smaller runoff events. Wetland restoration will not eliminate flooding.

There are many different wetlands types. A fen is a relatively rare complex that is groundwater fed and is very productive. Fens are found in Cherokee Marsh and the Waubesa Natural area. Raising water levels would likely destroy this wetland type.

Wetlands provide a significant amount to wildlife habitat – and not just ducks and cranes but a large diversity of insects, reptiles and amphibians. There are 370 amphibian species in WI – 40% of those live in wetlands. Usually, the bigger the wetland, the better but small pockets on the landscape are good for migration. Wetlands are home to a number of threatened or endangered animal species like the Blanding's turtle and several species of plants.

We know a little more about the fen complexes on Lake Waubesa because the area is designated a State Natural Area and it has a management plan. We don't know specifics about the other wetlands in the system.

If water levels were raised 6-inches:

- There would be more floating mats which are not unique to Cherokee Marsh. The floating mats would be susceptible to breaking off and either landing somewhere else or breaking up and disappearing.
- The wetlands would be more susceptible to erosion from waves or ice.
- Flood sensitive fens don't adapt. Flooding encourages less sensitive plants like reed canary or hybrid cat which do not provide the diverse habitat, and can out-compete with other native plants.
- Raising water levels would give fish more access to the wetland.

- Species less likely to adapt to higher water levels are small mammals and invertebrates because they are less mobile. Small mammals and invertebrates are important because they make up huge populations and are the drivers of the biological systems in wetlands. They provide a prey base for other species. Small mammals also effect wetland types and sized based on their feeding habits. For example, they can have a huge impact on invertebrates since they feed on them. In addition, small mammals have a great effect on some types of seed disposal.
- More water would be good for migrating birds.

If water levels were lowered 6-inches:

- The edges of the wetlands would be exposed and able to re-grow. Invasive species may take hold unless there is management.
- Could dry out fringe wetlands
- Could lower groundwater and adversely affect the fens in the area.
- Could affect access to the lake
- Could affect the reptile and amphibian population depending on the time of the draw down. These animals overwinter in water. If the water is dropped below where they have buried themselves, they can be frozen and killed. Timing of any draw downs is very important.

The current water levels don't do a good job for reptiles, amphibians and emergent vegetation. Better levels would mimic nature. In Spring, water levels would be comparatively higher. Levels would drop in the summer and rise again in the fall before dropping in the winter.

Because of competing interests, water levels have been held higher in the summer. A compromise might be to vary the levels more with a periodic draw down.

Cami was asked why water levels have to be drawn down so early – in late October. It is a compromise. Lowering the water levels later would have a greater impact the reptiles, amphibians, some fish and emergent vegetation..

Kurt Welke, Fish Manager, Wisconsin DNR, (608)273-5946, kurt.welke@wisconsin.gov

PowerPoint is on the YLAG website.

Take care of the Northern Pike and you take care of the fish community. March starts the spawning season. This year, ice was out in late March. Water temperature was 36 – 38 degree. Daylight was lengthening. Water level was rising. The Pike begin staging. In April, the water temperature was 41 degrees are Pike spawning was going strong. At 44 degrees, Pike, Muskies and Walleyes are all spawning. By the end of April, water temps are up to 48 degrees and the three species are essentially finished spawning.

Why the interest Northern Pike? – They are a native, top level predator, trophy species – importance to the public. Pike are late to maturity – a 44.5- inch fish can be 25-26 years old.

Late March to Early April – gestation is two weeks egg to fry. The young are floating in emergent vegetation in the marsh where the shallow water is warm and there is lots of food. In mid-May the fry leave the marsh.

Pike need water levels flooding the emergent vegetation/marshes at ice out. The rising levels are a stimulus to the fish. The water level must be maintained to not strand the small fish in the marshes. The current water level order doesn't ensure everything necessary all the time - it's a compromise. In the last 11 years, water levels on March 1 have been below the summer minimum level all but one year – 2005.

Staff use fike nets set in high priority habitat area to collect fish to assess the fish management plan. The Pike population is supplemented with 'hatchery' marshes but hatchery fish can't be a substitute for natural reproduction because there are enough hatchery fish to go around the State and hatcheries are very expensive.

Sunfish, blue gills and bass spawn in the littorial zone. Minimum level s on Mendota provides enough depth. More depth is more volume, oxygen and habitat.

6. Discuss next steps – ran out of time

7. Future meeting dates, location and agenda items

Next meeting is Sept 27 at the Fen Oak office. Topics include cultural and historical issues.

8. Public Comment – 2 appearances.