

## Lake Winnebago 2004 Regulation Meeting Notes

1. The U.S. Army Corps of Engineers (USACE), Detroit District held its annual regulation meeting at the J a Restaurant in Appleton, Wisconsin on 20 October 2004. Mr. Michael O'Bryan, Acting Chief, Planning, Programs and Project Management, called the meeting to order at 9:00 a.m.

2. The list of attendees is included at the end of the meeting notes.

**3. Presentation of the Agenda.** Mr. Michael O'Bryan opened the meeting with introductory remarks and self-introduction of all attendees. He then summarized the meeting agenda, which included a discussion of Lake Winnebago levels – October 2003 through September 2004 and the Regulation Strategy – October 2004 through September 2005. In addition, Mr. O'Bryan discussed the many benefits that competing uses gain from the regulation of Lake Winnebago and the difficult decisions that must be made in balancing the many competing uses of water resources in the basin. The remainder of the meeting included presentations from a number of Corps of Engineers staff. The agenda included Mr. David Barilovich summarizing the lake levels on a season-by-season basis, Mr. Tim Calappi discussing the watershed modeling activities over the past year, Ms. Marie Strum discussing Corps operating criteria, and Mr. James Bonetti presenting an update of the Kewaunee Area Office field activities.

**4. Lake Winnebago levels, October 2003 – September 2004.** Mr. David Barilovich recapped the lake levels on a season-by-season basis since the October 2003 meeting. PowerPoint slides depicting the Fox/Wolf River basin drainage area, the Lake Winnebago controls at the Neenah and Menasha Dams, the 2003-2004 regulation strategy, 2003-2004 monthly precipitation, 2004 winter snow conditions on the basin and 2004 spring flooding events were presented. The following narrative outlines these conditions.

### **a) Fox/Wolf River Basin**

The 6,430 square mile Fox-Wolf River Basin was described. Locations for the 10 data collection platforms (DCP) were noted. DCP operations were briefly explained including how they provide useful supply and stage data from the upstream contributing watershed. The DCPs provide critical information necessary for the daily USACE regulation activities on Lake Winnebago.

### **b) Lake Winnebago Controls**

The Federal dam at Menasha and the private dam at Neenah are the control points for outflow from Lake Winnebago. Flow released through gates at the two dams discharge into the head of the Lower Fox River. Mr. Barilovich explained how the 6 gates at Menasha and 14 gates at Neenah are operated to meet the regulation objectives. The USACE Fox River Sub-Office (FRSO) in Kaukauna operates the gates at the Menasha Dam, while the Kimberly-Clark Corporation in Neenah operates the gates at the Neenah Dam under the direction of the Corps.

### **c) Winter Drawdown 2003**

The level of Lake Winnebago was 2.55 feet Oshkosh datum on the day of the 2003 Regulation Meeting (October 15, 2003). At that time, it was decided to maintain a level of near 2.5 ft. Oshkosh datum through the end of December 2003. This elevation would enhance conditions for a healthy and diverse ecosystem as well as protect wildlife living along the shorelines until the lake established a good ice cover.

November 2003 had above average precipitation and a number of gate openings were necessary to maintain a level near the 2.5-foot target. December 2003 through February 2004 brought near-normal precipitation to the basin. The lake level was held near 2.5 feet Oshkosh datum until early January 2004. The draw down was begun in mid-January based on a conference call with interested parties who agreed that conditions were acceptable to begin the drawdown. The lake was drawn down to 1.62 feet Oshkosh datum by February 29 2004. Early to mid-March rainfall caused the level of Lake Winnebago to rise to near 2.0 ft. Oshkosh datum. Appropriate gate changes were made during this time to prevent the lake from rising above 2.0 ft. Oshkosh datum through March to manage the large inflows from snow-melt in the basin.

### **d) Spring Fill-Up 2004**

Regulation of Lake Winnebago is a coordinated effort between WDNR, NWS, and local County and City officials to provide a balanced, unbiased approach to making regulation decisions. The Corps provided a comparison of precipitation events versus gate changes and inflow/outflow conditions for the period of October 2003 through September 2004. In addition, the Corps outlined the decisions made during the critical spring fill-up period. Direct comparisons between actual water levels, target levels and gate openings were discussed in detail. It was noted that during the later half of April 2004, the lake levels were below the target objective for that time of year primarily due to below normal precipitation over the basin in early April. Ms. Strum stated that the Corps heard from a large number of boaters in mid-April and would make every effort to avoid a repeat of the below-target water levels in the early spring.

Precipitation in May and June was significantly above average. The lake level was controlled to near 3.0 feet Oshkosh datum from mid-May to the end of May. A 0.3 foot-operating band was followed in early May. The lake is operated within the 0.3-foot band, which allows storage room for the lake to capture some critical spring runoff and prevent excessively high levels and flows. Nevertheless, with the intense precipitation in late May and June, all available tainter and needle gates at both the Menasha and Neenah Dams were opened to avoid significant flooding on Lake Winnebago. All 20 tainter and needle gates remained open from May 21 through June 20, 2004. The level of Lake Winnebago peaked at 3.71 feet Oshkosh datum on June 18 due to extremely heavy precipitation and record flooding on the Fox River. If the Corps had not maintained a 0.3 foot operating band in early May, the lake would have peaked at over 4.0 feet Oshkosh datum. Once inflows receded, the Corps made gate adjustments to maintain levels at or near the navigation season target levels for the remainder of the summer.

## **e) Navigation Season 2004**

Lake Winnebago water level was brought back down to the 3.0 foot Oshkosh datum navigation level by July 10. The level was maintained within an inch of the navigation level until mid-September, when evaporation caused the lake to begin to decline.

**5. Watershed model development update.** Mr. Tim Calappi described the watershed model that is currently being used to determine gate settings. He also discussed improvements to the model over the past year. Graphs comparing forecasted and actual levels were presented. He also acknowledges the National Weather Service for providing valuable forecasted flows that made it possible to run a seven-day level and flow forecast.

**6. Regulation Strategy, October 2004 – September 2005.** This discussion began with a question to boaters at the meeting about what lake level begins to cause access problems for the boaters. Several boaters responded in terms of what months this past year they had problems. The general consensus from those present in the meeting was that boaters begin to have problems at levels lower than 2.5 ft Oshkosh datum. For comparison, levels in April 2004 were no higher than 2.2 feet Oshkosh datum, which the Corps acknowledged was too low for boaters.

The regulation strategy for the 2004-2005 season was presented and discussed. The attendees were informed that the navigation season ended on 10 October 2004 and that fall drawdown was in progress. The revised Corps plan would maintain the present Lake Winnebago level of 2.5 ft. Oshkosh Datum from 20 October to early January 2005. This elevation would enhance ecosystem conditions along the shorelines. Drawdown can begin when a good ice cover is established on the lake and Lower Fox River. The Corps will host a conference call to discuss the extent and timing of the winter drawdown during the first week of January 2005. The call will primarily be for agencies to discuss conditions in the basin, but the public is welcome to listen in on the call. Further information on the conference call-in number will be provided at our website closer to the date of the call.

Spring refill will begin when ice cover on the lake breaks up. Another conference call will be held in the spring for agencies to discuss basin conditions and confirm the timing of the spring refill. The lake will be refilled to a target level between 2.4 and 2.7 feet Oshkosh datum by May 1 and between 2.7 and 3.0 feet Oshkosh datum by June 1. Levels will then be raised to 3.0 foot or above by July 1. The target level will be a minimum of 3.0 feet Oshkosh datum beginning July.

The regulation strategy includes a 0.3 foot operating band to allow for the lake to absorb intense precipitation and snowmelt as necessary. The levels in Lake Winnebago increase very suddenly with intense precipitation and snow melt and the operating band is necessary to prevent excessively high levels during the critical spring growing season. Based on the Corps' review of historical records and further analysis, maintaining the 0.3-foot operating band will not prevent the lake from achieving its full navigation level by July 1. If extreme drought conditions begin during the period that the operating band is being used, the regulation strategy would be reconsidered and adjustments made as necessary. However, review of conditions even during the most recent drought of 1988-89, spring refill was still accomplished. Even during dry times, there is sufficient water in the system to successfully refill the lake.

Art Techlow of the Wisconsin DNR provided critical historical background on Winnebago regulation over the years and the need to avoid excessively high water levels in the critical spring period to enhance conditions for fish and wildlife. Dan Rudebeck from the Poygan Sportsman's Club also provided valuable insight into fish and wildlife conditions in the basin and the need to prevent the excessively high spring water levels.

Several boating interests discussed their concern over low water levels in the spring of 2004. Several other boaters expressed appreciation for the balancing efforts that the Corps undertakes in its regulation operations. Ms. Strum noted that the Corps is aware of the concerns of the boating community. She stated that the Corps will work to avoid the low water levels that boaters experienced in April 2004. However, a gradual increase in water levels through May and June is necessary to avoid excessively high and damaging water levels due to intense precipitation and snow melt. Water levels will be 3 to 7 inches below summer navigation season level in May and 0 to 3 inches below summer navigation level in June. It was emphasized that there are many interests that enjoy the benefits of the water resources in the Fox-Wolf River system including recreational boaters, hydropower, commercial and industrial water supply, and municipal water supply users. The goal of the regulation plan is to balance everyone's needs and regulate the water levels on Lake Winnebago without favoring one interest or use over another. Meeting attendees seemed to understand the reasons for the plan and the balancing that the Corps must do.

Ms. Strum also discussed a special request from the USGS for a high flow release in late October or early November. The high flow release would need to be in the 6,000 to 8,000 cfs range. During the release, the USGS would do measurements of bed load velocity that will help refine sediment transport models of the lower Fox River. The Corps was able to accommodate this request in November 2003 and will look for an opportunity to do so again in October or November 2004. Notices will be provided on the Corps website regarding the release.

Representatives from the Fish and Wildlife Service requested that the Corps maintain higher flows in the lower Fox from April 25 to June 1 for sturgeon spawning. The Corps' efforts to quickly raise water levels in late April 2004 to accommodate boaters caused problems downstream for the sturgeon spawning because insufficient water was released from the Menasha and Neenah dams. This is another example of the balancing that must be done in the regulation of Lake Winnebago. The Corps was unaware of this need for minimum spawning flows and will work with the FWS to accommodate their request next spring.

**7. Other activities.** Mr. James Bonetti of the Kewaunee Area Office presented an overview of construction activities conducted on the system since the October 2003 meeting. This included the clearing and grubbing project at Little Kaukauna and the construction of the mechanized gate hoists on the DePere Dam.

**8. Detroit District Home Page.** Ms Strum presented a step-by-step outline for accessing the Detroit District Home page. This provides up-to-date Lake Winnebago information and points of contact in the District Office for water level questions and/or concerns. The Lake Winnebago web page is: [www.lre.usace.army.mil/greatlakes/hh/lakewinnebago](http://www.lre.usace.army.mil/greatlakes/hh/lakewinnebago).

**9. Closing Remarks.** Mr. O'Bryan thanked everyone for participating in the meeting and for the open communication. He stated that the Corps would continue to have an open dialogue with the public. This approach would keep all interests informed of our regulation activities and at the same time allow the Corps to receive feedback from the public. Mr. O'Bryan expressed appreciation to those in attendance for their participation.

Meeting adjourned at 11:45 a.m.

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**October 20, 2004 Lake Winnebago Regulation Meeting  
List of Attendees**

Art Techlow	WDNR
Chad Casper	Winnebago County LWCD
Dan Rudebeck	Lake Poygan Sportsman's Club
Mike Pedersen	Kaukauna Utilities
Bruce Gomm	Kaukauna Utilities
Harlan Kiesow	ECWRPC
Janet Moldenhauer	Oshkosh YC, Sierra Club
Melissa Kok	Office of U.S. Representative Tom Petri
Harold Miller	Hackodt Wetland
Roger Zimmerman	Fond du Lac
Marci Zimmerman	Fond du Lac
David Rosenthal	Fond du Lac
Mary Ann Rosenthal	Fond du Lac
Tom Davies	Winnebago County LWCD
Diane Schabach	Menasha Marina
Brian John	Water Board Warriors
Don Gilson	Water Board Warriors
Sherman Jacobson	WFT
Bill Hartman	GW Partners
Jackson Medley	Friends of the Fox
Nile Sweet	Friends of the Fox
Jack Nelson	Friends of the Fox
Tom Konrad	City of Oshkosh-Retired
Bob Schwoder	Office of U.S. Senator Feingold
Marlene Mielke	Office of U.S. Senator Kohl
Mike Schreiber	Tri County Power Boat Alliance
Bill Hitchcock	Wind Pointe Harbor
David Kluchesky	Wind Pointe Harbor
Marci Kluchesky	Wind Pointe Harbor
Bill Nyberg	Fond Du Lac YC
Gregg Aiken	Kimberly-Clark/Neenah Paper
Gerald Sturm	Menasha Utilities
Steve Brand	City of Oshkosh
Philip Dominick	Van Dyne, WI
Chuck Newitt	Van Dyne, WI
Roger Eisbrener	Fond Du Lac YC
Skip Palermo	Appleton, WI
Michael Pels	Oshkosh YC
Robert Shumacher	Oshkosh LTC
Bob Elliott	US Fish and Wildlife Service
Gary Thompson	US Fish and Wildlife Service
Michael O'Bryan	U.S. Army Corps of Engineers, Detroit District
Marie Strum	U.S. Army Corps of Engineers, Detroit District

David Barilovich  
Charlie Uhlarik  
Tim Calappi  
James Bonetti  
Robert Stanick  
Joe Kalies  
Dave O'Brien  
David Haefs

U.S. Army Corps of Engineers, Detroit District  
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U.S. Army Corps of Engineers, Fox River Sub-Office  
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